CITY OF NEWPORT BEACH
ENVIRONMENTAL QUALITY AFFAIRS COMMITTEE

DATE/TIME: Monday, December 19, 2005 - 7:00 p.m.

LOCATION: Police Department Auditorium
870 Santa Barbara Drive

Roll Call

1. Minutes of November 21, 2005 (*draft minutes attached*)
2. Presentation on Michelson Water Reclamation Plant Capacity Expansion Project, Irvine Ranch Water District *(attachment 1) (attachment 2) (attachment 3)*
3. Report from EQAC Representative to GPUC
4. Report from EQAC Members on GPAC
5. Economic Development Committee (EDC) Representative's Report
6. Report from Staff on Current Projects
7. Public Comments
8. Future Agenda Items
9. Adjournment

NEXT MEETING DATE: January 9, 2006 (2nd Monday)

*Attachments can be found on the City's website http://www.city.newport-beach.ca.us. Once there, click on ***City Council,*** then scroll to and click on ***Agendas and Minutes*** *then scroll to and click on* ***Environmental Quality Affairs***. If attachment is not on the web page, it is also available in the City of Newport Beach Planning Department, 3300 Newport Boulevard, Building C, 2nd Floor.

CITY OF NEWPORT BEACH
ENVIRONMENTAL QUALITY AFFAIRS COMMITTEE

DRAFT MINUTES 11-21-05

Draft minutes of the Environmental Quality Affairs Committee held at the City of Newport Beach Police Department Auditorium, 870 Santa Barbara Drive, on **Monday, November 21, 2005**.

Members Present:

	Steve Rosansky, Council Member -*EXC*	X	Walter Lazicki
X	Richard Nichols, Council Member	X	Sandra Haskell
X	Cris Trapp, Chairperson		Barry Allen - *Absent*
X	Dolores Otting, Vice Chair	X	Kristine Adams
	Jeannette Thomas - *EXC*	X	Marianne Zippi
X	Matt Wiley		Tom Hyans – *Sick Leave*
	Christopher Welsh - *Absent*	X	Jack Wu
X	Mike Browning		Jennifer Winn - *Absent*
X	Brent Cooper	X	Ray Halowski
	Laura Dietz - *Absent*	X	Carol Mentor McDermott
X	Kenneth Drellishak	X	Barbara Thibault
	Adam Boettner - *Resigned*		Merritt Van Sant - *Absent*
	Laura Curran - *EXC*		

Staff Representatives:

X	Assistant City Manager Sharon Wood

Guests Present:

Afshin Etebar & Steve Shapell of ETCO Homes

Chairperson Trapp called the meeting to order at approximately 7:05 p.m.

1. Minutes of August 15, 2005

   Motion: Barbara Thibault to approve minutes
   Seconded: Matt Wiley
   Motion passes unanimously

2. Presentation on Bridgeport Mixed Use Development, 2300 Newport Blvd.

   Mr. Afshin Etebar and Mr. Steve Shapell of ETCO Homes presented the project and responded to questions.

3. Discussion of EQAC review of Negative Declarations (City Council Resolution No. 2004-39) -

   After discussion, there was consensus that members should monitor the case log and notify the chair if they think EQAC should review a negative declaration for a project.

4. Report from EQAC Members on GPUC –

   No Report

5. Report from EQAC Members on GPAC –

   No Report

6. Economic Development Committee (EDC) Representative's Report –

   No Report

7. Council Member Reports –

   Councilmember Nichols reported on a meeting of the Aviation Committee.

8. Report from staff on Current Projects -

   Assistant City Manager Sharon Wood reported on the status of projects by Brookfield Homes, World Premier Investments PI and Hoag Hospital.

9. Public Comments –

   None

10. Future Agenda Items -

    Hoag Hospital presentation – January 2006 meeting

11. Adjournment -

    The meeting was adjourned at approximately 9:40 p.m.

MEMORANDUM DRAFT

To: Mayor Steve Bromberg and Members of the City Council City of Newport Beach

Cc: Homer Bludau, City Manager

From: Orange County Sanitation District Subcommittee ("EQAC")
City of Newport Beach

Subject: **Orange County Sanitation District Draft Environmental Impact Report for the Newport Trunk Sewer and Force Mains Replacement Project (the Project)**

Date: January 5, 2005

Thank you for the opportunity to provide these comments on the Draft Environmental Impact Report ("DEIR") for the above-captioned Project prepared by the Orange County Sanitation District ("District"). EQAC's comments are as follows:

Chapter 1 Introduction

As discussed below, the proposed Project is the replacement of the existing Newport Trunk Sewer and force mains with a new force main system from the Bitter Point Pump station, located at the entrance of the West Newport oilfield on Pacific Coast Highway ("PCH") in the City of Newport Beach, to the District's Treatment Plant No. 2, located in the City of Huntington Beach.

Chapter 2 Project Description

This chapter discusses alternate routes for the proposed Project – one along PCH and the other through the Santa Ana River ("SAR") Marsh and the West Newport Oil Field. Seven (7) alignments were studied, with the District's preferred alternative being Alternative 2C, which runs through SAR Marsh and West Newport Oil Field. The District's preferred alternative almost entirely eliminates disruption to residents and businesses along the PCH corridor during the construction of the proposed Project, and also assures that future maintenance and repair work will have minimum impact on residents and businesses in West Newport. However, Alternative 2C could have significant impacts on the coastal wetlands within the SAR Marsh.

While some members of EQAC applaud the District for their thoroughness in the preparation of this DEIR, others felt that the extensive level of review given to so many alternatives made the document confusing and cumbersome. Because the District's preferred alternative is Alternative 2C, we recommend that the Final EIR provide a more focused, detailed review of the impacts and mitigation measures associated with Alternative 2C.

Several issues are raised in Chapter 2 that are not addressed in the DEIR. Section 2.1.3 discusses Alternative 2C and states that "existing 8 and 10-inch waste oil gravity lines....would be abandoned in place." If these abandoned lines are not sealed properly, this could pose a potentially hazardous situation. The Final EIR should provide a full discussion of the measures that will be taken to assure that the lines are properly sealed.

This section (and others) also discusses "open trench" methods for installation of the new mains, but never discusses backfilling these open trenches after installation to return the area to its original appearance. The Final EIR should provide a full discussion of the measures that will be taken to assure that the areas where the new mains are installed are returned to their original appearance.

Chapter 3 Environmental Setting, Impacts and Mitigation

Section 3.2 Biological Resources

The proposed Project is "located within the South Coast Bioregion and, as a marine ecosystem, within the Southern California Bight." The DEIR makes note of the fact that most of the wetlands along the Southern California Bight are estuarine salt marshes, and "coastal wetlands have declined by 80 to 90 percent and those remaining are frequently degraded."

The DEIR goes on to state that the impact area for Project Alternative 2 is within a wetlands area that was restored by the U.S. Army Corps of Engineers ("USACE") in 1989 as mitigation for biological impacts. The restoration of 92 acres of the Marsh has been successful, and is functioning as intended for the target endangered plant communities and wildlife.

Alternative 1, which is outside the SAR Marsh altogether, is the preferred Alternative of some members of EQAC for the very reason that its alignment is outside the sensitive areas of the SAR Marsh. Even though the proposed Project Alternative 2 would use the existing utility easement, which, according to the DEIR, "is assumed to be outside of the jurisdictional wetland area," members of EQAC we would like to propose that OCSD consider a wetlands enhancement program designed to provide mitigation beyond the impacts that will occur as a result of construction or operation of the pipeline.

Alternative 2C appears to be the least expensive of the alternatives to build, as the route follows the existing easement, and little or no land acquisition expenditures appear to be required. Alternative 2C would allow the proposed Project to proceed without the impacts to land use and traffic that would result from the Alternative 1 alignment, but a wetlands enhancement program could help alleviate some of the concerns that the Alternative 2C alignment poses a risk to the fragile estuarine salt marsh.

The Final EIR should provide a detailed discussion of the measures that will be taken to prevent impacts to biological resources, as well a program for enhancement of wetlands within the SAR Marsh.

Section 3.4 Geology and Soils

Section 3.4.1 contains detailed descriptions of the seismology and local geology in the proposed Project area. It emphasizes that these sewer mains will be installed in an area which is seismically active (Newport-Inglewood Fault Zone) and subject to liquefaction, subsidence and landslides. Specifically, "Landslides and Spreading" defines the "cliffs at the edge of the utility road and oil field as seismic landslide hazard areas." However, there is no mention of any relevant hazards during the proposed Project construction and after completion. The Final EIR should discuss and analyze whether construction traffic and trenching along the utility road cause a risk of land slide from the cliffs adjacent to the utility road and propose necessary mitigation.

Under the "California Building Code" and "General Plan" discussions (DEIR P. 3.4-7) there are general references to UBC (Uniform Building Code), CBC (California Building Code) and city and county General Plans, but no specific references is made to what pipeline building standards will be utilized. (Note: The distinction between underground construction (i.e. pipeline) and surface construction (i.e., buildings) is never clarified. Therefore, it is not clear what construction codes and what hazards/mitigation should apply. The Final EIR should provide this clarification.

Section 3.4.2, "Impacts and Mitigation" emphasizes exposure of "structures" to adverse effect due to seismic and other geological factors. The Final EIR should clarify that "structures" includes the underground portion of the proposed Project. The DEIR states that "Mitigation Measures 3.4-1 and 7.6-1 of the 1999 PEIR would reduce any potential landslide impacts to a less than significant level." DEIR P. 3.4-9 However, neither of these mitigation measures discusses how to avoid/eliminate Project-induced landslides in the bluffs area during the construction of the proposed Project. The Final EIR should fully analyze the potential for Project-induced landslides and provide necessary mitigation.

Impact 3.4-3 deals with potential damage to bridge and/or channel foundations, but only discusses Alternative 1 near PCH under the Talbert Channel. The Final EIR should analyse possible damage to the SAR channel due to the very long tunneling associated with Alternative 2C, and any provide appropriate mitigation measures. DEIR P.3.4 – 13, 14

Table 2-1 shows the need to remove 44,510 cubic yards of material due to Alternative 2C trenching and tunneling. Some of this material is coming from areas near old sewer mains and old oil fields and may be contaminated and in need of special handling. This should be fully addressed in the Final EIR. DEIR P. 2-13

Section 3.5 Hazards and Hazardous Materials

Impact 3.5-2 states that improperly abandoned oil wells may exist within the excavation for Alternative 2 alignments. The mitigation measure for this impact that prior to construction, the District will identify existing and abandoned oil wells, using the California Department of Conservation, Division of Oil, Gas and Geothermal Resources ("DOGGR") maps. In addition, if any unmapped wells are uncovered during construction, the District will notify DOGGR, and the well will be abandoned following proper procedures. The Final EIR should discuss the steps that will be taken to ensure that no seepage or spillage for the wells occurs before the District advises DOGGR.

Section 3.6 Hydrology and Water Quality

Impact 3.6-4 states that "the operation of the sewer could result in sewage spills." The DEIR further states that the Project is being proposed to minimize the potential for sewage spills; however, the DEIR does not provide any specific measures to that end. The Final EIR should fully discuss the measures being proposed to ensure that the existing sewer lines will not be breached or damaged during construction, creating a serious spill, particularly within the SAR Marsh.

Section 3.7 Land Use and Recreation

Alternative 2C traverses open space, marsh lands, and habitat conservation areas. The DEIR states the Friends of Harbors Beaches and Parks has developed plans to link currently undeveloped parcels along the south side of the SAR for use as a regional park, the Orange Coast River Park. The SAR Marsh area is planned to become a part of the park. Although the park "project is in the early stages of development and is not officially endorsed by the local cities or county," the Final EIR should provide a full analysis of the proposed Project impacts to the areas being planned for the River Park and propose necessary mitigation.

Section 3.8 Noise

Impact 3.8-1 deals with construction-related noise impacts on nearby sensitive noise receptors. Since such noise receptors are farthest away from construction activities in Alignment 2C, the noise study reconfirms the choice of Alignment 2C. Mitigation measures 7.4-1a to 7.4-1d are needed to assure mitigation to less than significant and should be strictly enforced.

The DEIR states that the proposed Project would increase sewage pumping capacity from 240 to 480 million gallons per day. The Final EIR should address the issue of operational noise associated with this increase in capacity, including the increases in continuous noise due to

doubled flow rates and doubled pump capacity after Project completion.

Impact 3.8-2 deals with ground borne vibration impacts near the construction site and concludes that no mitigation measures are needed to assure less that significant impact on Alternative 2C residences. However, prolonged or intermittent vibration and/or shocking due to pile driving can have an effect on nearly slide-prone bluffs. An evaluation of this impact should be made.

Section 3.10 Traffic

This section addresses the impacts of the proposed Project on traffic. The DEIR states that the "(i)mplementation of Alternative 1 (Alignments 1A, 1B, and 1C), would require lane closures on PCH during construction of the proposed Project which would temporarily reduce roadway capacity." This would be highly disruptive to the community of West Newport, as well as commuters that use PCH. The only impacts on traffic for Alternative 2C would be those associated with dirt hauling operations.

Mitigation Measure M-3.10-1 states that "(d)irt haul operations occurring during the peak summer months shall not occur during peak AM or PM periods (6:00-9:00 AM and 3:00-6:00 PM.)." The Final EIR should clarify "summer months" to be consistent with City of Newport Beach Department of Public Works definition, to insure a minimum of conflict with peak PCH usage.

Chapter 4 Project Alternatives

The District's preferred alternative is Alternative 2C; however, the text on Page 4-10 is not complete in its discussion of this alternative. It appears that part of the text is missing.

Conclusion

EQAC supports the District's preferred alternative, Alternative 2C, because will have the least impacts with respect to land use and traffic issues to residents and businesses in West Newport. However, we strongly urge the District to prepare a wetlands enhancement program that will provide mitigation beyond the impacts identified in this DEIR to the SAR Marsh that would be associated with Alternative 2C.

CITY OF NEWPORT BEACH

OFFICE OF THE MAYOR

January 12, 2005

Mr. Jim Herberg, P.E., Engineering Manager
c/o Angie Anderson
Orange County Sanitation District
10844 Ellis Avenue
Fountain Valley, CA 92708

VIA FACSIMILE

Comments on DEIR for the
Replacement of Newport Trunk Sewer and Force Mains

Dear Mr. Herberg:

Thank you for the opportunity to provide these comments on the Draft Environmental Impact Report (DEIR) for the above-captioned Project, as well as your courtesy in presenting the Project to the Newport Beach Environmental Quality Affairs Committee (EQAC), and allowing the City to submit comments after your deadline to allow for review by EQAC and the City Council. As you may know, EQAC reviews and prepares comments on DEIRs for the City Council's consideration. The comments in this letter are based on review of the DEIR by EQAC and City staff, and were approved by the City Council on January 11, 2005.

Section 3.2 Biological Resources

The proposed Project Alternative 2 would use the existing utility easement, which, according to the DEIR, "is assumed to be outside of the jurisdictional wetland area." Alternative 2C would allow the proposed Project to proceed without the impacts to land use and traffic that would result from the Alternative 1 alignment.

Section 3.4 Geology and Soils

Section 3.4.1 contains detailed descriptions of the seismology and local geology in the proposed Project area. It emphasizes that these sewer mains will be installed in an area which is seismically active (Newport-Inglewood Fault Zone) and subject to liquefaction, subsidence and landslides. Specifically, "Landslides and Spreading"

defines the "cliffs at the edge of the utility road and oil field as seismic landslide hazard areas." The City urges the District to take these conditions into consideration in the final design of the pipeline, and follow recognized industry standards.

Table 2-1 shows the need to remove 44,510 cubic yards of material due to Alternative 2C trenching and tunneling. Some of this material is coming from areas near old sewer mains and old oil fields and may be contaminated and in need of special handling. This should be addressed in the Final EIR.

Section 3.6 Hydrology and Water Quality

Impact 3.6-4 states that "the operation of the sewer could result in sewage spills." The DEIR further states that the Project is being proposed to minimize the potential for sewage spills; however, the DEIR does not provide any specific measures to that end. The Final EIR should discuss the measures being proposed to ensure that the existing sewer lines will not be breached or damaged during construction, creating a serious spill, particularly within the SAR Marsh.

Section 3.8 Noise

The DEIR states that the proposed Project would increase sewage pumping capacity from 240 to 480 million gallons per day. The Final EIR should address the issue of operational noise associated with this increase in capacity, including the increases in continuous noise due to doubled flow rates and doubled pump capacity after Project completion.

Section 3.10 Traffic

Mitigation Measure M-3.7-2 regarding the rerouting of bicycle traffic on West Coast Highway is not realistic. Coast Highway is a major regional bicycle facility with hundreds of cyclists using it on peak days. Even on winter weekdays, groups of cyclists travel this road including during peak traffic periods. It is the City's experience that these cyclists will not divert to the proposed alternate route, but will occupy one of the 10' lanes, resulting in substantial traffic congestion and increased risk of collisions between vehicles and bicycles as well as between vehicles making last minute lane changes to avoid slower moving cyclists.

Mitigation Measure M-3.10-1 states that "(d)irt haul operations occurring during the peak summer months shall not occur during peak AM or PM periods (6:00-9:00 AM and 3:00-6:00 PM.)." The Final EIR should clarify "summer months" to be consistent with City of Newport Beach Department of Public Works definition, to

insure a minimum of conflict with peak PCH usage.

Chapter 4 Project Alternatives

The District's preferred alternative is Alternative 2C; however, the text on Page 4-10 is not complete in its discussion of this alternative. It appears that part of the text is missing.

Conclusion

The City of Newport Beach commends the District for the thoroughness of this DEIR, especially the analysis of a range of alternatives. The City supports the District's preferred alternative, Alternative 2C, because it will have the least impacts with respect to land use and traffic issues to residents and businesses in West Newport.

Thank you again for the opportunity to participate in the review of this project. If you have questions about the City's comments, please contact Assistant City Manager Sharon Wood at 949-644-3222.

Sincerely,

Steven Bromberg
Mayor

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ES.1 INTRODUCTION

This Environmental Impact Report has been prepared to evaluate the potential environmental effects of the Irvine Ranch Water District's (IRWD) proposed Michelson Water Reclamation Plant (MWRP) Phase 2 and 3 Capacity Expansion Project. The Proposed Project would expand the existing MWRP capacity from 18 million gallons per day (mgd) to 33 mgd by 2025.

The Project is located within the City of Irvine, Orange County, California. The proposed expansion would occur within the existing MWRP footprint, and no acquisition or alteration of additional land would be necessary.

This EIR has been prepared by IRWD as the lead agency pursuant to the California Environmental Quality Act (CEQA) Public Resources Code 21000 et. seq. and the State CEQA Guidelines (California Code of Regulations, Section 15000 et. seq.).

In arriving at a decision whether to proceed with the project or an alternative to the project, IRWD will consider the potential environmental impacts discussed in this EIR.

ES.2 PROJECT OBJECTIVES

The primary objectives of the Proposed Project are as follows:

- Based on need, expand in phases, IRWD's recycled water production capability by 15 mgd to meet projected ultimate (year 2025) demands for non-potable water from recycled water.
- Enhance water supply reliability in the IRWD service area by maximizing the use of recycled water to meet demands for non-potable water in-lieu of using imported water from the Colorado River and State Water Project.
- Minimize the need for purchases of freshwater to meet non-potable water use demands and thereby meet state law mandates to reduce cumulative urban use demands on the state's freshwater supplies in order to maximize freshwater availability for wildlife needs and resource uses such as agriculture on a statewide basis.
- Reduce the amount of wastewater that is diverted to the Orange County Sanitation District (OCSD).
- Optimize water supply, wastewater treatment, life cycle and construction cost economics.

ES.3 PROJECT DESCRIPTION

The Proposed Project involves expanding the existing MWRP capacity using conventional activated sludge and gravity filtration processes. The Proposed Project would add new low-profile structures to the existing MWRP site including the following:

Influent Trunk Sewers

- Modifications to portions of the North Irvine Interceptor Sewer and South Irvine Interceptor Sewer located within the MWRP site.

Preliminary Treatment

- Replacement of existing headwork's intake system

Primary Treatment

- Five additional primary clarifiers
- One additional primary sludge pumping station

Flow Equalization

- Flow equalization basin will be increased in size
- One additional flow equalization basin influent pump

Secondary Treatment

- Expansion to secondary treatment capacity including:
  - 3 additional aeration tanks
  - 3 additional secondary clarifiers
  - 3 additional return activated sludge (RAS) pumps
  - 3 additional waste activated sludge (WAS) pumps

Effluent Filtration

- Five additional filters

Disinfection

- A 0.25 million gallon expansion of the chlorine contact tank

Recycled Water Pumping

- Three reclamation pumps replaced

Odor Control

- Odor control features such as wet scrubbers on applicable facilities such as the new headworks and primary clarifiers

Dewatering Pumping System

- New pumps for dewatering

ES.4 PROJECT LOCATION

The MWRP is located at 3512 Michelson Drive, City of Irvine, Orange County, California. The IRWD property, containing both the MWRP site and the San Joaquin Marsh, is bounded by Michelson Drive, the San Diego Creek Channel, Campus Drive, and Carlson Avenue. The site is generally flat varying between 10 and 15 feet above mean sea level (msl). A 15 to 20 foot high levee exists along the southeastern extremity of the plant separating the site from the San Diego Creek Channel. Access to the site is via IRWD's private drive, Riparian View. The property is located in an area characterized by mixed land uses, including recreational, light commercial, institutional and residential use.

ES.5 ENVIRONMENTAL REVIEW ISSUES RAISED

Pursuant to the requirements of Section 15365 of the State CEQA Guidelines, IRWD prepared an Initial Study. The Initial Study is included in *Appendix A (Notice of Preparation [NOP]* and *Initial Study [IS]*) of this EIR. The NOP/IS was publicly circulated for 30 days beginning on May 31, 2005; the circulation period ended on July 1, 2005. In addition, IRWD held a public scoping meeting on June 14, 2005 to provide public and governmental agencies information on the CEQA process and to give further opportunities to identify environmental issues and alternatives for consideration in the EIR.

The specific issues raised during the public scoping process are summarized below according to the following major themes:

- Project Description and Objectives
- Alternatives
- Human Environment Issues
- Natural Environment Issues

Project Description and Objectives. Public comment expressed concern regarding the need for the 15 MGD expansion to the MWRP. It was also stated that further details regarding proposed dewatering be described and evaluated.

Alternatives. Public comment suggested alternatives, including water conservation, expansion to LAWRP, as well as alternative locations in areas of lower biological resource sensitivity.

Human Environment Issues. Public comment raised concerns regarding the potential impacts of the Proposed Project on the human environment, expressing concerns with noise and odor as well as public health and safety associated with production of recycled water.

Natural Environment Issues. Public comment raised concerns with the potential impacts that the Project would have on the natural environment, particularly impacts to plants, wildlife, and habitats, including the San Joaquin Marsh, UC Natural Reserve System, Upper Newport Bay State Ecological Habitat Reserve and San Diego Creek Watershed. Comments were also provided discussing geology in particular subsidence impacts due to proposed dewatering, hydrology/water quality issues due to proposed dewatering and use of recycled water, as well as potential impacts to the Project resulting from flooding hazards.

In accordance with State CEQA Guidelines requirements, this EIR addresses those impacts considered potentially significant as well as evaluates a reasonable range of alternatives as identified in the NOP/IS process. The environmental issues evaluated in this EIR are:

- Hydrology and Water Quality
- Biological Resources
- Public Health and Safety
- Air Quality/Odor
- Noise
- Geologic Hazards

Other areas which did not generate concerns and were found through the NOP/IS process and EIR scoping meeting to have less than significant effects are aesthetics, agricultural resources, cultural resources, paleontological resources, land use and planning, mineral resources, population/housing, public services, recreation, transportation and circulation, and utilities and service systems. A brief discussion of effects determined not to be significant are provided in *Section 8, Effects Found Not To Be Significant,* of this EIR.

The following alternatives to the proposed MWRP Capacity Expansion Project are evaluated in *Section 7* of this EIR.

- No Project Alternative
- Maximum Expansion of IRWD's Los Alisos Water Reclamation Plant (LAWRP)
- New Satellite Plant/Alternative Site
- Water Conservation
- Maximum Expansion of LAWRP combined with Reduced Expansion of MWRP
- New Satellite Plant/Alternative Site combined with Reduced Expansion of MWRP

ES.6 ENVIRONMENTAL ANALYSIS

Results of the EIR analysis are presented in *Sections 4.2 through 4.7* and conclude that implementation of environmental commitments incorporated into the project along with proposed mitigation would insure that impacts to biological resources, air quality, hydrology and water quality, public health and safety, noise and geologic hazards would be less than significant.

