

**EFFLUENT PUMP STATION ANNEX &
COLLECTION SYSTEM ODOR &
CORROSION CONTROL PROGRAM**

*Draft Supplemental Environmental Impact Report
SCH#: 1997101065*

July 17, 2002

*Prepared for
Orange County Sanitation District*

ESA Environmental
Science
Associates

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EXECUTIVE SUMMARY

S.1 INTRODUCTION

This Supplemental Environmental Impact Report (SEIR) has been prepared for the proposed installation of the Effluent Pump Station Annex (EPSA) and the proposed implementation of the Collection System Odor and Corrosion Control Program (OCP). The proposed designs of these projects were not included or have been altered since the District's Strategic Plan Program Environmental Impact Report (PEIR) was certified in October 1999. This SEIR has been prepared to provide objective planning and environmental information to guide and assist decision-makers, lead agency staff, and the public in their evaluation of the potential environmental effects that may result from the implementation of the project as proposed.

This SEIR augments analysis contained in the PEIR certified in October 1999. The projects assessed in this SEIR were not specifically analyzed in the PEIR. However, the projects fall within the overall objectives and policies of the 1999 Strategic Plan and do not substantially alter the conclusions of the PEIR. Implementation of the projects does not modify the District's adopted policies regarding level of treatment and peak discharge strategies as analyzed in the PEIR. The SEIR is focused to evaluate the construction and operational activities associated with the new projects only and does not address issues unrelated to the construction of the EPSA or the establishment of the OCP. The SEIR identifies measures that the District can implement to lessen potential impacts. These measures will then be added to those already identified in the PEIR for the implementation of the two identified projects.

This document has been prepared in accordance with the California Environmental Quality Act (CEQA) statutes and guidelines. The Orange County Sanitation District (District) is the lead agency for this CEQA process. Inquiries about the project should be directed to:

Jim Herberg, Engineering Manager
Orange County Sanitation District
10844 Ellis Avenue
Fountain Valley, CA 92708-7018

S.2 PROJECT BACKGROUND

The District provides wastewater services for more than 2.2 million residents of 23 cities within a 450-square mile portion of northern Orange County. The District operates and maintains over 400 miles of trunk sewer lines within its service area, which encompasses slightly more than half of the land area of Orange County, serving more than 87 percent of the county's population. Two treatment plants are situated along the Santa Ana River (SAR). Reclamation Plant No. 1 is located in Fountain Valley, and

Treatment Plant No. 2 is located in Huntington Beach near the coast. Treated effluent is discharged through a 120-inch diameter ocean outfall that extends approximately four miles into the ocean.

In 1999, the District prepared a Strategic Plan to identify projects and programs needed to accommodate projected population growth in its service area through 2020. The PEIR assessed the potential effects of the Strategic Plan on the local and regional environment, 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 1999 Strategic Plan identified the need to upgrade the Foster Pump Station (FPS), which acts as a backup pump station to the ocean discharge outfall. A subsequent engineering assessment of the FPS concluded that the effectiveness of this facility was negligible during a peak flow emergency and it would also require extensive seismic upgrades to meet current codes.

Similarly, the 1999 Strategic Plan identified the existing collection system odor control program, but did not assess impacts of modifying the program. The District's collection system generates odorous gases, primarily hydrogen sulfide (H_2S), which can be released into the air creating a nuisance to surrounding land uses. To reduce the nuisance, the District conducts a collection system odor control program that consists of intermittently applying doses of sodium hydroxide (caustic soda) in the upper reaches of the trunk sewer collection system to minimize H_2S production. The mixing of H_2S and caustic soda also creates sulfuric acid, which is corrosive to the sewer infrastructure.

A pilot study utilizing several different chemicals and application methods was initiated in the summer of 2000 to evaluate alternative sulfide odor and corrosion control technologies. Chemicals considered included ferric chloride, hydrogen peroxide, magnesium hydroxide, sodium nitrate, and calcium nitrate applied in a continuous feed system. The pilot study recommended installing several continuous feed systems in certain locations since these chemicals would not be corrosive if used continuously for long periods of time, while continuing with the caustic soda doses in many locations throughout the collection system.

S.3 PROJECT DESCRIPTION

EFFLUENT PUMP STATION ANNEX

The costs to upgrade the FPS and ensure the reliability of the existing pumping capacity would be comparable to construction of a new facility; therefore, the District proposes construction of a new backup pump station, the EPSA, to replace the FPS. The proposed EPSA will consist of three different buildings and associated piping. Two existing buildings will be demolished to make room for the new buildings and several conduits and junction boxes will also be demolished or modified. Approximately 40,000 to 50,000 cubic yards (cy) of soil will be excavated during construction and approximately 10,000 to 20,000 cy of soil will be needed for fill. Therefore, the net volume of soil to be removed about 30,000 cy, which will require approximately 1,500 round-trip truck trips to remove from the site. In addition, approximately 1.5 acres of existing property will be graded and designed to generally match existing grades.

Construction activity will take up to 33 months from December 2002 to September 2005, with approximately 750 days (2 years) of actual construction work. The FPS will remain in-service until the middle of construction of the EPSA, at which time the FPS will be demolished and removed from the Plant No. 2 site. The on-site construction workforce will likely average about 35 to 45 workers per day over the course of the project. During peak construction activity, this number will range from approximately 100 to 150 workers.

ODOR AND CORROSION CONTROL PROGRAM

In an effort to provide a more effective odor control program for the collection system and reduce corrosion from caustic soda, the District is proposing to implement a new OCP involving chemicals and application methods recommended in the pilot study. The chemicals would be stored in above-ground storage tanks installed in local utility yards. Eight continuous feed systems were recommended in various locations throughout the collection system, with more possible locations to be identified in the future depending on the need for odor control. Locations of the future storage tanks have not been determined, but could be located near sensitive land uses such as residential areas, schools, and care facilities. The tanks would not be located in areas where zoning restrictions forbid chemical storage.

Installation of the continuous feed systems is a relatively minor operation involving the installation of temporary polyethylene tanks with PVC pipes running from the tank to the pumps and injection points. These aboveground tanks have a storage capacity of roughly 4,000 gallons and range in size from 8 to 12 feet in diameter and 8 to 16 feet in height. The tanks would be refilled approximately 1 to 3 times per week. Installation of the feed system and storage tanks takes one to two weeks and may involve minor excavation, trenching, and potentially temporary lane closures. The system's overall annual chemical usage would be approximately 1,500,000 gallons of ferric chloride, 500,000 gallons of hydrogen peroxide, 440,000 gallons of magnesium hydroxide, and 550,000 gallons of nitrates. None of these chemicals are toxic or pose an air quality hazard to public health if accidentally spilled.

S.4 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

CEQA Guidelines require that an EIR contain a brief summary of project impacts and mitigation measures that would reduce those impacts. Table S-1 contains a summary of the environmental impacts and level of significance before mitigation measures have been implemented, mitigation measures identified to reduce or avoid those impacts, and a determination of the level of significance after mitigation measures have been implemented. None of the impacts in the SEIR would remain significant after implementation of identified mitigation measures.

TABLE S-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES

RESOURCE / IMPACT	MITIGATION MEASURE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
<u>AIR QUALITY</u>		
Impact 3.1-1: Construction of the EPSA would emit criteria pollutants. Estimated daily average construction emissions would not exceed significance thresholds set by the SCAQMD.	<u>EPSA</u> M-3.1-1 Soil removal contractors shall cover all trucks hauling soil, sand, and other loose materials, or maintain at least two feet of freeboard.	Less than Significant
Impact 3.1-2: Operation of the proposed EPSA and OCP project would emit criteria pollutants. Estimated daily average emissions would not exceed significance thresholds set by the SCAQMD. Implementation of the proposed project would not violate air quality standards.	No mitigation is required.	Less than Significant
Impact 3.1-3: The proposed OCP project is anticipated to reduce objectionable odors generated by the collection system.	No mitigation is required.	Beneficial
<u>AESTHETICS</u>		
Impact 3.2-1: The new EPSA pump station building would be visible from adjacent residential neighborhoods and PCH.	<u>EPSA</u> M-3.2-1 The contractor shall replace damaged landscaping and restore the construction area near the property boundary to a condition similar to existing conditions.	Less than Significant
Impact 3.2-2: The tanks for the OCP could be visible from adjacent land uses.	<u>OCP</u> M-3.2-2 Chemical storage tanks shall be placed out of the public view to the extent feasible and shall be placed in industrial areas or shielded from view using fencing or by other means as appropriate to match the existing character of the surrounding area. M-3.2-3 The District will coordinate with the cities prior to installing new chemical storage tanks in the service area.	Less than Significant
<u>GEOLOGY AND SOILS</u>		
Impact 3.3-1: The proposed EPSA and OCP project could expose people or structures to potential adverse	<u>EPSA</u> See Measures 6.6-1a and 6.6-1b in the PEIR	Less than Significant

TABLE S-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES

RESOURCE / IMPACT	MITIGATION MEASURE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
<p><u>GEOLOGY AND SOILS (CONT.)</u> effects due to rupture of a known earthquake fault, strong ground shaking, ground failure, including liquefaction and landslides due to seismic activity.</p>	<p><u>OCP</u> M-3.3-1 Chemical storage tanks and appurtenant piping and connections will be designed to withstand ground shaking to avoid potential spills during a seismic event.</p>	
<p>Impact 3.3-2: The proposed EPSA project could be located on expansive soil, creating risks to proposed structures.</p>	<p><u>EPSA</u> See Measure 6.6-1b from the PEIR.</p>	Less than Significant
<p><u>HAZARDS AND HAZARDOUS MATERIALS</u> Impact 3.4-1: The proposed EPSA and OCP project would include the transport, storage, and use of diesel fuel and odor reduction chemicals that could pose a spill or leak hazard.</p>	<p><u>EPSA and OCP</u> M-3.4-1 Storage and use of hazardous materials at the Treatment Plant and OCP sites throughout the service area will comply with state and federal regulations and storage and dispensing permits will be obtained as necessary.</p>	Less than Significant
	<p><u>OCP</u> M-3.4-2 The District will follow procedures to ensure proper handling and storage of hazardous materials and reduce the potential for spills at the OCP chemical storage sites. At a minimum, the procedures will include:</p> <ul style="list-style-type: none"> • obtain a permit to store hazardous materials from the local fire department; • provide notification to the County Health Care Agency of the site location; • equip chemical delivery trucks with spill cleanup equipment adequate to contain and clean up any solid or liquid spill; • equip chemical storage tanks with adequate secondary containment; • modify the District's SPCC Plan to include the OCP chemical storage sites or ensure that chemical transport contractors have adequate SPCC plans in place covering the chemical storage sites. The SPCC Plan will cover chemical transfer activities (including DOT requirements), public notification and placarding requirements, secondary containment, emergency spill response actions, routine site access control, and site management and maintenance procedures. The contractor's SPCC Plan would require approval by the District's Safety Division. 	Less than Significant

TABLE S-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES

RESOURCE / IMPACT	MITIGATION MEASURE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
<u>HAZARDS AND HAZARDOUS MATERIALS (CONT.)</u>	M-3.4-3 The District shall require that all personnel working with hazardous chemicals have health and safety training. This is a legal OSHA requirement under the Worker Right to Know regulations in the Federal Code of Regulations, Title 29. The training shall include, at minimum, the proper use of safety equipment, hazard identifications, and proper handling and disposal of spilled hazardous materials.	Less than Significant
	M-3.4-4 Access to OCP chemical storage sites will be controlled to allow access only to authorized personnel.	Less than Significant
	<u>EPSA</u> M-3.4-5 Any contaminated soils encountered on the project site during demolition, site clearance, or construction activities shall be removed from the project site and disposed of off-site in accordance with applicable hazardous waste regulations.	Less than Significant
	M-3.4-6 Structures to be demolished will be investigated for the presence of lead paint or asbestos containing material and proper precautions will be taken for safe removal and disposal of these materials prior to demolition activities.	Less than Significant
Impact 3.4-2: OCP chemical storage site construction could impair or interfere with emergency response routes.	<u>OCP</u> M-3.4-7 The District will provide notice of construction and lane closures lasting more than one day to local emergency service providers within 72 hours prior to construction activities.	Less than Significant
<u>HYDROLOGY</u>		
Impact 3.5-1: The proposed EPSA and OCP project could violate water quality standards or waste discharge requirements.	<u>EPSA</u> M-3.5-1 The District will prepare a SWPPP that will identify BMPs to minimize water quality impacts resulting from EPSA construction activities.	Less than Significant
Impact 3.5-2: The proposed EPSA and OCP project could alter existing drainage patterns resulting in erosion and flooding.	No mitigation is required.	Less than Significant
Impact 3.5-3: The proposed EPSA and OCP project would be susceptible to potential flooding impacts.	M-3.5-2 The District shall obtain an encroachment permit from the Orange County Flood Control District prior to work within the Santa Ana River levee.	Less than Significant

TABLE S-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES

RESOURCE / IMPACT	MITIGATION MEASURE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
<u>HYDROLOGY</u> (CONT.)	M-3.5-3 No construction activities would be conducted within the Santa Ana River channel.	Less than Significant
	<u>OCP</u> M-3.5-4 No chemical storage tanks shall be installed within the FEMA-designated 100-year floodplain.	Less than Significant
<u>NOISE</u>		
Impact 3.6-1: Operations of the proposed EPSA and OCP project would generate noise.	<u>EPSA</u> M-3.6-1 The EPSA and emergency generator buildings will be designed to insulate noise of the machinery such that fence-line noise standards would not be exceeded.	Less than Significant
Impact 3.6-2: The proposed EPSA project would generate noise during construction.	M-3.6-2 During construction phases, the contractor shall ensure that all construction is performed in accordance with the City of Huntington Beach and Orange County noise standards.	Less than Significant
	M-3.6-3 All equipment used during construction should be muffled and maintained in good operating condition. All internal combustion engine driven equipment should be fitted with intake and exhaust mufflers that are in good condition.	Less than Significant
Impact 3.6-3: The proposed EPSA project could expose persons to, or generate, excessive groundborne vibration or groundborne noise levels.	No mitigation is required.	Less than Significant
<u>TRAFFIC</u>		
Impact 3.7-1: Periods of peak construction of the proposed EPSA and OCP project would add to traffic along local access streets.	<u>EPSA</u> M-3.7-1 Dirt haul trucks and construction deliveries shall avoid peak traffic periods (7:00 – 9:00 AM and 4:00 – 6:00 PM) to the extent feasible.	Less than Significant
	M-3.7-2 Parking for construction workers shall be provided on District property for each phase of construction.	Less than Significant

TABLE S-1: SUMMARY OF IMPACTS AND MITIGATION MEASURES

RESOURCE / IMPACT	MITIGATION MEASURE	LEVEL OF SIGNIFICANCE AFTER MITIGATION
<u>TRAFFIC</u> (CONT.)	<u>EPSA and OCP</u> M-3.7-3 Projects that would require lane closure or excavation within a Caltrans right-of-way including the PCH must comply with Caltrans' Encroachment Permit application process.	Less than Significant
Impact 3.7-2: Operations of the EPSA and OCP project would modify impacts to traffic locally.	No mitigation is required.	Less than Significant

CHAPTER 1

INTRODUCTION

This Supplemental Environmental Impact Report (SEIR) has been prepared to evaluate the environmental effects that may result from the proposed installation of the Effluent Pump Station Annex (EPSA) and from the implementation of the Collection System Odor and Corrosion Control Program (OCP). The Orange County Sanitation District (District) is the Lead Agency pursuant to the California Environmental Quality Act (CEQA) Guidelines, Section 15163.

1.1 1999 STRATEGIC PLAN PROGRAM EIR

The 1999 Strategic Plan Program Environmental Impact Report (PEIR) assessed the potential effects of the District's 20-year Strategic Plan on the local and regional environment, 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 PEIR assessed impacts of implementing proposed capital improvement projects to the collections system, treatment plants, discharge facilities, and biosolids management options. The program-level analysis evaluated level of treatment and peak wet weather discharge alternatives to accommodate wastewater treatment demand projections within the service area to the year 2020 while providing sufficient protection to the marine environment.

The PEIR assessed construction and operational impacts from specific capital improvement projects planned within the collection system and at the treatment plants. The 1999 Strategic Plan identified the need to upgrade the Foster Pump Station (FPS), which would act as an interchangeable pump station to the ocean discharge outfall. After subsequent engineering assessment of the FPS, the District determined that an upgrade was not economically feasible and a new Effluent Pump Station Annex would be required. Similarly, the 1999 Strategic Plan identified the existing collection system odor control program, but did not assess impacts of modifying the program. This SEIR has been prepared to provide CEQA coverage for these projects.

1.2 PURPOSE OF THE SUPPLEMENTAL EIR

This SEIR augments analysis contained in the PEIR certified in October 1999. The projects assessed in this SEIR were not specifically analyzed in the PEIR. However, the projects fall within the overall objectives and policies of the 1999 Strategic Plan and do not substantially alter the conclusions of the PEIR. Implementation of the projects does not modify the District's adopted policies regarding level of treatment and peak discharge strategies as analyzed in the PEIR. The SEIR is focused to evaluate the construction and operational activities associated with the new projects only and does not address issues unrelated to the construction of the EPSA or the establishment of the OCP. The SEIR identifies measures

that the District can implement to lessen potential impacts. These measures will then be added to those already identified in the PEIR.

The mitigation measures identified in the PEIR remain applicable to the newly proposed projects. Appendix A provides the Mitigation Monitoring and Reporting Plan (MMRP) for the PEIR that remains applicable to the proposed projects. The MMRP includes measures to minimize impacts to archaeological resources, Native American resources, paleontological resources, and hazardous waste that could be encountered during excavation both on the plant site and anywhere within the collection system. None of the mitigation measures in the MMRP have been duplicated in the SEIR. Other CEQA requirements regarding growth inducing effects, cross-media environmental trade-offs, and program level alternatives analysis for the 1999 Strategic Plan are addressed in the PEIR and are considered adequately assessed, requiring no further evaluation in this SEIR.

1.3 CEQA SUPPLEMENTAL EIR PROCESS

CEQA provides that a supplement to a previously certified EIR may be prepared if a discretionary action is required for a project for which new information has become available, but for which little revision to the initial EIR is foreseen as necessary.

Specifically, CEQA Guidelines Section 15163 (a-b) state the following:

- a) The lead or responsible agency may choose to prepare a supplement to an EIR rather than a subsequent EIR if:
 - 1) Any of the conditions described in Section 15162 would require the preparation of a subsequent EIR, and
 - 2) Only minor additions or changes would be necessary to make the previous EIR adequately apply to the project in the changed situation.
- b) The supplement to the EIR need contain only the information necessary to make the previous EIR adequate for the project as revised.

A SEIR is appropriate in this case for the following reasons:

- The PEIR did not assess the EPSA nor the implementation of the proposed OCP. Therefore, it was considered appropriate to provide interested parties information concerning the now-proposed project, associated impacts, and mitigation measures.
- Substantial information in the PEIR continues to be relevant and only minor changes and/or additions are necessary to reflect the proposed project.

Pursuant to Section 15082 of the CEQA Guidelines, A Notice of Preparation (NOP) was prepared for the projects and circulated to the public on June 3, 2002. The NOP requested that interested parties respond within 30 days with comments and concerns related to the proposed projects. The NOP comment period ended on July 3, 2002. A total of 19 NOP comment letters were received. Copies of the NOP and comments received are included in Appendices B and C. This SEIR addresses each of the issues received in the comments.

The SEIR will be circulated for a period of 45 days in compliance with CEQA requirements. Following the comment period, the District will compile comments received and will prepare a Response to Comments document that together with the Draft SEIR will constitute the Final SEIR. The Final SEIR will be presented to the District Board of Directors for certification prior to approval of the projects.

1.4 ORGANIZATION OF THE SUPPLEMENTAL EIR

As noted in the NOP, the SEIR is focused to assess only those environmental resources that could potentially be significantly impacted by the proposed project in ways not already identified in the PEIR. The SEIR includes a setting and impacts analysis for the following resources:

- air quality
- aesthetics
- geology
- hazards
- hydrology
- noise
- traffic

CHAPTER 2

PROJECT DESCRIPTION

The District provides wastewater services for more than 2.2 million residents in 23 cities within a 450-square mile portion of northern and central Orange County. The District operates and maintains over 400 miles of sewer trunk lines within its service area, serving more than 87 percent of the Orange County population. Two treatment plants are situated along the Santa Ana River (SAR); Reclamation Plant No. 1 is located in Fountain Valley, and Treatment Plant No. 2 is located in Huntington Beach near the Pacific coast. Figure 2-1 shows the service area and location of the treatment plants.

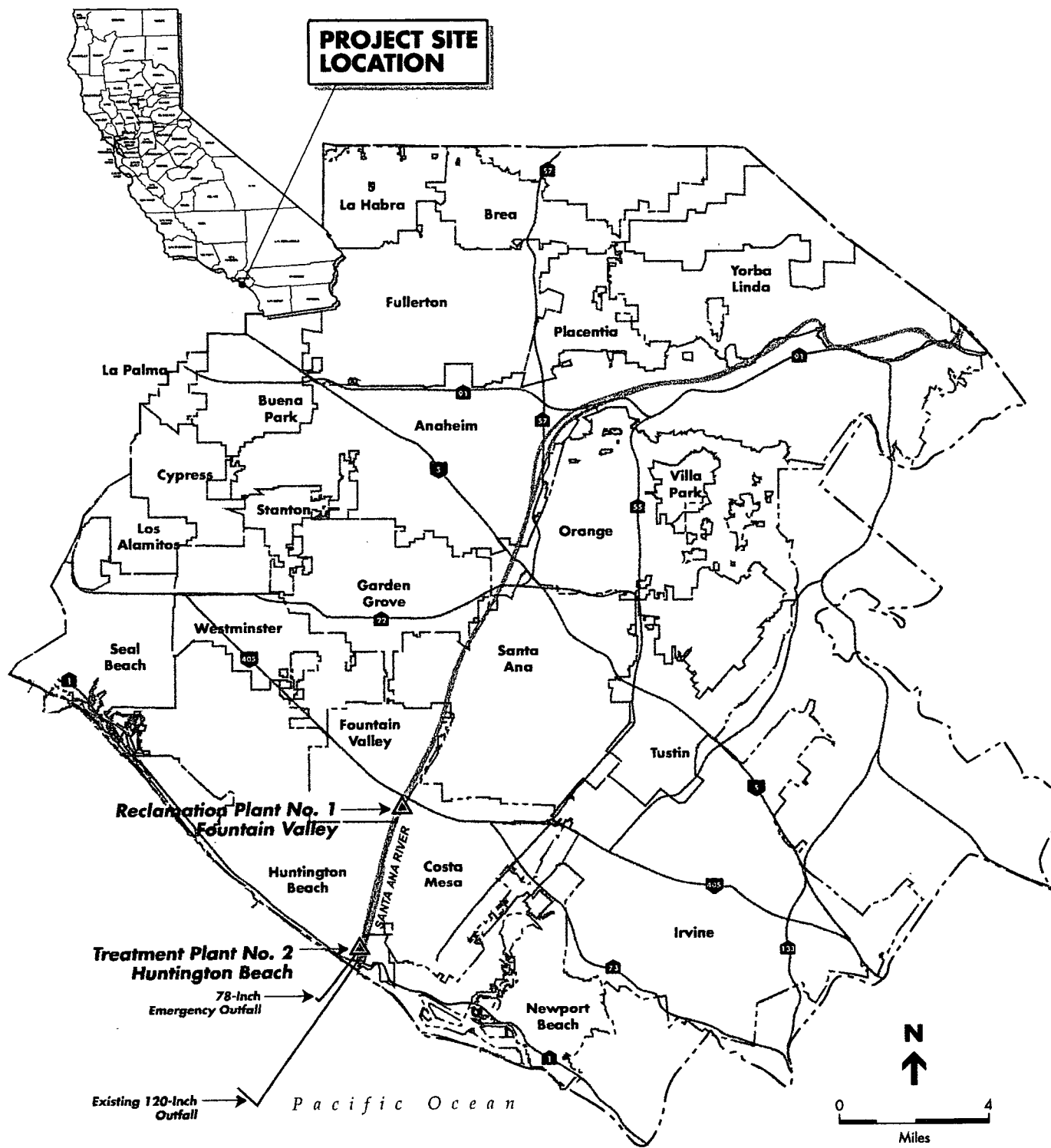
2.1 PROPOSED EFFLUENT PUMP STATION ANNEX

The Ocean Outfall Booster Station (OOBS) located at Treatment Plant No. 2 pumps treated effluent from Plant No. 1 and Plant No. 2 to the District's ocean outfall system. The OOBS consists of five pumps providing a design rated capacity of 480 mgd (four 120 mgd pumps with one 120 mgd backup pump). The FPS, located southwesterly of OOBS, is used as an overall backup system to OOBS. Historically, the FPS has been used during emergency peak flow events and when the OOBS is out of service or down for maintenance. The FPS was last used by the District in 1995. Figure 2-2 shows the locations of the OOBS and FPS.