The following provides a summary of each of the environmental resource areas addressed in detail in this EIR.

ES.6.1 Hydrology and Water Quality

Issues

Public comment raised concerns with potential hydrology and water quality impacts related to the Proposed Project. Areas of concern included potential impacts to the San Joaquin Marsh, UC Natural Reserve System, and San Diego Creek Watershed due to dewatering necessary to construct and operate the project as well as increased use of recycled water and potential effects to water quality. Other issues of concern include potential effects due to increased stormwater runoff, potential flooding hazards, as well as concerns raised regarding exposure to pollutants carried by tertiary treated wastewater not regulated by California health laws (i.e., human pharmaceuticals, hormones, antioxidants and plasticizers, etc.).

Effects

Water Quality Degradation From Construction Activity: Implementation of Best Management Practices (BMPs) and the required Stormwater Pollution Prevention Plan (SWPPP) would protect water quality in the project area due to erosion, sedimentation and accidental spill of hazardous materials from construction activities and therefore, this impact is considered less than significant.

Groundwater Disturbance and Groundwater Quality Degradation Through Project-Related Production of Recycled Water: Recycled water has a limited potential to reach the principal aquifer. However, regardless of the potential to recharge the principal aquifer, the NPDES effluent limitations for the MWRP are less than the Basin Plan Water Quality Objectives. Therefore, water quality impacts to groundwater resulting from project-related production of recycled water would be less than significant.

Groundwater Disturbance Through Project-Related Dewatering: Based on the data collected, no discernible drawdown in the San Joaquin Marsh mitigation area or underneath the ponds due to the current dewatering program at the MWRP has been identified. The water levels in the marsh mitigation area fluctuate more than water levels near the MWRP and appear to be influenced by surface water runoff that is directed to that area from the developed areas north of Michelson Drive and west of Carlson Avenue. Water levels beneath the ponds are influenced by infiltration from the ponds and fluctuate substantially less than water levels observed in piezometers more distant from the ponds. Therefore, negligible incremental drawdown is anticipated with the addition of the two proposed dewatering wells for the Proposed Project, representing a less than significant impact to groundwater resources in the shallow zone.

Surface Water Quality Impacts Through Project-Related Dewatering: Additional shallow groundwater dewatering is anticipated to be required for the Proposed Project. However, the existing onsite nitrogen offset program would account for the discharge of additional dewatering water resulting from the Proposed Project. Therefore, impacts to surface water quality due to dewatering are considered less than significant.

Surface Water Quality Impacts Through Project-Related Production of Recycled Water: The MWRP does not discharge recycled water directly to the San Diego creek. However, shallow groundwater, which will receive recharge from some infiltration of recycled water delivered to IRWD customers, flows to the San Diego Creek as baseflow. The potential also exists for the recycled water delivered to IRWD customers to impact the San Diego Creek through incidental runoff (over-watering of landscape and agricultural fields, etc.). While these flows would occur whether the Proposed Project is implemented or not, the character of these flows would be affected by the Proposed Project. The loading indirectly contributed by the Proposed Project would be within the TMDL for nutrients, sediment, toxic pollutants and coliform set by the RWQCB for the San Diego Creek. Additionally, the quality of the recycled water, which will not change with implementation of the Proposed Project, meets the NPDES Basin Plan Standards. Therefore, surface water quality impacts through project-related production of recycled water would be less than significant.

Saltwater/Freshwater Interface Due to Project-Related Production of Recycled Water: Increase in flow in the San Diego creek due to the increase in irrigation water delivered to the San Diego Creek Watershed could potentially impact the saltwater/freshwater interface in Upper Newport Bay by pushing it southwest. However, water will be delivered to the watershed regardless of whether or not this project is approved (if the project is not approved, then raw water and potable water will be used instead). The character of the water delivered to the watershed would be affected by the Proposed Project. The change in estimated salinity (TDS) of water due to the project is smaller than if there were no project. Therefore, the Proposed Project would have no impact due to changes in salinity/density.

Impacts Due to Increased Runoff from New Impervious Areas and Alteration of Drainage Patterns: Since a majority of stormwater runoff within the MWRP site would be treated at the MWRP as part of the reclaimed water process, there would not be a substantial increase in storm runoff. Therefore, increased runoff from new impervious areas would have a less than significant impact to existing surface water and drainage patterns.

Encroachment into a Floodplain: The MWRP is located along the San Diego Creek, a 100-year flood control facility under the maintenance of the Orange County Flood Control District (OCFCD). The Proposed Project does not involve the construction of structures that would impede or redirect flows in the San Diego Creek Channel. However, the flood storage capacity within the San Diego Creek Channel has been reduced in recent years due to sediment and vegetation accumulation in the channel. As such, OCFCD has committed to the restoration of the Lower San Diego Creek Channel between Jamboree Road and the I-405 to a 100-year flood control facility. In addition to discretionary approval by the OCFCD, a number of other permits will be required prior to OCFCD being able to implement the Lower San Diego Creek Project. Therefore, until the San Diego Creek Channel baseline condition as a 100-year flood control facility is re-established, there will remain a potential for flooding at the existing MWRP site. Regardless of the flood capacity in the San Diego Creek Channel, the Project will not increase potential flooding of MWRP relative to current conditions. Because the Project will result in greater treatment capacity at MWRP, IRWD will increase wastewater flows coming into the plant under normal operating conditions for the production of recycled water. The inclusion of the Project's increased flows in the existing MWRP procedures for diversion away from the MWRP are incorporated in the environmental commitments for the Project. This commitment provides a backup measure of protection in addition to the OCFCD restoration of the 100-year flood capacity of the channel; therefore, the Project would not have a significant impact on flood protection.

Flooding Impacts Through Project-Related Production of Recycled Water: Project-related production of recycled water would have no impact on the capacity of the San Diego Creek to handle runoff in a manner which would result in flooding on or offsite.

ES.6.2 Biological Resources

Issues

Concerns were raised regarding potential impacts to plants, wildlife, and habitats, including the San Joaquin Marsh, UC Natural Reserve System, Upper Newport Bay State Ecological Habitat Reserve and San Diego Creek.

Effects

Direct Impacts to Vegetation Communities and Land Covers Including Sensitive Plants: The Proposed Project would be developed entirely within the existing footprint of the MWRP. No acquisition or alteration of additional land would be necessary. Therefore, no direct or permanent impacts to sensitive plant species, sensitive plant communities, or jurisdictional waters would result due to the Proposed Project.

Direct Impacts to Sensitive Wildlife: Implementation of Mitigation Measure BIO-1 would reduce potentially significant direct impacts to sensitive wildlife associated with removal of eucalyptus to less than significant.

Indirect Impacts to Vegetation Communities Due to Construction Activities: Because stormwater would generally be treated at the MWRP and development and implementation of a SWPPP for this project is a requirement of the existing SWPPP under which the MWRP operates, indirect impacts to sensitive vegetation communities, jurisdictional waters, or sensitive plant species due to construction-related erosion, sedimentation, toxic pollutants or dust would be less than significant.

Indirect Impacts to Sensitive Wildlife Due to Construction Activities: Implementation of Mitigation Measures BIO-2a and BIO-2b would reduce potentially significant indirect impacts due to construction activities to sensitive wildlife in adjacent habitat to less than significant.

Indirect Impacts to Wildlife Movement or Corridors Due to Construction Activities: Implementation of Mitigation Measure BIO-3 would reduce indirect construction-related impacts to wildlife movement to less than significant.

Indirect Impacts to Sensitive Vegetation Types and Wildlife Due to Project-Related Dewatering: No discernible changes in groundwater levels in the San Joaquin Marsh or UC Natural Reserve System would result from project-related dewatering activities. The project would result in a direct increase in flow from the MWRP to San Diego Creek due to outflow from two new dewatering wells. The discharge due to dewatering to the San Diego Creek would not substantially alter hydrologic conditions or water quality in the San Diego Creek. Therefore, indirect impacts due to project-related dewatering to sensitive vegetation communities would be less than significant.

Direct and Indirect Impacts to Habitat Wildlife Movement or Corridors/Conflicts with Recycled Habitat Conservation Planning Efforts: All facilities would be located within the MWRP site, with the majority of new facilities recessed below grade from the San Diego Creek Channel embankment. As a result, no long-term impacts to the function of the habitat linkage/ movement corridor along San Diego Creek or to regional habitat conservation planning efforts would result from the project.

Indirect Biological Resource Impacts Due to Increased Use of Recycled Water: The amount of nutrients entering the watershed due to the increased use of recycled water produced by the project will have a less than significant impact to the composition of the riparian/wetland vegetation in the watershed and to any sensitive species dependent on this habitat.

Indirect Impacts Due to Saltwater/Freshwater Interface Due to Project-Related Production of Recycled Water: Water will be delivered to the watershed regardless of whether or not this project is approved (if the project is not approved, then raw water and potable water will be used instead). However, the character of the water delivered to the watershed would be affected by the Proposed Project. The change in estimated salinity (TDS) of water due to the Proposed Project would be smaller than if there were no project. Therefore, the Proposed Project would have no impact due to changes in salinity/density or to sensitive habitats in the Upper Newport Bay due to potential changes to the saltwater/freshwater interface.

Mitigation Measures

Mitigation Measure for Direct Impacts to Sensitive Wildlife

BIO-1 Removal of eucalyptus trees outside of the December 15 through September 15 raptor breeding season would avoid significant impacts to nesting raptors. These impacts may also be avoided by (1) conducting a survey to determine presence or absence of raptor nests during the raptor breeding season; (2) avoiding impact to trees with

occupied raptor nests until juveniles have fledged; and (3) establishing a 25- to 300-foot buffer around the nest site, which would be determined by a qualified biologist.

Mitigation Measures for Indirect Impacts to Sensitive Wildlife

BIO-2a Avoiding construction activities between December 15 and September 15, the nesting bird season, would avoid significant impacts to nesting birds adjacent to the project site. These impacts may also be avoided by (1) conducting a survey to determine presence or absence of nests within a 300-foot radius of the construction site during the breeding season; (2) avoiding impact to trees with occupied nests until juveniles have fledged; and (3) establishing a 25- to 300-foot buffer around the nest site, which would be determined by a qualified biologist.

BIO-2b If construction during the nesting season (March 15 through September 15) of least Bell's vireo and southwestern willow flycatcher cannot be avoided, noise impacts to endangered least Bell's vireo and southwestern willow flycatcher would be avoided through implementation of one of three of the following measures. Implementation of the measures below would avoid impacts to least Bell's vireo and southwestern willow flycatcher.

1. Conduct surveys to determine the presence or absence of these species in suitable habitat within 500 feet of the project area in accordance with USFWS protocols, which require eight surveys for least Bell's vireo and five surveys for southern willow flycatcher during spring and early summer (USFWS 1999, 2000). If neither species is detected by these surveys, construction may proceed.

2. If focused surveys detect the presence of either species, delay construction within 500 feet of occupied territory until after the least Bell's vireo and/or southern willow flycatcher have migrated from the site.

3. If focused surveys detect the presence of either species, erect noise barriers that reduce sound levels at the nest site to below 60 dBA and proceed with construction and conduct regular monitoring of noise levels during construction.

Mitigation Measure for Indirect Impacts to Wildlife Movement Due to Construction

BIO-3 If construction occurs during nighttime, lighting shall be directed away from San Joaquin Marsh and San Diego Creek.

ES.6.3 Public Health and Safety

Issues

Potential impacts associated with the increased frequency of deliveries of hazardous materials to the existing MWRP.

Effects

Potential Hazardous Substance Spills During Construction: Implementation of Mitigation Measures HAZ-1a through HAZ-1d would reduce potentially significant impacts associated with hazardous substance spills during construction to less than significant.

Release of Hazardous Materials During Operation: The Proposed Project would not require an increase in any of the hazardous materials or in the inventory of hazardous wastes stored onsite. Continued compliance of the MWRP with respect to the storage and handling of hazardous materials including compliance with the requirements of the existing Hazardous Materials Business Plan and Process Safety Management and Risk Management Plan Requirements as managed by the Orange County Fire Authority would ensure that public health and safety impacts due to release of hazardous materials during project operation would be less than significant.

Release of Hazardous Materials During Delivery: While the inventory of hazardous materials and wastes would not be affected by the Proposed Project, the frequency of deliveries of bulk chlorine and other hazardous materials would increase over current levels from one delivery approximately every two weeks, to approximately one delivery every week. Public health and safety impacts due to this increase in delivery of hazardous materials would be less than significant.

Mitigation Measures

Mitigation measures for hazardous substance spills during construction

HAZ-1a Prior to construction, all contractor and subcontractor project personnel shall receive training regarding the appropriate work practices necessary to effectively comply with the applicable environmental laws and regulations, including, without limitation, hazardous materials spill prevention and response measures.

HAZ-1b Hazardous materials shall not be disposed of or released onto the ground, the underlying groundwater, or any surface water. Totally enclosed containment shall be provided for all trash. All construction waste, including trash and litter, garbage, other solid waste, petroleum products and other potentially hazardous materials, shall be removed to a hazardous waste facility permitted or otherwise authorized to treat, store, or dispose of such materials.

HAZ-1c A hazardous substance management, handling, storage, disposal, and emergency response plan shall be prepared and implemented.

HAZ-1d Hazardous materials spill kits shall be maintained onsite for small spills.

ES.6.4 Air Quality

Issues

Concerns were raised regarding pollutants generated by project construction and operation. In addition, there were concerns that the long-term operation of the proposed facilities could generate odor impacts to surrounding sensitive receptors.

Effects

Violation of Air quality Standard or Substantial Contribution to Existing or Projected Air Quality Violation: Construction activity impacts will not exceed SCAQMD thresholds even for assumed worst-case activity days and would not violate air quality standards and would therefore be less than significant. Direct operational air emissions are thus negligible, and would not exceed the thresholds of significance or violate an air quality standard or contribute substantially to an existing or projected air quality violation.

Create Objectionable Odors: The proposed Phase 2 and 3 Expansion Facilities includes additional wet chemical scrubbers on the new headworks and the primary clarifiers designed to accommodate these new foul odor sources by minimizing the potential for producing odors. Incorporation of these design features will ensure that the net odorant release rate at plant buildout conditions will not exceed existing release levels and therefore, odor impacts are considered less than significant.

ES.6.5 Noise

Issues

Potential impacts to ambient noise levels during construction and operation at the Proposed Project.

Effects

Construction Activities would Temporarily Increase Ambient Noise Levels: Due to the short-term duration of the construction activities, and because the construction activities would occur during the City of Irvine's allowable time periods, this noise level would result in a less than significant noise impact.

Onsite Operational Noise Impacts: Implementation of the Proposed Project would not substantially increase the ambient noise level at the closest residences or generate noise levels in excess of the City of Irvine's noise criteria. Thus, the operational noise impact is considered less than significant.

ES.6.6 Geology and Soils

Issues

Concerns were raised during public scoping regarding the potential geologic hazards that may impact the Proposed Project, specifically seismic hazards and subsidence.

Effects

Geologic Hazards: The Proposed Project components will include an additional two dewatering wells to minimize potential risks of high groundwater to construction and operation of proposed facilities. In addition to the installation of dewatering wells, implementation of Mitigation

Measure G-5a would reduce potentially significant impacts associated with high groundwater levels to less than significant.

Due to the shallow groundwater table at the project site, instability may be created during excavation dewatering and could potentially affect existing and/or proposed structures. The proposed project calls for the addition of two dewatering wells to help facilitate the installation of new subsurface structures at the MWRP. As a result, drawdown of the water table will increase with the greatest drawdown occurring at the new wells and exponentially decreasing away from the wells. Some degree of subsidence may occur because the portion of the peat that is dewatered will be unsaturated, which may be sufficient to damage nearby engineering structures and therefore considered to be a potentially significant impact. Implementation of Mitigation Measure G-5a and G-6a would reduce potentially significant impacts associated with induced subsidence to less than significant.

Mitigation

Mitigation Measure for High Groundwater and Induced Subsidence

G-5a IRWD shall perform design-level geotechnical investigations to evaluate the potential for high groundwater levels and subsidence to affect the project and other nearby structures. Appropriate engineering design and construction measures shall be incorporated into the project designs. Appropriate measures for project facilities will include identifying methods of dewatering that will minimize draw-down-induced settlement at structure locations in the vicinity of the project site, as well as foundation recommendations to provide "safe" designs intended to provide stability of structures and pipelines built at the site.

To minimize dewatering, water retention systems, such as slurry wall or sheet pile walls, combined with limited excavation, may be considered as an alternative to continuously maintained dewatering operations. All structures and facilities within 50 feet of dewatering wells should be monitored for settlement prior to dewatering, during dewatering operations, and after dewatering operations are completed. Settlement of the adjacent facilities should be restricted to less than 0.5 inch during excavation and dewatering operations. In addition, adjacent facilities should be observed to document existing conditions prior to the beginning of excavation and dewatering.

G-6a If MWRP dewatering related subsidence is detected, there are several mitigation measures that may be instituted. A requirement to balance exported groundwater from the San Joaquin Marsh aquifer to compensate for dewatering at the MWRP including either direct replacement of exported water or by confining barriers may be warranted. If a serious problem persists, then IRWD can return the land surface to natural levels.

ES.7 Alternatives

Alternatives considered in this EIR include the No Project Alternative, Maximum Expansion of LAWRP, development of New Satellite Treatment Plant, maximum expansion of LAWRP coupled with reduced expansion of the MWRP, a New Satellite Plant coupled with reduced expansion of the MWRP, and water conservation.

Environmentally Superior Alternative

The proposed MWRP Phase 2 and 3 Capacity Expansion Project would take place entirely within the existing MWRP footprint with no requirements to develop offsite conveyance pipelines or other offsite facilities. All associated impacts resulting from construction and operation of the Proposed Project can be mitigated to less than significant. The Proposed Project is consistent with the core principles of California's mandates of water conservation and beneficial use and would assist in reducing demands on water inflows to important aquatic resources of the state needed to maintain water quality. Additionally, the Proposed Project would reduce the amount of wastewater that would otherwise be diverted to OCSD, thereby reducing associated environmental impacts. Therefore, in terms of physical effects on the environment, the environmentally superior alternative is the proposed Phase 2 and 3 Capacity Expansion at the MWRP.

ES.8 Issues to be Resolved

This EIR considers the full range of potential environmental impact issues for the project. The environmental issues addressed in the EIR have been resolved in accordance with CEQA. As previously discussed in this section, an environmentally superior project is presented in this EIR. Final selection among the Proposed Project and alternatives evaluated in the EIR will be predicated by different factors, including engineering, cost and public input.

Draft

NEWPORT TRUNK SEWER AND FORCE MAINS REPLACEMENT PROJECT

Environmental Impact Report
SCH#: 2003051126

November 2004

Prepared for
Orange County Sanitation District

ESA Environmental Science Associates

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providing program-level analysis of long-term planning strategies as well as project-level analysis for projects planned to occur in the near-term (up to the year 2005). The Strategic Plan did not identify the Newport Trunk Sewer and Force Main Replacement Project.

S.3 PROJECT DESCRIPTION

The project consists of the replacement of the Newport Trunk Sewer and force mains from Treatment Plant No.2 to the Bitter Point Pump Station, which is located off PCH at the western end of the city of Newport Beach. The District has developed two basic alternative routes for replacing the final segment of the Newport Trunk Sewer and Force Main. Alternative 1 would generally follow PCH to Brookhurst Street while Alternative 2 would traverse the West Newport Oilfield (Armstrong Petroleum) and the panhandle portion of the Santa Ana River (SAR) Salt Marsh, located between Santa Ana River and Banning Ranch. Seven alternative alignments have been developed for the alternatives; four alignment options have been developed for Alternative 1 and three alignment options have been developed for Alternative 2. The project would also include the construction of two force mains crossing beneath the SAR and possibly the Talbert Marsh outlet channel depending on which alignment is implemented. Alternative 2 would also include the construction force mains to connect to Treatment Plant No. 2 connecting the Newport Trunk with the Coast Trunk. The existing 8- and 10-inch West Newport Oil Company waste pipelines would be reconnected to discharge to a newly constructed twelve-inch force main that would tie into the Bitter Point Pump Station. The existing Newport Trunk force mains, gravity sewer, and siphon would be abandoned in place and filled with cement slurry.

Open trench construction would be used to install portions of the pipeline along PCH or through the West Newport Oilfield and SAR Marsh. Micro-tunneling or horizontal directional drilling would be used to install the sections beneath the SAR, Talbert Marsh outlet channel, and also some portions of the Santa Ana River Salt Marsh. All construction will take place within the existing easement, which lies along the service road and is already in a disturbed area. Construction activity will take approximately eleven months to complete.

S.4 PROJECT ALTERNATIVES

The District evaluated two Alternatives for a total of seven alignment options for replacement of the Newport Trunk Sewer and force mains in the general proximity of the PCH and Treatment Plant No. 2. The District conducted a site screening analysis for each of these sites. All of the sites were found to be technically feasible, although some were technically more difficult to construct and cost prohibitive. Based on the technical and environmental analysis, the District's preferred alternative is Alternative 2C.

3.2 BIOLOGICAL RESOURCES

This section describes biological and wetland resources in and near the Newport Trunk Sewer and Force Mains Project (Project) site, as well as project-related impacts on those resources. References used in the preparation of this section include standard references such as the California Natural Diversity Database (CNDDB) (CDFG, 2003); the California Native Plant Society Inventory of Rare and Endangered Plants (CNPS Inventory) (CNPS, 2003); and the California Wildlife Habitat Relationships System (CDFG, 2002); and general biological literature (Hickman, 1993; United States Fish and Wildlife Service (USFWS), 2003; Meyer and Laudenslayer, 1998; Zeiner et al. (1990); Sawyer and Keeler-Woolf, 1995; Holland, 1986).

In addition there are many resource studies and environmental analyses that were conducted in the project area since the 1980s. These apply to the Project area or adjacent lands, or deal with resources in river reaches further upstream.

- Biological Resources Report for EIR No. 158 Banning Avenue – 19th Street Bridge across the Santa Ana River (Bender, 1980);
- EIR for the Banning Avenue – 19th Street Bridge (County of Orange, 1980);
- Marsh Restoration Lower Santa Ana River Channel, Orange County, California (Simons, Li & Associates, 1987)
- Avifaunal Surveys of Santa Ana River Marsh, Newport Beach, California (Kelsey and Collins, 1997)
- Marine Invertebrates and Fish Communities in the Restored Area of the Santa Ana River Marsh, Orange County, California (Reish, 1997)
- Cordgrass Pilot Planting Experimentation at the Santa Ana River Marsh (Fink and Weber, 1995)
- Draft Supplemental Environmental Assessment and Addendum to the 1988 Phase II General Design Memorandum SEIS/R, Santa Ana River Mainstem Project, Lower Santa Ana River, Reach 2 Channel Excavation to Design Grade (USACE, 2002a)
- The Status of the Least Bell's Vireo and the Southwestern Flycatcher at the Lower Santa Ana River Reach in 2002. (Griffith and Griffith, 2002)
- Information contained in letters from the USFWS and the State of California Department of Parks and Recreation in response to the Project Notice of Preparation.

This section of the EIR describes existing biological resources on or around the project site and to analyze the potential project impacts of the project on these resources.

METHODOLOGY

Reconnaissance-level biological and wetlands surveys were conducted of the project site on July 8 and 9, 2003, to gather information on vegetative communities, wildlife habitats and habitat use, and wetlands on and surrounding the site, and to verify the results of previous surveys. All areas within the project site were thoroughly inspected for biological and wetland resources.

Before any field effort was begun, ESA peer-reviewed the sources listed above and consulted the databases cited above. Searches were conducted on the applicable databases (CNDDB and CNPS Inventory) for special status wildlife and plant species occurring in the Newport Beach and adjacent U.S. Geological Survey (USGS) 7.5 minute quadrangles. Vegetation types and wildlife habitats on and adjacent to the Project area as described in this section were characterized on the basis of previous field accounts and current field observations.

3.2.1 SETTING

REGIONAL SETTING

The Project is within the California Floristic Province, Southwestern California Region, South Coast subregion (Hickman, 1993).[1] 'The climate of this subregion is Mediterranean with a broad range of habitats including mosaics of marsh and wetland communities, native and non-native grasslands, riparian scrubs and forests, upland oak and mixed evergreen forests, chaparral and upland scrubs. In the "bioregional" characterizations developed as part of California's Agreement on Biological Diversity (a multi-agency memorandum signed in 1993), the Project is located within the South Coast Bioregion and, as a marine ecosystem, within the Southern California Bight.

Most of the wetlands along the Southern California Bight are estuarine salt marshes; in the region, coastal wetlands have declined by 80 to 90 percent and those remaining are frequently degraded (Coastal Conservancy, 2003). Presently the vast majority of this coastal area is developed, with few large patches of remnant salt marsh. There are, however, restored wetlands such as the impact area for Project Alternative 2 and the Bolsa Chica Ecological Reserve, 1,200 acres in Huntington Beach, and the Upper Newport Bay Ecological Reserve, which supports about 200 acres of tidal wetlands.

The immediate vicinity of the Project includes urban development along the channelized lower reach and discharge of the SAR into the Pacific Ocean, and three areas with biological resources. These are the oilfield and coastal bluffs (sometimes called "Newport Mesa") to the east of the site;

[1] Geographic subdivisions are used to describe and predict features of the natural landscape. The system of geographic units is four-tiered: provinces, regions, subregions, and districts. The State of California is covered by three floristic provinces: California Floristic Province, Great Basin and Desert. The California Floristic Province is the largest, includes most of the state and small portions of Oregon, Nevada and Baja California, Mexico and is made up of six regions.

the Talbert Nature Preserve, west across the SAR, and the least tern nesting colony on Huntington State Beach.

The oilfield and coastal bluffs are highly disturbed, with only fragments of the original coastal sage scrub habitat. The Talbert Nature Preserve was acquired by the County of Orange in the mid-1970s and has been successfully restored to display a variety of habitats, from native grassland to riparian woodland. The tern nesting colony at Huntington State Beach is a resource of statewide importance in the management of the species.

SAR MARSH

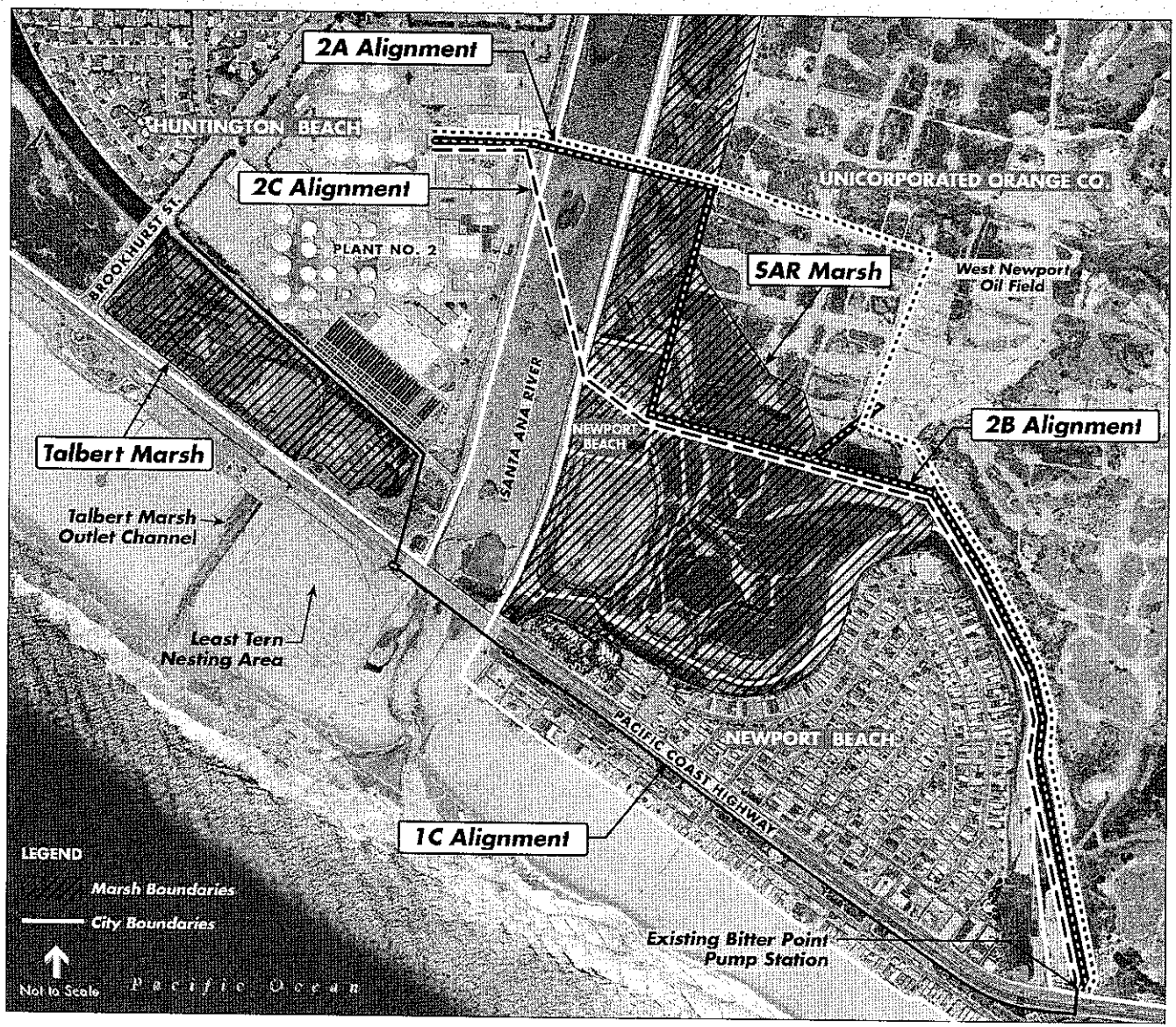
The SAR Marsh is a 92-acre salt marsh wetland within Orange County restored by the USACE. **Figure 3.2-1** delineates the boundaries of the USACE-managed property. The area was originally part of the alluvial flood plain of the SAR where there was a gradual transition from salt marsh near the ocean to freshwater marsh inland. By 1980, although some of the original marsh channels persisted inland of the Newport Shores development, most of the non-channel portion had converted to what Bender (1980) referred to as "open meadow" dominated by species such as Italian ryegrass (*Lolium multiflorum*), with a few "damp areas" characterized by rushes (*Scirpus* sp.). Pacific cordgrass (*Spartina foliosa*), a principle tidal marsh indicator, was absent.

As part of the SAR Mainstem Flood Control Project, USACE began restoration of the 92 acres in 1989, as mitigation for biological impacts. The USACE graded portions of the site and increased tidal and river hydrological interaction by installing two tide gates between the SAR and the marsh (at the northern and southern ends of the SAR Marsh). Cordgrass and perennial pickleweed (*Salicornia virginica*) were planted and a five-acre "island" created, slightly raised above the marsh and left unvegetated as habitat for least terns (*Sterna antillarum browni*).

Plant Communities and Wildlife Habitat

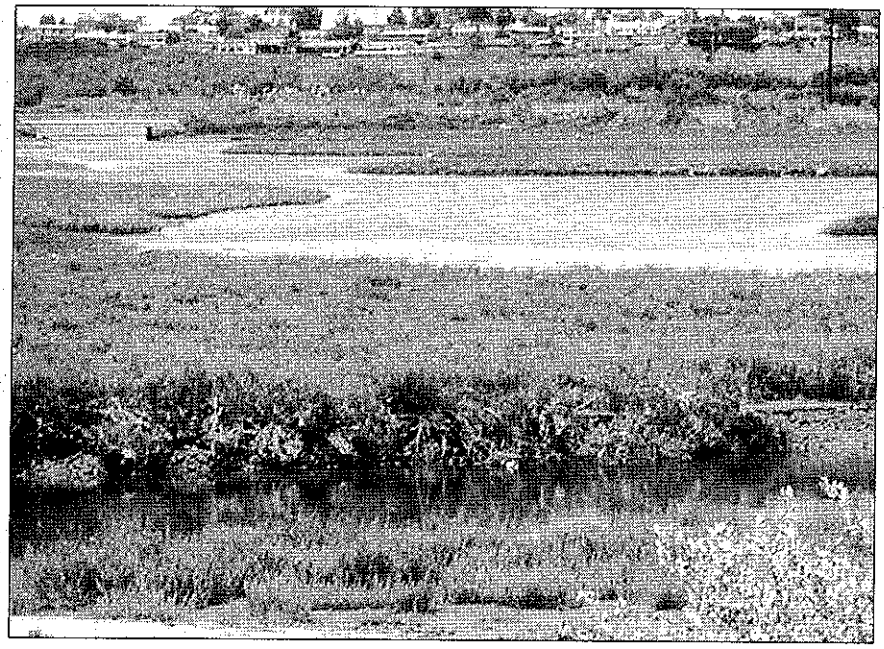
The portion of the 92-acre SAR Marsh site within which Project impacts could occur (under Alternatives 2A, 2B and 2C) currently supports two major habitat/vegetation community types in approximately equal proportion: Coastal Salt Marsh and Ruderal. **Figure 3.2-2** presents views of the marsh from the SAR levee. The salt marsh in the southern portion of the SAR Marsh has been successfully restored. By 1996 least terns were using the salt marsh regularly, although not nesting on the island created for that purpose.

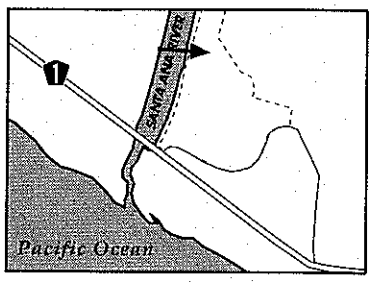
Relatively abundant Belding's savannah sparrows (*Passerculus sandwichensis beldingi* – a California endangered species associated with salt marsh habitats) were observed feeding young (Kelsey and Collins, 1997). When visited for this project in 2003, salt marsh portions of the SAR Marsh were stable and appeared to be functioning as intended, with channels bordered by saltgrass and pickleweed. Mudflat areas were populated with numerous California horn snails (*Cerithidea*

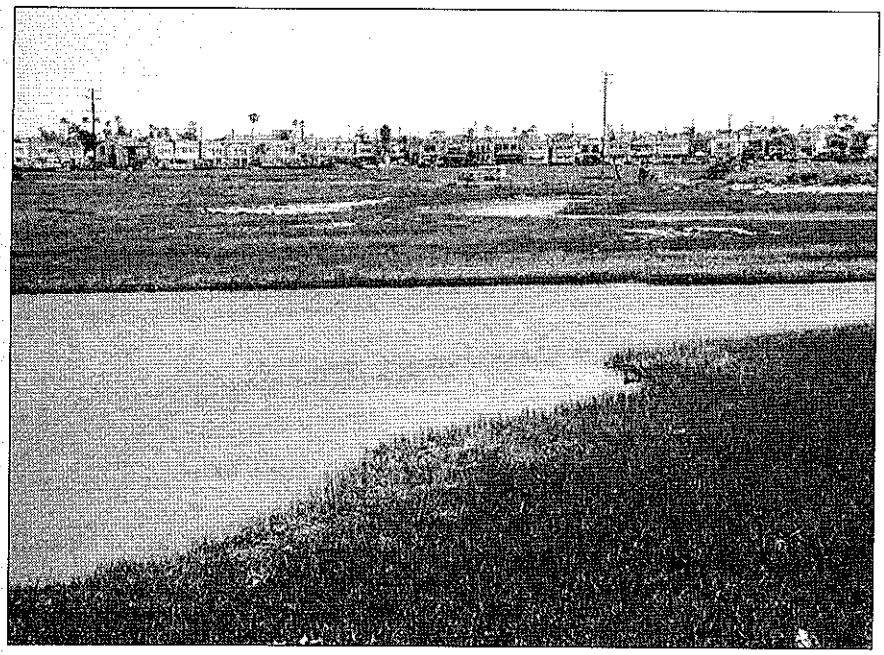


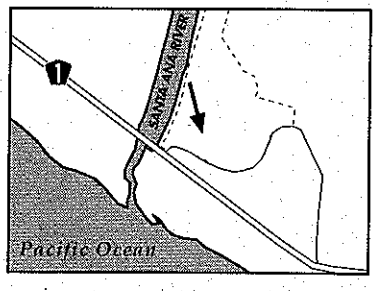
SOURCE: Orange County Sanitation District, May 2003

Figure 3.2-1
Location of SAR Marsh and Talbert Marsh









SOURCE: Environmental Science Associates

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Figure 3.2-2
Views of SAR Marsh from SAR Levee

californica) and California fiddler crabs (*Uca crenulata*). Higher elevation portions were somewhat degraded by the presence of non-native plant species such as wild raddish (*Raphanus sativus*), mustard (*Brassica nigra*) and common orache (*Atriplex patula*) and hence classified as Ruderal, but healthy numbers of native plants were in these areas as well, especially alkali heath (*Frankenia salina*).

The waters of the marsh may be expected to support topsmelt (*Atherinops affinis*) and sculpin (*Scorpaena guttata*) among other species. Foraging least terns were observed in the SAR Marsh during the survey conducted in 2003. Existing literature on the area[2] describe a rich avifauna – 96 species including waterowl and shorebirds (e.g., mallards, geese and green-backed heron) and raptors (e.g., white-tailed kites, kestrels and red-tailed hawks) (Kelsey and Collins, 1997). Upland areas are habitat for small mammals such as the western harvest mouse (*Reithrodontomys megalotis*) and skunk (*Mephitis mephitis*), and both native and non-native mammalian predators such as raccoon (*Procyon lotor*), red fox (*Vulpes vulpes*) and feral cats.

WETLANDS

Wetlands are ecologically productive habitats that support a rich variety of both plant and animal life. The importance and sensitivity of wetlands has increased as a result of their value as recharge areas and filters for water supplies and widespread filling and destruction to enable urban and agricultural development. In a jurisdictional sense, there are two definitions of a wetland, one definition adopted by federal agencies and a separate definition adopted by the State of California. Both are presented below.

Federal Wetland Definition

Wetlands are a subset of "waters of the United States" and receive protection under Section 404 of the Clean Water Act (CWA). The term "waters of the United States" as defined in Code of Federal Regulations (33 CFR 328.3[a] and [b]; 40 CFR 230.3[s]) includes those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. In extant regulations, these may be defined as sloughs, marshes, wet meadows, or natural ponds.

California Wetland Definition

Unlike the federal government, the CDFG has adopted the *Cowardin, et al.*[3] definition of wetlands. Under normal circumstances, the federal definition of wetlands requires three wetland

[2] See page 3.2-1.

[3] Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. US Fish and Wildlife Service, Office of Biological Services, Washington, D.C. Publ. No. FWS/OBS-79/31.

identification parameters to be met, whereas the *Cowardin* definition requires the presence of only one. For this reason, identification of wetlands by CDFG consists of the union of all areas that are periodically inundated or saturated, or in which at least seasonal dominance by hydrophytes may be documented, or in which hydric soils are present. The CDFG does not normally assert jurisdiction over wetlands unless they are subject to Streambed Alteration Agreements (Cal. Fish and Game Code 1600-1607) or they support state-listed endangered species.

Jurisdictional Wetlands at the Project Site

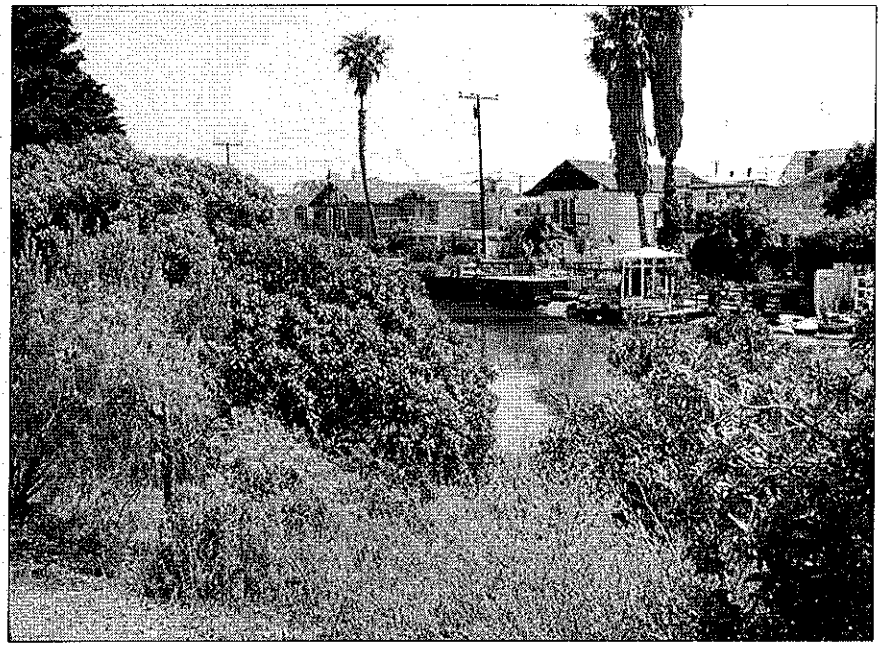
No wetland delineations were conducted for purposes of this EIR since most of the 92-acre SAR Marsh and the Talbert Marsh are assumed to be Jurisdictional Waters of the U.S. (Section 10 and Section 404) in the form of tidal marsh and tidal channel. However, the elevated unpaved utility service road that traverses the SAR Marsh is assumed to be outside of the jurisdictional wetland area. This road encompasses a utility easement in which the existing sewer line (and the preferred Alternative 2C) traverses the SAR Marsh to the SAR. **Figures 3.2-3** through **3.2-5** show segments of the utility road. As shown in the photographs, the road is unpaved, raised five to ten feet above the marsh area and bordered on either side by exotic or marsh vegetation.

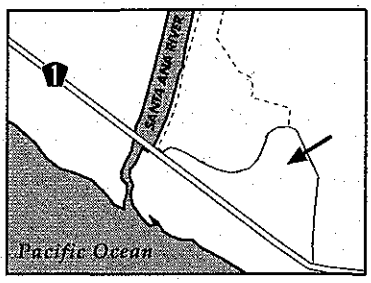
SPECIAL STATUS SPECIES AND COMMUNITIES

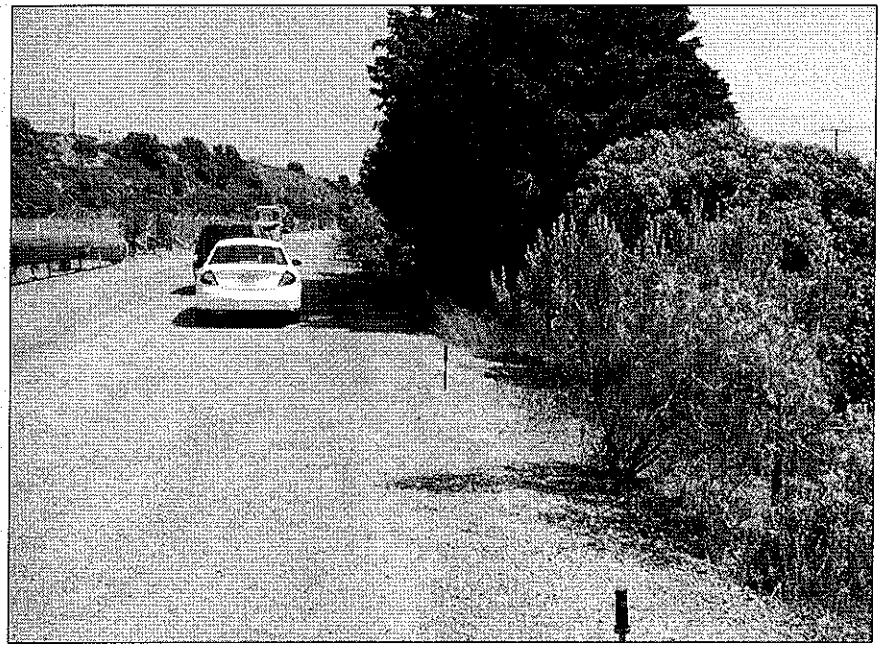
As discussed below, several species known to occur in the vicinity of the project site are accorded "special status" designation because of their recognized rarity or vulnerability to various causes of habitat loss or population decline. Some of these receive specific protection defined in federal or State endangered species legislation. Others have been designated as "sensitive" on the basis of adopted policies and the expertise of State resource agencies or organizations with acknowledged expertise, or policies adopted by local governmental agencies such as counties, cities, and special districts to meet local conservation objectives. These species are referred to collectively as "special status species" in this EIR following a convention that has developed in practice but has no official sanction exclusive of guidance for CEQA analysis (see below). A full list of special status species considered in this analysis is provided as **Table 3.2-1**.

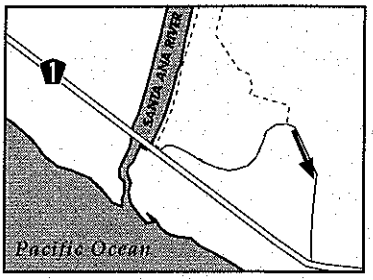
Special Status Species and Communities at the Project Site

Table 3.2-1 was compiled from: 1) analysis of previous studies conducted within the project site concerning special status plants and animals; 2) consultation with the CNDDB, the USFWS, and the CDFG; 3) review of pertinent scientific literature about the sensitive species of concern; 4) review of the most recent Notice of Review for federally-listed and candidate taxa; 5) review of the CDFG's most recent list of special animals and plants, which also includes federally-listed and candidate plants; 6) review of CNPS literature, and 7) recent field studies conducted as a part of this EIR.