The District's 1999 Strategic Plan identified the need to upgrade the FPS to accommodate future flows. A preliminary study conducted by the District to initiate the renovation concluded that the effectiveness of this facility was negligible during a peak flow emergency, since the FPS system is incapable of pumping concurrently at the system head of the existing OOBS facility. The FPS can only operate when the OOBS facility is not active. The study also found that the FPS is located on an active geologic fault and would require extensive seismic upgrades to meet current codes. For these reasons, the District proposes construction of a new pump station, the EPSA, to replace the FPS. The EPSA will operate interchangeably and in conjunction with OOBS to provide a design rated pumping capacity of up to 240 mgd.

The proposed EPSA will consist of three different buildings and associated piping listed below and shown on Figure 2-3:

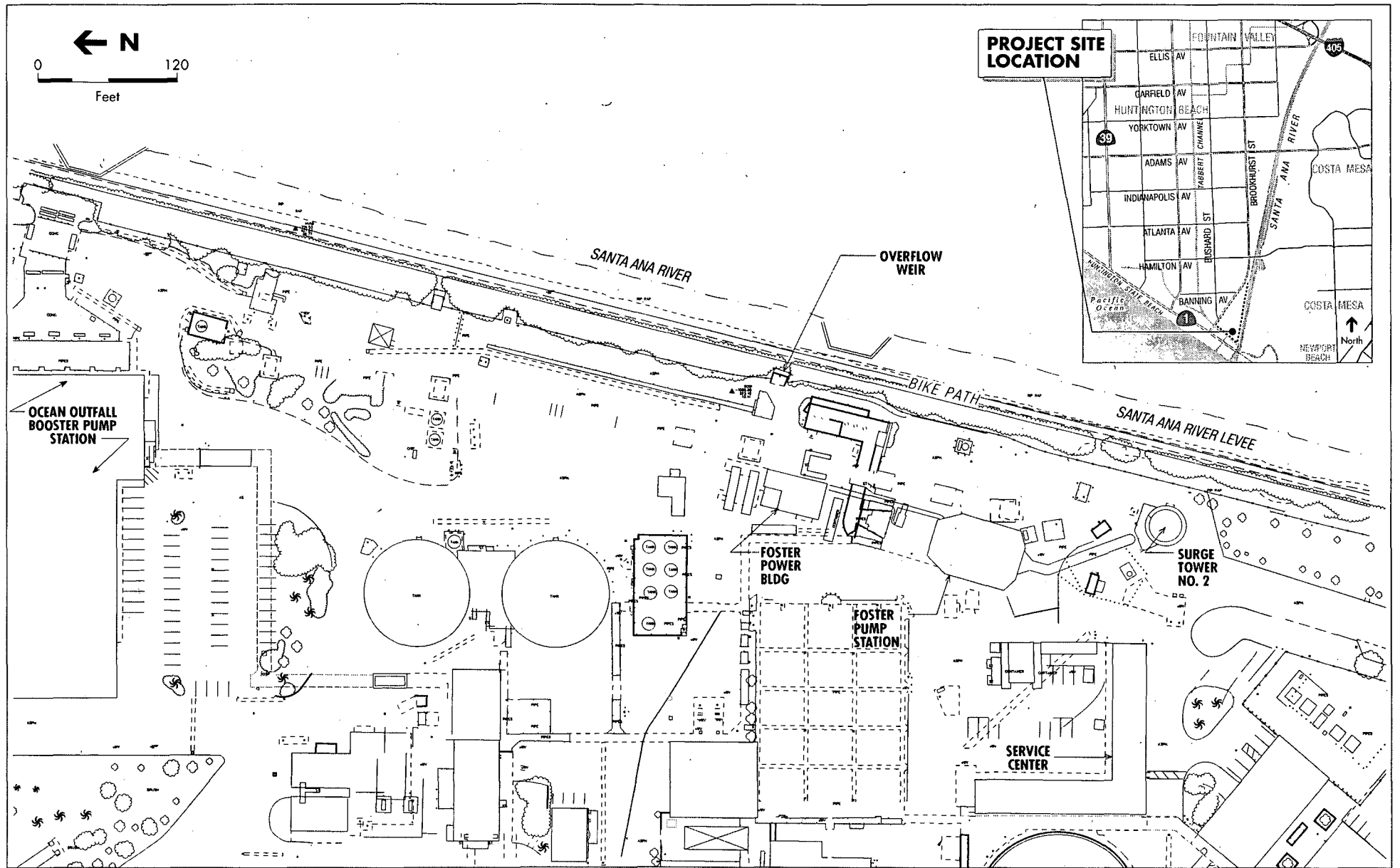
- The Pump Building will be approximately 4,600 square feet (sf) and 40 feet tall. The building will house three 2,500 horsepower dry-pit pumps and a wet-well, with a design rated capacity of 240 mgd (half of the existing OOBS capacity).



SOURCE: Environmental Science Associates

OCSD Effluent Pump Station Annex SEIR / 201168 ■

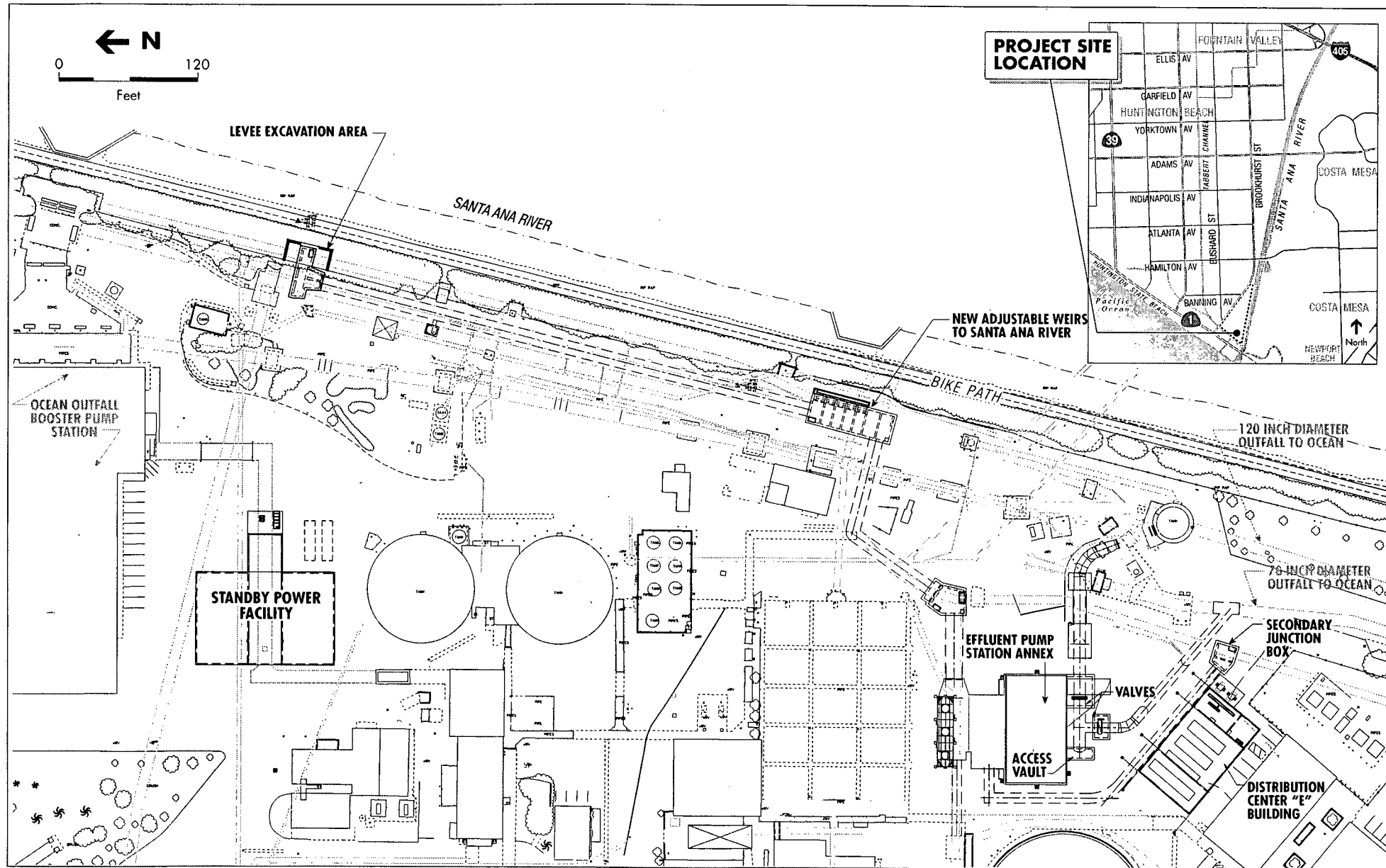
Figure 2-1
Service Area with Existing Treatment Facilities



SOURCE: Black and Veatch

OCSD Effluent Pump Station Annex SEIR / 201168 ■

Figure 2-2
Existing Site Plan at Treatment Plant No. 2



SOURCE: Black and Veatch

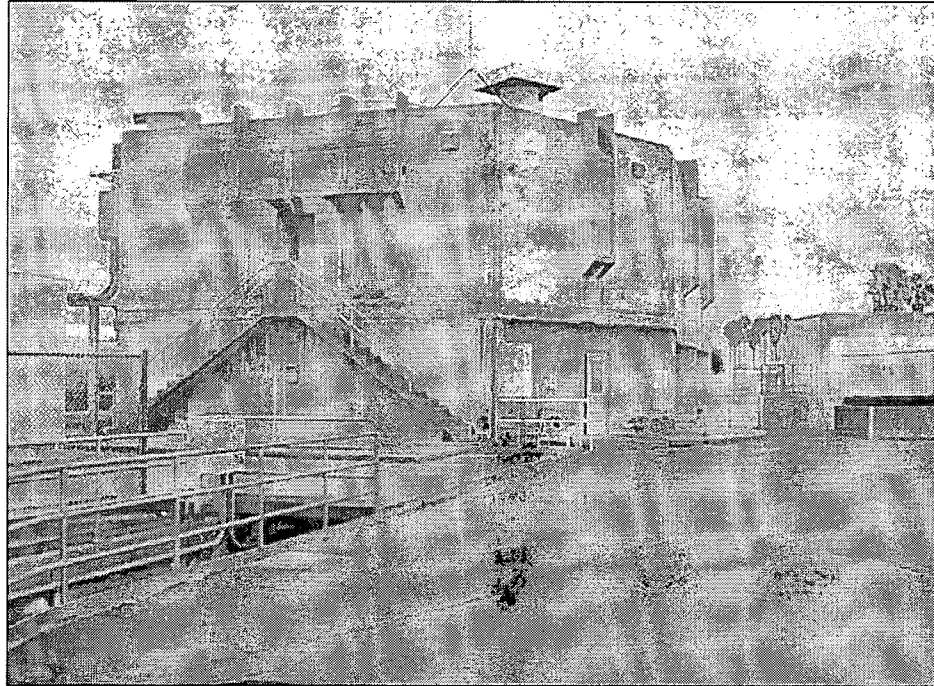
OCSD Effluent Pump Station Annex SEIR / 201168 ■

Figure 2-3
Proposed Facilities at Treatment Plant No. 2

- The Distribution Center "E" Building will be approximately 5,400 sf and less than 30 feet tall. It will house the EPSA control room and appurtenant electrical equipment.
- The Standby Power Facility will be approximately 7,800 sf, and 26 feet tall. It will house five 2-megawatt (MW) generators, switchgear, battery bank and chargers, grounding resistors, and motor controllers for backup power for the OOBS/EPSS system. This facility will be designed and built with three extra generator bays for use by future projects. The Standby Power Facility will be located near the existing OOBS building (Figure 2-3). Two double-walled, fiberglass-clad steel underground storage tanks will be installed as part of the project to store diesel fuel. The 20,000-gallon capacity tanks will be supplied with cathodic protection and equipped with a continuous inventory/leak detection system.
- Associated Piping - Some of the existing suction piping will be modified and some new piping will be installed to convey flow to EPSA from OOBS as well as from the Plant No. 2 primary and secondary clarifiers. The project will also include the installation of discharge piping to convey flow from EPSA to the District ocean outfalls. The EPSA will be designed to discharge to either the 120-inch or the 78-inch diameter ocean outfall (same as existing FPS). The installation of one junction box near the eastern edge of the plant site will require minimal excavation into the SAR levee. The levee is owned and maintained by the County of Orange. Figure 2-3 shows the location of the planned structures and piping.
- Adjustable Emergency Overflow Weirs – The existing SAR emergency overflow weirs will be demolished and replaced with five adjustable weirs. Each new weir will include a motor that will allow the weir to raise and lower in elevation. Figure 2-3 shows the locations of the weirs.

To provide space for the EPSA and Distribution Center "E" Building, the twenty-foot tall, 10,200 sf existing Service Center building will be demolished and the area excavated to a maximum depth of approximately 40 feet. Figures 2-4 and 2-5 show the facilities to be demolished. Several suction side conduits and junction boxes will also be demolished or modified. It is estimated that 40,000 to 50,000 cubic yards (cy) of soil will be excavated during construction. Following installation of cut and cover piping and other facilities, approximately 10,000 to 20,000 cy of soil will be needed for fill. Therefore, the net volume of soil to be removed is about 30,000 cy, which will require approximately 1,500 round-trip truck trips to remove from the site. In addition, approximately 1.5 acres of the existing site will be graded and designed to generally match existing grades.

The demolition of the existing weir structure may require moving an existing power pole owned by Southern California Edison (SCE). SCE will conduct the work to move pole. Excavation into the SAR levee will require shoring to protect the integrity of the levee during construction. Figure 2-3 shows the location of the weirs to be modified. The pipelines within the levee that serve as discharge conduits will not be affected. The excavation and construction area will not reach beyond the crest of the levee and will not affect the existing bike path. The bike path will remain open for the duration of the construction. The integrity of the inner levee will not be compromised, and no fill will be placed within the river channel.

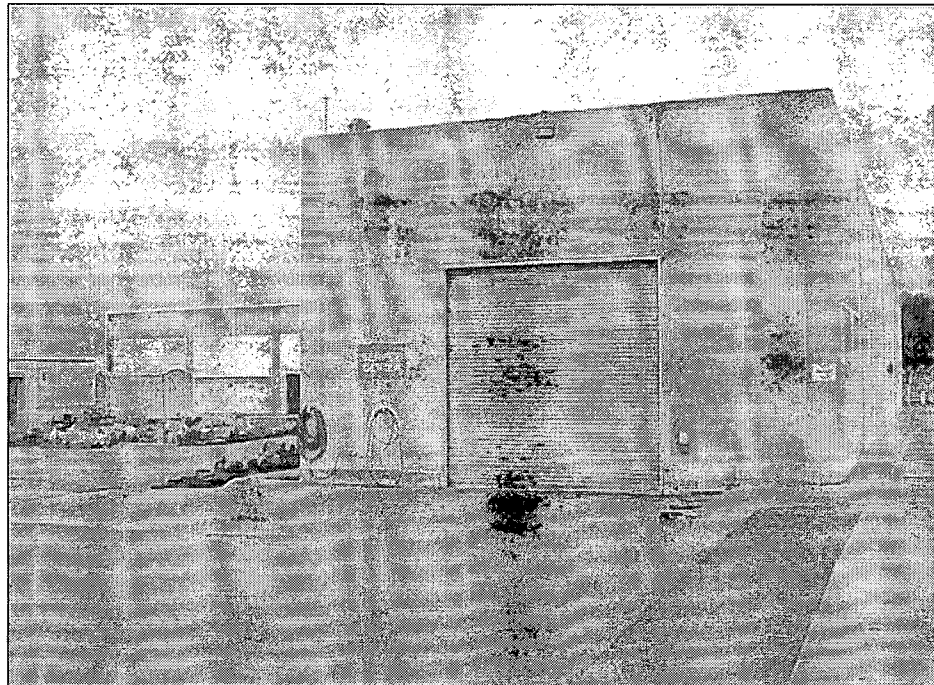


SOURCE: Environmental Science Associates

OCSD Effluent Pump Station Annex SEIR / 201168 ■

Figure 2-4

View of Foster Pump Station (FPS) Looking South



SOURCE: Environmental Science Associates

OCSD Effluent Pump Station Annex SEIR / 201168 ■

Figure 2-5

View of Northwest Corner of Service Center Looking South

The construction activity will take approximately three years to complete from December 2002 to Fall/Winter of 2005, with approximately 750 days (2 years) of actual construction work. The FPS will remain in-service until the middle of construction of the EPSA, at which time the FPS will be demolished and removed from the Plant No. 2 site. The on-site construction workforce will likely average about 35 to 45 workers per day over the course of the project. During peak construction activity, this number will range from approximately 100 to 150 workers per day.

2.2 PROPOSED COLLECTION SYSTEM ODOR AND CORROSION CONTROL PROGRAM

The District's collection system generates odorous gases, primarily hydrogen sulfide (H_2S), which can be released into the air creating a nuisance to surrounding land uses. To reduce the nuisance, the District conducts an odor and corrosion control program for the collection system that currently consists of applying slug doses of sodium hydroxide (caustic soda) in the upper reaches of the trunk sewer collection system. The application of caustic soda is applied intermittently to minimize H_2S production as the wastewater is conveyed from the collection system to the District treatment plants.

The caustic soda slug dosing treatment application is delivered by tanker truck to various locations throughout the collection system. The chemicals are discharged into the sewers through manholes in the street. The application sites vary throughout the collection system depending on need, but 15 or 20 manhole locations are commonly used. During the period of April through October, approximately one truck per day is dispatched, whereas in the winter months the demand is reduced to one or two trucks per week. Each tanker truck discharges its entire load (4,000 gallons) of caustic soda per application. Annual usage for the whole system is approximately 400,000 gallons.

H_2S is a gas that is detectable in very low concentrations. It is also noted for its toxicity and its ability to cause corrosion in the sewerage system. In an effort to provide a more effective odor and corrosion control program for the collection system, the District is proposing to implement a new OCP involving new chemicals and application methods. The proposed new program would implement odor control measures developed in an on-going pilot study conducted by the District. The pilot study was initiated in the summer of 2000 to evaluate alternative treatment technologies for controlling sulfide odor and corrosion. Several different chemicals and application methods were assessed to reduce odor production in the sewers. Chemicals considered included ferric chloride, hydrogen peroxide, magnesium hydroxide, sodium nitrate, calcium nitrate, and an innovative approach that integrates two of the chemicals (ferric chloride and hydrogen peroxide). Since these chemicals would not be corrosive to the sewer system if used continuously for long periods of time, the District is proposing permanent continuous feed systems. The pilot study recommended continuing with the caustic soda application in many locations throughout the collection system while installing several continuous feed systems in other locations.

The chemicals would be stored in above-ground storage tanks within existing utility yards under agreements with public or private property owners. The District would not use eminent domain to acquire property for the above-ground storage tanks. Although eight sites are currently being leased to store chemicals, more sites could be leased in the future.

Eight continuous feed systems have been installed and are currently in operation under the pilot study program. Figure 2-6 identifies locations of the continuous feed system locations used in the pilot study. These locations will continue to be used. As the OCP is implemented, other locations may be added anywhere within the service area depending on the need for odor control. As such, the tanks could be located near sensitive land uses such as schools, residential areas, and health care facilities. The tanks would not be located in areas where zoning restrictions forbid chemical storage.

Installation of the continuous feed systems is a relatively minor operation involving the installation of temporary polyethylene tanks with PVC pipes running from the tank to the pumps and injection points. These aboveground tanks have a storage capacity of approximately 4,000 gallons and range in size from 8 to 12 feet in diameter and 8 to 16 feet in height. The tanks would be refilled approximately 1 to 3 times per week. Installation of the continuous feed system and storage tanks takes one to three weeks and may involve excavation, trenching, and water and utility hook up. Figure 2-7 shows typical tanks used in industrial settings for the pilot study. Permanent tanks will be equipped with fencing to restrict access and will be shielded from view to blend with the character of the surrounding area.

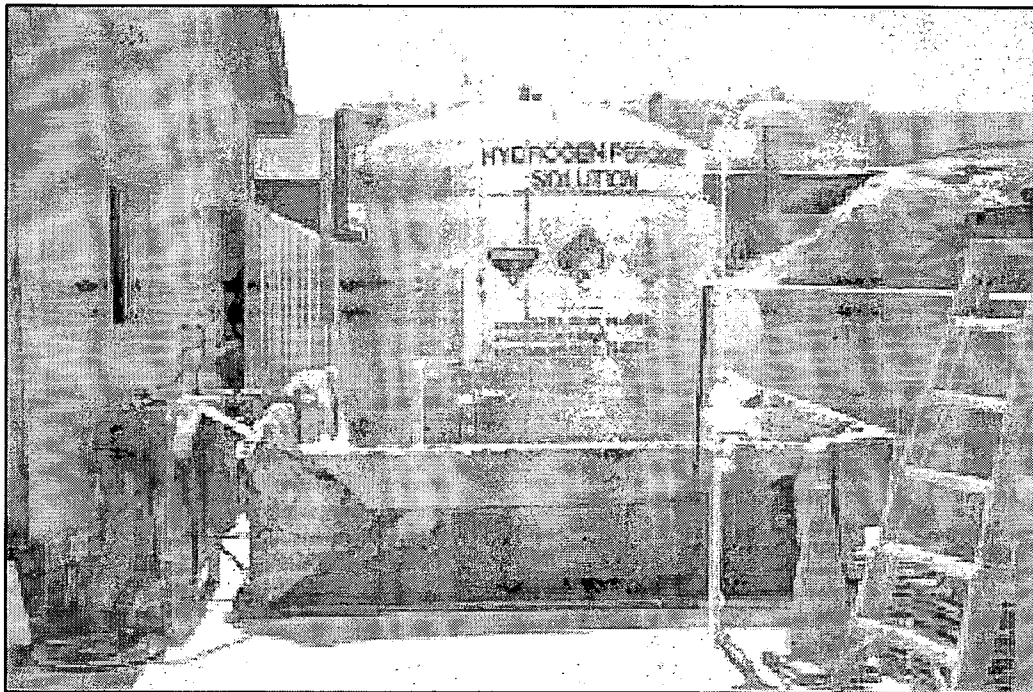
Currently, there are twenty chemical application sites under the District's existing operation; twelve sites are being treated with the caustic soda slug dosing application method, and eight are using continuous feed systems. The District is proposing to keep these sites in operation and make them permanent features of the District's odor control program. Other chemical application sites may be added in the future as odor generating areas are detected. The proposed system's overall annual chemical usage would be approximately 1,500,000 gallons of ferric chloride, 500,000 gallons of hydrogen peroxide, 440,000 gallons of magnesium hydroxide, and 550,000 gallons of nitrates. None of these chemicals are toxic or pose an air quality hazard to public health if accidentally spilled. Ferric chloride is used routinely at the treatment plants. Hydrogen peroxide is an oxidizer that naturally converts to water. Magnesium hydroxide is essentially "Milk of Magnesia".

2.3 PROJECT ALTERNATIVES

The No Project Alternative is the only other alternative considered in this SEIR for both the EPSA and the OCP, since both projects have been developed as alternatives to the original projects identified in the 1999 Strategic Plan. As more information has become available regarding the need for both projects, the proposed project descriptions as described in this SEIR were developed to assist in further minimizing potential impacts.

The No Project Alternative would involve implementation of the FPS upgrade and caustic soda application for odor control as originally proposed in the 1999 Strategic Plan and assessed in the PEIR. Impacts associated with these alternatives were identified in the PEIR. As such, no further impact assessment of the No Project Alternative is provided in this SEIR.

The PEIR evaluated programmatic alternatives to the Strategic Plan regarding discharge alternatives and peak flow management strategies. The implementation of the projects proposed in this SEIR would not alter the programmatic alternatives assessed in the PEIR.



SOURCE: Environmental Science Associates

OCSD Effluent Pump Station Annex SEIR / 201168 ■

Figure 2-7
View of Two Chemical Storage Tanks Used in Pilot Study

2.4 REQUIRED APPROVALS

The following agency approvals would be required to implement the proposed projects.

Effluent Pump Station Annex

US Army Corps of Engineers	Section 404 Permit
California Department of Fish and Game	Streambed Alteration Agreement
Regional Water Quality Control Board	Storm Water Pollution Prevention Plan
South Coast Air Quality Management District	Emergency Generator Permit
Orange County Health Care Agency	Underground Storage Tank Permit to Operate
Orange County Flood Control District	Encroachment Permit
City of Huntington Beach	Coastal Development Permit

Odor and Corrosion Control Program

Local Cities	Encroachment Permits
Local Fire Departments	Hazardous Materials Storage Permit
Orange County Fire Authority	Hazardous Materials Storage Permit

CHAPTER 3

ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION

3.1 AIR QUALITY

The air quality impact analysis considers construction and operational impacts associated with the proposed project. Construction and operational emissions are estimated following standards provided in the South Coast Air Quality Management District (SCAQMD) CEQA Air Quality Handbook.