SOURCE: Environmental Science Associates

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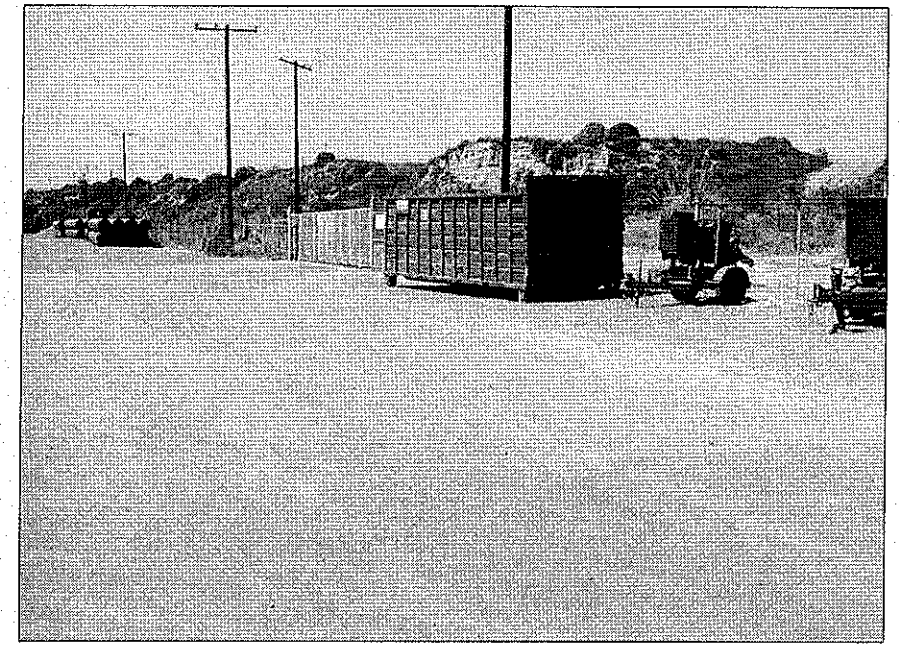
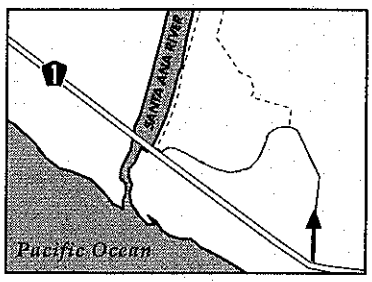
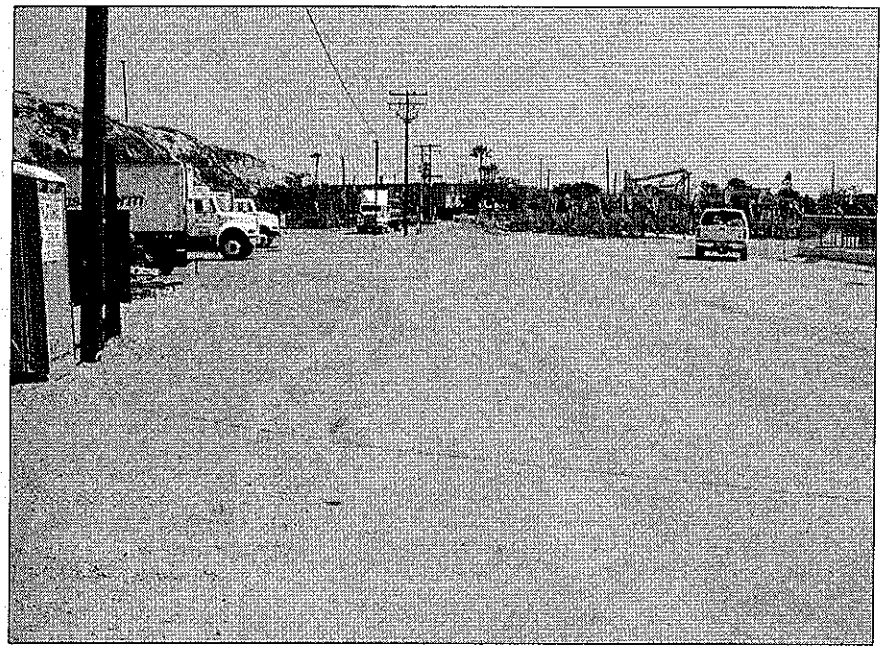
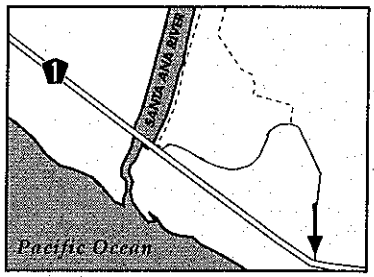
Figure 3.2-3

View of Utility Road Easement and Adjacent Residences – Alternative 2C









SOURCE: Environmental Science Associates

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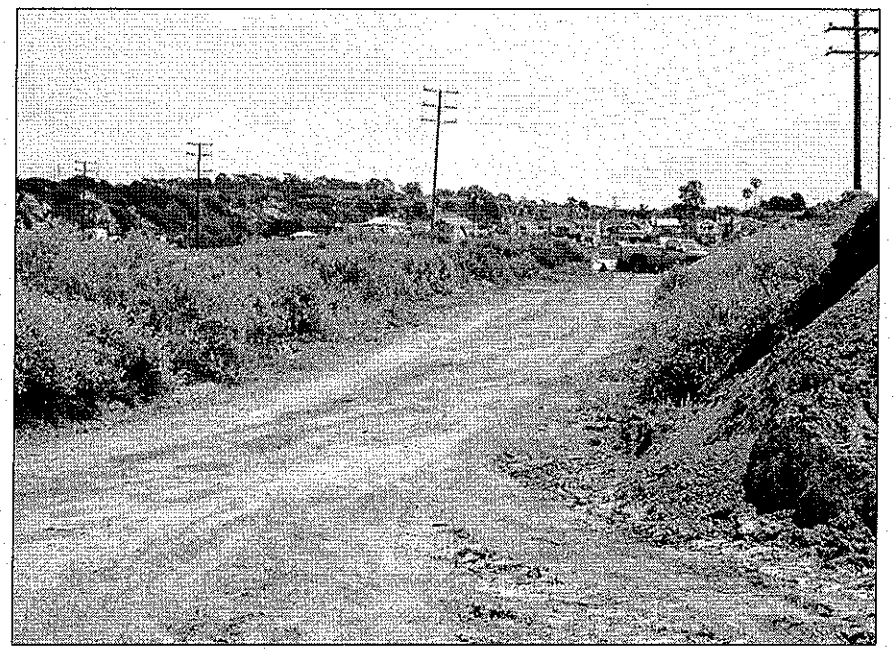
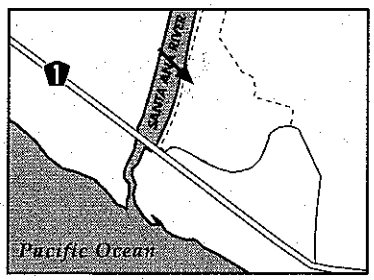
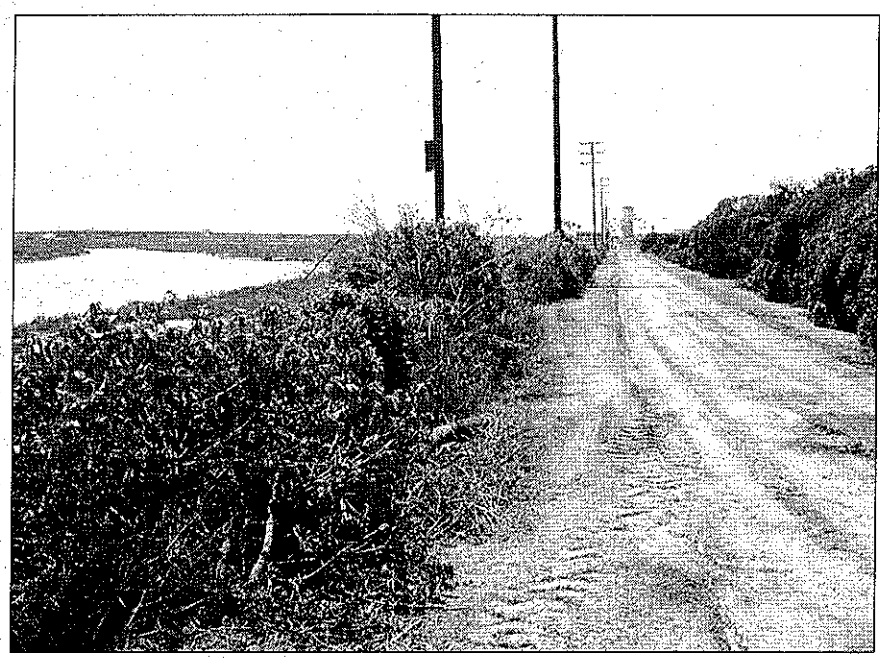
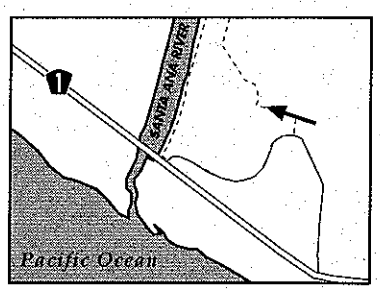
Figure 3.2-4
View of Utility Road Easement near PCH
– Alternative 2C









SOURCE: Environmental Science Associates

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Figure 3.2-5
View of Utility Road and Easement
– Alternative 2C

TABLE 3.2-1: SPECIAL STATUS SPECIES REPORTED OR POTENTIALLY OCCURRING IN THE PROJECT AREA

SPECIES LISTED OR PROPOSED FOR LISTING

Common name *Scientific name*	**Listing Status USFWS/ CDFG/CNPS**	**Habitat Requirements**	**Period of Identification / Flowering Period**	**Potential to Occur (see Note below)**
Invertebrates				
San Diego fairy shrimp *Branchinecta sandiegonensis*	FE/--	Endemic to San Diego County mesas	February-March	No habitat
Fish				
Santa Ana sucker *Catostomus santaanae*	FT/CSC	Los Angeles Basin coastal streams	Year-round	Very rare below Prado Dam in SAR
Tidewater goby *Eucyclogobius newberryi*	FE/CSC	Brackish water along California coast	Year-round	No habitat
Southern steelhead trout *Oncorhynchus mykiss*	FE/CSC	Freshwater streams	Year-round	No habitat
Amphibians				
Arroyo toad *Bufo microscaphus californicus*	FE/CSC	Semi-arid, near washes or intermittent streams, including valley-foothill and desert riparian	March-July	No Habitat
Birds				
Western snowy plover *Charadrius alexandrinus nivosus*	FT/CSC	Sandy beaches, estuarine shores, salt pond levees and alkali lakes	Year-round	No habitat Reported to forage near Huntington State Beach
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	FC/CE	Riparian forests along flood bottoms of large river systems	Spring-Summer	No habitat
California black rail *Laterallus jamaicensis coturniculus*	FSC/CT	Salt-marshes bordering large bays	Year-round	Not observed
Belding's savannah sparrow *Passerculus sandwichensis beldingi*	FSC/CE	Coastal salt-marshes	Year-round	**Present** – Observed on site in 1996
Coastal California gnatcatcher *Polioptila californica californica*	FT/CSC	Coastal sage scrub	Year-round	No habitat
Light-footed clapper rail Rallus longirostris levipes	FE/CE	Salt-marshes with cordgrass and pickleweed	Year-round	Not observed Noted using the SAR Marsh in 1980 (USACE, 1987b)
California least tern *Sterna antillarum browni*	FE/CE	Coastal beaches and sandbars	Spring-Summer	**Present** – Site used for foraging (ESA July 9, 2003)

TABLE 3.2-1 (CONT.): SPECIAL STATUS SPECIES REPORTED OR POTENTIALLY OCCURRING IN THE PROJECT AREA

SPECIES LISTED OR PROPOSED FOR LISTING (CONT.)

Common name *Scientific name*	Listing Status USFWS/ CDFG/CNPS	Habitat Requirements	Period of Identification / Flowering Period	Potential to Occur (see Note below)
Least Bell's vireo *Vireo bellii pusillus*	FE/CE	Low riparian vegetation near river bottoms	Summer	No habitat Scattered reports from lower SAR (Griffith and Griffith, 2002)
Mammals				
Pacific pocket mouse *Perognathus longimembris pacificus*	FE/CSC	Narrow coastal plains	Year-round	No habitat
Plants				
Ventura marsh milk-vetch *Astragalus pycnostachyus var lanosissimus*	FE/CE/ List 1B	Coastal salt-marsh	July-October	Not observed
San Fernando Valley spineflower *Chorizanthe parryi var fernandina*	FC/CE/ List 1A	Coastal scrub	April-June	No habitat
Salt marsh bird's-beak *Cordylanthus maritimus ssp maritimus*	FE/CE/ List 1B	Coastal salt-marsh, coastal dunes	May-October	Not observed
Laguna Beach dudleya *Dudleya stolonifera*	FT/CT/ List 1B	Chaparral, coastal scrub, cismontane woodland, valley and foothill grassland	May-July	No habitat
Santa Ana River woolystar *Eriastrum densifolium ssp sanctorum*	FE/CE/ List 1B	Coastal sage scrub, chaparral	June-August	No habitat
California Orcutt grass *Orcuttia californica*	FE/CE/ List 1B	Vernal pools	May-June	No habitat
Lyon's pentachaeta *Pentachaeta lyonii*	FE/CE/ List 1B	Edges of chaparral, grasslands	March-August	No habitat
Invertebrates				
Tiger beetle *Cicindela gabbii*	*	Inhabits coastal estuaries and mudflats	January-July	Not observed
Sandy beach tiger beetle *Cicindela hirticollis gravida*	FSC/--	Areas adjacent to non-brackish water along the coast	January-July	No habitat
Monarch butterfly *Danaus plexippus*	*	Roosts in wind-protected tree groves of eucalyptus, Monterey pine	Winter	No habitat

TABLE 3.2-1 (CONT.): SPECIAL STATUS SPECIES REPORTED OR POTENTIALLY OCCURRING IN THE PROJECT AREA

FEDERAL OR STATE SPECIES OF SPECIAL CONCERN

Common name *Scientific name*	**Listing Status USFWS/ CDFG/CNPS**	**Habitat Requirements**	**Period of Identification / Flowering Period**	**Potential to Occur (see Note below)**
Wandering skipper *Panoquina errans*	FSC/--	Coastal salt-marsh	February-October	Not observed
Mimic tryonia *Tryonia imitator*	FSC/--	Coastal lagoons, estuaries and salt-marshes	Year-round	Not observed
Reptiles				
Southwestern pond turtle *Clemmys marmorata pallida*	FSC/CSC	Permanent freshwater ponds and slow streams edged with sandy soils for laying eggs	Year-round	No habitat
Orange-throated whiptail *Cnemidophorus hyperythrus beldingi*	FSC/CSC	Coastal scrub, chaparral, and valley-foothill hardwood habitats	Year-round	No habitat
San Diego horned lizard *Phrynosoma coronatum blainvillei*	FSC/CSC	Coastal sage scrub, arid chaparral	Year-round	No habitat
Birds				
Burrowing owl *Athene cunicularia (burrow sites)*	FSC/CSC	Nests in mammal burrows in open, sloping grasslands	February-June	No habitat
Cooper's hawk *Accipiter cooperi*	--/CSC	Nests in riparian growths of deciduous trees and live oaks	March-July	No habitat
Tricolored blackbird *Agelaius tricolor*	FSC/CSC	Riparian thickets and emergent vegetation	Spring	No habitat
Coastal cactus wren *Campylorhynchus brunneicapillus couesi*	--/CSC	Coastal sage scrub	Year-round	No habitat
Yellow-breasted chat *Icteria virens (nesting)*	--/CSC	Riparian corridors with willows or other dense foliage	March-September	No habitat
Black skimmer Rynchops niger	--/CSC	Nests along gravel bars, low islets and sandy beaches along Salton Sea and southern San Diego Bay	June-October	**Present or observed** – Site used seasonally
Plants				
Chaparral sand-verbena *Abronia villosa* var. *aurita*	--/--/List 1B	Sandy areas in coastal scrub and chaparral habitat	June-August	**Observed at Talbert Nature Preserve**
Aphanisma *Aphanisma blitoides*	FSC/--/List 1B	Coastal bluff scrub, coastal dunes	April-May	No habitat
Coulter's saltbush Atriplex coulteri	--/--/List 1B	Coastal bluff scrub, coastal dunes, coastal scrub and grassland	March-October	No habitat

TABLE 3.2-1 (CONT.): SPECIAL STATUS SPECIES REPORTED OR POTENTIALLY OCCURRING IN THE PROJECT AREA

FEDERAL OR STATE SPECIES OF SPECIAL CONCERN (CONT.)

Common name *Scientific name*	Listing Status USFWS/ CDFG/CNPS	Habitat Requirements	Period of Identification / Flowering Period	Potential to Occur (see Note below)
South Coast saltscale *Atriplex pacifica*	FSC/--/List 1B	Coastal bluff scrub, coastal dunes, playas, chenopod scrub	March-October	No habitat
Parish's brittlescale *Atriplex parishii*	FSC/--/List 1B	Alkali meadows, vernal pools, chenopod scrub, playas	June-October	No habitat
Davidson's saltscale *Atriplex serenana var davidsonii*	--/--/List 1B	Coastal bluff scrub, coastal scrub	April-September	No habitat
Santa Barbara morning-glory *Calystegia sepium ssp binghamiae*	--/--/List 1A	Coastal marshes	June-August	Not observed
Southern tarplant *Centromadia parryi* ssp. *australis*	--/--/List 1B	Marshes and swamps, grassland, vernal pools	May-November	No habitat
Many-stemmed dudleya *Dudleya multicaulis*	FSC/--/List 1B	Chaparral, coastal scrub, valley and foothill grassland	May-June	No habitat
Cliff spurge *Euphorbia misera*	--/--/List 2	Coastal bluff scrub	January-August	No habitat
Los Angeles sunflower *Helianthus nuttallii ssp parishii*	FSC/--/List 1A	Coastal salt and freshwater marshes and swamps	August-October	Not observed
Coulter's goldfields *Lasthenia glabrata ssp coulteri*	FSC/--/List 1B	Coastal salt-marsh, playas, valley and foothill grassland, vernal pools	March-May	Not observed
Robinson's pepper-grass Lepidium viginicum var robinsonii	--/--/List 1B	Chaparral, coastal scrub	January-April	No habitat
Mud Nama Nama stenocarpum	--/--/List 2	Marshes and swamps	March-May	No habitat
Prostrate navarretia *Navarretia prostrata*	FSC/--/List 1B	Coastal scrub, grassland, vernal pools	April-July	No habitat
Coast woolly-heads *Nemacaulis denudata var denudate*	--/--/List 2	Coastal dunes	April-September	No habitat
Sanford's arrowhead *Sagittaria sanfordii*	FSC/--/List 1B	Marshes and swamps	May-August	No habitat
Salt spring checkerbloom *Sidalcea neomexicana*	--/--/List 2	Alkali playas, brackish marshes, chaparral, coastal scrub, lower montane conifer forest, desert scrub	April-June	No habitat
Estuary seablite Suaeda esteroa	--/--/List 1B	Marshes and swamps	July-October	Not observed

TABLE 3.2-1 (CONT.): SPECIAL STATUS SPECIES REPORTED OR POTENTIALLY OCCURRING IN THE PROJECT AREA

FEDERAL OR STATE SPECIES OF SPECIAL CONCERN (CONT.)

Common name *Scientific name*	Listing Status USFWS/ CDFG/CNPS	Habitat Requirements	Period of Identification / Flowering Period	Potential to Occur (see Note below)
CDFG-sensitive plant communities				
California walnut woodland is not present.				
Southern coast live oak riparian forest is not present				
Southern coastal salt marsh is present				
Southern cottonwood willow riparian forest is not present				
Southern dune scrub is not present				
Southern foredunes is not present				
Southern sycamore alder riparian woodland is not present				

Note: "No Habitat" indicates that the habitat is not present within the project impact area as confirmed by the July 8 and 9, 2003 reconnaissance survey conducted by ESA. Therefore, species are not assumed present in the area or affected by the project. "Not observed" indicates that the species may be present but was not observed during the reconnaissance survey of the project impact area conducted by ESA on July 8 and 9, 2003. "Observed" indicates that the species is known to utilize the habitat within the project area.

STATUS CODES:

Federal Categories (USFWS)

FE = Listed as Endangered by the Federal Government
FE = Listed as Endangered by the Federal Government
FT = Listed as Threatened by the Federal Government
FPE = Proposed for Listing as Endangered
FPT = Proposed for Listing as Threatened
FC = Candidate for Federal Listing
FSC = Federal Species of Concern

State Categories (CDFG)

CE = Listed as Endangered by the State of California
CT = Listed as Threatened by the State of California
CR = Listed as Rare by the State of California
CSC = California Species of Special Concern

California Native Plant Society

List 1A = Plants presumed extinct in California
List 1B = Plants rare, threatened, or endangered in California and elsewhere
List 2 = Plants rare, threatened, or endangered in California but more common
List 3 = Plants about which more information is needed
List 4 = Plants of limited distribution

Source: California Natural Diversity Database.

Plants

Based on the existing literature and the reconnaissance survey, no special-status plants were observed or are likely to occur on the SAR Marsh site (Alternatives 2A, 2B and 2C). One List 1B species, the chaparral sand-verbena, has been observed in the Talbert Marsh area. Alternative 1C could encounter this species. There would be no natural plant habitat impacted for the other Alternative 1 alignments.

Wildlife

Based on the literature survey and reconnaissance field survey, two listed wildlife species are known or likely to occur on the SAR Marsh site (Beldings savannah sparrow and least tern). The Talbert Marsh traversed by Alternative 1C supports similar wildlife. Alternatives 1A, 1B, and 1C would require constructing a jacking pit within 250 feet of the least tern nesting area at Huntington State Beach. The two listed species are described below.

Belding's savannah sparrow (Passerculus sandwichensis beldingi)

The Belding's savannah sparrow is listed as endangered in California and a candidate species for federal protection. It is a non-migratory subspecies that occurs in coastal salt marshes between Goleta Slough, Santa Barbara County, and Bahia de San Quintin in Mexico. These sparrows nest from April through July, with a peak in May and June, in hollows near the ground in and under a canopy of pickleweed. Savannah sparrows feed on grass and other seeds, snail, spiders and other invertebrates. Recently (deRivera, 2000), the species was observed eating eggs from live fiddler crabs. The same salt-marsh habitat losses that have affected least terns (see below) are responsible for population declines, and it may be necessary to consider complex factors in restoring or replacing nest substrate (Keer and Zedler, 2002).

California least tern (Sterna antillarum browni)

The California least tern is endangered at both state and federal levels. It is one of the smallest members of its family, averaging only 23 cm (9 in.) in length. Typically, these terns nest on the ground (unvegetated sites near water) in loose colonies and forage in shallow estuaries and lagoons, diving head first into the water after a wide variety of small fish. Formerly California least terns regularly nested on sandy beaches and mudflats near the ocean. The construction of PCH in the early 20th century had a significant impact on California least terns, as well as other shorebirds, by directly destroying nesting beaches as well as making these areas more accessible to human encroachment (Pacific Biodiversity Institute, 2003; Zeiner et al, 1990). Most California least terns nest at only a few select sites. In 1994, 76% of the population nested at nine sites, all in southernmost coastal California. Four of the nine sites (in Los Angeles, Orange, and San Diego counties) supported 48% of the breeding pairs (USGS Information at http://biology.usgs.gov/s+t/SNT/index.htm).

Two California "species of special concern" have been observed within the SAR marsh: black skimmer and white-tailed kite. Other raptors such as kestrels and hawks have also been observed at SAR Marsh and are protected by Fish and Game Code Section 3503.

APPLICABLE REGULATIONS

Regulation of Activities in Wetlands

The regulations and policies of various federal agencies (e.g., USACE, U.S. EPA and USFWS mandate that the filling of wetlands be avoided unless it can be demonstrated that no practicable alternatives (to filling wetlands) exist. The USACE has primary federal responsibility for administering regulations that concern waters and wetlands on the project site. In this regard, the USACE acts under two statutory authorities, the Rivers and Harbors Act (Sections 9 and 10), which governs specified activities in "navigable waters," and the CWA (Section 404), which governs specified activities in "waters of the United States," including wetlands and special aquatic sites. The USACE requires that a permit be obtained if a project proposes placing structures within navigable waters. The U.S. EPA, USFWS, National Oceanic and Atmospheric Administration (NOAA) Fisheries, and several other agencies provide comment on USACE permit applications. The U.S. EPA has provided the primary criteria for evaluating the biological impacts of USACE permit actions in wetlands and other special aquatic sites.

The State's authority in regulating activities in wetlands and waters at the site resides primarily with the CDFG and the State Water Resources Control Board (SWRCB). The CDFG provides comment on USACE permit actions under the Fish and Wildlife Coordination Act. CDFG is also authorized under the State Fish and Game Code Sections 1600-1607 to develop mitigation measures and enter into a Stream Alteration Agreement (SAA) with applicants that propose a project that would obstruct the flow or alter the bed, channel, or bank of a river, stream or lake in which there is a fish or wildlife resource.

The SWRCB, acting through the nine RWQCB, must certify that a USACE permit action meets State water quality objectives (Section 401, CWA).

Within the coastal zone,[4] applicants for Section 404 permits must include a certification of consistency with the California Coastal Zone Management Program.[5] The entire project site is located within the coastal zone, and thus it is subject to the California Coastal Act and the Orange County Local Coastal Program. The CCC jurisdictional or review area not only includes the wetlands (Cowardin wetlands), but an additional 100-foot-wide buffer, measured from the upland edge of the wetland (14 California Code of Regulations [CCR] 12577).

[4] The coastal zone is defined as areas 1,000 yards inland from the mean high tide except in significant coastal estuarine, habitat, and recreational areas, where it extends inland to the first major ridge line paralleling the sea or five miles from the mean high tide line, whichever is less (California Coastal Act 1976).

[5] Under the federal Coastal Zone Management Act of 1972 (16 USC 1451), federal permit applicants must obtain a certification that activities proposed within the coastal zone are consistent with the state Coastal Zone Management Program.

Special Status Species Regulations

Federal Endangered Species Act

Under the Federal Endangered Species Act (FESA), the Secretary of the Interior and the Secretary of Commerce jointly have the authority to list a species as threatened or endangered (16 USC 1533(c)).

Pursuant to the requirements of FESA, an agency reviewing a proposed project within its jurisdiction must determine whether any federally listed or proposed species may be present in the project region and determine whether the proposed project would have a potentially significant impact on such species. In addition, the agency is required to determine whether the project is likely to jeopardize the continued existence of any species proposed to be listed under FESA or result in the destruction or adverse modification of critical habitat proposed to be designated for such species (16 USC 1536(3),(4)). Therefore, project-related impacts to these species or their habitats would be considered "significant" in this EIR. The "take" [6] prohibition of the FESA prohibits any action that adversely affects a single member of an endangered or threatened species.

California Endangered Species Act

Under the CESA, the CDFG has the responsibility for maintaining a list of threatened and endangered species (California Fish and Game Code 2070). The CDFG also maintains a list of "candidate species," which are species formally noticed as being under review for addition to either the list of endangered species or the list of threatened species. The CDFG also maintains lists of "species of special concern," which serve as "watch lists." Pursuant to the requirements of CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state listed endangered or threatened species could be present on the project region and determine whether the proposed project would have a potentially significant impact on such species. In addition, the CDFG encourages informal consultation on any proposed project that may impact a candidate species.

CEQA Guidelines Section 15380

Although threatened and endangered species are protected by specific federal and state statutes, *CEQA Guidelines* Section 15380(b) provides that a species not listed on the federal or State list of protected species may be considered rare or endangered if the species can be shown to meet

[6] "Take," as defined in Section 9 of the FESA, is broadly defined to include intentional or accidental "harassment" or "harm" to wildlife. "Harass" is further defined by the USFWS as an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, and sheltering. "Harm" is defined as an act which actually kills or injures wildlife. This may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

certain specified criteria. These criteria have been modeled after the definition in FESA and the section of the California Fish and Game Code dealing with rare or endangered plants or animals. This section was included in the *CEQA Guidelines* primarily for situations in which a public agency is reviewing a project that may have a significant effect on, for example, a "candidate species" that has not yet been listed by either the USFWS or CDFG. Thus, CEQA provides an agency with the ability to protect a species from a project's potential impacts until the respective government agencies have an opportunity to designate the species as protected, if warranted.

Other Statutes, Codes and Policies Affording Limited Species Protection

The federal Migratory Bird Treaty Act (16 U.S.C., Sec. 703, Supp. I 1989) prohibits killing, possessing, or trading in migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs. Birds of prey are protected in California under the State Fish and Game Code, Section 3503.5 1992). Section 3503.5 states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." It is generally recognized that construction disturbances during the breeding season can result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbances that cause nest abandonment and/or loss of reproductive effort are considered a "take" by CDFG. Any loss of fertile eggs, nesting raptors, or any activities resulting in nest abandonment would constitute a significant impact. This approach would apply to red-tailed hawks, American kestrels, barn owls, and other birds of prey. Project impacts to these species would not be considered "significant" in this EIR unless they are known to be present or have a high potential to nest on the site or rely on it for primary foraging.

Vascular plants listed as rare or endangered by the CNPS (Skinner and Pavlik, 1994), but which have no designated status or protection under federal or state endangered species legislation, are defined as follows:

List 1A: Plants believed extinct

List 1B: Plants Rare, Threatened or Endangered in California and Elsewhere

List 2: Plants Rare, Threatened or Endangered in California, but More Numerous Elsewhere

List 3: Plants about which we need more information – a review list

List 4: Plants of limited distribution – a watch list

In general, plants appearing on CNPS List 1 or 2 are considered to meet CEQA's Section 15380 criteria and effects to these species would be considered "significant" in this EIR.

Local Plans and Policies

The SAR Marsh is owned by the USACE and is managed for its conservation value. The marsh was created as compensation for habitat destroyed during flood control improvements conducted in the 1990s by the USACE on the mainstem of the SAR.

The Banning Ranch (which generally includes the SAR Marsh) and Huntington Beach Wetlands have been identified as high priorities for wetlands restoration in the Southern California Wetlands Recovery Project (WRP) Regional Strategy. The WRP is a partnership of 17 state and federal agencies working in concert with local governments—including the County of Orange and the Cities of Huntington Beach and Newport Beach—to preserve and restore wetlands in Southern California.[7]

The Santa Ana Watershed Project Authority (SAWPA) was formed in 1971 to develop a long-term plan to manage the SAR watershed. In 1994 SAWPA broadened its focus and participation to include issues of flood control, wildlife resources and interaction with other water agencies.

The project area is within the Coastal Subarea of the Coastal Central Subregion of the Natural Community Conservation Plan (NCCP)/Habitat Conservation Plan for Orange County. However, the NCCP is specifically intended to address taking of habitat associated with the California gnatcatcher (i.e., coastal sage scrub), with other species identified as Plan "targets," none of which are present within the SAR Marsh or within any of the alternative alignments.[8]

3.2.2 IMPACTS AND MITIGATION

CRITERIA FOR DETERMINING SIGNIFICANCE

To determine the level of significance of an identified impact, the criteria outlined in the CEQA *Guidelines* were used. The following is a discussion of the criteria used to determine the significance of impacts to biological resources.

CEQA Guidelines Section 15065 directs lead agencies to find that a project may have a significant effect on the environment if it has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of an endangered, rare or threatened species, or eliminate important examples of the major periods of California history or prehistory.

CEQA Guidelines Section 15206 further specifies that a project shall be deemed to be of statewide, regional, or area-wide significance if it would substantially affect sensitive wildlife

[7] Coastal Conservancy, NOP comment letter, 2003.

[8] County of Orange, 1995

habitats including, but not limited to, riparian lands, wetlands, bays, estuaries, marshes, and habitats for rare and endangered species as defined by Fish and Game Code Section 903.

Appendix G of the CEQA *Guidelines* indicates that a project would have a significant effect on the environment if it would:

- interfere substantially with the movement of any resident or migratory fish or wildlife species;
- substantially diminish habitat for fish, wildlife or plants; or
- substantially affect a rare or endangered species of animal or plant or the habitat of the species.

CEQA Guidelines Section 15380 further provides that a plant or animal species, even if not on one of the official lists, may be treated as "rare or endangered" if, for example, it is likely to become endangered in the foreseeable future.

Pursuant to the FESA (Sections 7(a)(3) and (4)), every federal agency is required to confer with the Secretary of the Interior on any action likely to jeopardize the continued existence of a listed or proposed species or adversely affect the critical habitat of those species.

Based on guidelines established by the USFWS and the CDFG, a project is considered to have a significant adverse impact on biological resources if it would result in substantial disruption to, or destruction of, any special status species, their habitat, or breeding grounds. A project is also considered to have a significant impact if it would result in a substantial loss of important plant or animal species; cause a change in species composition, abundance or diversity beyond that of normal variability; result in the direct or indirect measurable degradation of sensitive habitats (e.g., wetlands, riparian corridors, vernal pools, oak woodlands); or result in loss of a significant plant community.

Local Plans and Policies. Appendix G of the *CEQA Guidelines* specifies that a project would normally have a significant impact on the environment if it would physically impact communities or species protected by adopted environmental plans and goals of the communities where it is located.

Less than Significant Impacts. Impacts are generally considered less than significant if the habitats and species affected are common and widespread in the region and the state.

Beneficial Impacts. Impacts are considered beneficial if the action causes no detrimental impacts and results in an increase of habitat quantity and quality.

For the purposes of this EIR, three principal components of the Guidelines outlined above were considered:

- Magnitude of the impact (e.g., substantial/not substantial),
- Uniqueness of the affected resource (rarity), and
- Susceptibility of the affected resource to perturbation (sensitivity).

The evaluation of significance must consider the interrelationship of these three components. For example, a relatively small magnitude impact to a state or federal listed species would be considered significant because the species is rare and is believed to be susceptible to disturbance. Conversely, a plant community such as California annual grassland is not necessarily rare or sensitive to disturbance. Therefore, a much larger magnitude of impact would be required to result in a significant impact.

Impact 3.2-1: Construction of the Alternative 2 alignments could result in the temporary filling of jurisdictional wetland within the SAR Marsh. Similarly, Alternative 1C could result in temporary filling of jurisdictional wetland within the Talbert Marsh.

The general alignment for Alternative 2 crosses the restored marsh area established by the USACE as mitigation for flood control work done on the SAR as part of USACE SAR Mainstem Project. Each of the proposed project alignments would have different levels of potential impact to the marsh. For purposes of this analysis, the construction segments are divided between the portion from the Bitter Point Pump Station to the boundary of the SAR Marsh and the portion from the edge of the SAR Marsh to the SAR. Within the first portion, each alignment of Alternative 2 follows the existing easement from the Bitter Point Pump Station to the SAR Marsh property as shown on Figure 3.2-1. The easement follows an established, unpaved service road. No marsh habitat was observed within the service road from Bitter Point Pump Station to the border of the SAR Marsh when surveyed by ESA on July 8, 2003. The road in this area is bordered primarily by non-native plants growing at the edge of the SAR Marsh Channel. Figure 3.2-3 shows a view of this road and vegetation. Close to the Bitter Point Pump Station the road widens, as shown in Figure 3.2-4. Work conducted within the service road easement in this area would easily be contained within disturbed road areas and would not significantly affect biological resources on the road's borders. Mitigation measures to avoid vegetation removal outside of the service road easement and to prevent placing fill material or to allow soughing of soils into vegetated areas would ensure that no impact would occur during construction in the southern-most segment of the utility road. (See mitigation measures M-3-2.1a and M-3-2.1b.)

Alignment 2A

Alignment 2A would follow the existing service road easement, extending northeast into the West Newport Oilfield as shown in Figure 2-5. Access into the West Newport Oilfield was denied for purposes of this analysis. Views from the paved service road into the oilfield suggest that some

low-quality marsh habitat may exist within the alignment as elevation increases in the well field area. Once within the well field area, the alignment would traverse an area that appears to be disturbed by oil production activities. A service road would be constructed within the acquired utility easement. Some native and some non-native plant species may exist within the oilfield. However, since access was denied, the extent of impact to sensitive biological resources within the oilfield is unknown. Any impacts to wetland areas including destruction of habitat would be considered a significant impact of the project, requiring implementation of mitigation measure M-3-2.1d.

The jack and bore pit for Alignment 2A would be located on the oilfield property. Although access was denied, aerial photographs indicate that the area appears to be well outside of the marsh area. The Alignment 2A would involve drilling under the SAR marsh and the SAR itself as shown on Figure 3.2-1 from the jack and bore pit. Since the pipeline would be drilled under the marsh and river, no impacts to biological resources within the wetland areas would result from the jack and boring operations. A Section 404 permit would not be needed for the drilling operations occurring under the marsh and river since no wetland habitat would be affected.

Alignment 2B

Alignment 2B would follow the service road alignment approximately 1,000 – 1,500 feet into the SAR Marsh. A jack and bore pit would be constructed on the service road. Drilling would occur beneath the wetland area for approximately 1,500 feet north. At this point, a new jack and bore pit would be created to tunnel under the SAR. The northern jack and bore pit would be located on the outer border of the marsh and could result in removal of several hundred square feet of wetland habitat. A service road to the jack and bore pit within the SAR Marsh would be constructed through the oil field. This alignment would have the greatest potential for affecting marsh habitat when constructing the access road and 400-square foot jack and bore pit within the SAR Marsh. Destruction of marsh habitat would be considered a significant impact, requiring implementation of mitigation measure M-3-2.1d. As with Alignment 2A, boring beneath the marsh and the river would not affect biological resources and would not require a Section 404 permit from the USACE since the wetland would not be affected.

Alignment 2C

The preferred project (Alternative 2C) would follow the service road easement from Bitter Point Pump Station all the way to the SAR. This utility road is raised above the surrounding wetland area and does not support vegetation or jurisdictional wetlands. As such, open trenching within the disturbed roadway would not destroy biological resources or require a Section 404 permit from the USACE or a Section 7 consultation with USFWS. Figure 3.2-5 shows the road at the utility road closer to the SAR along the Alternative 2C alignment. The utility easement follows the road from Bitter Point Pump Station to the SAR. The District met with the USACE in August 2003 to discuss the Alternative 2 alignment. During the meeting the USACE acknowledged that although

they would prefer Alternative 1 outside of the SAR marsh altogether, Alternative 2C would be favorable over 2A and 2B since it would follow the pre-disturbed utility easement.

A jack and bore pit would be constructed within the 30-foot service road easement at its terminus with the SAR adjacent to the bike path. This area is within the City of Newport Beach jurisdiction. From this jacking pit, the sewer would be installed beneath the river. Drilling under the river would not require a Section 404 permit from the USACE since no wetland habitat would be affected. Alternative 2C would minimize impacts to the marsh area by restricting construction activities to within the already disturbed utility easement dirt road.

Alternative 1

Alignment 1C would traverse under PCH and cross the Talbert Marsh. Open trenching activities would be routed around the Talbert Marsh (see Figure 2-2), but could result in filling portions of habitat area around the edges. Filling portions of the Talbert Marsh would require implementation of mitigation measure M-3-2.1d, including obtaining a Section 404 permit from the USACE.

Alignments 1A and 1B would not affect any wetland areas since they would generally follow the PCH easement. Drilling under the SAR would not require a Section 404 permit from the USACE.

Mitigation Measures

Alignment 1C, 2A, 2B and 2C

M-3.2-1a: Prior to construction, a qualified biologist will mark the allowed construction area within the service road easement. The allowed construction area will exclude areas with existing marsh vegetation. The markers will be located within visible distance of each other, no more than 100 feet apart on either side of the 30-foot easement. No vegetation shall be removed during construction work within the marked area of the service road alignment. No construction debris, supplies or soils will be placed outside of the marked area.

M-3.2-1b: A qualified biologist will be present during construction activities within the SAR Marsh or Talbert Marsh sufficient to ensure that no construction activities occur outside of the marked construction area.

M-3.2-1c: Trenches and jack and bore pits shall be located on the previously disturbed easement areas with no marsh habitat value. Trenching and construction of the pits shall not destroy vegetation or place any fill onto wetland areas. If this is not possible, then Mitigation Measure M-3.2-1d would apply.

M-3.2-1d: If construction activities remove jurisdictional wetlands, they shall be replaced by permanent wetlands under permit conditions established by the USACE, CDFG, and USFWS.

Description of permit conditions required in Mitigation Measure M-3.2-1d: If the project disturbs a jurisdiction wetland, impacts to the wetland would be subject to CWA Section 404 permitting requirements, CWA Section 401 certification, and Streambed Alteration Agreement under Section 1602 of the California Water Code. Moreover, the SAR Marsh wetland was created as mitigation for flood control improvements on the mainstem of the SAR. Placing fill material within the marsh or disturbance of marsh vegetation would require a series of permits from resource agencies. The primary permitting vehicle would be a Nationwide Permit (NWP) 12 (Utility Lines) issued by the USACE that allows any amount of temporary impact, but only 0.5 acre of permanent impact. Section 401 of the CWA requires that states certify the adequacy of Section 404 permits issued by the USACE. This certification would be conducted by the Santa Ana RWQCB. A Streambed Alteration Agreement would also be necessary to comply with Section 1602 of the California Water Code.

If sensitive habitat is removed, requiring a Section 404 permit, a Biological Assessment pursuant to Section 7 of the federal Endangered Species Act would be prepared to evaluate potential impacts to listed species. The application for and issuance of a Section 404 permit from the USACE for the project would require a formal consultation between the USACE and the USFWS under Section 7 of the Endangered Species Act (for the least tern), and a similar consultation between OCSD and CDFG to resolve issues for the Belding's savannah sparrow, a state-listed species. The state process requires that there be no harm or harassment of species listed under CESA. The process for such a consultation involves the preparation of a Biological Assessment which would determine whether take could occur and if so, whether it would result in an adverse effect on the species chances for survival.

In essence, the Biological Assessment contains two parts, one showing that the project commits to all practicable measures to reduce the potential for take, the second to propose and commit the project sponsor to actions which would offset the effect of take which may be unavoidable.

As mitigation, replacement of the biological function of the permanent or temporarily disturbed wetlands must generally follow Regulatory Guidance Letter No. 02-2 (USACE, 2002). Terms and conditions of the permit including the ratio of compensation lands would be finalized during consultation between the USFWS, CDFG, and the USACE. The implementation of the on-site mitigation would be documented in an agency-approved Wetlands Replacement, Enhancement, and Monitoring Plan which would contain, at a minimum, the following sections:

- Site selection and preparation;
- Exotic plant removal;
- Hydrological functioning;
- Planting materials and plant installation;
- Maintenance;
- Long-term monitoring and success criteria; and
- Long-term funding for wetland monitoring.

Significance after Mitigation

Less than significant.

Impact 3.2-2: Project construction could affect the habitat, or result in incidental take of, the Belding savannah sparrow (nesting and foraging) and California least tern (foraging). This would be a less than significant impact under Alternatives 1A, 1B, 1C, and 1D, and a significant impact for Alternatives 2A, 2B and 2C.

Alternatives 1A, 1B, and 1D would tunnel underneath the Talbert Marsh Outlet channel. The jacking pit would be located within the state beach parking lot approximately 200 feet from the edge of the least tern nesting area. The ambient level of disturbance caused by beach users and PCH traffic is already quite high in this area. The major construction activities would include excavating the jacking pit, installing the drilling rig, staging equipment and materials, and loading haul trucks with excavated soil. Mitigation M-3.2-2a would restrict major construction activities during nesting season near the least tern nesting area.

Alternatives 1A, 1B, and 1C would require placing a jacking pit at the edge of the least tern nesting area. Excavation and staging of materials could affect the least terns during nesting season. Mitigation M-3.2-2b would restrict major construction activities during nesting season.

Foraging tern using the channel areas of SAR Marsh, and foraging and nesting Belding's savannah sparrow could be harassed by construction activities under Alternatives 2A, 2B and 2C. The harassment could result from noise, proximity of human activity, and vibration. Such disturbance could lower foraging effectiveness of terns, which forage close to nests before chicks have fledged, and might result in loss of nests or young of the savannah sparrow. Implementation of mitigation measure M-3.2-1b would ensure that harassment to these species would not occur.

If marsh habitat is removed, listed bird species could be affected either through direct mortality or through destruction of nests and harassment during foraging. This would be considered a significant impact of the project. Implementation of mitigation measure M-3.2-1d requiring preparation of a Biological Assessment pursuant to Section 7 of the federal Endangered Species Act would ensure that impacts to listed species were minimized to less than significant levels prior to construction.

Mitigation Measures

Alignment 1A, 1B, 1C, 1D, 2A, 2B, 2C

M-3.2-2a: The District shall retain a qualified biologist to provide an educational session to all contractors and construction workers on the least tern and Belding savannah sparrow.

M-3.2-2b: Limit construction near the least tern nesting area and within the SAR Marsh to non-nesting periods for the Belding's savannah sparrow and the least tern.

> Description of Mitigation Measure M-3.2-2b: The Belding's savannah sparrow nests from April through July (Zeiner et al., 1990); least terns feed their young from April through August. Therefore, any construction activity within the SAR Salt Marsh would be limited to the period September 1 through March 31.

Significance After Mitigation

Less than significant.

Impact 3.2-3: Construction activities associated with Alternatives 1C, 2A, 2B, and 2C could adversely affect non-listed nesting birds protected by the federal Migratory Bird Treaty Act.

Potential foraging habitat for white-tailed kites is present at SAR Marsh, but this species is not expected to nest in the impacted areas. Other bird species potentially breeding on the project site include grassland and shrub-nesting species (e.g., song sparrow, house finch). As a result of construction activities, impacts to these and other birds protected by the MBTA include the potential for destruction of individual birds, if present, and the loss of active nests. The following mitigation measure would reduce the potential effects of the project to non-listed nesting birds to less than significant levels. If construction activities occur only during the non-breeding season between September 1 and March 31 (as per Mitigation Measure M-3.2-2b), there will be a less-than-significant impact to migratory birds.

Mitigation Measures

Alignment 1C, 2A, 2B and 2C

See Mitigation Measure **M-3.2-2b.**

Significance after Mitigation

Less than significant.

Impact 3.2-4: Routine maintenance and access requirements for Alternatives 2A, 2B, and 2C would potentially affect sensitive habitat and wildlife within the SAR Marsh.

Operation of Alternatives 2A, 2B, or 2C would require routine access to District facilities located within the SAR Marsh. Maintenance activities would be limited to the utility easements. Access would not be allowed outside of the utility easement. Service vehicles may use the service road from the Bitter Point Pump Station one to two times per day to access Bitter Point Pump Station. However, the service road through the SAR Marsh would be accessed for maintenance approximately once per month for each Alternative. Access to the junction box for Alternatives 2A and 2B would require accessing the northern SAR Marsh area. These routine maintenance vehicles could create enough activity and noise in the area to disturb wildlife. Implementation of the following mitigation measure will assist in minimizing the long-term effects of routine access into the conservation area.

Mitigation Measures

Alignment 2A, 2B, 2C

M-3.2-4: The District shall prepare a maintenance procedures manual for activities within the SAR Marsh. The manual will include the following restrictions at a minimum:

- District personnel shall not enter or place materials outside of the utility easement.
- No vegetation clearing outside of the easement is allowed.
- The speed limit on the SAR Marsh service road is limited to 15 miles per hour.
- Public access onto the easement from the SAR levee shall be restricted.

Significance after Mitigation

Less than significant.

3.4 GEOLOGY AND SOILS

This section evaluates whether the proposed project would impact local geological features or expose people or structures to adverse geological impacts. Potential geologic hazards include seismically induced groundshaking, fault rupture, liquefaction, landslides, and weak or unstable soil conditions.

3.4.1 SETTING

The regional geologic setting for this project is described in Chapter 4 of the PEIR. No new information has been presented that would result in major changes to the prior description or the fundamental assumptions or understanding of the regional geology. The site is located on the Orange County coastal plain, which is essentially a basin filled with rocks and alluvial deposits, and where differential subsidence and uplifting have continued to occur since the late Cretaceous period. Within the Orange County coastal plain, the site is located in the Santa Ana Gap, which is an alluvial valley that has was eroded by the SAR near the end of the Pleistocene epoch when the sea level was about 300 feet lower than the present level. As the sea level rose again during the Holocene period, the eroded valley began to fill with alluvial deposits and marine sediments.[1]

The Talbert Channel, PCH, and SAR bridge are supported with underground foundations varying from concrete piles to riprap boulders. The depth of these foundations vary but may exceed 60 feet below ground surface.

Seismology and Faults

Like much of Southern California, the project area is located in a seismically active region subject to considerable tectonic stress. **Figure 3.4-1** shows the location of regional faults. Treatment Plant No. 2 and the entire segment of the Newport Trunk Sewer are located within the Newport-Inglewood Fault Zone. The fault zone consists of a series of short, discontinuous, northwest-trending right-lateral faults, relatively shallow anticlines, and subsidiary normal and reverse faults extending approximately 36 miles from the Santa Monica Mountains to offshore Newport Beach. A segment of the fault zone also extends from Newport Beach to about six miles southeast of San Onofre. Other major faults in the region include the Whittier Fault Zone and the Palos Verdes Fault.

The California Geological Society (CGS) has classified the Newport-Inglewood Fault Zone active[2] under the Alquist-Priolo Earthquake Fault Zoning Act.[3] Few specific geological studies have been conducted for the Newport-Inglewood Fault Zone, but historical records have shown potentially

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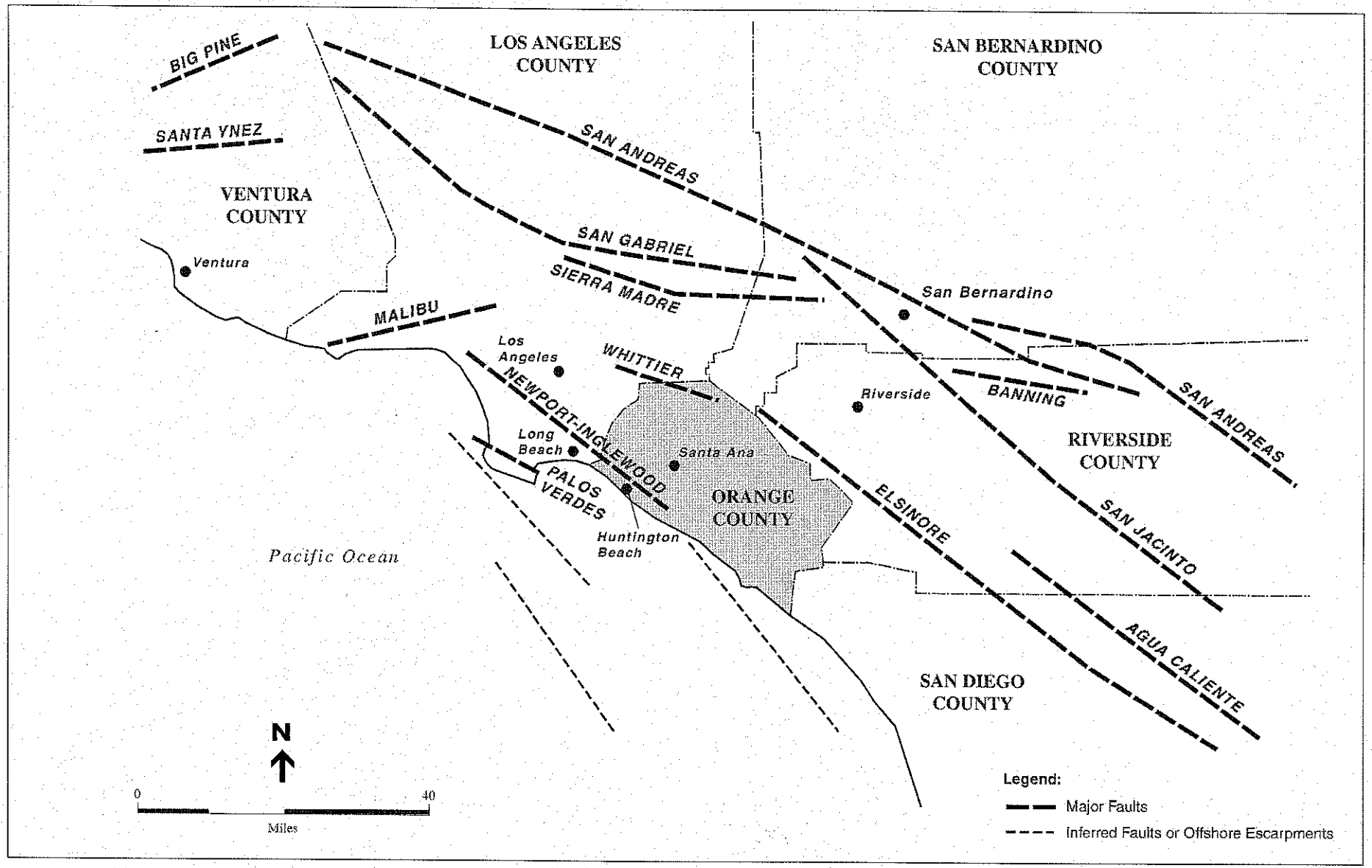
1 Ninyo & Moore, *Preliminary Geotechnical Evaluation PCH Force Mains OCSD Project No. 5-58, Huntington Beach, California,* June 4, 2003.