3.1.1 SETTING

The project site is located within the jurisdictional boundaries of the SCAQMD in the South Coast Air Basin (SCAB). The SCAB encompasses 6,745 square miles and includes some portions of San Bernardino, Riverside, Los Angeles, and Orange Counties. The SCAQMD stretches from the Pacific Ocean in the west, to the Angeles National Forest to the north, to Orange County to the south, and to Riverside and San Bernardino Counties to the east.

Regional Climate

The SCAB climate is primarily influenced by a semi-permanent high-pressure system that lies off the coast. The resulting weather is mild, tempered by a daytime sea breeze and a nighttime land breeze. This mild climate is infrequently interrupted by periods of extremely hot weather, winter storms, and Santa Ana winds (strong, seasonal westward wind). Rainfall in the SCAB is primarily restricted to November through April, with rainfall totals being highly variable from year to year.

The Orange County coast experiences an average wind speed of 7.7 miles per hour (mph). Inland areas record slightly lower wind speeds. Because of the low average wind speed, air contaminants in the SCAB don't readily disperse. On spring and summer days most pollution is moved out of the SCAB through mountain passes or is lifted by the warm vertical currents produced by the heating of the mountain slopes. From late summer through the winter months, lower wind speeds and the earlier appearance of offshore breezes combine to trap pollution in the SCAB.

The SCAB is hampered by the presence of a persistent temperature inversion layer, which limits vertical dispersion of air pollutants. In a normal atmosphere, temperature decreases with altitude. In an inversion condition temperature increases with altitude. As the pollution rises it reaches an area where the ambient temperature exceeds the temperature of the pollution. This causes the pollution to sink back to the surface. This phenomena acts to trap air pollution near the surface.

In summer, the longer daylight hours and bright sunshine combine to cause a reaction between hydrocarbons and oxides of nitrogen to form ozone. In winter, the greatest pollution problems are carbon monoxide and nitrogen oxides, which are trapped and concentrated by the inversion layer.

APPLICABLE REGULATIONS

Federal Standards

The Federal Clean Air Act (CAA) of 1970 is the comprehensive law that regulates air emissions from the area, stationary, and mobile sources. The law authorized the U.S. Environmental Protection Agency (EPA) to establish National Ambient Air Quality Standards (NAAQS) to protect public health and the environment. The goal of the Act was to set and achieve NAAQS in every state by 1975. The setting of maximum pollutant standards was coupled with directing the states to develop state implementation plans (SIPs) applicable to appropriate industrial sources in the state.

The Act was amended in 1977 primarily to set new goal dates for achieving attainment of NAAQS since many areas of the country had failed to meet the deadlines. The 1990 amendments to the CAA in large part were intended to meet unaddressed or insufficiently addressed problems such as acid rain, ground level ozone, stratospheric ozone depletion, and air toxics.

NAAQS have been established for carbon monoxide (CO), ozone (O₃), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), particulate matter (PM₁₀), and lead (Pb). These contaminants are referred to as criteria pollutants. Table 3.1-1 summarizes state and federal air quality standards.

State Standards

In 1967, California's legislature passed the Mulford-Carrel Act, which established the California Air Resources Board (CARB). The CARB set state air quality standards for criteria pollutants. The state standards for these pollutants are more stringent than the corresponding federal standards (see Table 3.1-1). As in the Federal CAA, the California Clean Air Act classifies areas as either being in "attainment" or "non-attainment" for these criteria pollutants. Areas designated as non-attainment are then given a set time frame to achieve attainment.

Local Regulations

The project site is located within the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAQMD adopted its first Air Quality Management Plan (AQMP) in 1979, which intended to meet federal air quality standards by December 31, 1987. Using better data and modeling tools, the 1982 revision of the AQMP concluded that the basin could not demonstrate attainment by the 1987 deadline required by the Federal CAA. Therefore, the 1982 Revision of the AQMP proposed a long-range strategy that could result in attainment in 20 years. In 1987, a federal court

TABLE 3.1-1: AMBIENT AIR QUALITY STANDARDS FOR CRITERIA POLLUTANTS

Pollutant	Averaging Time	California Standard	Federal Primary Standard	Pollutant Health and Atmospheric Effects	Major Pollutant Sources
Ozone (O ₃)	1 hour	0.09 ppm	0.12 ppm	High concentrations can directly affect lungs, causing irritation. Long-term exposure may cause damage to lung tissue.	Motor vehicles.
	8 hours	---	0.08 ppm		
Carbon Monoxide (CO)	1 hour	20 ppm	35 ppm	Classified as a chemical asphyxiant, CO interferes with the transfer of fresh oxygen to the blood and deprives sensitive tissues of oxygen.	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9 ppm	9.0 ppm		
Nitrogen Dioxide (NO ₂)	Annual Average	---	0.05 ppm	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown.	Motor vehicles, petroleum-refining operations, industrial sources, aircraft, ships, and railroads.
	1 hour	0.25 ppm	---		
	24 hours	0.04 ppm	0.14 ppm		
Suspended Particulate Matter (PM ₁₀ PM _{2.5})	Annual Geometric Mean	30 ug/m ³ (PM ₁₀)	65 ug/m ³ (PM _{2.5})	May irritate eyes and respiratory tract, decreases in lung capacity, cancer and increased mortality. Produces haze and limits visibility.	Dust and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g. wind-raised dust and ocean sprays).
	Annual Arithmetic Mean	---	50 ug/m ³ (PM ₁₀)		
	24 hours	50 ug/m ³ (PM ₁₀)	150 ug/m ³ (PM ₁₀) 15 ug/m ³ (PM _{2.5})		
Lead (Pb)	Monthly	1.5 ug/m ³	---	Disturbs gastrointestinal system, and causes anemia, kidney disease, and neuromuscular and neurologic dysfunction (in severe cases).	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Quarterly	---	1.5 ug/m ³		

SOURCE: California Air Resources Board, *Ambient Air Quality Standards*, January 25, 1999.

ordered the U.S. EPA to disapprove the 1982 AQMP revision because it did not demonstrate attainment of the federal standards by the 1987 deadline.¹

¹ South Coast Air Quality Management District and Southern California Association of Governments, *Final 1989 Air Quality Management Plan*, March 1989.

The 1989 AQMP was adopted locally by the SCAQMD in March 1989, and was approved by the CARB in August 1989. This plan was forwarded to the EPA for review. However, prior to its planned review, the California legislature passed the California Clean Air Act, which caused the SCAQMD and Southern California Association of Governments (SCAG) to immediately begin updating the 1989 plan and the EPA to delay the review process. Since March 1989, the 1989 AQMP has become the framework for all future air pollution control efforts in the SCAB.² The AQMP is updated every three years.

Air Quality

Ozone (O₃). The SCAB is in non-attainment for both the federal and state ozone standards. Ozone is a secondary pollutant produced through a series of photochemical reactions involving reactive organic compounds (ROC) and nitrogen oxides (NO_x). Ozone creation requires ROC and NO_x to be available for approximately three hours in a stable atmosphere with strong sunlight. Ozone is a regional air pollutant because it is not emitted directly by sources, but is formed downwind of sources generating ROC and NO_x emissions.

The federal and state Clean Air Acts require that management plans be developed for areas designated as non-attainment to establish strategies to achieve compliance. Because California's regulations are more stringent than the federal standard, two ozone plans apply to the project vicinity.

Ozone effects include eye and respiratory irritation, reduction of resistance to lung infection and possible aggravation of pulmonary conditions in persons with lung disease. Ozone is also damaging to vegetation and untreated rubber. The state one-hour ozone standard in the SCAQMD was exceeded 5 days in 1998 and at least once per year from 1996 through 2000 (see Table 3.1-2).

Carbon Monoxide (CO). The SCAB is in non-attainment for both federal and state carbon monoxide standards. Carbon monoxide is a non-reactive pollutant that is a product of incomplete combustion. Ambient carbon monoxide concentrations usually follow the spatial and temporal distributions of vehicular traffic and are also influenced by meteorological factors such as wind speed and atmospheric mixing. Under inversion conditions, carbon monoxide concentrations may be distributed more uniformly over an area out to some distance from vehicular sources.

Nitrogen Oxides (NO_x). The SCAB is a maintenance area for the federal and state NO_x standards, which means it had once been in non-attainment. There are two oxides of nitrogen which are important in air pollution: nitric oxide (NO) and nitrogen dioxide (NO₂). Nitric oxide and NO₂ are both emitted from motor vehicle engines, power plants, refineries, industrial boilers, aircraft and railroads. NO₂ is primarily formed when NO reacts with atmospheric oxygen. NO₂ gives the air the "whiskey brown" color associated with smog. Since NO_x emissions contribute to ozone generation, NO_x emissions are regulated through the O₃ Attainment Plans.

Particulate Matter (PM₁₀). The SCAB is in non-attainment for the federal and state PM₁₀ standard. PM₁₀ is particulate matter that is smaller than 10 microns in diameter. Particulate matter less than 10 microns in diameter can be inhaled deep into the lungs and cause adverse health effects. PM₁₀ in the atmosphere results from many kinds of dust and fume producing industrial and agricultural operations, fuel

² Ibid.

combustion and atmospheric photochemical reactions. Some sources of particulate matter such as demolition and construction activities are more local in nature while others such as vehicular traffic have a more regional effect.

TABLE 3.1-2: PROJECT AREA AIR POLLUTANT SUMMARY, 1996-2000^a

Pollutant	Standard ^b	1996	1997	1998	1999	2000
<u>Ozone (O₃)</u>						
Highest 1-hr average, ppm ^c	0.09	<u>0.10</u>	<u>0.10</u>	<u>0.12</u>	<u>0.10</u>	<u>0.10</u>
Number of standard excesses ^d		1	1	5	NA	1
<u>Carbon Monoxide (CO)</u>						
Highest 1-hr average, ppm ^c	20.0	9.0	7.0	9.0	8.0	8.0
Number of standard excesses ^d		0	0	0	0	0
Highest 8-hr average, ppm ^c	9.1	7.3	5.8	7.0	6.4	6.3
Number of standard excesses ^d		0	0	0	0	0
<u>Nitrogen Dioxide (NO₂)</u>						
Highest 1-hr average, ppm ^c	0.25	0.14	0.12	0.12	0.12	0.11
Number of standard excesses ^d		0	0	0	0	0
<u>Particulate Matter-10 Micron (PM₁₀)^e</u>						
Highest 24-hr average, µg/m ^{3c}	50	<u>101</u>	<u>91</u>	<u>81</u>	<u>122</u>	<u>126</u>
Number of standard excesses ^{d,e}		6	11	12	15	8
Annual Geometric Mean, µg/m ^{3c}	30	<u>31.8</u>	<u>36.3</u>	<u>33.0</u>	<u>43.4</u>	<u>35.7</u>
Violation		Yes	Yes	Yes	Yes	Yes

NOTE: Underlined values indicate an excess of applicable standard.
* Central Orange County Air Monitoring Station Location.

- Data are from the SCAQMD monitoring station located at the intersection of Mesa Verde Dr. and Adams Ave in the City of Costa Mesa. 1999 air quality data is incomplete.
 - State standard, not to be exceeded.
 - ppm - parts per million; µg/m³ - micrograms per cubic meter.
 - Refers to the number of days in a year during which at least one excess was recorded.
 - Measured every six days.
- NA = Not Available.

SOURCE: South Coast Air Quality Management District, *Air Quality Data Summaries*, 1996-2000.

Particulate matter pollution is emitted in two ways, fugitive dust, and exhaust emissions. Fugitive dust is produced from activities that disturb soil such as grading, digging, or just driving on an unpaved road. Particulate matter from exhaust gases is produced from incomplete combustion resulting in soot formation. Both forms of particulate matter are accounted for in calculations performed in this analysis.

SCAQMD Rule 403

In December of 1998, the SCAQMD revised its existing Rule 403 regarding fugitive dust emissions. The purpose of this rule is to reduce the amount of particulate matter entrained in the ambient air as a result of

anthropogenic (man-made) fugitive dust sources by requiring actions to prevent, reduce or mitigate fugitive dust emissions.³ Under this rule, a person shall not cause or allow the emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area such that the presence of such dust remains visible in the atmosphere beyond the property line of the emission source. Second, a person conducting active operations within the boundaries of the SCAB shall utilize one or more of the applicable best available control measures to minimize fugitive dust emissions from each fugitive dust source type which is part of the active operation. Third, a person shall not cause or allow PM₁₀ levels to exceed 50 micrograms per cubic meter when determined, by simultaneous sampling, as the difference between upwind and downwind samples collected on high-volume particulate matter samplers or other U.S. EPA-approved equivalent method for PM₁₀ monitoring. Finally, any person in the SCAB shall prevent or remove within one hour the track-out of sand, gravel, soil, aggregate material less than two inches in length or diameter, and other organic or inorganic particulate matter onto public paved roadways as a result of their operations; or prevent the track-out of such material onto public paved roadways as a result of their operations and remove such material at anytime track-out extends for a cumulative distance of greater than 50 feet on to any paved public road during active operations and remove all visible roadway dust tracked-out upon public paved roadways as a result of active operations at the conclusion of each work day when active operations cease.⁴

Toxic Air Contaminants (TAC). Toxic air contaminants (TAC) are pollutants known or suspected to cause cancer or other serious health effects such as birth defects. TAC may also have significant adverse environmental and ecological effects. Examples of TAC include benzene, diesel particulate, hydrogen sulfide, methylchloride, 1,1,1-trichloroethane, toluene, and metals such as cadmium, mercury, chromium, and lead.

Health effects from TAC vary depending on the specific toxic pollutant but may include cancer, immune system damage, as well as neurological, reproductive, developmental, and respiratory problems. According to the EPA, approximately 50% of the TAC we are exposed to comes from mobile source emissions.

Existing Air Pollution Sources

Air quality in the vicinity of the project site is affected by emissions from motor vehicle traffic on adjacent roadways. Generally wind blows polluted air east and so the project area has some of the best air quality in the SCAB.

Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. SCAQMD includes in its list of sensitive receptors residences, schools, playgrounds, childcare centers, convalescent homes, retirement homes, rehabilitation centers, and athletic facilities. Sensitive population groups include children, the elderly, and the acutely and chronically ill, especially those with cardio-respiratory diseases. Residential areas are also considered to be sensitive to air pollution because residents tend to be home for extended periods of time, resulting in sustained

³ South Coast Air Quality Management District. *Rule 403*. December 1998.

⁴ Ibid.

exposure to any pollutant present. Sensitive receptors in the vicinity of the project site include single-family residences located within 1,000 feet northwest and southeast of the project site.

3.1.2 IMPACTS AND MITIGATION

CRITERIA FOR DETERMINING SIGNIFICANCE

The CEQA Guidelines checklist provides the following thresholds for determining significance with respect to air quality. Air quality impacts would be considered significant if the project would:

- conflict with or obstruct implementation of the applicable air quality plan;
- violate any air quality standards or contribute substantially to an existing or projected air quality violation;
- 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);
- expose sensitive receptors to substantial pollutant concentration; or,
- create objectionable odors affecting a substantial number of people.

In addition, the SCAQMD has adopted air quality thresholds of significance for construction activities and project operations that are shown in Table 3.1-3.

TABLE 3.1-3: SCAQMD AIR POLLUTION SIGNIFICANCE CRITERIA

<u>Air Pollutant</u>	<u>Project Construction</u>	<u>Project Operation</u>
Carbon Monoxide (CO)	550 lbs per day	550 lbs per day
Reactive Organic Compounds (ROC)	75 lbs per day	55 lbs per day
Nitrogen Oxides (NO _x)	100 lbs per day	55 lbs per day
Particulates (PM ₁₀)	150 lbs per day	150 lbs per day

SOURCE: South Coast Air Quality Management District.

Impact 3.1-1: Construction of the EPSA would emit criteria pollutants. Estimated daily average construction emissions would not exceed significance thresholds set by the SCAQMD.

Construction of the proposed project would generate air emissions. Construction-related emissions would primarily be: 1) dust generated from excavation, grading and soil removal; 2) exhaust emissions from powered construction equipment; and 3) motor vehicle emissions associated with construction activities.

Fugitive dust emissions would vary depending on the level and type of activity, silt content of soil, and prevailing weather. Some fugitive dust would be larger-diameter particles that would settle out of the atmosphere close to the site of the actual activity. Smaller-diameter dust would remain suspended for longer periods and would include PM_{10} . Fugitive dust emissions were calculated utilizing emissions factors found in Table 11.9-1 of U.S. EPA's AP-42 compilation of emissions factors and SCAQMD CEQA Air Quality Handbook.

In addition to fugitive dust, project construction would also result in emissions of other criteria air pollutants, including CO, ROC and NO_x , due to combustion of fuel for heavy equipment operation, truck trips, and construction worker trips.

Construction-phase air quality impacts were analyzed quantitatively utilizing construction emissions estimation worksheets (Appendix D). The worksheets follow methodology outlined in the SCAQMD CEQA Air Quality Handbook and utilize emissions factors found in the EMFAC-7G air emissions models and CARB Emission Inventory Publication number MO99-32.3.

The air emissions calculations assume that the total construction emissions would last 750 days and would vary day to day depending on the activities being performed. For this analysis it is assumed that demolition would last 50 days, excavation and grading would last 75 days, and construction would last 625 days.

Demolition

Demolition activities would remove the 10,000 square foot service center building and several side conduits and junction boxes. In addition, the SAR levee weirs would be demolished. The FPS will remain until the middle of construction of the EPSA, at which time the FPS will be demolished and removed from the Plant No. 2 site. Demolition is estimated to last 50 days using one backhoe and two bulldozers. It is estimated that 20 employees would travel 30 miles and five haul trucks would travel 18 miles each way to and from the project site each day. It is further assumed that water and dump trucks would travel five miles a day at the project site each day. The PM_{10} emissions factor for demolition of 0.00042 pounds per cubic foot found in the SCAQMD CEQA Air Quality Handbook was utilized to calculate PM_{10} emissions from demolition. As shown in Table 3.1-4, emissions associated with demolition would not exceed SCAQMD significance thresholds.

Excavation, Grading & Soil Removal

During excavation, a total of approximately 50,000 cubic yards of soil would be excavated at various locations around the project site. Approximately 20,000 cubic yards of soil would be retained and used as backfill at the site. A net volume of 30,000 cubic yards of soil would be removed from the project site and hauled to the closest landfill located approximately 18 miles away.

During excavation, grading, and soil removal, it is estimated that two backhoes, two loaders, two dozers, and one grader would be used at various times at the project site. In addition, it is assumed that 35 employees would travel 30 miles and 27 haul trucks (30,000 cubic yards @ 15 cubic yards per truck over 75 days) would travel 18 miles each way to and from the project site per day. It is further assumed that a water truck would travel five miles per day and dump trucks would travel 20 miles per day at the project site.

As shown in Table 3.1-4, emissions associated with excavation, grading, and soil removal would not exceed SCAQMD significance thresholds. Construction emissions would be considered a significant unavoidable impact to air quality.

Construction

The project would construct a 4,600 square foot pump building, a 5,400 square foot distribution center, a 7,800 square foot standby power facility, and replacement of the SAR levee weirs with adjustable weir gates. Construction activities would be divided into three phases: demolition; excavation, grading, and soil removal; and building construction. Demolition would require approximately 50 days and utilize one backhoe, one crane, and two dozers. Excavation, grading, and soil removal would require approximately 75 days, and require two backhoes, two loaders, two dozers, and one grader. Approximately 30,000 cubic yards of soil would be removed from the site during the 75 day soil removal portion of the construction schedule. Soil removal would require 1,500 truck trips over the 75 day period (assuming 20 cubic yards per truck).

Construction is estimated to last 625 days and would utilize one bobcat, one forklift, one compressor, one welding machine, one crane, one backhoe, one dozer, one mortar mixer and one paver at various times during construction (air emissions worksheets with detailed equipment lists are included in Appendix D). It is further assumed that a maximum of 150 employees and 10 delivery or concrete trucks would travel 30 miles each way to and from the project site each day. In addition, it is assumed that a water truck and dump truck would travel five miles per day at the project site.

As shown in Table 3.1-4, emissions associated with construction would not exceed SCAQMD significance thresholds, although NO_x emissions would be very close to the 100 lb/day limit. Mitigation measures identified in the PEIR would be applicable to the project. The additional mitigation measure provided below would assist in minimizing PM₁₀ emissions during soil hauling activities.

**TABLE 3.1-4: ORANGE COUNTY SANITATION DISTRICT PUMP STATION
CONSTRUCTION EMISSIONS**

Air Pollutant	Demolition	Excavation, Grading & Soil Removal	Construction	Significance Criteria
Carbon Monoxide (CO)	24 lbs/day	48 lbs/day	123 lbs/day	550 lbs/day
Reactive Organic Compounds (ROC)	5 lbs/day	8 lbs/day	21 lbs/day	75 lbs/day
Nitrogen Oxides (NO _x)	60 lbs/day	94 lbs/day	47 lbs/day	100 lbs/day
Particulates (PM ₁₀)	33 lbs/day	37 lbs/day	32 lbs/day	150 lbs/day

SOURCE: South Coast Air Quality Management District.

Mitigation Measures

M-3.1-1 Soil removal contractors shall cover all trucks hauling soil, sand, and other loose materials, or maintain at least two feet of freeboard.

Significance after Mitigation

Less than significant.

Impact 3.1-2: Operation of the proposed EPSA and OCP project would emit criteria pollutants. Estimated daily average emissions would not exceed significance thresholds set by the SCAQMD. Implementation of the proposed project would not violate air quality standards.

Operational emissions would include stationary and mobile source emissions. Stationary emissions would be generated by the occasional use of back-up diesel generators. No permits from SCAQMD would be required if the back-up generators are used less than 200 hours per year.⁵ Emergency generator emissions would not be considered a significant impact of the project.

Mobile sources of emissions include emissions associated with delivery truck operations to the continuous feed, odor and corrosion control devices. At two to three trucks per week, these emissions would not be significant. No additional mobile source emissions would be anticipated for replacing the FPS with the EPSA. The project is not expected to result in a significant operational impact to air quality. No mitigation would be required.

Mitigation Measures

No mitigation is required.

⁵ SCAQMD Rule 1101.1 (g)

Significance after Mitigation

Less than significant.

Impact 3.1-3: The proposed OCP project is anticipated to reduce objectionable odors generated by the collection system.

The Orange County Sanitation District's wastewater collection system generates odorous gases, primarily hydrogen sulfide that can be released into the atmosphere creating an odor nuisance to nearby sensitive receptors. A pilot study initiated in the summer of 2000 recommended injecting a mixture of hydrogen peroxide and ferric chloride or a mixture of magnesium hydroxide and nitrates into trunk sewers to control odor and minimize corrosion. The proposed project would install eight injection systems at recommended locations throughout Orange County. This would be considered a beneficial impact of the project. No mitigation measures would be required.

Mitigation Measures

No mitigation is required.

Significance after Mitigation

Beneficial.

3.2 AESTHETICS

This section identifies the aesthetic resources in Orange County and assesses potential impacts of the proposed project.

3.2.1 SETTING

Orange County is characterized by a variety of landforms including coastal shorelines, flatlands, hills, mountains, and canyons. Broad sandy beaches, coastal bluffs, uplifted marine terraces, and marshes characterize the Pacific shoreline. Major ridgelines occur in the Santa Ana Mountains, Lomas de Santiago and the San Joaquin Hills.

More than half of Orange County is urbanized. Continued urban development is anticipated to further diminish the natural environment. Much of the existing agricultural land and open space are anticipated to be replaced by urban development in the future.