2 An "active" fault is defined by CGS as one that has had surface displacement within the Holocene time (about the last 11,000 years).

3 The purpose of this act is to prohibit the placement of most structures for human occupancy across traces of active faults and thereby mitigate the hazards of surface fault rupture.



SOURCE: Orange County Emergency Management Division

Figure 3.4-1
Regional Fault Zones

damaging earthquakes to occur every few years. The most damaging in the last 70 years was the 6.3 magnitude 1933 Long Beach quake. The Newport-Inglewood fault is capable of a maximum moment magnitude of 6.9.[4] **Table 3.4-1** shows the distance of nearby active faults and their maximum moment magnitudes.

TABLE 3.4-1: PRINCIPAL ACTIVE FAULTS IN PROJECT AREA

Fault	Approximate Distance to Fault (miles)	Maximum Moment Magnitude (M_{max})	Fault Type[a]
Newport-Inglewood	<1/2	6.9	B
Palos Verdes	11	7.1	B
Elsinore (Whittier segment)	21	6.8	B
Sierra Madre	35	7.0	B
San Andreas (1857 Rupture)	52	7.8	A

a: Type A = Faults that are capable of producing large magnitude events and that have a high rate of seismic activity. $M_{max} \geq 7.0$. Slip Rate ≥ 5.
Type B = All faults other than Types A and C. $M_{max} \geq 7.0$, < 7.0 or ≥ 6.5. Slip Rate < 5, > 2, < 2.
Type C = Faults that are not capable of producing large magnitude earthquakes and that have a relatively low rate of seismic activity. $M_{max} < 6.5$ / Slip Rate ≤ 2. Uniform Building Code 1997, Volume 2 Chapter 16-Table 16-U.
Source: Ninyo & Moore, 2003.

The CGS has not established a fault hazard zone on the Newport-Inglewood Fault Zone in the area of Treatment Plant No. 2, as it has done along most of the onshore portion of the fault, because it could not find definitive evidence of active faulting within the 0.5-mile wide zone associated with the fault where it trends offshore.[5] This area near the plant is difficult to study for active faulting because historic flooding of the SAR has covered any traces of surface scarps that may have formed during previous fault movement and shallow groundwater impedes conventional fault investigation by trenching.

GEOLOGIC HAZARDS

Ground Shaking

While magnitude is a measure of the energy released in an earthquake, intensity is a measure of the ground shaking effects at a particular location. Ground shaking may affect areas hundreds of miles distant from the epicenter of an earthquake. Shaking intensity can vary depending on the overall magnitude, distance to the fault, focus of earthquake energy, and type of geologic material underlying the area. Intensities generally are highest at the fault and decrease with distance from

[4] The maximum moment magnitude is an estimate of the size of a characteristic earthquake capable of occurring on a particular fault. Moment magnitude is related to the physical size of a fault rupture and movement across a fault. Richter magnitude scale reflects the maximum amplitude of a particular type of seismic wave and can be generally higher than moment magnitude estimations.

[5] Converse Consultants, *Final Geologic Hazards and Geotechnical Investigation Report Proposed Headworks Replacement P2-66,* August 2002.

the fault. However, the composition of underlying soils in areas located relatively distant from faults can intensify ground shaking. Areas that are underlain by bedrock tend to experience less ground shaking than those underlain by unconsolidated sediments such as artificial fill.

The proposed project site is located near the active Newport-Inglewood Fault. Potentially damaging earthquakes have occurred every few years along this fault zone. In addition, there are several other active faults in the region. Seismic activity on any of these faults could cause considerable ground shaking in the project area.

Ground shaking is commonly described in terms of peak ground acceleration as a fraction of the acceleration of gravity (g), or by using the Modified Mercalli Intensity Scale, a common intensity scale. The Modified Mercalli Intensity Scale is a more descriptive method involving 12 levels of intensity denoted by Roman numerals. **Table 3.4-2** below provides intensity descriptions with the corresponding peak acceleration and velocity values used in CGS ShakeMaps. The degree of actual structural damage would not be uniform because not all buildings perform identically in an earthquake. The age, material, type, method of construction, size, and shape of a building all affect its performance.

TABLE 3.4-2: GROUND SHAKING INTENSITY DESCRIPTIONS

Instrumental Intensity[a]	Acceleration (% g)	Velocity (cm/s)	Perceived Shaking	Potential Damage
I	< 0.17	< 0.1	Not Felt	None
II – III	0.17 - 1.4	0.1 - 1.1	Weak	None
IV	1.4 - 3.9	1.1 - 3.4	Light	None
V	3.9 - 9.2	3.4 - 8.1	Moderate	Very light
VI	9.2 - 18	8.1 - 16	Strong	Light
VII	18 - 34	16 - 31	Very Strong	Moderate
VIII	34 - 65	31 - 60	Severe	Moderate to Heavy
IX	65 - 124	60 - 116	Violent	Heavy
X+	> 124	> 116	Extreme	Very Heavy

a: The "Instrumental Intensity" is the estimated Modified Mercalli Intensity based on instrumental ground motion recordings (peak acceleration and velocity) and observed intensity for eight significant California earthquakes (1971 San Fernando, 1979 Imperial Valley, 1986 North Palm Springs, 1987 Whittier, 1989 Loma Preita, 1991 Sierra Madre, 1992 Landers, and 1994 Northridge).
Source: California Integrated Seismic Network, 2001.

Surface Fault Rupture

Rupture of the surface during an earthquake is generally limited to the narrow strip of land immediately adjacent to the fault on which the earthquake is occurring. Surface fault rupture may occur suddenly during an earthquake or slowly in the form of fault creep and almost always follows pre-existing faults, which are zones of weakness. Not all earthquakes will result in surface rupture. No known CGS fault rupture zones exist within the project site.

Although no onshore surface fault rupture has taken place in historic time (since 1769), the Newport-Inglewood fault zone, particularly the North Branch and Bolsa Fairview traces, should be

considered capable of surface rupture.[6] A concealed fault is present near the intersection of Brookhurst Street and PCH as well as within the SAR marsh near the Alternative 2A and 2B alignments. In light of the proximity of traces of active faulting within the Newport-Inglewood fault zone, ground rupture is a possibility near these alternative alignments.

Liquefaction and Dynamic Settlement

Liquefaction occurs when water-saturated sandy soil materials lose strength and become susceptible to failure during strong ground shaking in an earthquake. Liquefaction potential is greatest in areas with saturated soils where groundwater depths are less than 50 feet. Loose granular soils with silt and clay contents of less than 35 percent are susceptible to liquefaction and dynamic settlement.[7] The California Geological Survey Seismic Hazards Mapping Program identifies the entire project area within a liquefaction hazard area.[8]

Expansive Soils

Expansive soils possess a "shrink-swell" behavior that occurs in fine-grained clay sediments from the process of wetting and drying, which may result in structural damage over a long period of time. When the soils are wetted, they incorporate water into the mineral structure causing swelling of mineral grains and an increase in soil volume.

Subsidence

The extraction of water, mineral, or oil resources can result in subsidence from the removal of supporting layers in the geologic formation. Oil extraction activities could promote localized subsidence. The impacts of subsidence could include lowering of the land surfaces, increased potential for flooding, potential disturbance to buried pipeline and associated structures, and damage to structures designed with minimal tolerance for settlement.

Landslides and Lateral Spreading

Soil type, climate, topography, slope geometry, and excavations can initiate slope failures and landslides. Shaking during an earthquake may lead to seismically induced landslides, especially in areas that have previously experienced landslides or slumps, in areas of steep slopes, or in saturated hillsides. Seismically induced lateral spreading involves lateral movement of earth materials due to ground shaking. It differs from slope failure in that complete ground failure involving large movement does not occur due to the relatively smaller gradient of the initial

[6] Ninyo & Moore, *Preliminary Geotechnical Evaluation PCH Force Mains OCSD Project No. 5-58, Huntington Beach, California,* June 4, 2003.
[7] *Ibid.*
[8] California Geological Survey, Seismic Hazard Mapping Program, Newport Quadrangle, http://gmw.consrv.ca.gov/shmp/index.htm.

ground surface. Lateral spreading occurs as near-vertical cracks with predominantly horizontal movement of the soil mass involved. The California Geological Survey Seismic Hazards Mapping Program identifies the cliffs at the edge of the utility road and oil field as seismic landslide hazard areas.[9]

APPLICABLE REGULATIONS

CEQA

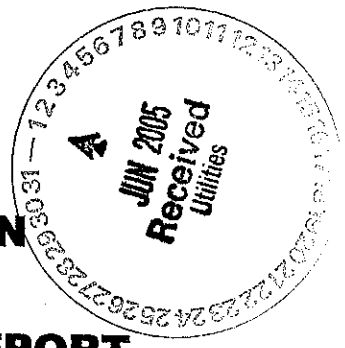
CEQA defines a significant effect on the environment as a substantial, or potentially substantial, adverse change in the physical conditions within the area affected by the project. *CEQA Guidelines* lists several geology-related impacts that would normally be considered significant. These include exposing people or structures to major geologic (expansive soils, landslides) and seismic hazards (fault rupture, groundshaking, liquefaction); erosion or siltation; substantial changes in topography; adversely affecting unique geologic or topographic features; or inundation due to dam failure, seiche, or tsunami. For a project under CEQA review, potential adverse effects of a particular identifiable geologic or seismic hazard is analyzed to determine the overall impact to the environment. The conclusions drawn from the impact analysis provides the framework for identification and evaluation of feasible mitigation measures to reduce the intensity of the impact.

Alquist-Priolo Earthquake Fault Zones

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 requires that special geologic studies be conducted to locate and assess any active fault traces in and around known active fault areas prior to development of structures for human occupancy. This state law was a direct result of the 1971 San Fernando Earthquake, which was associated with extensive surface fault ruptures that damaged numerous homes, commercial buildings, and other structures.

The Alquist-Priolo Act's main purpose is to prevent the construction of buildings used for human occupancy on the surface trace of active faults or within fifty feet of an active fault. The Act defines "a structure for human occupancy" as any structure expected to have a human occupancy rate of more than 2,000 person-hours per year. This Act only addresses the hazard of surface fault rupture and is not directed toward other earthquake hazards. The law requires the State Geologist to establish regulatory zones (Earthquake Fault Zones) around the surface traces of active faults and to issue appropriate maps. These maps (Alquist-Priolo Maps) are distributed to all affected cities, counties and state agencies for their use in planning and controlling new or renewed construction. Local cities and counties must regulate certain development projects within the zones, which include withholding permits until geologic investigations demonstrate that development sites are not threatened by future surface displacement. Projects include all land divisions and most structures for human occupancy.

[9] *Ibid.*



NOTICE OF PREPARATION

for the

ENVIRONMENTAL IMPACT REPORT

Irvine Ranch Water District
Michelson Water Reclamation Plant
Phase 2 and 3 Capacity Expansion Project

In accordance with the California Environmental Quality Act (CEQA) and the State CEQA Guidelines, the Irvine Ranch Water District (IRWD) will be preparing an Environmental Impact Report (EIR) for the proposed Michelson Water Reclamation Plant (MWRP) Phase 2 and 3 Capacity Expansion Project (Proposed Project). The IRWD seeks your input to define the scope and content of the environmental information to be addressed in the EIR. A brief project description and the location, along with a listing of those environmental effects to be addressed in the EIR that may occur as a result of implementation of the Proposed Project, are contained in the Initial Study (IS). The IS may be reviewed at IRWD, 15600 Sand Canyon Ave., Irvine, CA, or on the IRWD website www.irwd.com. A public scoping meeting will be held to provide you with additional opportunities to learn more about the project and to comment on the scope and content of the environmental information to be included in the EIR. The public scoping meeting will be held on June 14, 2005 starting at 5:00 PM at the Irvine Ranch Water District, Board Room, 15600 Sand Canyon Avenue, Irvine, California.

Due to the time limits mandated by State law, written comments not presented at the public scoping meeting must be sent no later than 30 days after receipt of this notice or by July 1, 2005. Please send your comments to:

Irvine Ranch Water District
15600 Sand Canyon Avenue
Irvine, CA 92618
Attention: Gregory Herr
Planning and Resources Specialist

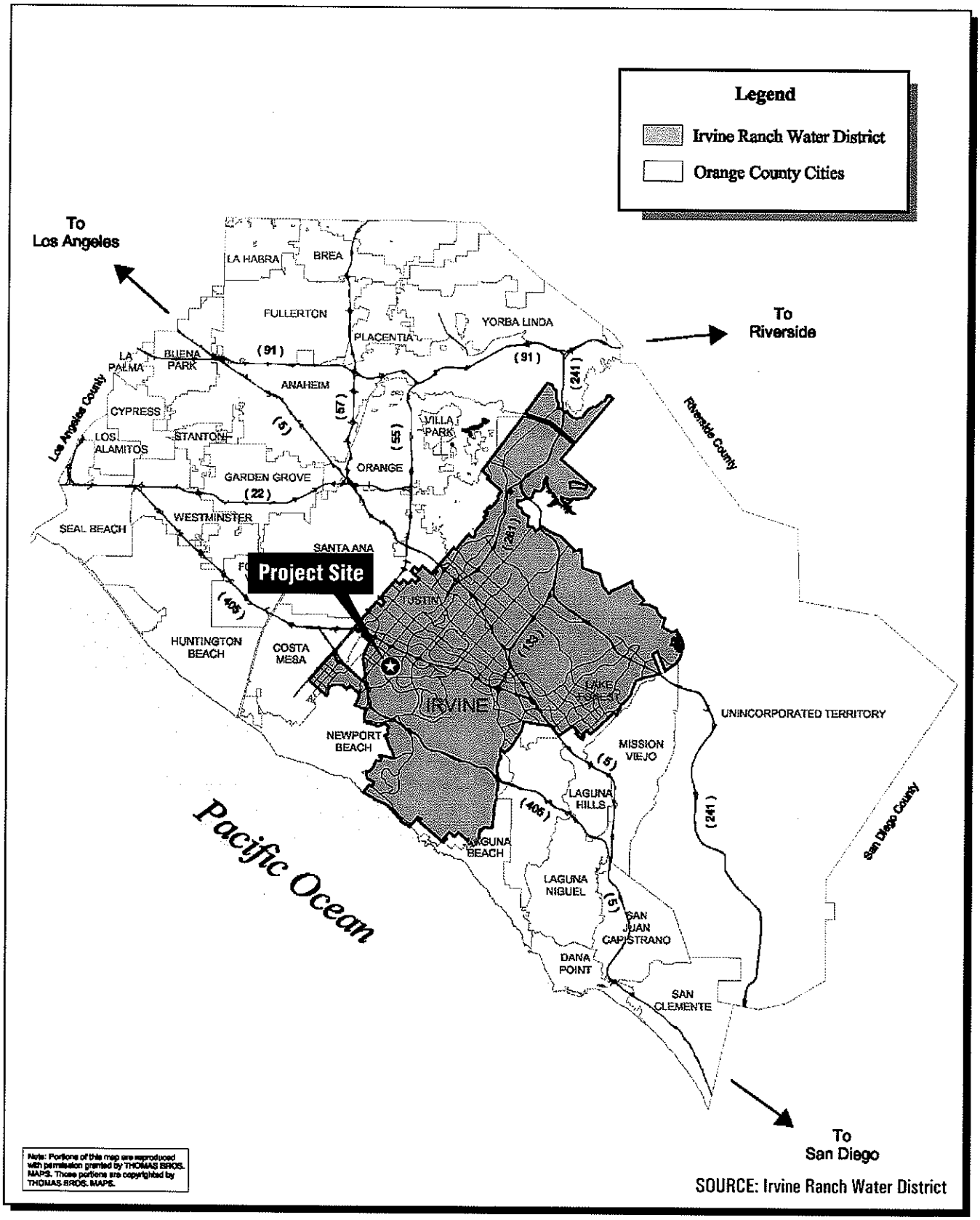
A. PROJECT DESCRIPTION

Irvine Ranch Water District (IRWD) operates an extensive separate distribution system that provides recycled water and other non-potable water for non-potable water use, principally irrigation, for its water customers. This system provides nearly 20% of the water served by IRWD, conserves significant quantities of valuable potable water and reduces both IRWD's and Southern California's reliance on water imported from Northern California and the Colorado River.

The primary source of water for the non-potable water system is recycled (tertiary treated) wastewater provided from IRWD's Michelson Water Reclamation Plant (MWRP) and Los Alisos Water Reclamation Plant (LAWRP), with the remaining non-potable supplies coming from a combination of imported untreated water purchased from Metropolitan Water District, local groundwater and untreated native water from Irvine Lake. The IRWD Water Resources Master Plan (WRMP) identifies ultimate (year 2025) demands for the non-potable water system of approximately 33,000 acre-feet per year (AFY), with about 80% of these demands anticipated to be met from recycled water. In order for IRWD's reclamation plants to meet these demands, additional wastewater treatment capacity is necessary. In early 2004, IRWD completed a "Wastewater Treatment Master Plan" (WTMP) which identifies the proposed MWRP Phase 2 and 3 Capacity Expansion Project from several scenarios for expansion necessary to meet ultimate demands through 2025 for non-potable water.

The Proposed Project would expand the MWRP capacity from 18 million gallons per day (mgd) to 33 mgd by 2025. The proposed expansion project would occur within the existing MWRP footprint, and no acquisition or alteration of additional land would be necessary. The project's major improvements would include:

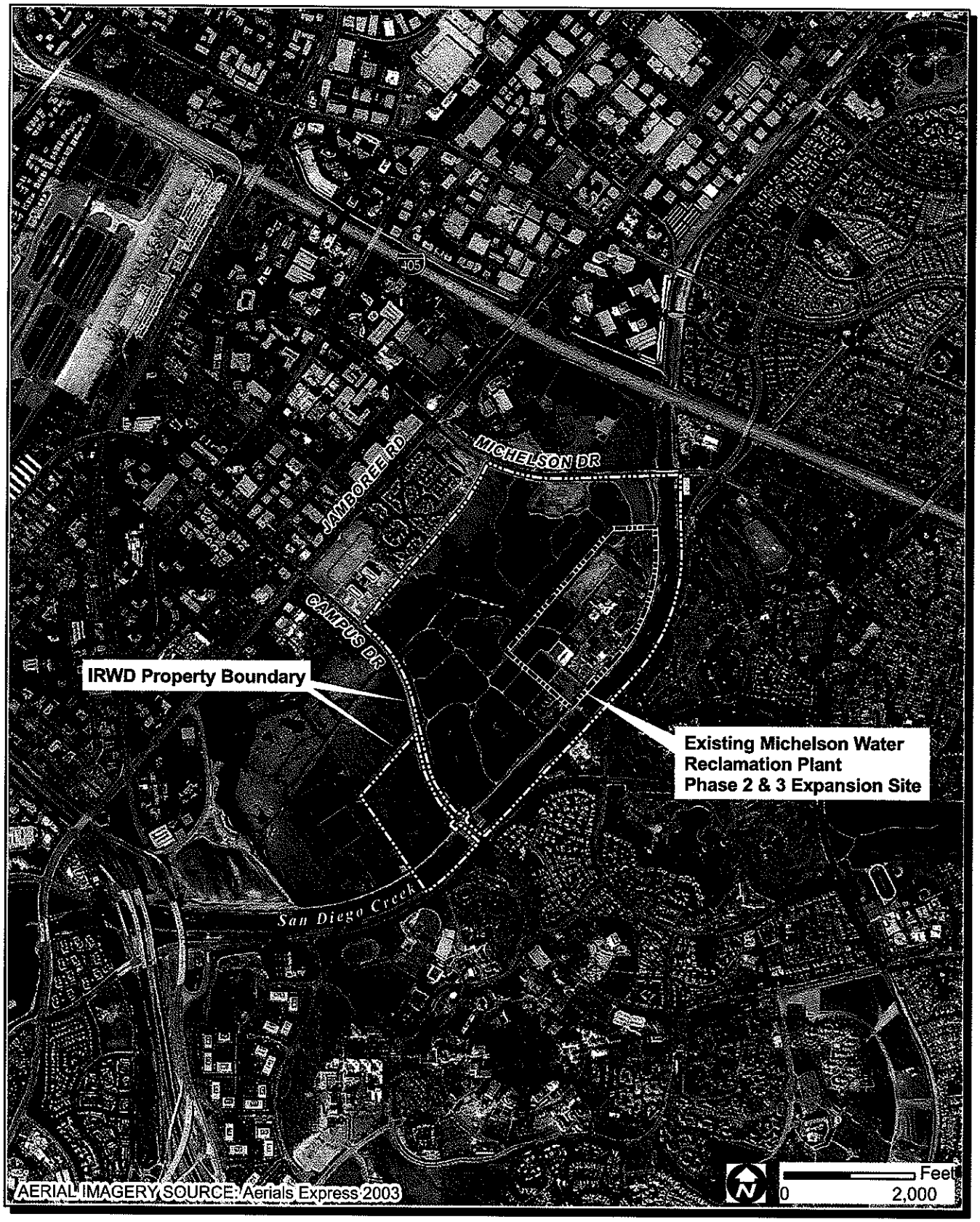
- Replacement of headworks/intake system
- 5 additional primary clarifiers
- 1 additional primary sludge pumping station
- Flow equalization basin will be increased in size
- 1 additional flow equalization basin influent pump
- 3 additional activated sludge nitrification-dentrification trains including:
  - 3 additional aeration tanks
  - 3 additional secondary clarifiers
  - 4 additional return activated sludge (RAS) pumps
  - 4 additional waste activated sludge (WAS) pumps



MWRP Phase 2 and 3 Capacity Expansion Project - Notice of Preparation

Regional Map

FIGURE 1



MWRP Phase 2 and 3 Capacity Expansion Project - Notice of Preparation

Vicinity Map

FIGURE 2

- 5 additional filters
- A 0.25 million gallon expansion of the chlorine contact tank
- 3 additional reclamation pumps
- Odor control features such as wet scrubbers on applicable facilities such as the new headworks and primary clarifiers
- New groundwater pumps for dewatering
- Modifications to portions of the North Irvine Interceptor Sewer and South Irvine Interceptor Sewer located within the MWRP site.

B. ENVIRONMENTAL SETTING AND SURROUNDING LAND USES

As shown in *Figure 1 and Figure 2,* the MWRP is located at 3512 Michelson Drive, City of Irvine, Orange County, California. As shown in *Figure 2,* the IRWD property, containing both the MWRP site and the San Joaquin Wildlife Sanctuary, is bounded by Michelson Drive, the San Diego Creek Channel, Campus Drive, and Carlson Avenue. The site is generally flat varying between 10 and 15 feet above mean sea level (msl). A 15 to 20 foot high levee exists along the southeastern extremity of the plant separating the site from the San Diego Creek Channel. Access to the site is via IRWD's private drive, Riparian Way off of Michelson Drive between Jamboree Road and Harvard Avenue. The property is located in an area characterized by mixed land uses, including recreational, light commercial, institutional and residential use.

C. POTENTIAL ENVIRONMENTAL EFFECTS

An Initial Study has been prepared by IRWD evaluating the Proposed Project (see *Attachment 1*). Based on the preliminary analysis conducted in the Initial Study, IRWD has made the decision to prepare an EIR that will more fully investigate the existing environmental setting, the potential impacts resulting from project implementation, and potential mitigation measures, if necessary, in the following areas: Hydrology/Water Quality, Biological Resources, Public Health and Safety, Air Quality/Odor, and Noise. No determinations have yet been made as to the significance of potential impacts in these areas; such determinations will be made in the EIR after the issues are considered thoroughly. Other issues raised in the scoping process will also be evaluated in the EIR as well as cumulative impacts of the project in combination with other present and planned projects in the area.

The following provides a summary of potential issues or impacts to be addressed in the EIR:

- *Hydrology/Water Quality*

The existing MWRP NPDES permit encompasses all operations, groundwater dewatering and discharge to Sand Canyon, Rattlesnake and San Joaquin Reservoirs. An Industrial Stormwater Permit (equivalent to a SWPPP) is written into the operating permit. The Proposed Project could increase stormwater runoff volumes and velocities due to increased impermeable surfaces after Project completion. Proposed Project operations could alter the amount, type, area or method of surface water disposal currently allowed in the existing NPDES permit. The EIR will assess the Proposed Project's potential to exceed any water quality standards or wastewater discharge requirements.

IRWD operates an extensive non-potable water system that provides recycled water and other non-potable water for non-potable water use in accordance with California health laws related to recycled water, including Titles 22 and 17 of the California Code of Regulations and the NPDES Permit which govern the use of recycled water. The Proposed Project will expand IRWD's recycled water production facilities in order to meet ultimate (year 2025) demands for non-potable water in accordance with California health laws relating to the use of recycled water. This expanded use of recycled water and potential effects to both surface and groundwater quality will be analyzed further in the EIR.

As shown in *Figure 2*, the MWRP is located along the westerly bank of the San Diego Creek and is protected from flooding by the San Diego Creek Channel. The San Diego Creek Channel is a 100-year flood control facility under the maintenance of the Orange County Flood Control District (OCFCD) and is the primary regional flood control facility serving the San Diego Creek watershed. The Proposed Project does not involve the construction of structures that would impede or redirect flows in the San Diego Creek Channel. However, the flood storage capacity within the San Diego Creek channel has been reduced in recent years due to sediment accumulation in the channel. OCFCD is responsible for maintenance of the San Diego Creek Channel to its baseline condition as a 100-year flood control facility. As such, OCFCD has committed to the restoration of the Lower San Diego Creek Channel Sections and In-Line Channel Sediment Basins (Jamboree Road to I-405) which would restore the San Diego Creek Channel between Jamboree Road and the I-405 to its baseline condition as a 100-year flood control facility. In addition to discretionary approval by the OCFCD, a number of other permits will be required prior to OCFCD being able to implement the Lower San Diego Creek Project. Therefore, until the San Diego Creek Channel baseline condition as a 100-year flood control

facility is re-established, there will remain a potential for flooding at the existing MWRP site, which will be discussed in the EIR. For purposes of the EIR, it is expected that OCFCD will restore the 100-year flood capacity.

- *Biological Resources*

Short-term construction impacts that may affect rare, threatened and endangered species will be addressed in the EIR.

- *Public Health/Safety*

Chlorine or other disinfectant substances are currently shipped to and used and stored on the MWRP site. While the quantities of these substances stored at the MWRP are not anticipated to change as a result of the Proposed Project, the frequency of deliveries is anticipated to increase. The transport of hazardous materials is regulated by the State. The operation of the Proposed Project would be subject to all applicable requirements by the Orange County Fire Authority. Therefore, the transport of any new quantities of hazardous materials and the design of the Proposed Project with respect to any new quantities of hazardous materials would be completed in conformance with applicable federal, state, and local regulatory requirements. This will be analyzed further in the EIR.

- *Air Quality/Odor*

Short-term emissions of criteria pollutants generated by project construction and long-term operation emissions from new equipment and increased vehicle trips required for day-to-day operations could contribute to violations of the local applicable air quality plan, the South Coast Air Quality Management District's (SCAQMD) Air Quality Management Plan (AQMP) or to violations of State or Federal air quality standards. The EIR will analyze these potential impacts to air quality, in both the long and short-term. Proposed facilities including headworks and primary clarification would require odor control similar to that being currently used at the MWRP. Although IRWD has not received odor complaints regarding the MWRP in the past ten years, the EIR will analyze possible odor impacts resulting from the Proposed Project.

- *Noise*

The EIR will evaluate short-term construction and long-term operational noise impacts.

- *Population and Housing*

The Proposed Project would allow IRWD to expand its capacity to produce reclaimed water to meet projected non-potable water demand (principally irrigation) for its water customers through the year 2025 requiring approximately two additional permanent employees. Implementation of the Proposed Project would not induce additional growth but rather accommodate the current projected growth of the region. The projected future non-potable water demand is based on regional population projections adopted by the Southern California Association of Governments, and local cities. IRWD does not have the authority to regulate land use planning or growth within the region, but must plan for facilities to meet the non-potable water demand created by this planned growth. CEQA requires that the potential growth inducing impacts of a project be addressed in an EIR (State CEQA Guidelines Section 15126.2). Therefore, the EIR will address the potential for impacts from population growth.

D. MANDATORY DISCUSSION

In addition to the aforementioned issues, CEQA requires the following areas be addressed in the EIR:

- *Growth Inducing Effects*

The Proposed Project would allow IRWD to expand its capacity to produce reclaimed water to meet projected non-potable water demand (principally irrigation) for its water customers through the year 2025. Implementation of the Proposed Project would not induce additional growth but rather accommodate the current projected growth of the region. The projected future non-potable water demand is based on regional population projections adopted by the Southern California Association of Governments, and local cities. IRWD does not have the authority to regulate land use planning or growth within the region, but must plan for facilities to meet the non-potable water demand created by this planned growth. CEQA requires that the potential growth inducing impacts of a project be addressed in an EIR (State CEQA Guidelines Section 15126.2). Therefore, the EIR will address the potential for impacts from population growth.

- *Alternatives*

In compliance with CEQA, an EIR must describe a reasonable range of alternatives to the project or project location that could feasibly attain most of the project objectives and avoid or lessen

any of the significant environmental impacts of the Proposed Project. Additionally, the No Project Alternative must also be analyzed in the EIR; this alternative describes the situation that would likely occur in the absence of the Proposed Project.

IRWD evaluated several alternatives to the Proposed Project in the Wastewater Treatment Master Plan (WTMP) (HDR, 2004). These include the following:

- ***Maximum expansion of LAWRP and full integration of LAWRP effluent into the IRWD reclaimed distribution system.*** Included in the EIR will be a discussion of this alternative, which would increase IRWD's recycled water generation capabilities by expanding LAWRP.

- ***New satellite plant in the vicinity of the former El Toro Marine Corps Air Station (ETMCAS), now referred to as the Great Park.*** The EIR will also include a discussion of this alternative, which would involve building a new wastewater recycling plant near the decommissioned and closed El Toro Marine Corps Air Station.

In addition to the WTMP alternatives listed above, additional alternatives will be evaluated for full analysis and consideration in the Draft EIR based on additional input from agencies and the public comments received during the EIR scoping process. Additional alternatives may consist of:

- Alternative Designs
- Increased Water Conservation

INITIAL STUDY AND ENVIRONMENTAL CHECKLIST

1.0 ENVIRONMENTAL CHECKLIST

BACKGROUND:

1. **Project title:** Irvine Ranch Water District Michelson Water Reclamation Plant Phase 2 and 3 Capacity Expansion Project

2. **Lead agency name and address:**
Irvine Ranch Water District
15600 Sand Canyon Avenue
Irvine, California 92718

3. **Contact person and phone number:** Mr. Gregory Herr, Planning and Resources Specialist, Tel. 949-453-5865

4. **Project location:** Irvine Ranch Water District Michelson Water Reclamation Plant located at 3512 Michelson Drive, Irvine, California, 92612

5. **Project sponsor's name and address:**
Irvine Ranch Water District
15600 Sand Canyon Avenue
Irvine, California 92718

6. **General Plan designation:** Public Facilities

7. **Zoning:** Institutional 6.1, Planning Area 23

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

   - Santa Ana Regional Water Quality Control Board – amend existing NPDES Permit, General Permit for Stormwater discharge during construction
   - South Coast Air Quality Management District - amend existing Permit to Operate

- Orange County Fire Authority – Risk Management, Storage and Handling of Hazardous Materials
- State of California Department of Health Services-Title 22 Engineering Report

9. Description of Project/Environmental Setting, and Surrounding Land Uses:
(Describe the whole action involved, including, but not limited to later phases of the project, and any secondary, support, or offsite features necessary for its implementation. Attach additional sheets if necessary.)

Project Description: The Proposed Project consists of expanding the Michelson Water Reclamation Plant (MWRP) from 18 million gallons per day (mgd) to 33 mgd.

The proposed expansion project would occur within the existing MWRP footprint, and no acquisition or alteration of additional land would be necessary. The project's major improvements would include:

- Replacement of headworks/intake system
- 5 additional primary clarifiers
- 1 additional primary sludge pumping station
- Flow equalization basin will be increased in size
- 1 additional flow equalization basin influent pump
- 3 additional activated sludge nitrification-dentrification trains including:
  - 3 additional aeration tanks
  - 3 additional secondary clarifiers
  - 4 additional return activated sludge (RAS) pumps
  - 4 additional waste activated sludge (WAS) pumps
- 5 additional filters
- A 0.25 million gallon expansion of the chlorine contact tank
- 3 additional reclamation pumps
- Odor control features such as wet scrubbers on applicable facilities such as the new headworks and primary clarifiers
- New groundwater pumps for dewatering
- Modifications to portions of the North Irvine Interceptor and South Irvine Interceptor located within the MWRP site.

Environmental Setting and Surrounding Land Uses:

As shown in *Figure 1 and Figure 2*, the MWRP is located at 3512 Michelson Drive, City of Irvine, Orange County, California. As shown in *Figure 2*, the IRWD property,

containing both the MWRP footprint site and the San Joaquin Wildlife Sanctuary, is bounded by Michelson Drive, the San Diego Creek Channel, Campus Drive, and Carlson Avenue. The site is generally flat varying between 10 and 15 feet above mean sea level (msl). A 15 to 20 foot high levee exists along the southeastern extremity of the plant separating the site from the San Diego Creek Channel. Access to the site is via IRWD's private drive, Riparian Way off of Michelson Drive between Jamboree Road and Harvard Avenue. The property is located in an area characterized by mixed land uses, including recreational, light commercial, institutional and residential use.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact," or "Less than Significant with Mitigation Incorporated" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agricultural Resources	☒ Air Quality
☒ Biological Resources	☒ Cultural Resources	☐ Geology/ Soils
☒ Hazards & Hazardous Materials	☒ Hydrology/ Water Quality	☐ Land Use/Planning
☐ Mineral Resources	☒ Noise	☐ Population/ Housing
☐ Public Services	☐ Recreation	☐ Transportation/ Traffic
☐ Utilities/ Service Systems	☒ Mandatory Findings of Significance	

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

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

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

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

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

Signature

5/27/05

Date

Norris Brandt, Environmental Quality Manager

Printed name

Irvine Ranch Water District

EXPLANATION FOR ENVIRONMENTAL CHECKLIST FORM

State CEQA guidelines, Chapter 3, Article 5, Section 15063 requires that the IRWD conduct an Initial Study to determine if a project may have a significant effect on the environment. The Initial Study appears in the following pages in the form of a checklist. The checklist has been adopted from the form in Appendix G of the State CEQA Guidelines as amended effective January 1, 2005. This checklist identifies any physical, biological and human factors that might be impacted by the proposed project and provides the IRWD with information to use as the basis for deciding whether to prepare an Environmental Impact Report (EIR), Mitigated Negative Declaration (MND), or Negative Declaration (ND).

- A brief explanation is required for all answers except "No Impact" answers that are adequately supported by an information source cited in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved. A "No Impact" answer should be explained when there is no source document to refer to, or it is based on project-specific factors as well as general standards.

- "Less Than Significant Impact" applies where there is supporting evidence that the potential impact is not significantly adverse, and the impact does not exceed adopted general standards and policies.

- "Potentially Significant Unless Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The project applicant must agree to and describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level.

- "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect is significantly adverse.

- A Negative Declaration may be prepared if IRWD perceives no substantial evidence that the project or any of its aspects may cause a significant adverse effect on the environment.

- If there are one or more potentially significant adverse effects, IRWD may avoid preparing an EIR if there are mitigation measures to clearly reduce adverse impacts to less than significant, and those mitigation measures are agreed to by IRWD prior to public review.

- If there is one or more potentially significant impact(s) where no mitigation measures that could clearly reduce adverse impacts to less than significant have been identified and the project proponent does not agree to mitigation measures that reduce the impact to less than significant, then an EIR must be prepared.

ENVIRONMENTAL ISSUES *Refer to Section 2.2 for a detailed discussion of environmental issues*	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS – Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐
II. AGRICULTURE RESOURCES – In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☐	☒
III. AIR QUALITY – Where available, the significance criteria established by the applicable air quality management or air pollution district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☒	☐	☐	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☒	☐	☐	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☒	☐	☐	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☒	☐	☐	☐
e) Create objectionable odors affecting a substantial number of people?	☒	☐	☐	☐
IV. BIOLOGICAL RESOURCES – Would the project:				
a) Have a substantial adverse effect, either directly or through sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☒	☐	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☒	☐	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section habitat modifications, on any species identified as a candidate, 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e) Conflict with any local policies or ordinance protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒

ENVIRONMENTAL ISSUES *Refer to Section 2.2 for a detailed discussion of environmental issues*	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?.	☐	☐	☐	☒
V. CULTURAL RESOURCES – Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒
VI. GEOLOGY AND SOILS – Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☒	☐	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
VII. HAZARDS AND HAZARDOUS MATERIALS – Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☒	☐	☐	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☒	☐	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☒	☐	☐	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☒	☐	☐	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒

ENVIRONMENTAL ISSUES *Refer to Section 2.2 for a detailed discussion of environmental issues*	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☒	☐
VIII. HYDROLOGY AND WATER QUALITY – Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☒	☐	☐	☐
b) Substantially deplete groundwater supplies or interfere substantially with ground water recharge such that there would be a net deficit in aquifer volume or a lowering of the local ground water table level (i.e., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
c) Impacts to groundwater quality?	☒	☐	☐	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
e) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the flow rate or amount (volume) of surface runoff in a manner, which would result in flooding on- or off-site?	☐	☐	☒	☐
f) Create or contribute runoff water, which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☒	☐	☐
g) Otherwise substantially degrade water quality (marine, surface, groundwater or wetland waters)?	☒	☐	☐	☐
h) Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood delineation map?	☐	☐	☐	☒
i) Place within 100-year flood hazard area structures, which would impede or redirect flood flows?	☐	☐	☐	☒
j) Expose people or structures to a significant risk of loss injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
k) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒
IX. LAND USE AND PLANNING – Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒
X. MINERAL RESOURCES – Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒
XI. NOISE – Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☒	☐	☐	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☒	☐	☐	☐

ENVIRONMENTAL ISSUES *Refer to Section 2.2 for a detailed discussion of environmental issues*	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☒	☐	☐	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☒	☐	☐	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
XII. POPULATION AND HOUSING – Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
XIII. PUBLIC SERVICES				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i) Fire protection?	☐	☐	☐	☒
ii) Police protection?	☐	☐	☐	☒
iii) Schools?	☐	☐	☐	☒
iv) Parks?	☐	☐	☐	☒
v) Other public facilities?	☐	☐	☐	☒
XIV. RECREATION				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒
XV. TRANSPORTATION/TRAFFIC – Would the project:				
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☐	☒	☐
b) Exceed, either individually or cumulatively, a level of service standard established by the County Congestion Management Agency for designated roads or highways?	☐	☐	☒	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (*e.g.*, sharp curves or dangerous intersections) or incompatible uses (*e.g.*, farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☐	☒
f) Result in inadequate parking capacity?	☐	☐	☐	☒

ENVIRONMENTAL ISSUES *Refer to Section 2.2 for a detailed discussion of environmental issues*	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (*e.g.*, bus turnouts, bicycle racks)?	☐	☐	☐	☒
XVI. UTILITIES AND SERVICE SYSTEMS – Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☒	☐	☐	☐
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which would cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
e) Result in determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider/s existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐
XVII. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☒	☐	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☒	☐	☐	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☒	☐	☐	☐

2.0 DISCUSSION OF ENVIRONMENTAL IMPACTS

2.1 AESTHETICS: Would the project:

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

No Impact. There is no scenic vista relevant to this project and the project site is not located within the vicinity of a state scenic highway, nor designated scenic resources.

The project site is located within the existing boundaries of the MWRP site. The existing MWRP is recessed below grade from the San Diego Creek Channel embankment and from the surrounding roadways. The proposed structural facilities are low profile in nature and none are more than the equivalent of approximately two stories in height. This, in combination with the recessed elevation of the site, would make distant views of the proposed facilities almost undetectable.

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

No Impact. See Response 2.1-a. No scenic highways are located within the project vicinity. All proposed improvements would be located within the project site and would not involve disturbance of any trees, rock outcroppings or historic buildings.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

Less than Significant Impact. See Response 2.1-a. Minimal views of the existing MWRP exist from a residential complex on Carlson Avenue, the Rancho San Joaquin golf course across the San Diego Creek, a residential complex just south of the golf course, nearby roadways, Michelson Drive, Carlson Street and Campus Drive and along trails located along the San Diego Creek Channel. The Proposed Project would add new low-profile structures to the existing MWRP site consistent with the existing structures on the site and would appear from surrounding vantage points as a continuation to the existing water reclamation facility. The most visible new structures include the five new primary clarifiers expected to be approximately three feet high, and three new secondary clarifiers also expected to be approximately three feet high. The new filters would be the tallest of the proposed facilities at the MWRP and would be approximately 25 feet high, the same as the existing tallest structure at the MWRP. The height, scale and character of the proposed facilities are nearly identical to the existing facilities and would represent a continuation of industrial structures that currently exist on the MWRP site. Additionally, the proposed facilities would not conflict with the City of Irvine's height limitations, as

listed in Section 3-37-35.6.1 of the City of Irvine Zoning Code. The proposed facilities would not change the existing visual character of the MWRP which is not considered a significant visual resource within the community.

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

Less Than Significant Impact. The existing MWRP is a light source in the project area. The proposed expansion facilities would entail the use of the same type of building materials, lighting fixtures and visual treatment currently present at the MWRP. All new lighting would utilize non-glare sodium vapor lights designed to concentrate the light within the MWRP site. The project may result in a marginal cumulative increase in the amount of light and glare currently being emitted from the MWRP. Any cumulative increase in light and glare associated with the project would be directed within the MWRP site and therefore would not create a new source of substantial light and glare, which would adversely affect day or nighttime views in the area.

2.2 AGRICULTURAL RESOURCES - Would the project:

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

No Impact. Proposed facilities would be located entirely within the existing MWRP site. No agricultural resources are located within the existing site. Therefore, no impacts to agricultural resources would occur.

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

No Impact. The project is located in an "Institutional 6.1" zone which is not designated for permanent agricultural use according to the City of Irvine Zoning Code Section 3-37-37.

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

No Impact. See Response 2.2. The project would not involve the conversion of agricultural resources to non-agricultural resources.

2.3 AIR QUALITY—Would the project:

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

Potentially Significant Impact. The Proposed Project would not require a General Plan Amendment, a Specific Plan or be a "significant project." According to the South Coast Air Quality Management District's (SCAQMD) Air Quality Handbook, only projects of those types require review for Air Quality Management Plan consistency. The Proposed Project may have significant impacts from construction-related emissions as noted in the answer to question (b) below. Therefore, the impact may be significant and will require analysis in the EIR to determine if the Proposed Project would potentially interfere with the implementation of the SCAQMD's Air Quality Management Plan and PM_{10} Attainment Plan.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Potentially Significant Impact. Short-term construction exhaust emissions would be generated from construction equipment, earth movement and demolition activities, construction workers' commute, and construction material hauling for the entire construction period. Emissions from temporary construction activities may exceed the SCAQMD's thresholds of significance for criteria pollutants during the construction period. This represents a potentially significant impact and will be evaluated further in the EIR.

Operational air emissions are generated from operational equipment, other electrical usage, natural gas usage, deliveries, and employee commute during day-to-day operations. Although operational emissions are not expected to exceed SCAQMD thresholds, the EIR will include further analysis with air quality modeling results for such emissions.

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

Potentially Significant Impact. The Proposed Project would not have sources that would create a significant permanent increase in the emissions of criteria pollutants that would be cumulatively considerable. However, the regional air basin is a non-attainment area for carbon monoxide, ozone, and particulates. The EIR will analyze potential cumulative air quality impacts in further detail, including any increases in criteria pollutant emissions from plant operations.

d) ***Expose sensitive receptors to substantial pollutant concentrations?***

Potentially Significant Impact. The SCAQMD defines sensitive receptors as residential areas, schools, playgrounds, health care facilities, day care facilities, and athletic facilities. Single and multi-family residences are located within a quarter-mile of the project site to the northwest of the project site across the San Joaquin Marsh and Carlson Avenue, and southeast of the project site across from the San Diego Creek and the Rancho San Joaquin golf course. There are no schools located within a quarter-mile of the plant site. As discussed in Response 2.3-b, air emissions during construction of the Proposed Project could have a potentially significant impact. Therefore, the EIR will assess potential impacts to sensitive receptors.

e) ***Create objectionable odors affecting a substantial number of people?***

Potentially Significant Impact. The proposed facilities requiring odor control include the MWRP headworks and primary clarification. Proposed expansion of these facilities include odor control utilizing similar technology to that currently in use at the MWRP (i.e., wet scrubbers). Although IRWD has not received odor complaints regarding the MWRP in the past ten years, the EIR will analyze potential odor impacts from proposed facilities.

2.4 BIOLOGICAL RESOURCES - Would the project:

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

Potentially Significant Impact. The Proposed Project would take place entirely within the existing property boundaries of the MWRP. Several federal and state-listed threatened and/or endangered species are known to exist outside the project site in the vicinity of the MWRP site, including the coastal California gnatcatcher, least Bell's vireo and southwestern willow flycatcher. Therefore, construction of the proposed facilities could potentially indirectly affect species identified as a candidate, sensitive, or special status species.

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

Potentially Significant Impact. Project facilities would be confined within the existing MWRP plant site and therefore would not directly affect riparian habitat or other sensitive natural communities. However, the MWRP is located adjacent to the San Diego Creek and San Joaquin Wildlife Sanctuary and as discussed under Response 2.4a could have indirect impacts associated with short-term construction. Therefore, the EIR will address these potential impacts.

c) ***Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filing, hydrological interruption, or other means?***

No Impact. Project facilities would be confined within the existing MWRP plant site and therefore would not directly affect federally protected wetlands defined by Section 404 of the Clean Water Act.

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

No Impact. Project facilities would be confined within the existing MWRP plant site which is not located within a wildlife movement corridor. Therefore, implementation of the project would not interfere with wildlife movement.

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

No Impact. The Proposed Project would occur entirely within the existing MWRP site. Near the site are areas that are part of preservation planning areas. These include: the San Diego Creek and San Joaquin Wildlife Sanctuary. The Proposed Project would be constructed in an area that does not lie within these planning areas. The site is not designated in the Central/Coastal Orange County NCCP/HCP or on any other conservation plans. The project site would not require tree removal and would be consistent with the General Plan land use designation for the site. Therefore, there is no potential for impact due to a conflict with approved local, regional, or state habitat conservation plans or local policies and ordinances to protect biological resources.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. See Response 2.4e.

2.5 CULTURAL RESOURCES – Would the project:

a) Cause a substantial adverse change in the significance of a historic resource as defined in §15064.4?

Less than Significant Impact with Mitigation Incorporated. Two archaeological sites occur within the project area. CA-ORA-196/H and CA-ORA-197 are located on two low hills within the upper part of San Joaquin Marsh along the west bank of San Diego Creek. CA-ORA-196/H was occupied during the Milling Stone Period, the Intermediate Period and the early Historic Period. CA-ORA-197 was occupied during the Milling Stone Period and the late Prehistoric Period. Both sites have been investigated by archaeologists and all previous investigations have been summarized by de Barros (1992). IRWD has determined that the two sites, CA-ORA-196/H and CA-ORA-197, are eligible for the California Register of Historic Resources. The cultural resource analysis documenting these sites has been published previously (IRWD, MWRP Riparian Way and Duck Club Road Improvements Project, Initial Study, September 2000).

The following mitigation measures have been incorporated into the project to ensure that impacts to these archaeological sites due to implementation of the Proposed Project, would be less than significant.