City of Huntington Beach

The City of Huntington Beach is located on the coast with roughly 10 miles of shoreline along the Pacific Ocean. A sequence of mesas and small bays exist along the coast. Inland the city is relatively flat. Views of the Pacific Ocean and coastlines are available from the bluffs of the Costa Mesa to the northeast, Bolsa Chica mesa to the north, and from portions of Pacific Coast Highway (PCH). Visual elements considered to contribute positively to the City include the Pacific Ocean, Bolsa Chica Wetlands, Huntington Harbor and mature landscaping.¹

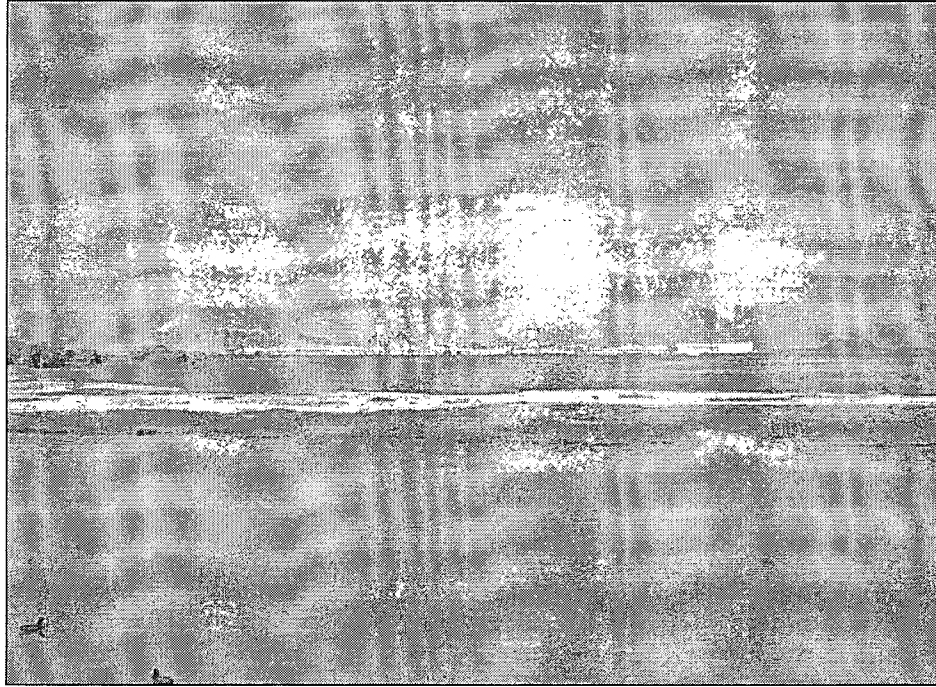
Treatment Plant No. 2 is located in southern Huntington Beach adjacent to the SAR, roughly 1,500 feet from the Pacific Ocean (Figure 2-1). The plant is located on approximately 110-acres bounded by Brookhurst Street on the northwest, PCH on the southwest, and the SAR on the east.

Existing Views

Treatment Plant No. 2 is not located within a scenic vista or view designated by the County or Caltrans. However, the site is visible to several single family residences and the PCH. The residential properties with views of the treatment plant are located in Huntington Beach to the northwest, Costa Mesa to the northeast, and Newport Beach to the southeast. Figures 3.2-1 and 3.2-2 provide views of the project site from various off-site locations.

Several homes are situated on the bluffs of Costa Mesa overlooking the wetlands and the SAR. The houses located on the mesa have views of the ocean, the wetlands, oil drilling operations,

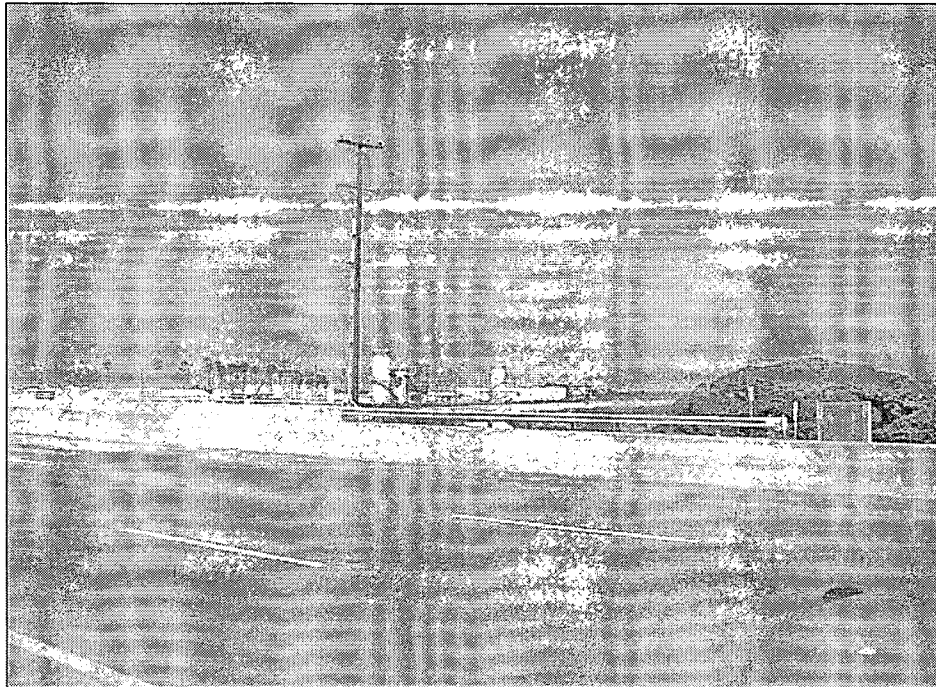
¹ Ibid.



SOURCE: Black & Veatch Corporation

OCSD Effluent Pump Station Annex SEIR / 201168 ■

Figure 3.2-1
View of Plant from Across Santa Ana River



SOURCE: Black & Veatch Corporation

OCSD Effluent Pump Station Annex SEIR / 201168 ■

Figure 3.2-2
View of Plant from PCH East of Santa Ana River

crude oil storage tanks, and the existing facilities at Treatment Plant No.2. These houses are approximately one mile from the treatment plant site, so views are long-range.

The plant can also be seen from several homes adjacent to the wetlands in the City of Newport Beach, approximately 1,800 feet east. The views from the east are partially impaired by the SAR levee. An oil extraction pump is located between the Newport Beach residences and the SAR.

Single family residences located directly north and west of the site along Brookhurst Street in the City of Huntington Beach are separated from the treatment plant by a sound wall and mature landscaping. However, some of the homes have partial views of the plant and its facilities.

Treatment Plant No. 2 is also visible looking north from PCH. PCH is located south of the site across the Talbert Marsh. The District recently approved landscaping improvements along the southwestern border of the site to shield views of the plant site from PCH.²

3.2.2 IMPACTS AND MITIGATION MEASURES

SIGNIFICANCE CRITERIA

A project would be considered to have a significant impact if it would have a substantial, demonstrable negative aesthetic effect. A negative effect could occur if the project caused substantial alterations to or contrasted with existing visual resources with adverse viewer response. An impact would also be considered significant if the project conflicted with an adopted policy regarding aesthetics and visual resources. The significance of impacts related to the visual quality of the environment is analyzed from two perspectives: the temporary impacts of construction activities and the long-term impacts associated with operation.

Impact 3.2-1: The new EPSA pump station building would be visible from adjacent residential neighborhoods and PCH.

The District proposes to demolish and remove the FPS and construct new facilities on the eastern side of the treatment plant adjacent to the Santa Ana River. Demolition and construction activities would last for 750 days. The proposed EPSA would require the construction of a 40-ft tall pump station, a 30-ft tall distribution "E" building and a 26-foot tall standby power facility. The pump station would be visible from adjacent residences located to the north along Brookhurst Street and would be visible from residences in Newport Beach and Costa Mesa. These residences already have views of the plant site under existing conditions (Figure 3.2-1). The dominant features of the views include the two approximately 100-foot tall surge towers.

The design of the pump building would be similar to the character and height of the surrounding facilities. The existing digester facilities southwest of the proposed construction area are approximately 40 feet tall. The proposed structures would not exceed the height of the digesters. Long distance views of the ocean

² Environmental Science Associates. *Addendum #2-Landscape and Irrigation at Plant No. 2, Job No. P2-84 OCSD 199 9 Strategic Plan PEIR*. November 2001.

from Newport Beach and Costa Mesa would not be altered substantially. The structures would be less than half of the height of the existing surge towers. The general massing of structures would not be altered since the new facility would replace existing structures. Figure 3.2-3 provides a simulated architectural design of the pump station. Figure 3.2-4 shows the same site as it exists today. The impact to long-range views would be considered a less than significant impact.

Construction may remove some of the landscaping along the eastern edge of the property. This would impact short-term views from the bike path onto the plant property. Implementation of the following mitigation measure would minimize the impact to landscaping.

Mitigation Measures

Effluent Pump Station Annex

M-3.2-1 The contractor shall replace damaged landscaping and restore the construction area near the property boundary to a condition similar to existing conditions.

Significance after Mitigation

Less than significant.

Impact 3.2-2: The tanks for the OCP could be visible from adjacent land uses.

The OCP would require the installation of aboveground polyethylene storage tanks to hold the chemicals used in the continuous feed systems. These aboveground tanks have a storage capacity of roughly 4,000 gallons and range in size from 8 to 12 feet in diameter and 8 to 16 feet in height. Figure 2-7 shows typical chemical storage tanks used for the pilot program in industrial areas. Eight storage tanks identified in Figure 2-6 are already installed within city yards, existing pump station yards, or private industrial yards. Any additional tanks to be installed would also be placed in utility yards. When unmitigated, the tanks have an industrial character. Installation of the tanks could adversely impact local character and aesthetics. The following mitigation measure would assist in minimizing impacts to local aesthetics.

Mitigation Measures

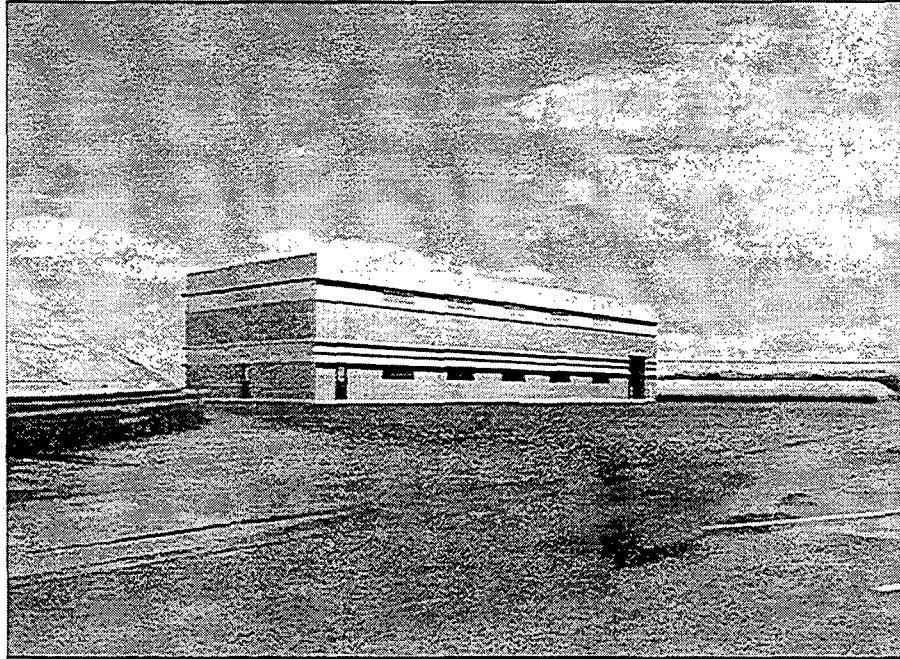
Odor and Corrosion Control Program

M-3.2-2 Chemical storage tanks shall be placed out of the public view to the extent feasible and shall be placed in industrial areas or shielded from view using fencing or by other means as appropriate to match the existing character of the surrounding area.

M-3.2-3 The District will coordinate with the cities prior to installing new chemical storage tanks in the service area.

Significance after Mitigation

Less than significant.



SOURCE: Black & Veatch Corporation

OCSD Effluent Pump Station Annex SEIR / 201168 ■

Figure 3.2-3

Artist's Rendering of EPSA Looking Northeast



SOURCE: Environmental Science Associates

OCSD Effluent Pump Station Annex SEIR / 201168 ■

Figure 3.2-4

View of Service Center Looking Southwest

3.3 GEOLOGY AND SOILS

INTRODUCTION

The purpose of the Geology and Soils chapter is to evaluate 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.

3.3.1 SETTING

Regional

The regional geologic setting is described in Chapter Four 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. The geologic substructure is subject to considerable tectonic stress and numerous faults traverse the region. Soils within the area are characteristic of the Southern California coastal plain, consisting of alluvial deposits and floodplain soils.

Site

Treatment Plant No. 2 occupies a 110-acre triangular site in the southern corner of the City of Huntington Beach. It is bordered on the east by the SAR, on the northwest by Brookhurst Street, and on the southwest by Talbert Marsh. Huntington Beach State Park and PCH are located across the marsh. The site is located approximately 1,500 feet from the ocean. Within the plant site, existing treatment facilities occupy the southern two-thirds of the site, while the area to the northeast remains undeveloped.

The project site, originally a peat bog, is underlain by silty sand and sandy soils. Past construction at the site has required extensive foundation work with cement "pillars" buried up to 15 feet for support under some structures. Sludge spreading areas, which occupy most of the open land at the site, have been distributed to a depth of four feet. Due to the site's close proximity to the ocean, groundwater is present at shallow depths.

Seismology and Faults

Like much of Southern California, the site is within a seismically active area. The geologic substructure beneath Orange County is subject to considerable tectonic stress. Treatment Plant No. 2 is 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.

The California Geological Society (CGS) has zoned the Newport-Inglewood Fault Zone active¹ under the Alquist-Priolo Earthquake Fault Zoning Act.² Few specific geological studies have been conducted for the Newport-Inglewood Fault Zone, but historical records have shown potentially 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 6.9.³ Other major faults in the region include the Whittier Fault Zone and the Palos Verdes Fault. Figure 3.3-1 shows the location of regional faults.

Multiple fault splays associated with the Newport-Inglewood Fault Zone traverse the site. These fault splays are shown in Figure 3.3-2.

GEOLOGIC HAZARDS

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. The City of Huntington Beach General Plan indicates that the northern half of the Treatment Plant No. 2 site is located within an area of moderate to high soil expansion potential. However, most of this portion of the site is undeveloped. The EPSA and associated structures are located in an area with a moderate potential for expansive soils.⁴

Settlement

Loose, soft soil material comprised of sand, silt, clay, and peat if not properly engineered, has the potential to settle after a building is placed on the surface. Settlement of the loose soils generally occurs slowly, but over time can damage structures. According to the City of Huntington Beach General Plan, the site location is not located in an area subject to settlement.⁵ Nonetheless, due to the peat content of underlying soils, settlement is possible at the site.

Subsidence

The extraction of water, mineral, or oil resources can result in subsidence from the removal of supporting layers in the geologic formation. Neighboring 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. The project site is located within an area subject to subsidence.⁶

¹ An “active” fault is defined by CGS as one that has had surface displacement within the Holocene time (about the last 11,000 years).

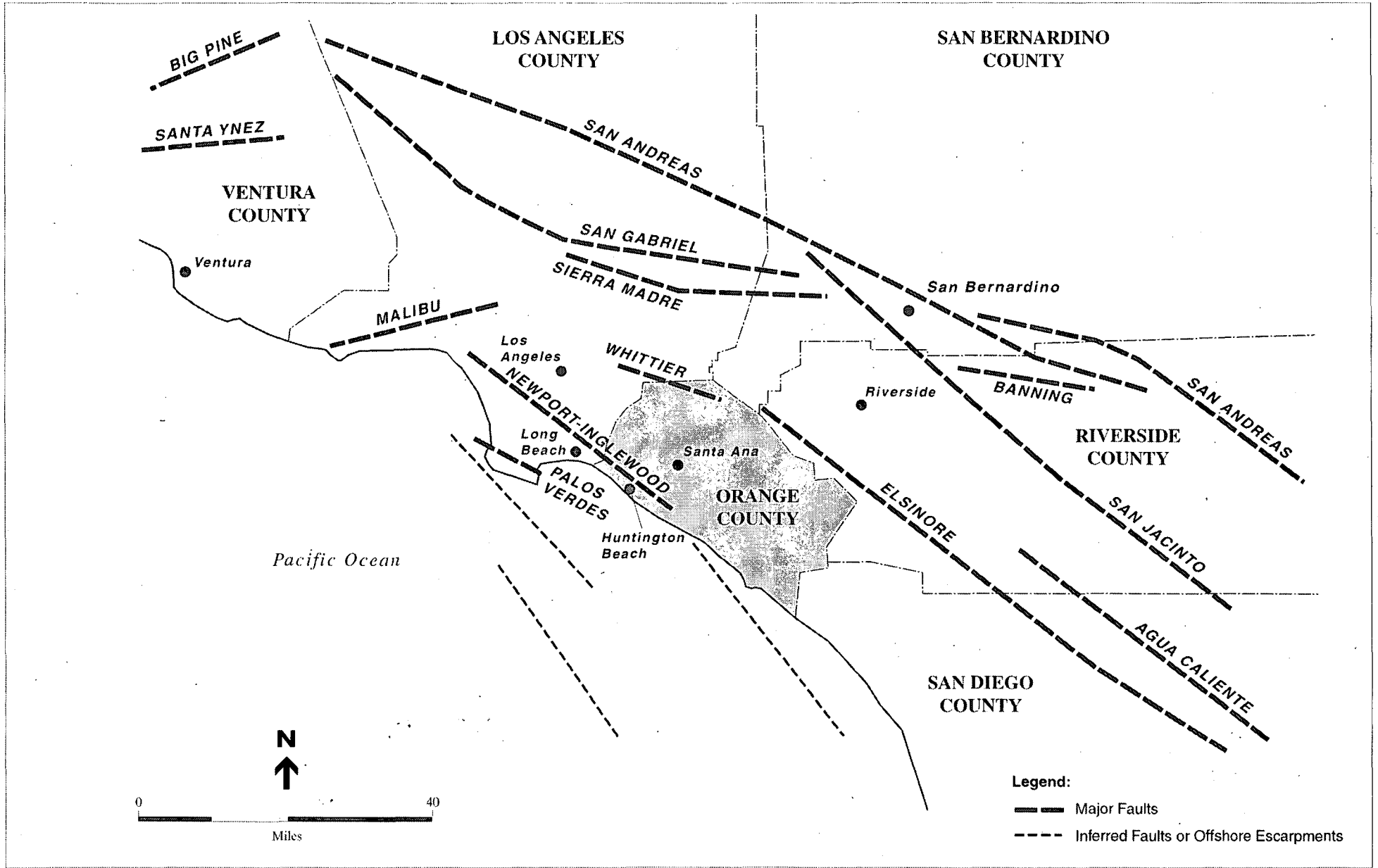
² The purpose of this act is to prohibit the placement of most structures for human occupancy across traces of active faults and thereby mitigate the hazards of surface fault rupture.

³ 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.

⁴ City of Huntington Beach General Plan, Environmental Hazards Element, December 12, 1995.

⁵ *Ibid.*

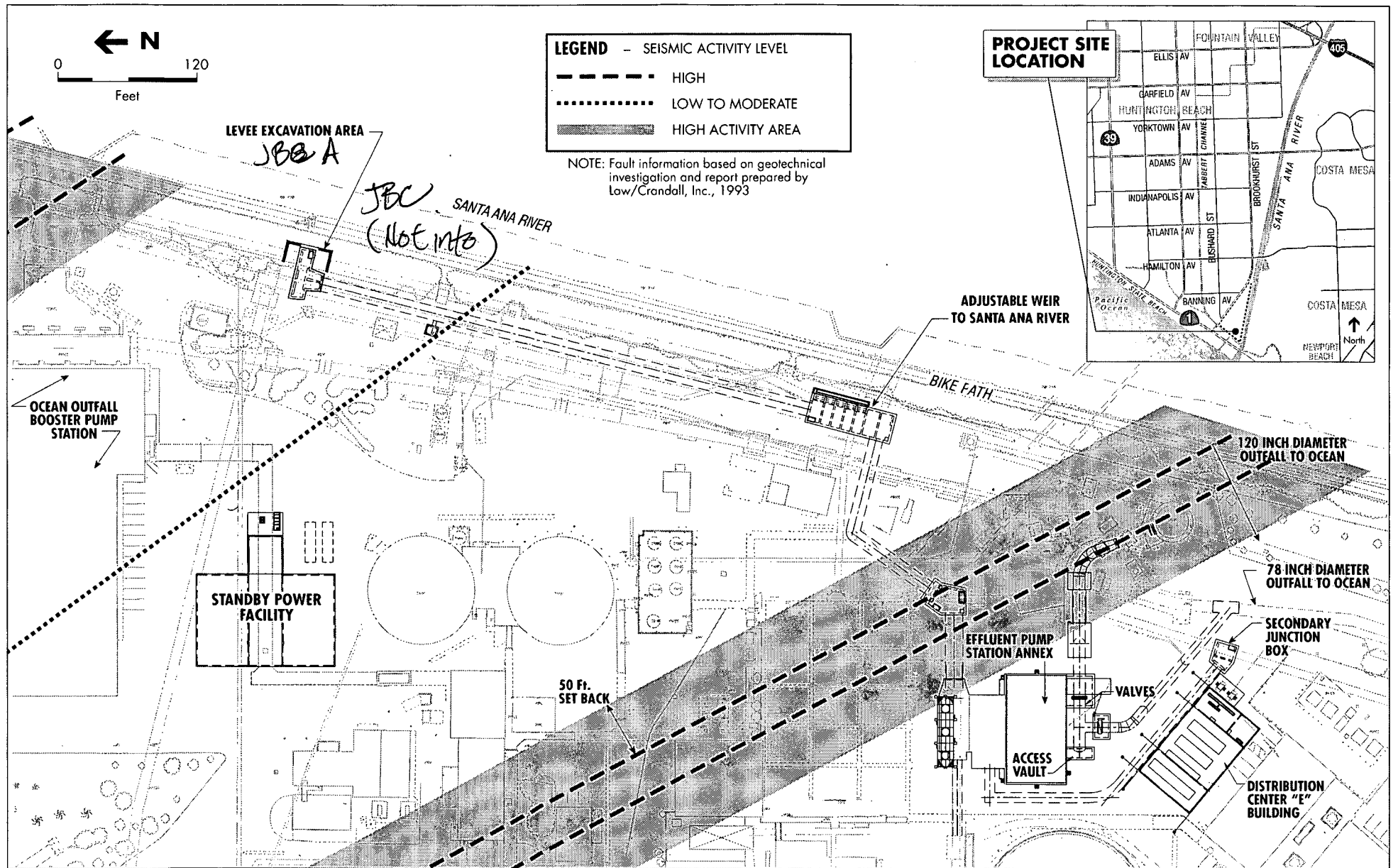
⁶ Southern California Association of Governments, *2001 Regional Transportation Plan Update Community Link 21, Program Environmental Impact Report*, Areas Subject to Subsidence in the SCAG Region, Map Book (Volume 2 of 4), February 1, 2001.



SOURCE: Orange County Emergency Management Division

OCSD Effluent Pump Station Annex SEIR / 201168 ■

Figure 3.3-1
Regional Fault Zones



SOURCE: Black and Veatch

OCSD Effluent Pump Station Annex SEIR / 201168 ■

Figure 3.3-2
Treatment Plant No. 2 Active Fault Splays

Landslides

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.

The CGS has prepared maps identifying Seismic Hazard Zones, which indicate areas prone to liquefaction and earthquake-induced landslides. According to CGS, there are no portions of the project site classified as earthquake-induced landslide hazard areas.⁷

Ground shaking

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. Areas that are underlain by bedrock tend to experience less ground shaking than those underlain by unconsolidated sediments such as artificial fill.

Treatment Plant No. 2 is located near the active Newport-Inglewood Fault. Potentially damaging earthquakes have occurred every few years along this fault zone. Other major faults in the region include the Whittier Fault Zone and the Palos Verdes Fault. Seismic activity on any of these known faults within the region could cause considerable ground shaking in the project area.

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 fault rupture zones exist within the project site.

Liquefaction ground failures

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 shallow groundwater and saturated soils. The CGS Seismic Hazard Zone Map for the area shows that the entire site is located within an area subject to liquefaction.⁸ The City of Huntington Beach General Plan classifies the northern portion of the site as High to Very High Liquefaction Potential; the southern portion of the site, where the EPSA and associated structures would be located, are classified as Very High Potential.⁹

Seismically-induced lateral spreading involves primarily 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 ground surface. Lateral spreading occurs by near-vertical cracks with predominantly horizontal movement of the soil mass involved.

⁷ California Geological Survey website, Accessed April 25, 2002, http://www.consrv.ca.gov/dmg/shezp/maps/m_newb.htm.

⁸ California Geological Survey website, Accessed April 25, 2002, http://www.consrv.ca.gov/dmg/shezp/maps/m_newb.htm.

⁹ City of Huntington Beach General Plan, Environmental Hazards Element, December 12, 1995.

APPLICABLE REGULATIONS

California Environmental Quality Act (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.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act of 1990 addresses non-surface fault rupture earthquake hazards, including liquefaction and seismically induced landslides. The purpose of the Act is to protect public safety from the effects of strong ground shaking, liquefaction, landslides, or other ground failure, and other hazards caused by earthquakes. This act requires the State Geologist to delineate various seismic hazard zones and requires cities, counties, and other local permitting agencies to regulate certain development projects with these zones. Seismic Hazard maps have been completed for much of the Southern California region.

California Building Code

The *California Building Code* (CBC) is certified in the California Code of Regulations (CCR), Title 24, Part 2, which is a portion of the California Building Standards Code. Title 24 is assigned to the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under state law, all building standards must be centralized in Title 24 or they are not enforceable. Published by the International Conference of Building Officials, the Uniform Building Code (UBC) is a widely adopted model building code in the United States. The CBC incorporates by reference the UBC with necessary California amendments. About one-third of the text within the CBC has been tailored for California earthquake conditions.

City of Huntington Beach General Plan and Environmental Hazards Element

Cities and county governments typically develop as part of the General Plans, safety and seismic elements that identify goals, objectives, and implementing actions to minimize the loss of life, property damage and disruption of goods and services from non-seismic geologic hazards and earthquakes. General Plans can provide policies and develop ordinances to ensure acceptable protection of people and structures from risks associated with these hazards. Ordinances can include those addressing unreinforced masonry construction, erosion or grading.

3.3.2 IMPACTS AND MITIGATION

CRITERIA FOR DETERMINING SIGNIFICANCE

The proposed project may result in a significant impact if it would:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
 - Rupture of 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 California Division of Mines and Geology Special Publication 42.
 - Strong seismic ground shaking.
 - Seismic-related ground failure, including liquefaction.
 - Landslides.
- Result in substantial soil erosion or the loss of topsoil;
- Be located on strata or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on-or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse; or,
- Be located on expansive soil, as defined in Table 18-1-B of the UBC, creating substantial risks to life or property;

- Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

Impact 3.3-1: The proposed EPSA and OCP project could expose people or structures to potential adverse effects due to rupture of a known earthquake fault, strong ground shaking, ground failure, including liquefaction and landslides due to seismic activity.

Effluent Pump Station Annex

The proposed project site is not located within an Alquist-Priolo Earthquake Fault Zone, however active fault splays are known to underlie the site.¹⁰ According to a Fault Rupture Hazard Investigation report prepared by Law/Crandall in 1993, a seismic event from one of these faults could damage structures on the site. The existing Foster Pump Station will be taken out of service as part of this project as it overlies a high activity fault splay.¹¹ The three new buildings (Pump Building, Distribution Center "E" Building, and Standby Power Facility Building) to be constructed for the EPSA project are structures that are not intended for human occupancy as defined in the Alquist-Priolo Earthquake Fault Zoning Act.¹² However, all would be located at least fifty feet from the location of known high activity faults as shown in Figure 3.3-2. Some piping would have to cross at least one known fault splay. However, the OOBs serves as the primary pump station for Treatment Plant No. 2; the EPSA would serve as a backup system during OOBs maintenance or during peak flow conditions to increase overall capacity. Therefore, the likelihood that the EPSA would be in service if an earthquake were to occur is extremely low.

The project site is located in a Liquefaction Seismic Hazard Zone. A geotechnical investigation is being performed for the specific portion of the project site where the new facilities would be constructed. The liquefaction potential will be assessed based on the results and appropriate foundation structures, such as driven piles or stone columns, will be determined. Any new structures under the proposed project would be required to meet updated CBC standards specific for the underlying geologic materials in order to ensure the safety of the structure and its occupants.

Mitigation measures for the above seismic impacts have been previously addressed in the PEIR in Measures 6.6-1a and 6.6-1b. No further mitigation is required. In providing seismic upgrades to existing structures and operations, the project would afford greater protection against seismic impacts than currently exists.

Odor and Corrosion Control Program

Aboveground storage tanks and associated piping would be located throughout the service area and may possibly overlie or be located in close proximity to fault splays. Tank design specifications include plastic construction with secondary containment, which would provide some protection from seismic hazards.

¹⁰ Black & Veatch, *Effluent Pump Station Annex Job No. J-77 Preliminary Design Report*, Prepared for Orange County Sanitation District, July 2001.

¹¹ Black & Veatch, *Effluent Pump Station Annex Job No. J-77 Preliminary Design Report*, Prepared for Orange County Sanitation District, July 2001.

¹² Section 3601, Paragraph (e) of the Alquist-Priolo Earthquake Fault Zoning Act defines a "structure for human occupancy" as "...any structure used or intended for supporting or sheltering any use or occupancy, which is expected to have a human occupancy rate of more than 2,000 person-hours per year."

Mitigation Measures.

Effluent Pump Station Annex

See Measures 6.6-1a and 6.6-1b in the 1999 PEIR found in Appendix A.

Odor and Corrosion Control Program

M-3.3-1 Chemical storage tanks and appurtenant piping and connections will be designed to withstand ground shaking to avoid potential spills during a seismic event.

Significance after Mitigation

Less than significant.

Impact 3.3-2: The proposed EPSA project could be located on expansive soil, creating risks to proposed structures.

Effluent Pump Station Annex

The northern half of Treatment Plant No. 2 is located within an area of moderate to high soil expansion; however, most of this portion of the site is undeveloped. The southern half of the site where the EPSA and associated structures are located is in an area of variable potential for expansive soils. A geotechnical investigation is being conducted to examine the specific conditions on the proposed site and develop recommendations for final design to reduce potential geologic hazards that will comply with the CBC. Mitigation for this impact is discussed in Measure 6.6-1b of the PEIR; no further mitigation is required.

Mitigation Measures

Effluent Pump Station Annex

See Measure 6.6-1b from the PEIR.

Significance after Mitigation

Less than significant.

3.4 HAZARDS AND HAZARDOUS MATERIALS

This section of the SEIR presents the analysis of the potential for the proposed project to result in significant impacts from the use of hazardous materials.

3.4.1 SETTING

Hazardous substances include chemicals regulated by both the United States Department of Transportation's (DOT) "hazardous materials" regulations and the EPA "hazardous waste" regulations, including emergency response. Hazardous wastes require special handling and disposal because of their potential to damage public health and the environment. Hazardous materials are generally substances which, by their nature and reactivity, have the capacity of causing harm or a health hazard during normal exposure or an accidental release or mishap, and are characterized as being toxic, corrosive, flammable, reactive, an irritant, or strong sensitizer.

A "hazardous chemical" is defined by the Federal Occupational Safety and Health Administration (OSHA) as any chemical that is a physical hazard or a health hazard. EPA regulations define "hazardous waste" based on certain characteristics (ignitability, corrosivity, reactivity, and toxicity). In addition, EPA has determined that some specific wastes are hazardous regardless of concentration (referred to as "listed wastes").

Activities and operations that use or manage hazardous or potentially hazardous substances could create a hazardous situation if released into the environment. The degree of hazard will depend on the type of substance and quantity released.

The District's Service Area contains over 400 miles of sewer pipelines serving 23 cities. The Service Area is primarily urbanized, consisting of residential, commercial, and light industrial uses. Recreational, agricultural, and open space uses are also scattered throughout the Service Area. The existing sewers generally follow city streets and pass by many sensitive land uses common to metropolitan areas including schools, hospitals, and residential areas.

Treatment Plant No. 2 occupies a 110-acre triangular site in the southern corner of the City of Huntington Beach approximately 1,500 feet from the ocean. It is bordered on the east by the SAR, on the northwest by Brookhurst Street, and on the southwest by Talbert Marsh. The 40-foot wide Talbert Marsh and PCH separates the property from Huntington Beach State Park. Single-family residences and a small commercial area are situated across Brookhurst Street. Across the SAR are wetland areas and northeast of the plant lies the Talbert Nature Preserve.

APPLICABLE REGULATIONS

Federal and State

Title III of the Superfund Amendment and Reauthorization Act of 1986 (42 U.S. Code 6901 et. seq.) is the Emergency Planning and Community Right-to-Know Act. Facilities are required to report the following four items on U.S. Environmental Protection Agency Form R (the Toxic Chemical Release

Inventory Reporting Form): facility identification information; off-site locations to which toxic chemicals are transferred in wastes; chemical-specific information; and supplemental information. Form R requires a facility to list the hazardous substances that are handled on-site, and to account for the total aggregate releases of listed toxic chemicals for the calendar year.

Worker safety is regulated through OSHA as well as the State version, Cal/OSHA. Federal OSHA establishes in the Code of Federal Regulations Title 29 (CFR 29) 40 hours of training for hazardous materials operators. The training includes personal safety, hazardous materials storage and handling procedures, and emergency response procedures.

In California, Title 22 and Title 23 of the CCR address hazardous materials and wastes. Title 22 defines, categorizes, and lists hazardous materials and wastes. Title 23 addresses public health and safety issues related to hazardous materials and wastes and specifies disposal options.

The U.S. Department of Transportation regulates hazardous materials transportation. State agencies with primary responsibility for enforcing federal and state regulations and responding to hazardous materials emergencies are the California Highway Patrol and local Fire Departments.

The Hazardous Materials Release Response Plans and Inventory Law (California Health and Safety Code, Section 25500 *et. seq.*) governs hazardous materials handling, reporting requirements, and local agency surveillance programs. It requires businesses that store hazardous materials on-site prepare an inventory and submit it to local health and fire departments.

Local

The proposed OCP would occur within developed city streets throughout Orange County. Therefore, the proposed project would be subject to the local plans and policies of the service cities and the County that cover the collection system. The General Plan for each jurisdiction contains goals, policies, and implementation measures that are designed to protect public health and safety from a variety of hazards.

3.4.2 IMPACTS AND MITIGATION

CRITERIA FOR DETERMINING SIGNIFICANCE

The criteria used to determine the significance of an impact are based on the model initial study checklist in Appendix G of the State CEQA Guidelines.

The proposed project may result in a significant impact if it would:

- create a significant hazard to the public or environment through the routine transport, storage, use, or disposal of hazardous materials;
- create a significant hazard to the public through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- emit hazardous emissions or handles hazardous or acutely hazardous materials, substances, or waste be within 1/4-mile of an existing or proposed school;

- be located on a site that is known to contain hazardous materials or is listed on a site compiled pursuant to Government Code Section 65962.5, and as a result could create a significant hazard to the public or the environment;
- result in a safety hazard for people residing or working in the project area for a project located within an airport land use plan, within two miles of a public airport or within the vicinity of a private airstrip;
- impair or interfere with the implementation of an adopted emergency response plan or emergency evacuation plan; or,
- 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.

PROJECT IMPACTS

Impact 3.4-1: The proposed EPSA and OCP project would include the transport, storage, and use of diesel fuel and odor reduction chemicals that could pose a spill or leak hazard.

Odor and Corrosion Control Program

Implementation of the proposed OCP would require the transport, storage, and use of significant quantities of chemicals including hydrogen peroxide, ferric chloride, sodium nitrate, calcium nitrate, and magnesium hydroxide. The chemicals would be routinely delivered to newly constructed storage facilities throughout the service area. The tanks would be located in city yards, existing pump stations, or private controlled yards, not in open areas on the street. This process is safer than the caustic soda application method where chemicals are transferred into manholes in the street while lanes are closed to traffic. Nonetheless, the possibility exists during the lifetime of the project for an accidental release of these materials. The National Institute for Occupational Safety and Health (NIOSH) Pocket Guide to Chemical Hazards was used to research the properties and exposure hazards of the chemicals to be used in the OCP.¹ The Material Safety Data Sheet (MSDS) for each chemical is included in Appendix E.

These chemicals would be used at various locations throughout the District's service area in Orange County. Sensitive receptors that could be located nearby include residential areas, schools, hospitals, and nursing homes. None of the chemicals that would be used in the OCP, except hydrogen peroxide, are classified as hazardous and none are flammable or combustible. Concentrations of hydrogen peroxide greater than or equal to 20% are considered hazardous due to corrosivity. The concentration used for the OCP is 50% by weight. Nonetheless, the chemicals would not pose a significant health risk to surrounding land uses when properly handled.

- Ferric chloride and hydrogen peroxide are considered strong oxidizers and can cause burns to unprotected skin. However, both chemicals are quickly neutralized when spilled and would not pose a toxic vapor hazard. Ferric chloride is a noncombustible, corrosive liquid that acts as a coagulant. Exposure routes include inhalation, ingestion, and skin and/or eye contact.

¹ NIOSH Pocket Guide to Chemical Hazards, website URL: <http://www.cdc.gov/niosh/npg/npgdname.html>, accessed June 14, 2002.

- Hydrogen peroxide is a noncombustible colorless liquid, although it may ignite combustible material. It is incompatible or reactive with oxidizable materials and many metals. It decomposes when heated or exposed to light, producing oxygen which can increase fire hazard. It is corrosive to the skin and eyes and inhalation of vapor is irritating to the respiratory tract. Exposure routes are through inhalation, ingestion, and skin and/or eye contact. The substance is toxic to aquatic organisms.
- Sodium nitrate is a colorless crystal. It is a strong oxidant and reacts with reducing materials. It is not combustible but enhances the combustion of other substances. It decomposes on heating producing nitrogen oxides and oxygen, which can increase fire hazard. It can be absorbed into the body by inhalation of its aerosol and by ingestion and is irritating to the eyes, the skin, and the respiratory tract.
- Calcium nitrate is an odorless white solid. It is not flammable, but may cause fire on contact with combustibles. Poisonous gases may be produced when heated. Exposure is through inhalation, skin and/or eye contact, and ingestion.
- Magnesium hydroxide is a non-volatile acid-neutralizer that is commonly used in antacids. It is used to prevent the formation of hydrogen sulfide gas and sulfuric acid. It is essentially the same as the "Milk of Magnesia".

The District has implemented an Integrated Emergency Response Program (IERP) covering worker safety, spill prevention, emergency response, and hazardous materials management at the treatment plants. The IERP includes the Spill Prevention Containment and Countermeasure (SPCC) Plan required by the Santa Ana Regional Water Quality Control Board (SARWQCB) which includes structural specifications for storage tanks, visual monitoring schedules for aboveground storage tanks, underground storage tank tightness testing schedules, emergency response procedures, and reporting requirements. The IERP includes safety procedures for operations and maintenance workers, including worker safety training, hazard communications, personal protective equipment, site security, and departmental organization. Training in and implementation of the Incident Command System for managing crisis situations is also included in the IERP.

Effluent Pump Station Annex

The District currently maintains several underground storage tanks (USTs) on-site. The project calls for the installation of two 20,000-gallon capacity diesel fuel USTs as part of the Standby Generator Building design. Permitting of the tank installation would be governed by the Orange County Fire Marshal and the Orange County Health Care Agency. Tank installation will use a design that has received previous approval from both agencies for use at District facilities. The tanks would be double-walled, fiberglass-clad steel with cathodic protection, and equipped with a continuous inventory/leak detection system.

The Department of Toxic Substances Control (DTSC) compiles a Hazardous Waste and Substances Sites List, pursuant to Government Code Section 65962.5, based on submissions by state reporting agencies. Treatment Plant No. 2 is on the list due to a gasoline leak that was discovered in 1988 during a tank removal. The leak was limited to soil only and the case was closed less than one month later. The DTSC recommended no further action. New UST and piping design and construction regulations were enacted during the 1990s to reduce the potential for leaks to occur. Although unlikely, excavation could

hydraulic barrier system consisting of 23 injection wells located four miles inland that deliver fresh water into the aquifer. Treatment Plant No. 2 is located between the coast and the barrier system.

Due to its close proximity to the ocean, groundwater beneath Treatment Plant No. 2 is found at shallow depths. The depth to groundwater is tidally influenced and varies from season to season and year to year. Consequently, dewatering operations have been necessary during construction activities. The District has established dewatering operation standards for contractors performing work within the boundaries of its treatment plants. Discharge from dewatering is governed by a National Pollutant Discharge Elimination System (NPDES) permit (No. CAG998001) issued by the SARWQCB. Water from dewatering activities is typically disposed of through the plant's treated effluent system and ultimately discharged through the ocean outfall.

Flooding

A flood hazard may occur when land within a flood plain area is developed. Historically, Orange County has been vulnerable to flooding during peak rainfall events. The SAR Basin is the largest watershed in Southern California encompassing over 3,200 square miles. Since 1989, the U.S. Army Corps of Engineers (ACOE) has significantly reduced flood risks along the SAR by completing construction of concrete-lined levees and flood control channels along much of the river and its tributaries. However, flood prone areas still exist along the lower SAR.

Treatment Plant No. 2 is adjacent to the SAR and within the 100-year floodplain of the river. The facilities are protected from flooding by walls and levees which were constructed by the ACOE in 1995. The Flood Insurance Rate Map for the area where the Plant is located was recently revised by Federal Emergency Management Agency (FEMA) as Zone X, an area "protected from the one percent annual chance flood by levee, dike, or other structures subject to possible failure or overtopping during larger floods".¹ A portion of the revised FEMA map is shown in Figure 3.5-1.

Earthquakes can cause flooding due to tsunamis, seiches, or by causing dam failure. Tsunamis are a potential hazard at this site due to the close proximity of the coast and elevation of roughly eight feet above mean sea level. Orange County has not experienced a tsunami of magnitude greater than high storm tides, however the coastal area is subject to potential tsunami damage when combined with high tides. The offshore islands provide some protection to the coastline from the impacts of tsunamis originating from distant seismic events. The project area is classified as a Moderate Tsunami Run-Up Area according to the City of Huntington Beach General Plan, Environmental Hazards Element.

Seiches are earthquake-induced waves in an enclosed or partially enclosed body of water, which may produce flooding in local areas. The project is not located near a body of water that could experience seiches. The nearest reservoir is Prado Dam, located near the city of Corona in Riverside County. The Dam was completed in 1941 by the ACOE to control flooding in the Lower SAR Basin. Flood Inundation Maps prepared by the ACOE show that Treatment Plant No. 2 is located within the Prado Dam Inundation Area.²

¹ FEMA, Flood Insurance Rate Map Number 06059C0054F, February 13, 2001.

² Ibid; and U.S. Army Corps of Engineers website, <http://www.spl.usace.army.mil/resreg/htdocs/PrdoFIM/plate7.pdf>, accessed June 6, 2002.

3.5 HYDROLOGY AND WATER QUALITY

INTRODUCTION

This section assesses the potential impacts to surface water hydrology, surface water quality, groundwater hydrology, and groundwater quality resulting from the installation of the proposed EPSA and implementation of the OCP. This section also focuses on the proposed project's consistency with state, regional, and local water quality policies/regulations, and the potential impacts to water quality.

3.5.1 SETTING

The District serves approximately 226,068 acres of the coastal plain of northwestern Orange County. The regional environmental setting is described in detail in the PEIR. The project site is located at the District's Treatment Plant No. 2 in the City of Huntington Beach. The site is adjacent to the SAR about 1,500 feet from the ocean. The plant is located on an approximately 110-acre triangular parcel bounded by Brookhurst Street on the northwest, PCH on the southwest, and the SAR on the east.

Surface Water

Surface water in the region primarily consists of water flowing in the SAR and its tributaries, which drain the southern portion of the eastern San Gabriel Mountains and southern parts of the San Bernardino Mountains. The SAR flows are diverted to groundwater recharge spreading basins near Anaheim. Summer flows rarely reach beyond the basins to Burris Pit. Only occasional winter storm flows reach the ocean.

The lower reach of the SAR channel runs adjacent to the site on the east. The SARWQCB has not established numeric water quality standards for this reach; only narrative objectives apply. Beneficial uses identified by the SARWQCB include non-contact water recreation, warm freshwater habitat, and wildlife habitat.

The 40-foot wide Talbert Marsh lies between the southwest border of Treatment Plant No. 2 and PCH. The marsh was recently established by the Huntington Beach Wetlands Conservancy. In addition, wetlands are being developed by the U.S. Fish and Wildlife Service directly across the SAR from Treatment Plant No. 2 to the east. There are no water bodies in the vicinity of Treatment Plant No. 2 that are on the 303(d) list of impaired water bodies.

Groundwater

Much of the groundwater beneath the District's service area is recharged with SAR water by the Orange County Water District (OCWD). Treatment Plant No. 2 is located over the Santa Ana Pressure groundwater basin. According to the SAR Basin Plan, this basin has several designated beneficial uses: municipal and domestic, agricultural, industrial service, and industrial process supply. The basin is the primary source of local drinking water supplies. Heavy pumping in the past has caused seawater intrusion into the aquifer as much as five miles inland. To prevent further intrusion, OCWD operates a

M-3.4-6 Structures to be demolished will be investigated for the presence of lead paint or asbestos containing material and proper precautions will be taken for safe removal and disposal of these materials prior to demolition activities.

Significance after Mitigation

Less than significant.

Impact 3.4-2: OCP chemical storage site construction could impair or interfere with emergency response routes.

All emergency procedures would be implemented within local, state, and federal guidelines during construction and operation of the proposed project. Lane closures resulting from implementation of the OCP could temporarily impact access routes for emergency vehicles. Potential impacts to fire, police, and emergency medical services from lane closures could result in increased response time due to restricted vehicular access on roadways. The potential for blocking emergency equipment access would be avoided through advanced planning with emergency vehicle providers. This impact would be less than significant with mitigation.

Mitigation Measures

Odor and Corrosion Control Program

M-3.4-7 The District will provide notice of construction and lane closures lasting more than one day to local emergency service providers within 72 hours prior to construction activities.

Significance after Mitigation

Less than significant.

encounter contaminated soils, which would be handled in the manner described in Mitigation Measure M-3.4-5 below. Therefore, no significant impacts are anticipated to result from installation of the USTs.

Mitigation Measures

Effluent Pump Station Annex and Odor and Corrosion Control Program

M-3.4-1 Storage and use of hazardous materials at the Treatment Plant and OCP sites throughout the service area will comply with state and federal regulations and storage and dispensing permits will be obtained as necessary.

Odor and Corrosion Control Program

M-3.4-2 The District will follow procedures to ensure proper handling and storage of hazardous materials and reduce the potential for spills at the OCP chemical storage sites. At a minimum, the procedures will include the following:

- obtain a permit to store hazardous materials from the local fire department;
- provide notification to the County Health Care Agency of each storage site location;
- equip chemical delivery trucks with spill cleanup equipment adequate to contain and clean up any solid or liquid spill;
- provide chemical storage tanks with adequate secondary containment;
- modify the District's SPCC Plan to include the OCP chemical storage sites or ensure that chemical transport contractors have adequate SPCC plans in place covering the chemical storage sites. The SPCC Plan will cover chemical transfer activities (including DOT requirements), public notification and placarding requirements, secondary containment, emergency spill response actions, routine site access control, and site management and maintenance procedures. The contractor's SPCC Plan would require approval by the District's Safety Division.

M-3.4-3 The District shall require that all personnel working with hazardous chemicals have health and safety training. This is a legal OSHA requirement under the Worker Right to Know regulations in the Federal Code of Regulations, Title 29. The training shall include, at minimum, the proper use of safety equipment, hazard identifications, and proper handling and disposal of spilled hazardous materials.

M-3.4-4 Access to OCP chemical storage sites will be controlled to allow access only to authorized personnel.

Effluent Pump Station Annex

M-3.4-5 Any contaminated soils encountered on the project site during demolition, site clearance, or construction activities shall be removed from the project site and disposed of off-site in accordance with applicable hazardous waste regulations.

Drainage

The project site is located in an area of relatively flat topography. The Plant's drainage system is designed to collect and treat storm water within the treatment area. Storm water runoff associated with the treatment process area is currently captured, treated, and disposed through the ocean outfall.

APPLICABLE REGULATIONS AND EXISTING PERMITS

The U.S. EPA is the federal agency responsible for water quality management and administration of the federal Clean Water Act (CWA). The EPA has delegated most of the administration of the CWA in California to the California State Water Resources Control Board (SWRCB). The SWRCB was established through the California Porter-Cologne Water Quality Act of 1969 and is the primary State agency responsible for water quality management issues in California. Much of the responsibility for implementation of the SWRCB's policies is delegated to the nine Regional Water Quality Control Boards (RWQCB). The project site is located in the Santa Ana Region #8.

Section 402 of the CWA established the NPDES to regulate discharges into "navigable waters" of the United States. The U.S. EPA authorized the SWRCB to issue NPDES permits in the State of California in 1974. The NPDES permit establishes discharge pollutant thresholds and operational conditions for industrial facilities and wastewater treatment plants. Non-point source NPDES permits are also required for municipalities and unincorporated communities of populations greater than 100,000 to control urban stormwater runoff. These municipal permits require the preparation of Storm Water Management Plans (SWMPs) that reflect the environmental concerns of the local community.

A key part of the SWMP is the development of Best Management Practices (BMPs) to reduce pollutant loads. Certain businesses and projects within the jurisdictions of these municipalities are required to prepare Storm Water Pollution Prevention Plans (SWPPPs) which establish the appropriate BMPs to gain coverage under the municipal permit.

Currently, individual storm water NPDES permits are required for specific industrial activities and for construction sites greater than five acres. State-wide general storm water NPDES permits have been developed to expedite discharge applications. They include the State-wide industrial permit and the State-wide construction permit. A prospective applicant may apply for coverage under one of these permits through the preparation of a SWPPP. Phase II of the storm water permitting for construction activities will require coverage for construction sites between 1 and 5 acres and is scheduled to be implemented during the construction of this project.

Section 303(d) of the CWA requires the SWRCB to list impaired water bodies in the State and determine total maximum daily loads (TMDLs) for pollutants or other stressors impacting water quality. The Santa Ana River is listed as an impaired water body although TMDLs have not yet been determined.