- All ground disturbing activities within the site boundary and buffer zone for CA-ORA-196/H and CA-ORA-197 will be monitored by a qualified archaeologist to ensure avoidance.
- Any cultural resources discovered during construction will be tested to determine significance and mitigated through avoidance or data recovery. Should data recovery be necessary, it will be done as mandated by the Natural Historic Preservation Act (NHPA) and CEQA.
- Any artifacts or fossils impacted during construction will be repaired by the archaeological monitor to a point of identification and IRWD will pay potential curation fees.

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

Less than Significant Impact with Mitigation Incorporated. See Response 2.5-a.

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

No Impact. Due to the limited area to be disturbed and minimal depth to ground surface disturbance, and that the proposed facilities would be located entirely within the existing treatment plant property that has been previously graded, the potential for encountering important paleontological resources is considered to be low.

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

No Impact. See Response 2.5-a.

2.6 GEOLOGY AND SOILS - Would the project:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving:

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

Less than Significant Impact. The Proposed Project involves the expansion of treatment capacity at the MWRP by adding a number of new facilities. All proposed activities would be limited to the existing plant site. This area has been previously evaluated for soils, geology, and seismicity in three separate reports. No known faulting exists within or adjacent to the MWRP site and the site is not located in a delineated earthquake zone on an Alquist-Priolo Earthquake Fault Map (State of California, 1997 with updates in 1999) (CH2MHill Geotechnical Report – Phase I: 2005 Upgrades Secondary Clarifier and Supporting Facilities, MWRP, July 2004).

ii. Strong seismic ground shaking?

Less than Significant With Mitigation Incorporated. Although no faults exist onsite, a number of active and potentially active regional fault zones could affect

the MWRP site. These include the Newport-Inglewood, Whittier, Norwalk, San Andreas fault zones. A major earthquake on any of these could affect the Proposed Project facilities, depending on the nature, size, and location of a particular event. All proposed facilities will be designed and built in accordance with seismic design provision of the Uniform Building Code. Additionally, all facets of excavation, construction, and facility design will meet the standards established for previous development at the MWRP site. Specifically, this will include measures such as the over-excavation of unsuitable base soils and geologic units, the proper composition, placement, and compaction of all construction fill, the use of additional foundation design techniques as necessary, and the utilization of appropriate construction materials and methods. Incorporation of these standard design and construction measures will ensure that impacts related to geologic hazards including seismic events would be less than significant. See Response 2.6-a.i.

iii. Seismic-related ground failure, including liquefaction?

Less than Significant Impact. Soils on the property are dense to very dense sands and clayey sands, which underlie fill and alluvial materials at the site. The liquefaction potential of these soils is estimated to be low (CH2MHill Geotechnical Report – Phase I: 2005 Upgrades Secondary Clarifier and Supporting Facilities, MWRP, July 2004). Therefore, impacts related to seismic-related ground failure, including liquefaction, are considered to be less than significant.

iv. Landslides?

No Impact. Landslides are associated with steep slopes or areas adjacent to variable topography. The project site is located on a level mesa and is not adjacent to any significant slopes. Therefore, no landslide hazards exist.

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

Less than Significant Impact. Implementation of the Proposed Project would involve grading and the construction of several facilities at the existing MWRP. Development activities would comply with National Pollution Discharge Elimination System (NPDES) criteria. This would require the submittal of a Notice of Intent to the State Water Resources Control Board and the preparation of a Storm Water Pollution Prevention Plan (SWPPP) to the Santa Ana Regional Water Quality Control Board to identify erosion control methods and measures to prevent pollutant discharge from the site during construction. The SWPPP would include a list of best management practices (BMPs),

such as desilting basins, street sweeping, soil stabilizers and siltation fencing in order to limit the amount of erosion that occurs during construction. The use of the BMPs would reduce erosion during project construction to less than significant.

Once the proposed project facilities are constructed, the site would be covered with impermeable surfaces or with landscaping. This would serve to limit the amount of topsoil loss or potential erosion from the site. None of the proposed uses would require future disturbance of the soils onsite. Therefore, the potential due to soil erosion or topsoil loss with project implementation is considered to be less than significant.

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

Less than Significant Impact. Generally, dense to very dense, saturated sands underlie the fill and the alluvial materials at the site. Blow counts in the saturated sands were generally in the range of 30 to greater than 50. Liquefaction potential of the site soils is estimated to be low because of the presence of dense to very dense sands and clayey sands at the site (CH2MHill Geotechnical Report – Phase I: 2005 Upgrades Secondary Clarifier and Supporting Facilities, MWRP, July 2004).

d) ***Be located on expansive soils, as defined in Table 18 - 1-B of the Uniform Building Code (1994), creating substantial risks to life or property?***

Less than Significant Impact. Soil samples taken in the general vicinity of the project site indicate that the soils have little or no expansion potential. (CH2MHill Geotechnical Report – Phase I: 2005 Upgrades Secondary Clarifier and Supporting Facilities, MWRP, July 2004). No impacts from expansive soils are anticipated.

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

No Impact. No septic tanks or alternative wastewater disposal systems are proposed.

2.7 HAZARDS AND HAZARDOUS MATERIALS - Would the project:

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

Potentially Significant Impact. Implementation of the Proposed Project would involve the storage and use of several hazardous substances, including chlorine and other disinfectant substances. These substances are currently shipped to and stored on the MWRP site, under Fire Authority permit. While the quantities of these substances stored at the MWRP are not anticipated to change as a result of the Proposed Project, the frequency of deliveries is anticipated to increase. The transport of hazardous materials is regulated by the State. The operation of the project would be subject to all applicable requirements by the Orange County Fire Authority. Therefore, the transport of any new quantities of hazardous materials and the design of the Proposed Project with respect to any new quantities of hazardous materials would be completed in conformance with applicable federal, state, and local regulatory requirements. This will be analyzed further in the EIR.

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

Potentially Significant Impact. See Response 2.7-a.

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

Potentially Significant Impact. There are no schools within one-quarter mile of the project site. However, the transport of hazardous materials may be within one-quarter mile of an existing or proposed school. See Response 2.7-a.

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

Potentially Significant Impact. The project is located at the IRWD MWRP, a facility which uses and stores hazardous materials. See Response 2.7-a.

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

No Impact. The closest airport, John Wayne Airport, is located approximately two miles northwest of the project site. The Airport is included in the Orange Country Airport Environs Land Use Plan, as amended in November of 1995. The Airport Environs Land Use Plan designates an Airport Influence Area in order to protect the airport's operations and to prevent the creation of community hazards. The Influence Area encompasses areas adjacent to the airport which could be impacted where height restrictions would be needed to prevent obstructions to navigable air space as outlined in Federal Aviation Administration regulations. Because the project would involve the introduction of low-profile facilities with a maximum of 25 feet in height, obstruction impacts to aircraft flight patterns would not occur as a result of the project.

f) ***For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?***

No Impact. The project is not located within the vicinity of a private airstrip, and would therefore not result in impacts to this type of facility or its associated employees.

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

No Impact. The project would not involve expansion beyond the existing site project boundaries, therefore conflicts with any emergency evacuation plan would not occur. Further, the plant is not located along any of the major arterials that could serve as major evacuation routes. Therefore, implementation of the proposed project would not impair or physically interfere with any emergency plan.

h) ***Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?***

Less than Significant Impact. Portions of the project area are included in or adjacent to open space with fire potential designated by the Orange County Fire Authority. The site is within two miles of areas designated as having medium or high fire potential according to the Orange County Planning and Development Services Department. The construction of this project would not involve any housing structures, and the structures that are to be constructed would be fabricated of non-combustible or fire-retardant materials, therefore, the impact to people or structures involving wildland fires is less than significant.

2.8 HYDROLOGY AND WATER QUALITY - Would the project:

a) Violate any water quality standards or waste discharge requirements?

Potentially Significant Impact. The existing MWRP NPDES permit encompasses all operations, groundwater dewatering and discharge to Sand Canyon, Rattlesnake and San Joaquin Reservoirs. An Industrial Stormwater Permit (equivalent to a SWPPP) is written into the operating permit. The new facilities could increase stormwater runoff volumes and velocities due to increased impermeable surfaces after program completion. Project operations of proposed facilities could alter the amount, type, area or method of disposal currently allowed in the existing NPDES permit. The EIR will assess the Proposed Project's potential to exceed any water quality standards or wastewater discharge requirements.

*b) **Substantially deplete groundwater supplies or interfere substantially with ground water recharge such that there would be a net deficit in aquifer volume or a lowering of the local ground water table level (i.e., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?***

Less than Significant Impact. The Proposed Project allows IRWD to rely less on potable water sources, including the local groundwater. Shallow groundwater dewatering does take place on the property to protect in-ground facilities. With the expansion, some additional dewatering pumps are planned around the new facilities. However, since the dewatering impacts the shallow groundwater and does not affect the local aquifer, substantial effects to groundwater supplies is not anticipated.

c) Impacts to groundwater quality?

Potentially Significant Impact. See Response 2.8a.

*d) **Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on- or off-site?***

Less than Significant Impact. The Proposed Project involves the addition of new structures and paved area to the existing MWRP. The construction of these facilities would increase the amount of runoff from the portions of the project site. The Proposed Project would implement BMPs consistent with the required SWPPP in order to limit erosion during construction. Once the Proposed Project facilities are completed, the site would be covered with impermeable and landscaped surfaces, which would reduce erosion. No streams or rivers would be directly impacted. The proposed construction

will occur within the drainage basin currently served by Storm Water Pump Station No. 1, and is not expected to affect the design and function of the existing drainage system. All surface runoff within MWRP is collected, pumped to the headworks, and incoporated into the water treatment flow.

e) ***Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the flow rate or amount (volume) of surface runoff in a manner, which would result in flooding on- or off-site?***

Less than Significant Impact. See Response 2.8d.

f) ***Create or contribute runoff water, which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?***

Less than Significant Impact. See Response 2.8d.

g) ***Otherwise substantially degrade water quality (marine, surface, groundwater or wetland waters)?***

Potentially Significant Impact. See Response 2.8-a. IRWD operates an extensive non-potable water system that provides recycled water and other non-potable water for non-potable water use in accordance with California health laws related to recycled water, including Titles 22 and 17 of the California Code of Regulations and the NPDES Permit which govern the use of recycled water. The Proposed Project will expand IRWD's recycled production facilities in order to meet ultimate (year 2025) demands for non-potable water in accordance with California health laws relating to the use of recycled water. This expanded use of recycled water and potential effects to both surface and groundwater quality will be analyzed further in the EIR.

h) ***Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood delineation map?***

No Impact. The project would not include the introduction of new housing, therefore flooding risks associated with new housing would not occur.

i) Place within 100-year flood hazard area structures, which would impede or redirect flood flows?

Potentially Significant Impact. The MWRP is located along the westerly bank of the San Diego Creek and is protected from flooding by the San Diego Creek Channel. The San Diego Creek Channel is a 100-year flood control facility under the maintenance of the Orange County Flood Control District (OCFCD) and is the primary regional flood control facility serving the San Diego Creek watershed. The Proposed Project does not involve the construction of structures that would impede or redirect flows in the San Diego Creek Channel. However, the flood storage capacity within the San Diego Creek channel has been reduced in recent years due to sediment accumulation in the channel. OCFCD is responsible for maintenance of the San Diego Creek Channel to its baseline condition as a 100-year flood control facility. As such, OCFCD has committed to the restoration of the Lower San Diego Creek Channel Sections and In-Line Channel Sediment Basins (Jamboree Road to I-405) which would restore the San Diego Creek Channel between Jamboree Road and I-405 to its baseline condition as a 100-year flood control facility. In addition to discretionary approval by the OCFCD, a number of other permits will be required prior to OCFCD being able to implement the Lower San Diego Creek Project. Therefore, until the San Diego Creek Channel baseline condition as a 100-year flood control facility is re-established, there will remain a potential for flooding at the existing MWRP site which will be discussed further in the EIR. For the purposes of the EIR, it is expected that OCFCD will restore the 100-year flood capacity of the channel.

j) Expose people or structures to a significant risk of loss injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

Potentially Significant Impact. See Response 2.8-i. The project would not involve the introduction of structures in a dam inundation zone.

k) Inundation by seiche, tsunami, or mudflow?

No Impact. Hydrologic and topographic conditions of the project site and surrounding area do not lend themselves to these conditions. The Proposed Project is not near any water body that would potentially be affected by a seiche, tsunami, or mudflow. Therefore, the Proposed Project would not be affected by any of the above stated natural phenomena.

2.9 LAND USE AND PLANNING - Would the project:

a) Physically divide an established community?

No Impact. Because the proposed expansion project would be located entirely within the existing site boundaries, the physical division of a community would not occur.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact. The project site is designated "Public Facilities" by the City of Irvine's General Plan, and "Institutional" by the City of Irvine's Zoning Map. These designations include the treatment of wastewater as an allowable use. The proposed project would not create any new uses that do not already exist within the facility boundary and would not conflict with general plan or zoning designations. No conflict with any applicable land use plan or regulation would occur due to implementation of the proposed expansion project.

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

Potentially Significant Impact. See Response 2.4-f.

2.10 MINERAL RESOURCES - Would the project:

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

No Impact. The project is not located in an area of known mineral resources. Therefore, there would be no impact to mineral resources of value to the region or the state. (IRWD draft Negative Declaration for the Power Generation Project, 2002).

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

No Impact. See Response 2.10-a.

2.11 NOISE - Would the project result in:

a) ***Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies?***

Potentially Significant Impact The proposed project will generate noise both during construction and continuing operations after the expansion is complete. The EIR will review the potential impacts of both long and short term noise, as well as groundbourne vibrations resulting from the proposed expansion construction and long term facility operations.

b) ***Exposure of persons to or generation of excessive groundbourne vibration or groundbourne noise levels?***

Potentially Significant Impact See Response 2.11-a.

c) ***A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?***

Potentially Significant Impact See Response 2.11-a.

d) ***A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?***

Potentially Significant Impact See Response 2.11-a.

e) ***For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?***

No Impact. The closest airport, John Wayne Airport, is located approximately 2 miles northwest of the project site. The Airport is included in the Orange County Airport Environs Land Use Plan, as amended in November of 1995. The Proposed Project would not be located in the vicinity of an airport. The project site is a water treatment facility and would not be considered a noise sensitive use. Therefore, the Proposed Project would not subject people to excessive noise from an existing public airport or private airstrip. The proposed limited expansion of the current MWRP will not interfere with the Orange County Plan or pose a safety hazard due to air traffic noise to local residence or those working in the project area.

f) ***For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?***

No Impact. The project is not located in the vicinity of a private airstrip. See Response 2.11e.

2.12 POPULATION AND HOUSING - Would the project:

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

Less than Significant Impact. No housing or commercial facilities are related to the proposed project. In addition, the proposed project would not modify land use or zoning designations to permit new residential or commercial development.

The Proposed Project would allow IRWD to expand its capacity to produce reclaimed water to meet projected non-potable water demand (principally irrigation) for its water customers through the year 2025 requiring approximately two additional permanent employees. Implementation of the Proposed Project would not induce additional growth but rather accommodate the current projected growth of the region. The projected future non-potable water demand is based on regional population projections adopted by the Southern California Association of Governments, and local cities. IRWD does not have the authority to regulate land use planning or growth within the region, but must plan for facilities to meet the non-potable water demand created by this planned growth. CEQA requires that the potential growth inducing impacts of a project be addressed in an EIR (State CEQA Guidelines Section 15126.2). Therefore, the EIR will address the potential for impacts from population growth.

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

No Impact. The project would be located entirely within the existing MRWP site boundaries. No housing currently exists onsite, therefore housing would not be displaced.

c) ***Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?***

No Impact. See Response 2.12b.

2.13 PUBLIC SERVICES

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

i) Fire protection?

No Impact. The project would involve expansion of existing facilities located entirely within the MWRP site boundaries. Introduction of additional treatment processes and enhancement of existing processes would not change local fire protection authorities' response times or substantially affect demand for fire protection services at the facility.

ii) Police protection?

No Impact. The project would not involve the introduction of structures outside of the existing MWRP property. Further, the project would not include the addition of housing, schools or other community facilities that might require police protection. Therefore, introduction of additional treatment facilities would not change local police protection response times or substantially affect demand for police protection services in the project area.

iii) Schools?

No Impact. As discussed under Response 2.12-a, the proposed project would not generate population growth; therefore, no new demand would be placed on schools.

iv) Parks?

No Impact. As discussed under Response 2.12-a, the proposed project would not generate population growth; therefore, no new demand would be placed on parks.

v) Other public facilities?

No Impact. As discussed under Response 2.12-a, the proposed project would not generate population growth; therefore, no new demand would be placed on public facilities.

2.14 RECREATION

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

No Impact. As discussed under Response 2.12-a, the proposed project would not generate population growth; therefore, no new demand on recreational facilities would occur.

b) ***Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?***

No Impact. No recreational facilities would be built or expanded as a result of the Proposed Project. Local residents currently us the dirt road along the eastern and western banks of the San Diego Creek as a walking/jogging trail or bikeway. Access to this area for walkers/joggers and bicyclists would remain available. The construction laydown area would be located inside the fenced MWRP.

2.15 TRANSPORTATION/TRAFFIC—Would the project:

a) ***Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system?***

Less Than Significant Impact. During construction (approximately 24 months), approximately 50 vehicle trips for construction crews and equipment/material deliveries would occur. All construction equipment, vehicles, personnel and materials staging areas would be accommodated within the property lines of the MWRP. Access to and from the construction site would occur via exit 7 of the San Diego Freeway (Interstate 405 (I-405)), to Jamboree Road west, Michelson Road Southeast, and Riparian Way south. *Table 2.15-1* below includes the average daily trips for the roads used to access the MWRP. As shown in *Table 2.15-1,* the anticipated short-term and limited construction-related traffic would not create a substantial impact on traffic volumes nor change traffic patterns in such a ways as to affect the level of service (LOS) or vehicle to congestion ratio on study area roadways.

Table 2.15-1. Project Construction/Operations Traffic

Road	Road Classification	Number of Lanes	Average Daily Trips (ADT)	Level of Service	Project Construction Trips Daily Increase (ADT)	Project Operation Trips Daily Increase (ADT)
I-405*	Interstate		285,000		50	4
Jamboree Rd. I-405 Off Ramp to Michelson Rd.**	Major Highway	8 through lanes	62,603	C	50	4
Michelson Rd. from Jamboree to Carlson**	Primary Highway	4 through lanes	25,746	A	50	4

*Data from the California Department of Transportation, District 12, Orange County, 2003 Traffic Volumes
**Data from the City of Irvine Department of Public Works, Transportation Development Office

During operations, two new employees and a maximum of approximately two daily truck trips for chemical deliveries would be expected at the MWRP site after the implementation of the Proposed Project. Conservatively, this would result in an additional four vehicle trips per day for the site, which would not add significantly to the ADT on the local roadways, as shown in *Table 2.15-1*. This limited traffic will not result in substantial increases in either the number of vehicle trips or increases to the existing volume to capacity ratios on existing roads and intersections. Therefore, there is no potential for a significant traffic impact due to increased trips from the operation or construction of the new facilities.

IRWD, as part of the proposed expansion, does not plan to handle treatment residuals on the site. All plant residuals would be pumped to the Orange County Sanitation District (OCSD) for handling via the existing single 18-inch export line. Sending residuals from MWRP for treatment at OCSD is not expected to increase the residuals at OCSD, as the wastewater treated at MWRP would otherwise have been treated at the OCSD. Therefore, no impacts to traffic patterns are expected due to offsite treatment of residuals.

b) ***Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?***

Less Than Significant Impact. See Response 2.15-a. Although the project would result in temporary increases in traffic on local area roadways, this short-term construction-related traffic and limited operations traffic would not create a substantial impact on traffic volumes nor change traffic patterns in such a way as to affect the level of service (LOS) or vehicle to congestion ratio on study area roadways.

c) ***Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?***

No Impact. The Proposed Project does not include components that would alter air traffic patterns. It would not, therefore, result in substantial safety risks associated with air traffic.

d) ***Substantially increase hazards due to a design feature or incompatible uses?***

No Impact. The project would not involve the alteration of existing roadways nor would it require incompatible vehicles access. Vehicles used during construction would be driven to the site and away from the site pursuant to state transportation laws. Any equipment or vehicles not designated as adequate for public roadway travel would be transported to the site via a trailer unit. Hence, no impacts are expected.

e) ***Result in inadequate emergency access?***

No Impact. Construction activities resulting from the Proposed Project would be conducted entirely on the existing MWRP site and emergency access offsite would not be changed. Adequate emergency access to all portions of the project site would be maintained and included in the construction safety plan for the Proposed Project. Therefore, the Proposed Project would not impact emergency access.

f) ***Result in inadequate parking capacity?***

No Impact. All construction workers and operator vehicles and equipment would utilize the current site for parking. Therefore, no impacts to parking capacity would occur due to the proposed project.

g) ***Conflict with adopted policies, plans or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks, etc.)?***

No Impact. The Proposed Project would consist of enhancements to existing facilities and construction of new facilities within the existing plant site. Therefore, modifications would not affect planned alternative transportation routes or modes, or conflict with adopted policies, plans and programs supporting alternative transportation.

2.16 UTILITIES AND SERVICES SYSTEMS - Would the project:

a) ***Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?***

Potentially Significant Impact. See Response 2.8-a.

b) ***Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which would cause significant environmental effects?***

No Impact. The project is a proposed expansion to the existing MWRP facility. As discussed in Response 2.12-a, the proposed project would not generate population growth; therefore, no new demand on water or wastewater facilities would occur.

c) ***Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?***

Less than Significant Impact. The project is a proposed expansion to the existing MWRP facility. No planned expansion of, or construction of new storm water drainage facilities or expansion of existing storm water drainage facilities is planned as part of the Proposed Project. See Response 2.8d.

d) ***Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?***

No Impact. See Response 2.16-b.

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

No Impact. See Response 2.16-b.

f) ***Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?***

Less than Significant Impact. The project would generate a modest amount of construction-related solid waste during the construction phase. The Frank K. Bowerman landfill, located in Irvine, serves as the landfill for all solid waste generated at the

MWRP, and has a permitted capacity to accept the expected waste generated from the construction of the Proposed Project. The expanded operations at MWRP, once complete, will not generate additional demand for solid waste disposal needs.

The MWRP facility currently produces primary sludge and scum, waste activated sludge, secondary scum and filter backwash, but pumps all of these residuals to the OCSD for handling. IRWD, as part of the proposed expansion, does not plan to handle treatment residuals on the site. All plant residuals would be pumped to the Orange County Sanitation District (OCSD) for handling via the existing single 18-inch export line. Sending residuals from MWRP for treatment at OCSD is not expected to increase the residuals at OCSD, as the wastewater treated at MWRP would otherwise have been treated at the OCSD. Therefore, less than significant impacts to landfill capacity are expected due to offsite treatment of residuals.

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

Less than Significant Impact. The Proposed Project would comply with applicable federal, state, and local statutes and regulations related to solid waste. The MWRP handles a minimal amount of solid waste generated at the office facilities on-site. Residuals from the water treatment facilities on-site are pumped to the OCSD for handling. See Response 2.16-f.

2.17 MANDATORY FINDINGS OF SIGNIFICANCE

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

Potentially Significant Impact. Based on analysis of the above listed topics, implementation of the project may impact the habitat of sensitive species and wetlands. These impacts will be analyzed in the EIR.

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

Potentially Significant Impact. The Proposed Project in conjunction with other area projects, could have potentially cumulative impacts on the physical environment. Potential cumulative impacts in conjunction with related projects could occur with regard to biological resources, hydrology, noise, air quality, and hazardous materials. Cumulative impacts to these environmental resources will be analyzed in the EIR.

c) ***Does the project have environmental effects, which will cause the substantial adverse effects on human beings, either directly or indirectly?***

Potentially Significant Impact. The Proposed Project would provide a beneficial effect with regard to non-potable water supplies and would not cause substantial adverse effects on human beings, either directly or indirectly. Construction activities would follow applicable safety laws to ensure safe working conditions for construction workers. Operational activities would comply with applicable Occupational Safety and Health Administration requirements. However, this NOP/Initial Study identifies several resource areas that could adversely impact human beings, including air quality, hazards/hazardous materials, hydrology/water quality, and noise. These impacts will be analyzed in the EIR.

3.0 REPORT PREPARATION PERSONNEL

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Victoria Thompson, Ph.D.	Safety Review

GIROUX AND ASSOCIATES

Hans Giroux, M.S..	Air Quality

4.0 REFERENCES AND SUPPORTING SOURCES

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