3.5.2 IMPACTS AND MITIGATION

CRITERIA FOR DETERMINING SIGNIFICANCE

The proposed project may have a significant impact on surface hydrology, water quality, and/or groundwater if it meets or exceeds the following thresholds:

- violate any water quality standards or waste discharge requirements;
- substantially deplete groundwater supplies or interfere substantially with groundwater recharge;
- substantially alter existing drainage patterns resulting in substantial erosion and/or flooding on- or off-site;
- create runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial sources of polluted runoff;
- substantially degrade overall water quality;
- place structures within a 100-year flood hazard zone that would impede or redirect flood flows;
- expose people or structures to significant risk of loss, injury or death involving flooding, including flooding from failure of a dam or levee; and,
- expose people or structures to significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow.

PROJECT IMPACTS

Impact 3.5-1: The proposed EPSA and OCP project could violate water quality standards or waste discharge requirements.

Effluent Pump Station Annex

The proposed project would involve the construction of a new back-up pump station for use during emergencies and when the OOBs is shut down for routine maintenance. This new pump station would upgrade existing facilities and provide more protection from seismic impacts than currently exists, thereby reducing the potential for system failure or overflows into the SAR.

Prior to construction, preparation of a SWPPP to minimize impacts from storm water to local receiving water would be required for compliance with the Statewide NPDES General Permit for Construction Activities. The project would involve excavation up to 40 feet deep for certain areas of the Pump Building. The other facilities and piping would also require some excavation, but at a lesser depth. The proposed excavation would be deeper than local groundwater levels and would require dewatering during construction. A Notice of Intent for dewatering activities during construction would be submitted to the SARWQCB. Water from dewatering activities would be disposed of through the plant's treatment system and ultimately discharged through the ocean outfall after treatment. The dewatering would comply with

the Santa Ana RWQCB's existing General NPDES Permit (CAG998001) for de minimus discharges including construction dewatering.³ Mitigation measures for dewatering activities are discussed in the PEIR in Measures 6.7-2a and 6.7-2b, which are attached in Appendix A.

During construction of the proposed project, some water and wind induced soil erosion may occur when the soil is disturbed during activities such as excavation, trenching, and grading. The EPSA project would require approximately 40,000 to 50,000 cubic yards (cy) of soil to be excavated during construction. Following installation of cut and cover piping and other facilities, approximately 10,000 to 20,000 cy of soil will be needed for fill. In addition, approximately 1.5 acres of the site will be graded and designed to generally match existing grades.

The District would implement BMPs for construction and operation of the proposed EPSA in accordance with the requirements of the SWMP. Implementation of BMPs would reduce the potential for significant groundwater and downstream water quality impacts from site runoff.

Odor and Corrosion Control Program

Implementation of the OCP involves the installation of 4,000-gallon capacity aboveground tanks and piping at several locations throughout the District's service area. All of these sites would be less than one acre and installation would involve minimal excavation, if any. Facilities would be designed to comply with the Orange County Municipal Separate Storm Sewer System permit and the Caltrans Statewide NPDES permit.

Chemicals used in the OCP could impact water quality if a spill were to occur. Implementation of BMPs and spill prevention, countermeasure, and control measures would reduce this impact to less than significant. No significant impacts to water quality resulting from construction activities or operation is anticipated.

Mitigation Measures

Effluent Pump Station Annex

M-3.5-1 The District will prepare a SWPPP that will identify BMPs to minimize water quality impacts resulting from EPSA construction activities.

See Mitigation Measure M-3.4-2 for spill control measures.

Significance after Mitigation

Less than significant.

Impact 3.5-2: The proposed EPSA and OCP project could alter existing drainage patterns resulting in erosion and flooding.

Effluent Pump Station Annex

³ NPDES permit No. CAG998001, Order No. 98-67, 1998.

Construction activities involving demolition, excavation, stockpiling, and grading could result in increased erosion and sedimentation to surface waters. Site grading could alter the drainage patterns in the area. However, the existing site is fairly flat and little erosion or flooding is anticipated to occur from the project. The existing drainage system allows storm water that comes in to contact with process areas to be captured, treated, and ultimately discharged to the ocean. Storm water that not within the process areas drains off-site. The EPSA would be located within an area where storm water is collected and sent back through the treatment system. During construction, implementation of BMPs would minimize erosion and siltation impacts.

Odor and Corrosion Control Program

Implementation of the OCP would not require or result in any changes to existing drainage patterns that could result in substantial erosion or flooding.

Mitigation Measures

No mitigation is required.

Significance after Mitigation

Less than significant.

Impact 3.5-3: The proposed EPSA and OCP project would be susceptible to potential flooding impacts.

Effluent Pump Station Annex

Treatment Plant No. 2 is adjacent to the SAR and protected from flooding by walls and levees that were constructed by the ACOE in 1995. As shown in Figure 3.5-1, the area where the Plant is located was recently revised by FEMA as Zone X, an area "protected from the one percent annual chance flood by levee, dike, or other structures subject to possible failure or overtopping during larger floods."⁴ The Plant is, however, located within the Prado Dam Inundation Area.⁵ In addition, the City of Huntington Beach General Plan Environmental Hazards Element indicates that the Plant is located in a Moderate Tsunami Run-Up Area. The likelihood that the Prado Dam will fail or that a tsunami large enough to inundate the plant will occur is low. The PEIR acknowledges that the possibility of site inundation exists, but no mitigation measures were recommended to eliminate the risk. The proposed projects would not increase the risks of inundation by tsunami or dam failure.

As part of the project, the existing overflow weirs shown on Figure 2 will be upgraded to be adjustable. The construction process will require excavating into the existing SAR levee. The three existing large-diameter pipelines would be transitioned into one large-diameter pipeline within a new junction box structure, Junction Box C (JB-C). The new junction box would be similar to the existing junction box and would extend into the berm of the SAR levee. Shoring would be constructed around the eastern perimeter of the junction box to support the levee. Work associated with JB-C and the shoring is not

⁴ FEMA, Flood Insurance Rate Map Number 06059C0054F, February 13, 2001.

⁵ Ibid; and U.S. Army Corps of Engineers website, <http://www.spl.usace.army.mil/resreg/htdocs/PrdoFIM/plate7.pdf>, accessed June 6, 2002.

expected to extend past the crest of the levee. The bike path along the levee is not expected to be impacted by the project. However, excavation could affect the integrity of the levee if not conducted properly or during inappropriate times of year. The Orange County Flood Control District would require a permit prior to excavation activities. The permit would ensure that work within the River levee would not result in a reduction in the flood protection afforded by the levee.

Section 404 of the CWA requires the ACOE to issue permits for projects that would result in the placement of dredge and fill material into waters of the United States. Although the project would involve excavation into the levee, no work would be conducted within the river channel. Since the project would not place fill material within the river channel, no adverse impacts to wetland habitats would be expected. Nonetheless, the District will submit a Section 404 permit application to the ACOE to inform them of the project and to ensure that no impacts would occur to resources under ACOE jurisdiction. The following mitigation measure would ensure that no significant impacts would occur to the River levee.

Odor and Corrosion Control Program

None of the storage tanks would be installed within the 100-year floodplain as designated by FEMA. As such, no impacts from flooding would be anticipated.

Mitigation Measures

Effluent Pump Station Annex

M-3.5-2 The District shall obtain an encroachment permit from the Orange County Flood Control District prior to work within the Santa Ana River levee.

M-3.5-3 No construction activities shall be conducted within the Santa Ana River channel.

Odor and Corrosion Control Program

M-3.5-4 No chemical storage tanks shall be installed within the FEMA-designated 100-year floodplain.

Significance after Mitigation

Less than significant.

3.6 NOISE

3.6.1 INTRODUCTION

This section addresses noise impacts associated with the proposed project. It analyzes both potential noise impacts caused by the construction and operation of the EPSA and OCP on the surrounding noise environment. Background information on environmental acoustics, including definitions of terms commonly used in noise analysis, is provided below.

Sound is mechanical energy transmitted by pressure waves through a medium such as air. Noise can be defined as unwanted sound. Sound is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). In particular, the sound pressure level has become the most common descriptor used to characterize the loudness of an ambient sound level. The decibel (dB) scale is used to quantify sound intensity. Because sound pressure can vary by over one trillion times within the range of human hearing, a logarithmic loudness scale is used to keep sound intensity numbers at a convenient and manageable level. Since the human ear is not equally sensitive to all frequencies within the entire spectrum, noise measurements are weighted more heavily within those frequencies of maximum human sensitivity in a process called "A-weighting," written as dBA.

A number of different types of metrics are used to characterize the time-varying nature of sound. These metrics include: the equivalent sound level (L_{eq}), the minimum and maximum sound levels (L_{min} and L_{max}), percentile-exceeded sound levels (L_{xx}), the day-night level (L_{dn}), and the community noise equivalent level (CNEL). The following are brief definitions of these metrics and other terminology used in this section:

- **Sound.** A vibratory disturbance created by a vibrating object, which, when transmitted by pressure waves through a medium such as air, is capable of being detected by a receiving mechanism, such as the human ear or a microphone.
- **Noise.** Sound that is loud, unpleasant, unexpected, or otherwise undesirable.
- **Decibel (dB).** A unitless measure of sound on a logarithmic scale, which indicates the squared ratio of sound pressure amplitude to a reference sound pressure amplitude. The reference pressure is 20 micro-pascals.
- **A-Weighted Decibel (dBA).** An overall frequency-weighted sound level in decibels which approximates the frequency response of the human ear.
- **Maximum Sound Level (L_{max}).** The maximum sound level measured during the measurement period.
- **Minimum Sound Level (L_{min}).** The minimum sound level measured during the measurement period.

- **Equivalent Sound Level (L_{eq}).** The equivalent steady state sound level which in a stated period of time would contain the same acoustical energy.
- **Percentile-Exceeded Sound Level (L_{xx}).** The sound level exceeded x percent of a specific time period. For example, L_{10} is the sound level exceeded 10 percent of the time.
- **Day-Night Level (L_{dn}).** The energy average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the A-weighted sound levels occurring during the period from 10:00 PM to 7:00 AM to account for the increased sensitivity of some individuals to noise levels during nighttime hours.
- **Community Noise Equivalent Level (CNEL).** The energy average of the A-weighted sound levels occurring during a 24-hour period with 5 dB added to the A-weighted sound levels occurring during the period from 7:00 PM to 10:00 PM and 10 dB added to the A-weighted sound levels occurring during the period from 10:00 PM to 7:00 AM.

L_{dn} and CNEL values rarely differ by more than 1 dB. As a matter of practice, L_{dn} and CNEL values are considered to be equivalent and are treated as such in this assessment. In general, human sound perception is such that a change in sound level of 3 dB is just noticeable, a change of 5 dB is clearly noticeable, and a change of 10 dB is perceived as doubling or halving sound levels.

Effect of Noise on People

The effects of noise on people can be categorized as follows:

- subjective effects such as annoyance, nuisance, dissatisfaction;
- interference with activities such as speech, sleep, learning; and,
- physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience effects in the last category. There is no complete satisfactory way to measure the subjective effects of noise, or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists, and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so called "ambient noise" level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur:

- except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived;
- outside of the laboratory, a 3 dBA change is considered a just-perceivable difference;

- a change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and,
- a 10 dBA change is subjectively heard as approximately a doubling in loudness, and can cause adverse response.

These relationships occur in part because of the logarithmic nature of sound and the decibel system. The human ear perceives sound in a non-linear fashion, hence the decibel scale was developed. Because the decibel scale is based on logarithms, two noise sources do not combine in a simple additive fashion, rather logarithmically. For example, if two identical noise sources produce noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA.

Noise Attenuation

Stationary point sources of noise, including stationary mobile sources such as idling vehicles, attenuate (lessen) at a rate of 6 to 7.5 dBA per doubling of distance from the source, depending on environmental conditions (i.e., atmospheric conditions and noise barriers, either landscaped or manufactured, etc.). Widely distributed noise, such as a large industrial facility spread over many acres or a street with moving vehicles, would typically attenuate at a lower rate, approximately 4 to 6 dBA.

3.6.2 SETTING

Existing Noise Environment

The proposed project is located in the southern portion of Orange County in the City of Huntington Beach. The noise environment in the EPSA project area is dominated by noise from automobile traffic on local roads, aircraft over flights, and petroleum extraction activities. Vehicle noise from Brookhurst Street and Pacific Coast Highway, which border the site, are the dominant noise sources in the area.

Sensitive Receptors

Some land uses are considered more sensitive to ambient noise levels than others due to the amount of noise exposure (in terms of both exposure duration and insulation from noise) and the types of activities typically involved. Residences, motels, hotels, schools, libraries, churches, hospitals, nursing homes, auditoriums, and parks and other outdoor recreation areas generally are more sensitive to noise than are commercial and industrial land uses.

There are a number of existing sensitive receptors located in close proximity to the project site and along roadway providing access to and from the project site. Sensitive receptors in the vicinity of the project site include single family residences northwest of the treatment plant across Brookhurst Street and southeast of the treatment plant across the Santa Ana River.

APPLICABLE REGULATIONS

Construction Noise

The project is located within Orange County and is subject to the Orange County Municipal Code and noise ordinances incorporated therein. Section 4-6-7 (e) of the Orange County Municipal Code covers noise due to construction. It states that noise sources associated with construction, repair, remodeling, or grading of any real property, provided said activities do not take place between the hours of 8:00 p.m. and 7:00 a.m. on weekdays, including Saturday, or at any time on Sunday or a federal holiday are exempt from the noise ordinance.

In addition to Orange County regulations, the project would be required to abide by the City of Huntington Beach Noise Ordinances. The City of Huntington Beach Municipal Code Chapter 8.40 Section 8.40.090 (d) states noise associated with construction, repair, remodeling, or grading any real property; provided a permit has been obtained from the City; and provided they do not take place between the hours of 8:00 p.m. and 7:00 a.m. on weekdays, including Saturday, or at any time on Sunday or a federal holiday are exempt from the noise ordinance.

Operational Noise

Orange County Municipal Code Section 4-6-5 and Huntington Beach Municipal Code Chapter 8.40 outlines guidelines for noise/land use compatibility for development and planning purposes. A brief summary of the Noise Control ordinances is presented below in Table 3.6-1.

TABLE 3.6-1: GUIDELINES FOR NOISE COMPATIBLE LAND USE

Day-Night Average Exterior Sound Level (CNEL dBA)		
Designated Noise Zone Land Use	Time Interval	Exterior Noise Level
Residential Properties	10:00 p.m. to 7:00 a.m. (nighttime)	50 dBA
	7:00 a.m. to 10:00 p.m. (daytime)	55 dBA
Professional Office and Public Institutional Properties	Anytime	55 dBA
All Commercial Properties with the Exception of Professional Office Properties	Anytime	60 dBA
All Industrial Properties	Anytime	70 dBA

SOURCE: Huntington Beach Municipal Code Section 8.40.050 Exterior Noise Standards.

Orange County Noise Standards

The County's Noise Ordinance has set acceptable noise levels at residential properties (see Table 3.6-1). Section 4-6-5 (b) states the following:

It shall be unlawful for any person at any location within the unincorporated area of the County to create any noise, or to allow the creation of any noise on property owned, leased, occupied, or otherwise controlled by such person, when the foregoing causes the noise level, when measured on any other residential property, either incorporated or unincorporated, to exceed:

- 1) The noise standard for a cumulative period of more than thirty minutes in any hour;
- 2) The noise standard plus 5 dBA for a cumulative period of more than fifteen minutes in any hour; or
- 3) The noise standard plus 10 dBA for a cumulative period of more than five minutes in any hour; or
- 4) The noise standard plus 15 dBA for a cumulative period of more than one minute in any hour; or
- 5) The noise standard plus 20 dBA for any period of time.

City of Huntington Beach Noise Code

The City of Huntington Beach Municipal Code section 8.40.060 states the following:

it shall be unlawful for any person at any location within the incorporated area of the City to create any noise, or to allow the creation of any noise on property owned, leased, occupied, or otherwise controlled by such person, which causes the noise level when measured on any residential, public institutional, professional, commercial or industrial property either within or without the City, to exceed the applicable noise standards:

- 1) For a cumulative period of more than thirty minutes in any hour;
- 2) Plus 5 dBA for a cumulative period of more than fifteen minutes in any hour; or
- 3) Plus 10 dBA for a cumulative period of more than five minutes in any hour; or
- 4) Plus 15 dBA for a cumulative period of more than one minute in any hour; or
- 5) Plus 20 dBA for any period of time.

3.6.3 IMPACTS AND MITIGATION

CRITERIA FOR DETERMINING SIGNIFICANCE

The proposed project may result in a significant noise impact if it would:

- expose existing receptors to or generate noise levels resulting from the project in excess of health standards established by the County noise ordinance;
- expose future visitors to the proposed site to existing or projected noise levels in excess of established standards and thresholds (if existing noise levels currently exceed criteria, incremental changes in noise levels in excess of 3 dBA above existing noise would be considered significant);
- result in excessive noise levels when measured at a distance of 50 feet from the noise source during construction activity occurring within 500 feet of a school zone or other sensitive noise receptor; or,

- expose persons to or generate excessive groundborne vibration or groundborne noise levels.

PROJECT IMPACTS

Impact 3.6-1: Operations of the proposed EPSA and OCPT project would generate noise.

Effluent Pump Station Annex

Operational activities associated with the proposed project that could generate noise include testing of emergency generators, testing of back-up pumps, and truck traffic associated with maintenance of odor and corrosion control devices. The EPSA/OOBS is an interchangeable system that allows the District to concurrently operate OOBS and/or EPSA without increasing the current 480 mgd capacity. However, all components of both stations can be utilized during peak flow conditions to increase overall capacity. The backup Standby Power Facilities would only be used in case of a power failure. As such, the proposed project would not add any new sources of noise. The PEIR established a fence line noise standard for operational noise at both the treatment plants. The standard would apply to the newly proposed project. The proposed mitigation measure would ensure that project operations would not constitute a significant noise impact.

Odor and Corrosion Control Program

Maintenance activities at the new odor and corrosion control devices throughout Orange County would entail a tanker truck driving to the control device and filling the storage tank. It is estimated that three trucks per week would be required to deliver chemicals. Three truck trips per week would not raise ambient noise in the area significantly and as such, would not be considered a significant noise impact.

Mitigation Measures

Effluent Pump Station Annex

M-3.6-1 The EPSA, Distribution Center "E" Building, and Emergency Standby Power Facilities will be designed to insulate noise of the machinery such that fence-line noise standards would not be exceeded.

Significance after Mitigation

Less than significant.

Impact 3.6-2: The proposed EPSA project would generate noise during construction.

Effluent Pump Station Annex

The proposed project may result in an increase in noise levels during construction that could affect sensitive noise receptors. Construction activities (including demolition and pile driving if required) associated with the proposed project could intermittently generate high noise levels on, and adjacent to, the treatment plant site. Construction activities associated with the proposed project include demolition, grading and earthmoving activities, hauling materials, pile driving, and building structures. Construction

noise levels at and near the project site would fluctuate depending on the particular type, number, and duration of uses construction equipment. Construction-related material haul trips would raise ambient noise levels along haul routes. In addition, certain types of construction equipment such as pile drivers generate impulsive noises, which can be particularly annoying. Existing residences and other nearby noise-sensitive uses that could be exposed to construction noise are the single-family residences located to the northwest and southeast of the construction site.

Table 3.6-2 summarizes typical noise levels during different construction stages. Table 3.6-3 shows typical noise levels produced by equipment commonly used in construction projects. As indicated, equipment involved in construction is expected to generate noise levels ranging from 76 dBA to 101 dBA at a distance of 50 feet. Noise produced by construction equipment would be reduced at a rate of about 6 decibels per doubling of distance.

Construction activities at the project site could include pile driving. Pile driving would emit noise at 101 dBA when measured at 50 feet. The PEIR identified specific mitigation measures (Measures 6.4-1c, 6.4-1d, and 6.4-1f) for pile driving that would be applicable to this project. Attenuation would reduce the noise level to approximately 71 dBA at the closest sensitive receptor (residential area in Newport Beach on Pacific Coast Highway) located 1,800 feet to the southeast. Intervening structures, and landscaping would help reduce noise levels.

Construction activities are short term and would comply with the Orange County Municipal Code Section 4-6-7 (e) and the City of Huntington Beach Municipal Code Chapter 8.40.090 (d) which limits construction activities to 7:00 a.m. to 8:00 p.m. Monday through Saturday. Mitigation measures M-3.6-2 and M-3.6-3 would further reduce the noise impact on local sensitive receptors. The proposed project would have a less than significant impact on the local noise environment.

TABLE 3.6-2: TYPICAL CONSTRUCTION NOISE LEVELS FOR PUBLIC WORKS SITE

<u>Construction Phase</u>	<u>Noise Level (dBA, Leq^a)</u>
Ground Clearing	84
Excavation	91
Foundations	87
Erection	81
Finishing	89

a Average noise levels correspond to a distance of 50 feet from the noisiest piece of equipment associated with a given phase of construction and 200 feet from the rest of the equipment associated with that phase.

SOURCE: Bolt, Baranek, and Newman, *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances*, 1971.

TABLE 3.6-3: NOISE LEVELS FROM CONSTRUCTION EQUIPMENT

<u>Construction Equipment</u>	<u>Noise Level (dBA, Leq at 50 feet)</u>
Dump Truck	88
Portable Air Compressor	81
Concrete Mixer (Truck)	85
Scraper	89
Jack Hammer	88
Dozer	87
Paver	89
Generator	76
Pneumatic Tools	85
Concrete Pump	82
Pile Driver	101
Backhoe	85

SOURCE: Cunniff, *Environmental Noise Pollution*, 1977 and Federal Transit Administration, 1995.

Mitigation Measures

Effluent Pump Station Annex

M-3.6-2 During construction phases, the contractor shall ensure that all construction is performed in accordance with the City of Huntington Beach and Orange County noise standards.

M-3.6-3 All equipment used during construction should be muffled and maintained in good operating condition. All internal combustion engine driven equipment should be fitted with intake and exhaust mufflers that are in good condition.

Significance after Mitigation

Less than significant.

Impact 3.6-3: The proposed EPSA project could expose persons to, or generate, excessive groundborne vibration or groundborne noise levels.

Construction activities such as excavation, pile driving and grading have the potential to generate groundborne noise and vibration in the area of the project site. However, the groundborne noise and vibration levels would be temporary in nature and would only occur during specified construction phases. In addition, the distances to sensitive receptors would greatly lessen groundborne noise and vibration perceived at local sensitive receptors. Due to the short term nature of the groundborne noise and vibration, and the distance to sensitive receptors, this would be considered a less than significant impact.

Mitigation Measures

None Required

Significance after Mitigation

Less than significant.

3.7 TRAFFIC

3.7.1 SETTING

Regional

The existing regional transportation facilities, travel modes, and traffic conditions are discussed in detail in the PEIR. The information presented in the PEIR is generally still applicable to the current conditions in Orange County.

Orange County is crossed by Interstates 5 and 405 and State Routes 22, 55, 57, 73, and 91, which are shown in Figure 2-1. A network of major (six lane divided, 120-foot right of way), primary (4-6 lane divided, 100-foot right of way), and secondary (4 lane divided or undivided, 8-foot right of way) highways traverse the County. The freeway system generally carries relatively high traffic volumes. The trunk lines of the collection system generally follow the alignment of the arterial streets. Smaller collector sewer lines maintained by cities underlie the smaller feeder streets.

Treatment Plant No. 2

Treatment Plant No. 2 is bordered by Brookhurst Street on the northwest, PCH on the southwest, and the SAR on the east. Access to Treatment Plant No. 2 is provided by a main entrance on Brookhurst Street, between Banning Avenue and Bushard Street. Two service entrances are located north and south of the main entrance.

Traffic flows are typically described in terms of their level of service (LOS). LOS is defined by a volume-to-capacity ratios ranging from A (v/c ratio 0.0-0.6) to F (v/c ratio over 1.0). Levels A through C are generally considered good operating conditions with only minor delays. LOS D is fair operating conditions with drivers occasionally having to wait through more than one signal at the intersection. The City of Huntington Beach's current policy considers LOS D to be acceptable at traffic-controlled intersections and LOS C acceptable for roadway segments. The following traffic counts and LOS for roadways and intersections near Treatment Plant No. 2 was provided by the City of Huntington Beach Public Works Department.¹

- Brookhurst Street is a major six-lane, north-south arterial with a median that extends from SR-1 in Huntington Beach to Fullerton in northern Orange County. Brookhurst Street carries an Average Daily Traffic (ADT)² of between 11,000 and 22,000 from Hamilton Avenue (just north of the plant) to PCH and operates at LOS A along this segment.

¹ Tom Brohard, City of Huntington Beach Public Works, personal communication, July 9, 2002. All numbers are from 1999 unless otherwise indicated.

² ADT represents the total number of vehicles that pass a segment of roadway in one day.

- Hamilton Avenue is a major four-lane, east-west oriented arterial from Newland Street to the Santa Ana River in Huntington Beach. It carries an ADT of 15,000 from Brookhurst Street to Bushard Street and operates at LOS A.
- SR-1, also known as PCH, is a four-lane regional highway that runs along the western coast of the state. From the SAR to Brookhurst Street, it carries an ADT of 43,000 and operates at LOS C. From Brookhurst Street to Magnolia Street, it carries an ADT of 33,000 and operates at LOS A.
- The intersection of Hamilton Avenue and Brookhurst Street operates at LOS C during the peak AM and PM hours (7:00 – 9:00 AM and 4:00 – 6:00 PM).
- The intersection of Brookhurst Street and PCH operates at LOS B during the AM peak hours, and LOS A during the PM peak hours according to the most recent data available from December 2001.

Existing traffic entering the plant consists of chemical delivery trucks; screenings, grit, and biosolid removal trucks; and the vehicles of employees, construction workers, and visitors.

Detailed information regarding existing operations-related traffic is described in Chapter 6 of the PEIR. The information in Table 3.7-1 is taken from Table 6.2-2 in the PEIR and shows year 1998 vehicle trips per day and future projected levels for year 2020 at Treatment Plant No. 2.

TABLE 3.7-1: TREATMENT PLANT NO. 2 VEHICLE TRIPS PER DAY

	Chemical Deliveries	Employee Trip	Biosolids Hauling	Grit and Screenings	Total
1998	4	209	17	0.16	231
2020	5	440	19	0.22	253

SOURCE: 1999 OCSD Strategic Plan PEIR

APPLICABLE REGULATIONS

County

The Orange County General Plan includes a Transportation Element, last updated in 1995, that identifies goals, policies, and implementation programs for planning, developing, and maintaining a surface transportation system in the unincorporated areas of Orange County. The Element contains three closely related components: Circulation Plan, Bikeways Plan, and Scenic Highways Plan.

City of Huntington Beach

The Circulation Element of the City of Huntington Beach General Plan evaluates the existing roadway system and identifies measures to accommodate existing future growth.³ The Circulation Element contains goals and policies to accommodate local and regional future growth.

3.7.2 IMPACTS AND MITIGATION

CRITERIA FOR DETERMINING SIGNIFICANCE

The CEQA Guidelines find impacts to traffic to be significant if the project were to cause any of the following conditions:

- Cause in an increase in traffic which is substantial in relation to existing traffic load and capacity of the street system;
- Exceed a level of service standard established by the county congestion management agency for designated roads or highways;
- Substantially increase hazards due to design features (e.g., sharp curves) or incompatible use (e.g., farm equipment);
- Result in inadequate emergency access;
- Result in inadequate parking capacity;
- Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks or lanes).

PROJECT IMPACTS

Impact 3.7-1: Periods of peak construction of the proposed EPSA and OCP project would add to traffic along local access streets.

Effluent Pump Station Annex

No detours, lane closures, or road closures are anticipated as a result of construction activities. However, increased truck traffic would be generated during peak construction periods. Estimates of traffic traveling to and from the site during each phase of construction are summarized below in Table 3.7-2. Demolition, excavation, and construction is estimated to last for approximately three years beginning in December 2002 and ending in Fall or Winter of 2005. During this time, traffic on local surrounding roads could be affected. The largest source of daily traffic would be from construction workers. Much of the traffic would access the site heading south on Brookhurst from the Interstate 405 Freeway. Some traffic would

³ City of Huntington Beach General Plan, Circulation Element, December 12, 1995.

access Brookhurst from PCH to the south. None of these streets currently operate under unacceptable levels. Brookhurst Street near Plant No. 2 operates under LOS A under existing conditions. However, the local freeway system throughout Orange County generally experiences heavy traffic and delays during peak commute hours. The construction project would add vehicles to the peak hour commute. The PEIR includes a mitigation measure (PEIR Measure 6.2-1) that requires the District to minimize peak hour construction traffic. Mitigation measure M-3.7-1 would further reduce impacts from construction traffic to less than significant levels.

TABLE 3.7-2: ESTIMATED DAILY CONSTRUCTION TRAFFIC AT PLANT NO. 2

Activity	Duration	Employee Vehicles (30 miles roundtrip)	Haul Trucks (18 miles roundtrip)	Delivery Trucks (30 miles roundtrip)
Demolition	50 days	20	5	0
Excavation, Grading, and Soil Removal	75 days	35	20	0
Construction	625 days	150	0	10

Source: Orange County Sanitation District

Odor and Corrosion Control Plan

Installation of the eight recommended continuous feed systems is a relatively minor operation involving the installation of temporary polyethylene tanks with PVC pipes running from the tank to the pumps and injection points. The tanks would be refilled approximately one to three times per week. Installation of the feed system and storage tanks takes one to three weeks and may involve excavation, trenching, and potentially temporary lane closures.

Construction of the continuous feed systems, including installation of the storage tanks, could require temporary lane closures in some roadways. The potential lane closures would be necessary for only one to three weeks during installation. Encroachment permits from local cities would be required for projects requiring lane closures. Any construction activity that may occur within the Caltrans Right of Way would require an encroachment permit from Caltrans. Chemical deliveries to storage tanks associated with the continuous feed systems could require temporary lane closures one to three times per week. The construction activities would be short term and chemical deliveries/application would be relatively brief, and therefore not expected to pose significant impacts to traffic circulation.

Mitigation Measures

Effluent Pump Station Annex

M-3.7-1 Dirt haul trucks and construction deliveries for the EPSA project shall avoid peak traffic periods (7:00 – 9:00 AM and 4:00 – 6:00 PM) to the extent feasible.

M-3.7-2 Parking for construction workers shall be provided on District property for each phase of construction.

Effluent Pump Station Annex and Odor and Corrosion Control Plan

M-3.7-3 Projects that would require lane closure or excavation within a Caltrans right-of-way including the PCH must comply with Caltrans' Encroachment Permit application process.

Significance After Mitigation

Less than significant.

Impact 3.7-2: Operations of the EPSA and OCP project would modify impacts to traffic locally.

Effluent Pump Station Annex

After completion of the EPSA, operations would have no impact on local traffic. Projected numbers of District personnel listed on page 3-32 of the PEIR would not change substantially as a result of the EPSA project.

Odor and Corrosion Control Plan

Twenty chemical application sites are currently in operation. Twelve sites are being treated with the caustic soda slug dosing application method, and eight are using continuous feed systems under the pilot study. The District is proposing to keep these sites in operation and make them permanent features of the District's odor control program. Operation of the OCP would not increase truck traffic since the chemical delivery trucks servicing these locations would replace the trucks that previously delivered caustic soda for the slug dosing application method. Figure 2-6 in the Project Description shows the location of the eight continuous feed systems and the chemicals used at each site. New locations could be implemented throughout the service area as needed.

The slug application method of discharging caustic soda to the sewer through manholes requires temporary lane closures lasting less than a whole day. These activities would remain unchanged from existing conditions. In the areas where permanent continuous feed systems are installed, slug application would be eliminated, reducing the need for lane closures. This would reduce the existing level of impact. Chemical delivery trucks would be dispatched up to once per day during the summer months. One additional truck trip per day would not significantly impact LOS ratings of local streets.

Mitigation Measures

No mitigation measures are required.

Significance After Mitigation

Less than significant.

CHAPTER 5

ACRONYMS AND ABBREVIATIONS

ACOE	Army Corps of Engineers
ADT	Average Daily Traffic
AQMP	Air Quality Management Plan
BMP	Best Management Practice
CAA	Clean Air Act
CARB	California Air Resources Board
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CGS	California Geological Survey
CNEL	Community Noise Equivalent Level
CO	Carbon Monoxide
CWA	Clean Water Act
dB	Decibel
dBA	A-Weighted Decibel
DISTRICT	Orange County Sanitation District
DOT	Department of Transportation
DTSC	Department of Toxic Substances Control
EPA	Environmental Protection Agency

EPSA	Effluent Pump Station Annex
FEMA	Federal Emergency Management Agency
FPS	Foster Pump Station
IERP	Integrated Emergency Response Program
JB-C	Junction Box C
L_{dn}	Day-Night Sound
L_{eq}	Equivalent Sound Level
L_{max}	Maximum Sound Level
L_{min}	Minimum Sound Level
L_{xx}	Percentile Exceeded Sound Level
LOS	Level of Service
MMRP	Mitigation Monitoring and Reporting Plan
MSDS	Material Safety Data Sheet
MW	Megawatts
NAAQS	National Ambient Air Quality Standards
NIOSH	National Institute for Occupational Safety and Health
NO	Nitric Oxide
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
O_3	Ozone
OCP	Collection System Odor and Corrosion Control Program
OCWD	Orange County Water District

CHAPTER 4

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OOBS	Ocean Outfall Booster Station
OSHA	Occupational Safety and Health Administration
Pb	Lead
PCH	Pacific Coast Highway
PEIR	Program Environmental Impact Report
PM ₁₀	Particulate Matter
ROC	Reactive Organic Compounds
RWQCB	Regional Water Quality Control Board
SAR	Santa Ana River
SARWQCB	Santa Ana Regional Water Quality Control Board
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	Southern California Air Quality Management District
SCE	Southern California Edison
SEIR	Supplemental Environmental Impact Report
SO ₂	Sulfur Dioxide
SPCC	Spill Prevention Containment and Countermeasure
SWMP	Storm Water Management Plan
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic Air Contaminants
TMDL	Total Maximum Daily Load
UBC	Uniform Building Code
UST	Underground Storage Tank

APPENDIX A

MITIGATION MONITORING AND REPORTING PROGRAM
FROM THE 1999 STRATEGIC PLAN FINAL PROGRAM
ENVIRONMENTAL IMPACT REPORT

**ORANGE COUNTY SANITATION DISTRICT
MITIGATION MONITORING AND REPORTING PROGRAM
FOR THE**

1999 STRATEGIC PLAN

Introduction

This is the Mitigation Monitoring and Reporting Program (MMRP) for the 1999 Strategic Plan approved by the Orange County Sanitation District.

This project has been analyzed in accordance with the California Environmental Quality Act (CEQA) requirements in the Environmental Impact Report (EIR) for the OCSD 1999 Strategic Plan Project (certified October 27, 1999). This MMRP is required by Section 21081.6 of the Public Resources Code (the CEQA statutes).

Mitigation Monitoring and Reporting Program

The MMRP includes the mitigation measures identified in the EIR required to address only the significant impacts associated with the project components being approved. The significant impacts associated with this project and the required mitigation measures are summarized in this program; the full text of the impact analysis and mitigation measures is presented in the Draft PEIR (published June 29, 1999). The mitigation measures included in this program are those adopted by the OCSD's Board of Directors in its Findings of Fact, as required by CEQA.

Table 1 summarizes the mitigation measures required for each project component. Compliance with these mitigation measures will be monitored and verified at different stages in the project implementation process. **Table 2** summarizes the mitigation measures by the schedule for compliance verification.

**TABLE 1
MITIGATION MEASURE BY PROJECT COMPONENT**

Mitigation Measure	Project Facility / Action				
	Preferred Alternative, Treatment Scenario 2	Ocean Discharge	Treatment System	Collection System	Biosolids Management Program
5 – OCEAN DISCHARGE					
Measure 5-3a, Oil and Grease	X	X			
Measure 5-3b, Local Grease Ordinance	X				
Measure 5-5, Brine Effects Studies	X				
Measure 5-9, Pathogen Reduction	X	X			
Measure 5-11, Outfall Cleaning	X				
Measure 5-12, Outfall Siting	X				
Measure 5-13, Pathogen Reduction	X	X			
6 – TREATMENT SYSTEM					
6.1 – Land Use					
Measure 6.1-1a, Construction Hours			X		
Measure 6.1-b, Construction Notification			X		
Measure 6.1-3a, Implement Landscaping Master Plan			X		
Measure 6.1-3b, Exterior Lighting			X		
6.2 – Traffic					
Measure 6.2-1, Contractor Coordination			X		
Measure 6.2-2a, Ride Sharing Program			X		
Measure 6.2-2b, Traffic Management			X		
Measure 6.2-3, Biosolids Transport			X		
6.3 – Biology					
Measure 6.3-1, Nesting Birds			X		
6.4 – Noise					
Measure 6.4-1a, Construction Hours			X		
Measure 6.4-1b, Muffled Equipment			X		
Measure 6.4-1c, Pile-Driving Noise Reduction			X		
Measure 6.4-1d, Alternatives for Foundations			X		
Measure 6.4-1e, Construction Notification			X		
Measure 6.4-1 f, Pile Driving Noise Reduction			X		
Measure 6.4-1g, Noise Reduction			X		
Measure 6.4-1h, Exterior Lighting			X		

TABLE 1 (CONTINUED)
MITIGATION MEASURE BY PROJECT COMPONENT

Mitigation Measure	Project Facility / Action				
	Preferred Alternative, Treatment Scenario 2	Ocean Discharge	Treatment System	Collection System	Biosolids Management Program
6.4 – Noise (continued)					
Measure 6.4-2a, Noise Performance Standard			X		
Measure 6.4-2b, Community Liaison			X		
Measure 6.4-3, Noise Control			X		
6.5 – Air Quality					
Measure 6.5-1a, Equipment Emissions			X		
Measure 6.5-1b, Truck Emissions			X		
Measure 6.5-1c, Dust Control			X		
Measure 6.5-1d, Soil Binders			X		
Measure 6.5-1e, Ground Cover			X		
Measure 6.5-2a, Non-Combustion Air Emissions			X		
Measure 6.5-2b, Future Air Emission Reductions			X		
Measure 6.5-3a, Ride-Sharing Program			X		
Measure 6.5-3b, Use of CNG			X		
Measure 6.5-3c, Alternative Fuels for Trucks			X		
Measure 6.5-3d, Transportation Alternatives			X		
Measure 6.5-4a, Energy Purchases			X		
Measure 6.5-4b, Clean-Burning Engines			X		
Measure 6.5-4c, Install BACT			X		
Measure 6.5-5a, Odor Control			X		
Measure 6.5-5b, Dewatering Odor Control			X		
Measure 6.5-5c, Community Liaison			X		
Measure 6.5-5d, Odor Complaint Follow-up			X		
Measure 6.5-5e, Pre-Design Coordination			X		
Measure 6.5-5f, Community Outreach			X		
6.6 – Geology					
Measure 6.6-1a, Geotechnical Evaluations			X		
Measure 6.6-1b, Seismic Safety			X		
Measure 6.6-2a, Spill Prevention			X		
Measure 6.6-2b, Spill Containment			X		

TABLE 1 (CONTINUED)
MITIGATION MEASURE BY PROJECT COMPONENT

Mitigation Measure	Project Facility / Action				
	Preferred Alternative, Treatment Scenario 2	Ocean Discharge	Treatment System	Collection System	Biosolids Management Program
6.7 – Hydrology					
Measure 6.7-1a, Best Management Practices			X		
Measure 6.7-1b, Storm Water Management			X		
Measure 6.7-1c, Storm Drain Inspection			X		
Measure 6.7-1d, Regional Board			X		
Measure 6.7-1e, Construction Site Storm Water			X		
Measure 6.7-2a, Groundwater Dewatering			X		
Measure 6.7-2b, Dewatering Discharge			X		
Measure 6.7-3a, Chemical Spills During Floods			X		
Measure 6.7-3b, Coordination with COE			X		
Measure 6.7-3c, Hazard Awareness			X		
Measure 6.7-3d, Flood Protection			X		
6.9 – Hazardous Materials					
Measure 6.9-1a, Worker Safety Training			X		
Measure 6.9-1b, Oxygen Facility Safety			X		
Measure 6.9-1c, Risk Management			X		
6.11 – Cumulative					
Measure 6.11-1a, Construction Coordination with OCWD			X		
11-1 – Growth Inducement					
Measure 11-1a, Phased Construction			X		
Measure 11-1b, Lower Flow Projections	X	X	X	X	X
Measure 11-2, Growth Mitigation Measures			X		
7 – COLLECTION SYSTEM					
7.1 – Land Use					
Measure 7.1-1a, Construction Hours				X	
Measure 7.1-1b, Construction Notification				X	
Measure 7.1-1c, Emergency Services Access				X	
Measure 7.1-1d, Covered Trenches				X	
Measure 7.1-1e, Signage				X	
7.2 – Traffic					
Measure 7.2-1a, Traffic Control Plans				X	
Measure 7.2-1b, Alternative Routes				X	

TABLE 1 (CONTINUED)
MITIGATION MEASURE BY PROJECT COMPONENT

Mitigation Measure	Project Facility / Action				
	Preferred Alternative, Treatment Scenario 2	Ocean Discharge	Treatment System	Collection System	Biosolids Management Program
7.2 – Traffic (continued)					
Measure 7.2-1c, Encroachment Permits				X	
Measure 7.2-1d, Traffic Control Plans				X	
Measure 7.2-1e, Traffic Disruption Avoidance				X	
Measure 7.2-1f, Street Closures				X	
Measure 7.2-1g, Roadway Restoration				X	
Measure 7.2-1h, Sewer Construction Coordination				X	
Measure 7.2-1i, Emergency Services				X	
Measure 7.2-1j, OCTA Coordination				X	
Measure 7.2-1k, Railroad Encroachment Procedures				X	
Measure 7.2-1l, Trails and Bikeways				X	
Measure 7.2-1m, County of Orange Coordination				X	
Measure 7.2-1n, Trails Restoration				X	
7.3 – Biology					
Measure 7.3-1, Additional CEQA Review			X	X	
7.4 – Noise					
Measure 7.4-1a, Hours of Construction				X	
Measure 7.4-1b, Noise Control				X	
Measure 7.4-1c, Pile-Driving Noise Reduction				X	
Measure 7.4-1d, Construction Notification				X	
7.5 – Air Quality					
Measure 7.5-1a, Dust Control				X	
Measure 7.5-1b, Exhaust Emissions				X	
Measure 7.5-1c, Truck Emissions Reductions				X	
7.6 – Geology					
Measure 7.6-1a, Seismic Safety				X	
Measure 7.6-1b, Soils Survey				X	
7.7 – Hydrology					
Measure 7.7-1a, Contractor BMPs				X	

TABLE 1 (CONTINUED)
MITIGATION MEASURE BY PROJECT COMPONENT

Mitigation Measure	Project Facility / Action				
	Preferred Alternative, Treatment Scenario 2	Ocean Discharge	Treatment System	Collection System	Biosolids Management Program
7.7 – Hydrology (continued)					
Measure 7.7-1b, Storm Season Restrictions				X	
Measure 7.7-1c, County of Orange Coordination				X	
Measure 7.7-1d, Waterway Protection				X	
Measure 7.7-1e, Spill Prevention				X	
Measure 7.7-1f, Spill Containment				X	
Measure 7.7-1g, Flood Control Facilities				X	
7.8 – Public Services					
Measure 7.8-1a, Traffic Control Plan Notifications				X	
Measure 7.8-1b, Emergency Facility Access				X	
Measure 7.8-1c, Trench Openings				X	
Measure 7.8-2a, Pedestrian Safety				X	
Measure 7.8-2b, Equipment Security				X	
Measure 7.8-2c, Construction Refuse				X	
Measure 7.8-3a, Utility Search				X	
Measure 7.8-3b, Utility Conflicts				X	
Measure 7.8-3c, Protect Utilities				X	
Measure 7.8-3d, Agency Coordination				X	
Measure 7.8-3e, Identify Abandoned Oil Wells				X	
Measure 7.8-3f, Abandon Wells				X	
7.9 – Aesthetics					
Measure 7.9-1a, Construction Site Restoration				X	
Measure 7.9-1b, Construction Housekeeping				X	

TABLE 1 (CONTINUED)
MITIGATION MEASURE BY PROJECT COMPONENT

Mitigation Measure	Project Facility / Action				
	Preferred Alternative, Treatment Scenario 2	Ocean Discharge	Treatment System	Collection System	Biosolids Management Program
7.10 - Cultural Resources					
Measure 7.10-1, Archaeological Surveys				X	
Measure 7.10-2a, Archaeological Resources				X	
Measure 7.10-2b, Cultural Resources				X	
Measure 7.10-2c, Human Remains Alert				X	
7.11 - Cumulative					
Measure 7.11-1a, Coordinate Construction				X	
Measure 7.11-1b, Recycling				X	
8 - BIOSOLIDS MANAGEMENT PROGRAM					
Measure 8-2, Trucking Impact Reduction					X
Measure 8-3a, Truck Noise Reduction					X
Measure 8-3b, Biosolids Transport					X
Measure 8-5a, Biosolids Application Sites					X
Measure 8-5b, Biosolids Land Application					X

**TABLE 2
TIMING OF VERIFICATION FOR MITIGATION MEASURES**

Timing of Verification	Mitigation Measures
On-going	5-3a, 5-3b, 5-5, 5-9a, 5-13, 6.1-3a, 6.2-2a, 6.4-2a, 6.4-2b, 6.4-3, 6.5-2a, 6.5-2b, 6.5-3a, 6.5-3b, 6.5-3c, 6.5-3d, 6.5-4a, 6.5-4b, 6.5-4c, 6.5-5a, 6.5-5b, 6.5-5c, 6.5-5d, 6.5-5e, 6.5-5f, 6.6-2a, 6.6-2b, 6.7-1a, 6.7-1b, 6.7-1c, 6.7-1d, 6.7-1e, 6.7-3a, 6.7-3b, 6.7-3c, 6.7-3d, 6.9-1a, 6.9-1b, 6.9-1c, 11-1a, 11-1b, 11-2, 7.7-1a, 7.7-1b, 7.7-1c, 7.7-1d, 7.7-1e, 7.7-1f, 8-2, 8-3a, 8-3b, 8-5a, 8-5b
During project/engineering design	7.8-3a, 7.8-3b, 7.8-3d, 7.10-10
Prior to approval of final design plans and specifications	5-11, 6.4-1d, 6.4-1e, 7.4-1c
Prior to approval of construction contract	6.2-2b, 6.2-3
Prior to start of construction	5-12, 6.1-1a, 6.1-1b, 6.1-3b, 6.2-1, 6.3-1, 6.4-1a, 6.4-1b, 6.4-1c, 6.4-1f, 6.4-1g, 6.4-1h, 6.5-1a, 6.5-1b, 6.5-1c, 6.5-1d, 6.5-1e, 6.6-1a, 6.6-1b, 6.11-1a, 7.1-1a, 7.1-1b, 7.1-1c, 7.1-1d, 7.1-1e, 7.2-1a, 7.2-1b, 7.2-1c, 7.2-1d, 7.2-1e, 7.2-1f, 7.2-1g, 7.2-1h, 7.2-1i, 7.2-1j, 7.2-1k, 7.2-1l, 7.2-1m, 7.2-1n, 7.3-1, 7.4-1a, 7.4-1b, 7.4-1d, 7.5-1a, 7.5-1b, 7.5-1c, 7.6-1a, 7.6-1b, 7.7-1g, 7.8-2a, 7.8-2b, 7.8-2c, 7.8-3a, 7.8-3b, 7.8-3c, 7.8-3d, 7.8-3e, 7.8-3f, 7.9-1a, 7.9-1b, 7.10-1, 7.10-2a, 7.10-2b, 7.10-2c, 7.11-1a, 7.11-1b
During construction	6.4-1a, 6.4-1b, 6.4-1c, 6.4-1f, 6.4-1g, 6.4-1h, 6.5-1a, 6.5-1b, 6.5-1c, 6.5-1d, 6.5-1e, 6.7-2a, 6.7-2b, 6.11-1a, 7.1-1a, 7.1-1b, 7.1-1c, 7.1-1d, 7.1-1e, 7.2-1a, 7.2-1b, 7.2-1c, 7.2-1d, 7.2-1e, 7.2-1f, 7.2-1g, 7.2-1h, 7.2-1i, 7.2-1j, 7.2-1k, 7.2-1l, 7.2-1m, 7.2-1n, 7.3-1, 7.4-1a, 7.4-1b, 7.5-1a, 7.8-1a, 7.8-1b, 7.8-1c, 7.8-2a, 7.8-2b, 7.8-2c, 7.8-3a, 7.8-3b, 7.8-3c, 7.8-3d, 7.8-3e, 7.8-3f, 7.9-1a, 7.9-1b, 7.10-1, 7.10-2a, 7.10-2b, 7.10-2c

SOURCE: Environmental Science Associates

The MMRP is organized in a table format, keyed to each significant impact and each adopted EIR mitigation measure. The significant impacts and mitigation measures are summarized in the tables and are coded by number to the appropriate EIR section. The column headings in the tables are defined as follows:

- **Implementation Procedure:** Where needed, this column provides additional information on how the mitigation measures will be implemented. The column is blank if no elaboration on the mitigation is necessary.
- **Monitoring and Reporting Actions:** This column contains an outline of the appropriate steps to verify compliance with the mitigation measure.

- **Monitoring Responsibility:** This column contains an assignment of responsibility for the monitoring and reporting tasks.
- **Monitoring Schedule:** The general schedule for conducting each monitoring and reporting task, identifying where appropriate both the timing and the frequency of the action. The schedule milestones utilized for this column include:
 - During project/engineering design
 - Prior to approval of final design plans and specifications
 - Prior to approval of construction contract
 - During construction
 - After construction

MITIGATION MONITORING / REPORTING PROGRAM

MARINE ENVIRONMENT / OCEAN DISCHARGE

Impact 5-3. Oil and Grease effluent levels would comply with numerical permit limits under Scenarios 1, 2, and 5 but would potentially create observable floating particles which would be a permit violation. This impact would be mitigated through monitoring and treatment to achieve and maintain compliance.

Measure 5-3a: Oil and Grease. The District shall monitor receiving water in accordance with its current NPDES permit monitoring requirement and, if floating particulates from the discharge are observed in surface receiving water, the District shall modify its treatment process to reduce oil and grease in the effluent. Treatment modifications that may be implemented to address this issue include: increasing the level of secondary effluent in the discharge blend, and employing new and/or additional chemical processes (new polymer) to increase oil and grease removal.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
1. Incorporate surface water observations in monthly marine monitoring program focused above ZID as well as down-current.	Publish results with annual monitoring program report submitted to the RWQCB.	OCSD	Monthly, beginning when treatment level is changed.
2. Establish methods of increasing treatment in order to be prepared to eliminate floatables if necessary.			

Measure 5-3b: Local Grease Ordinance. The District shall work with its member agencies to encourage adoption of local ordinances for improved source control of oil and grease.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
1. Board of Directors to pursue source control policy actions.	Board to adopt source control policies.	OCSD	On-going

Impact 5-5. Increased discharge of brine under any scenario but particularly under Scenarios 2, 4, and 6 with the GWR System would reduce initial dilution and increase metals concentrations. This could result in potentially significant toxicity impacts. Potentially significant.

Measure 5-5: Brine Effect Studies. Study and monitor the effect of brine and adjust treatment and/or brine addition as needed to maintain NPDES permit effluent quality compliance.

- a) Conduct a pilot study of the effect of increased brine discharge to OCSD effluent on effluent quality to demonstrate NPDES permit compliance. Prior to start-up of full operation of the GWR System Project, OCSD will test effluent quality with the addition of the GWR System project brine concentrate in accordance with the acute and chronic toxicity testing procedures required in the District's NPDES permit. This will allow the District to confirm the potential compliance with the NPDES permit.
- b) During GWR System operation, OCSD will continue its effluent quality testing and ocean monitoring in compliance with its NPDES permit. If this testing or monitoring indicates the occurrence of or potential for non-compliance with effluent toxicity standards, the District will implement measures to achieve and maintain NPDES compliance, including:
 - brine dilution
 - brine treatment
 - toxicity identification evaluation and appropriate source control measures

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
<ol style="list-style-type: none"> 1. Initiate contract to study brine toxicity. 2. Based on study results, identify further actions. 	Include status of contract and study results in Annual Operations And Maintenance Report.	OCSD and OCWD	At adoption of findings.

Impact 5-9: Effluent discharge to the 78-inch outfall at a rate of once every three years would result in significant impacts to levels of pathogens in the nearshore waters used for water-contact activities or where shellfish are harvested.

Measure 5-9a: Pathogen Reduction. Pathogen reduction in the wet weather discharge would partially mitigate the impact of wet weather discharge to the nearshore area by reducing the pathogen levels and thereby reducing the health risk. Disinfection could reduce pathogen levels but it is not recommended by the RWQCB based on cost and the potential for residual chlorine in the discharge to have an adverse impact to marine organisms. Alternative methods of pathogen removal appropriate for wet weather flow treatment are under development and include filtration processes. The District will continue to evaluate new technologies for pathogen reduction and will implement those that prove to be feasible, effective, and cost-effective. Even with some level of pathogen reduction, beach closure would still probably be required, thus the impact to beach use would remain significant and unavoidable during these infrequent events.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
1. Continue research of pathogen reduction technologies, in particular, micro-filtration.	Include status and results of research in Annual Operations And Maintenance Report.	OCSD	On-going.

Impact 5-11: Removal of accumulated sediments in the existing 120-inch outfall, if needed, would move sediments into the marine environment, which could result in short-term water quality and sediment impacts affecting marine organisms.

Measure 5-11: Outfall Cleaning. If necessary, the District will develop plans to clean out the outfall using appropriate methods approved by the RWQCB to protect water quality in accordance with regulations. The plan will include methods to contain floatables and disperse the sediments so that impacts to benthic communities and water quality are minimized.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
1. Submit clean-out methods to RWQCB prior to implementation.	Include status and results of methods in Annual Operations And Maintenance Report.	OCSD	Prior to clean-out

Impact 5-12. Laying pipeline for any new outfall would result in the permanent loss of hundreds of thousands of square feet of soft-bottom, benthic habitat. Adjacent communities would be temporarily disrupted by increased sedimentation. Disturbance of bottom sediment may result in the short-term release of contaminants into the water column. Potentially significant but can be mitigated.

Measure 5-12: Outfall Siting. The District would conduct additional detailed, site-specific studies for the siting of a new second 120-inch ocean outfall. These studies would clarify the extent of marine resources that would be affected by construction and identified appropriate mitigation measures to minimize the area of disturbance.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
<ol style="list-style-type: none"> 1. Initiate feasibility and design studies prior to construction. 2. Prepare appropriate CEQA documentation of proposed project. 3. Implement mitigation measures identified in subsequent CEQA documentation. 	Include status and methods in Annual Operations And Maintenance Report.	OCSD	Prior to construction

Impact 5-13: Use of the 78-inch outfall for peak wet weather discharges would contribute to significant cumulative pollutant loads (particularly pathogens) to the nearshore environment during wet weather events in combination with non-point source pollution. Significant.

Measure 5-13: Pathogen Reduction. To mitigate the cumulative contribution from use of the 78-inch outfall, the District will implement Mitigation Measure 5-9, above to provide additional pathogen reduction as allowed and/or required by the RWQCB.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
<ol style="list-style-type: none"> 1. Continue research of pathogen reduction technologies, in particular, micro-filtration. 	Include status and results of methods in Annual Operations And Maintenance Report.	OCSD	On going

Treatment Plant
Land Use

Impact 6.1-1. Expansion of the OCSD treatment facilities, as proposed under Scenarios 2 and 4, would require the construction of additional facilities at Reclamation Plant No. 1 and at Treatment Plant No. 2. Project construction would result in short-term disturbance of adjacent land uses. Less than Significant with Mitigation Measures.

Measure 6.1-1a: Construction Hours. The District's standard specifications provide construction hours of work between 7:00 AM and 5:30 PM, except for emergency or special circumstances requiring that work be done during low-flow periods.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
<ol style="list-style-type: none"> 1. Include compliance with local noise and construction ordinances in construction specifications. 2. Provide construction oversight to ensure scope of work is carried out. 	Maintain record of construction oversight for administrative record.	OCSD	Prior to and during construction

Measure 6.1-1b: Construction Notification. The District shall post informational signs outside plant when major projects are being constructed.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
<ol style="list-style-type: none"> 1. Post notices near job site outside plant property. 	Maintain record of distribution for administrative record.	OCSD	Prior to construction

Impact 6.1-3. Expansion and operation of the proposed facilities for both Scenarios 2 and 4 could adversely alter existing visual character of the site with installation of tall structures and the removal of trees. In additional project implementation could introduce new sources of light and glare. Less than Significant with Mitigation Measures.

Measure 6.1-3a: Implement Landscaping Master Plan. The District will implement the Urban Design Element of the Strategic Plan in order to improve the visual appearance of the site. Recommendations from the Landscape Master Plans (of the Urban Design Element) include the development of buffer zones, planting of trees at the perimeter of the plants along sensitive visual corridors (e.g. Santa Ana bikeway), and maintaining and enhancing the appearance of existing buffer zones.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
1. Comply with Urban Design Plan.	Maintain Urban Design plan for administrative record.	OCSD	On going

Measure 6.1-3b: Exterior Lighting. The District will install permanent exterior lighting on new facilities to point away from neighboring residential areas as possible to minimize visible light sources.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
1. Comply with Urban Design Plan. 2. Conduct nighttime survey after new construction to confirm less than significant impact.	Maintain Urban Design Plan and record of nighttime inspection for administrative record.	OCSD	Prior to and after construction

Traffic

Impact 6.2-1: Periods of peak construction will increase traffic along local access streets. Less than Significant with Mitigation Measures.

Measure 6.2-1: Contractor Coordination. For each major project or construction period, the District would complete a detailed construction schedule and notify the Cities of Fountain Valley and Huntington Beach of construction. Construction vehicles shall be run on a schedule to minimize truck traffic on arterial highways.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
<ol style="list-style-type: none"> 1. Require traffic control plan for construction projects. 2. Notify affected cities of construction schedule. 3. Provide construction oversight. 	<p>Ensure that construction vehicle traffic complies with traffic control plan.</p> <p>Provide record of construction oversight.</p>	OCSD	Prior to and during construction

Impact 6.2-2: Additional traffic would be generated from the ongoing operations of the facilities at Reclamation Plant No. 1 and Treatment Plant No. 2. Sources of new traffic include chemical truck deliveries, trips by new District's employees, and increased biosolids hauling truck trips. Less than Significant with Mitigation Measures.

Measure 6.2-2a: Ride-Sharing Program. The Districts will continue the existing ride-sharing program to encourage employees to join a carpool and use transit.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
	<p>Include status of rideshare program in Operation and Maintenance Annual Report.</p>	OCSD	Annually

Measure 6.2-2b: Traffic Management Chemical delivery trucks and screenings and grit and biosolids disposal trucks will avoid operating during peak traffic hours when possible.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
<ol style="list-style-type: none"> 1. The District will develop a preferred truck-hauling schedule avoiding peak traffic hours. 2. Thereafter the District will attempt to comply with the schedule whenever possible. 3. The District will incorporate this preferred schedule when renewing contracts with haulers and chemical deliverers. 	<p>Prepare a record of hauling schedule.</p>	<p>OCSD</p>	<p>At hauler's contract renewal</p>

Impact 6.2-3: Increased biosolids and chemical truck trips would impact regional transportation systems including freeways, especially I-405 and I-5. Less than Significant with Mitigation Measures.

Measure 6.2-3: Biosolids Transport. The District shall arrange for the transport of biosolids by trucks during off-peak travel hours when possible to reduce truck travel times and minimize impacts to the regional transportation system.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
<ol style="list-style-type: none"> 1. The District will develop a preferred truck-hauling schedule avoiding peak traffic hours. 2. Thereafter the District will attempt to comply with the schedule whenever possible. 3. The District will incorporate this preferred schedule when renewing contracts with haulers. 	Prepare a record of hauling schedule.	OCSD	At hauler's contract renewal

Impact 6.3-1: Removal of trees on the treatment plant sites during construction could impact nesting birds. This impact is considered less than significant with mitigation.

Measure 6.3-1: Nesting Birds. Prior to the removal of healthy trees on site, a biologist knowledgeable of birds will survey the trees to determine if active nests are present. If nests of sensitive species are present, tree removal will be scheduled to avoid the nesting season.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
<ol style="list-style-type: none"> 1. Include tree surveys in construction specifications for on-site construction projects. 	Maintain record of biologist survey recommendations and record of District adherence with recommendations.	OCSD	Prior to and during construction

Noise

Impact 6.4-1: Construction activities related to the proposed treatment plant improvements at Reclamation Plant No. 1 and Treatment Plant No. 2 would intermittently and temporarily generate noise levels above existing ambient levels in the project vicinity. Significant and Unavoidable.

Measure 6.4-1a: Construction Hours. The District's standard specifications provide construction hours of work between 7:00 AM and 5:30 PM, except for emergency or special circumstances requiring that work be done during low-flow periods.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
2. Include compliance with local noise and construction ordinances in construction specifications.	Maintain record of construction oversight for administrative record.	OCSD	Prior to and during construction
3. Provide construction oversight to ensure scope of work is carried out.			

Measure 6.4-1b: Muffled Equipment. All equipment used during construction shall be muffled and maintained in good operating condition. All internal combustion engine driven equipment shall be fitted with intake and exhaust mufflers that are in good condition.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
1. Include compliance with local noise and construction ordinances in construction specifications.	Maintain record of construction oversight for administrative record.	OCSD	Prior to and during construction
2. Include noise reduction procedures in construction specifications			
3. Provide construction oversight to ensure scope of work is carried out.			

Measure 6.4-1c: Pile-Driving Noise Reduction. OCSD shall consult with an acoustical engineer to evaluate other alternatives for mitigating impacts from extensive pile driving activities when necessary.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
<ol style="list-style-type: none"> 1. Initiate contract with qualified engineer to reduce noise impacts. 2. Incorporate noise reduction solutions. 3. Provide construction oversight to ensure scope of work is carried out. 	Maintain record of construction oversight for administrative record.	OCSD	Prior to and during construction

Measure 6.4-1d: Alternatives for Foundations. OCSD will evaluate the use of alternative foundation designs to avoid a need for pilings where cost-effective and technically feasible.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
<ol style="list-style-type: none"> 1. Include preference to avoid pilings where possible in project design specifications. 	Maintain record of design specifications.	OCSD	Prior to project design

Measure 6.4-1e: Construction Notification. Nearby sensitive receptors affected by construction shall be notified concerning the project timing and construction schedule, and shall be provided with a phone number to call with questions or complaints.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
<ol style="list-style-type: none"> 1. Prepare and distribute notifications. 	Maintain record of notification distribution list.	OCSD	Prior to construction

Measure 6.4-1f: Pile Driving Noise Reduction. Noise-reduction measures will be implemented such as acoustic insulation or by other means during the construction period at Reclamation Plant No. 1 to reduce a nuisance condition to the closest residences when pile driving is taking place.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
<ol style="list-style-type: none"> 1. Include noise reduction procedures in construction specifications 2. Provide construction oversight to ensure scope of work is carried out. 	Maintain record of construction oversight for administrative record.	OCSD	Prior to and during construction

Measure 6.4-1g: Noise Reduction. The District will require construction contractors to include methods to reduce noise and elevated activity impacts to nearby wildlife when working on the southern and southeastern border of Treatment Plant No. 2.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
<ol style="list-style-type: none"> 1. Include noise reduction procedures in construction specifications 2. Conduct wildlife sensitivity training during morning tail-gate meetings. 3. Provide construction oversight to ensure scope of work is carried out. 	Maintain record of construction oversight for administrative record.	OCSD	Prior to and during construction

Measure 6.4-1h: Exterior Lighting. The District will install permanent exterior lighting on new facilities to point away from the wetland areas adjacent to Plant No. 2 as possible to minimize light sources permanently shining on the adjacent habitats.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
<ol style="list-style-type: none"> 1. Include lighting design in construction specifications. 	Conduct periodic evening surveys to observe lights.	OCSD	Prior to and during construction

Impact 6.4-2: Operation of proposed new equipment at Reclamation Plant No. 1 and Treatment Plant No. 2 would generate noise levels above existing ambient levels in the project vicinity. Less than Significant with Mitigation Measures.

Measure 6.4-2a: Noise Performance Standard. OCSD shall establish a performance noise standard for operational noise at Reclamation Plant No. 1 and Treatment Plant No. 2. The performance standard shall apply to the property line of each plant and shall prohibit hourly average noise levels in excess of 55 dBA between the hours of 7:00 a.m. to 10:00 p.m. and 50 dBA between the hours of 10:00 p.m. and 7:00 a.m., as required by the Fountain Valley and Huntington Beach Noise Ordinances. Available mitigation to achieve the performance standard consists of locating noise sources away from sensitive receptors, installation of acoustical enclosures around noise sources, installation of critical application silencers and sequential mufflers for exhaust noise, installation of louvered vents, directing vent systems away from nearby residences, and constructing soundwalls at the property lines.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
<ol style="list-style-type: none"> 1. Include compliance with local noise and construction ordinances in standard operational procedures. 2. Implement noise reduction procedures when possible. 3. Consider operational noise when locating new equipment. 	Maintain record of noise complaints for administrative record.	OCSD	On-going

Measure 6.4-2b: Community Liaison. The District will assign a community liaison for odor and noise complaints.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
<ol style="list-style-type: none"> 1. Meet with community groups. 2. Develop tasks and assignments for liaison. 3. Periodically review effectiveness of community liaison program. 	Maintain record of meetings with community groups.	OCSD	On-going

Impact 6.4-3: Workers at Reclamation Plant No. 1 and Treatment Plant No. 2 may be exposed to excess noise levels from the operation of new facilities. Less than Significant with Mitigation Measures.

Measure 6.4-3: Noise Control. Noise control measures shall be incorporated into the design of the facility. Once the facility is operational, a certified industrial hygienist or other qualified individual shall measure the noise levels to which workers are exposed. If the OSHA 8-hour time weighted average exposure for any worker exceed the 85 dBA threshold, a hearing conservation program must be initiated and appropriate administrative and engineering controls must be put in place to protect workers.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
<ol style="list-style-type: none"> 1. Include noise control measures in design of new equipment. 2. Conduct noise assessments on site and on the perimeter to quantify impacts to workers and neighborhood to respond to complaints. 	Include noise assessment results in annual Operations and Maintenance Report.	OCSD	Annually

Air Quality

Impact 6.5-1: Project development under any of the six project scenarios would generate short-term emissions of air pollutants, including dust and criteria pollutants, from demolition, construction and/or restoration activities. Significant and Unavoidable.

Measure 6.5-1a: Equipment Emissions. General contractors shall maintain equipment engines in proper tune and operate construction equipment so as to minimize exhaust emissions. Such equipment shall not be operated during second stage smog alerts.

Measure 6.5-1b: Truck Emissions. During construction, trucks and vehicles in loading or unloading queues shall be kept with their engines off, when not in use, to reduce vehicle emissions. Construction activities shall be phased and scheduled to avoid emissions peaks, and discontinued during second-stage smog alerts.

Measure 6.5-1c: Dust Control. General contractors should use reasonable and typical watering techniques to reduce fugitive dust emissions. All unpaved demolition and construction areas shall be wetted as necessary during excavation and construction, and temporary dust covers shall be used to reduce dust emissions and meet SCAQMD District Rule 403.

Measure 6.5-1d: Soil Binders. Soil binders shall be spread on site, unpaved roads, and parking areas when needed.

Measure 6.5-1e: Ground Cover. Ground cover shall be re-established following completion of construction activities through seeding and watering if needed.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
<ol style="list-style-type: none"> 1. Include air emissions restrictions and standard operating procedures for construction work in contract specifications. 2. Include dust reduction measures listed in mitigation measures in contract specifications. 3. Conduct oversight of construction activities to ensure scope of work is carried out. 	<p>Maintain record of construction oversight for administrative record.</p>	<p>OCS D</p>	<p>Prior to and during construction.</p>

Impact 6.5-2: Emissions at both treatment plants under any of the project scenarios would continue to result from stationary sources. Increasingly restrictive air quality regulations are anticipated in the near future to comply with federal air quality standards, making air emissions permits for new and modified equipment more difficult to obtain. This impact would be less than significant with mitigation measures.

Measure 6.5-2a: Non-Combustion Air Emissions. The District will research ways of reducing NO_x and air toxics emissions from stationary sources, including non-combustion sources to meet future emission reductions that will be imposed by the SCAQMD.

Measure 6.5-2b: Future Air Emission Reductions. The District will comply with existing and future air quality regulations including SCAQMD Rules and permit requirements. As air quality regulations become more restrictive in the South Coast Air Basin coinciding with increased operational demand, the District will be required to reduce emissions through process modifications or by implementing new control technologies.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
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| 1. Initiate research on innovative control technology. | Maintain record of air emission data. | OCSD | Annually. |
| 2. Provide SCAQMD with mandated emissions reports to verify compliance. | Include status and results of air emissions research in annual Operations and Maintenance Report. | | |

Impact 6.5-3: Emissions at both treatment plants under any of the project scenarios would continue to result from mobile sources. Mobile sources are projected to exceed the SCAQMD nitrous oxides significance threshold of 55 lbs/day. This would result in a significant impact to air quality.

Measure 6.5-3a: Ride-Sharing Program. The District will maintain its ride-share programs to reduce commuter traffic and air quality impacts.

Measure 6.5-3b: Use of CNG. The District will complete the implementation of compressed natural gas (CNG) stations and encourage contractors to employ CNG-powered engines on residual solids haul trucks through contract incentives where possible.

Measure 6.5-3c: Alternative Fuels for Trucks. Alternative fuels shall be considered for biosolids haul trucks including low NO_x emitters.

Measure 6.5-3d: Transportation Alternatives. The District shall initiate research on alternative methods of transporting biosolids to land application sites including electric vehicles and rail.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
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MITIGATION MONITORING AND REPORTING PROGRAM

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| 1. Initiate research on innovative control technology, alternative fuels, and biosolids hauling methods. | Include status of rideshare program in Operation and Maintenance Annual Report. | OCSD | On going |
| 2. Provide SCAQMD with mandated emissions reports to verify compliance. | Include status of research in alternative fuels and biosolids haul methods in Operation and Maintenance Annual Report. | | |
| 3. Include in contracts and requests for qualifications from haulers that CNG is available and encouraged. | | | |

Impact 6.5-4: Modifying the current CGS or adding new power-generating equipment would require SCAQMD permit modifications. Energy requirements greater than the permitted CGS capacity of 18 MW would require permit modifications. Less Than Significant impact with Mitigation.

Measure 6.5-4a: Energy Purchases. The District will purchase energy from off-site sources if air emissions permit modifications are denied.

Measure 6.5-4b: Clean-Burning Engines. The District will continue to research clean-burning engines for the CGS, in an effort to increase power output while reducing criteria and toxic pollutants.

Measure 6.5-4c: Install BACT. The District will install Best Available Control Technology if necessary to comply with SCAQMD Rules.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
1. Initiate research on innovative control technology.	Maintain record of air emission data.	OCSD	Annually.
2. Provide SCAQMD with mandated emissions reports to verify compliance.	Include status and results of air emissions research in annual Operations and Maintenance Report.		

Impact 6.5-5: The project under each of the treatment scenarios could generate objectionable odors in the project vicinity and in other areas located downwind from the treatment facilities. Less Than Significant after Mitigation Measures.

Measure 6.5-5a: Odor Control. The District will evaluate the need for odor control equipment for future facilities to reduce fugitive foul odors and include odor control when necessary. The District will also periodically review air emissions from existing solids handling to determine if odor control is necessary.

Measure 6.5-5b: Dewatering Odor Control. When dewatering is required during excavation, the District shall provide odor control systems to reduce construction odor impacts when necessary.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
<ol style="list-style-type: none"> 1. Maintain odor control technology. 2. Provide odor control on new facilities as needed. 	Include odor complaints in annual Operations and Maintenance Report.	OCSD	Annually.

Measure 6.5-5c: Community Liaison. The District will assign a community liaison for odor and noise complaints.

Measure 6.5-5d: Odor Complaint Follow-Up The District will follow-up with copies of odor complaint analysis to complainant and/or neighborhood groups including the Southeast Huntington Beach Neighborhood Association representative.

Measure 6.5-5e: Pre-Design Coordination. The District will maintain pre-design coordination on future projects at its treatment plants with interested parties including cities and neighborhood associations.

Measure 6.5-5f: Community Outreach. The District will establish regular community outreach meetings with neighbors.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
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| <ol style="list-style-type: none"> 1. Meet with community groups to choose community liaison and periodic meeting schedule. 2. Develop tasks and assignments for liaison. 3. Periodically review effectiveness of community liaison program. 4. Provide odor and noise complaint information to community groups. | <p>Maintain record of meetings with community groups.</p> | <p>OCS D</p> | <p>On-going</p> |
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Geology

Impact 6.6-1: Project facilities, under any of the treatment scenarios, would be located in areas susceptible to primary and secondary seismic hazards (groundshaking, liquefaction, settlement). Damage to facilities could result in the event of a major earthquake. Less than Significant with Mitigation Measures.

Measure 6.6-1a: Geotechnical Evaluations. During the project design phase for all facilities, the District will perform design-level geotechnical evaluations. The geotechnical evaluations will include subsurface exploration and review of seismic design criteria to ensure that design of the facilities meet seismic safety requirements of the Uniform Building Code.

Site-specific testing for soils susceptible to liquefaction would be conducted. If testing results indicates that conditions are present that could result in significant liquefaction and damage to project facilities, appropriate feasible measures will be developed and incorporated into the project design. The performance standard to be used in the geotechnical evaluations for mitigation liquefaction hazards will be minimization of the hazards. Measures to minimize significant liquefaction hazards could include the following:

- Densification or dewatering of surface or subsurface soils.
- Construction of pile or pier foundations to support pipelines and/or buildings.
- Removal of material that could undergo liquefaction in the event of an earthquake and replacement with stable material.

Recommendations of the geotechnical report will be incorporated into the design and construction of proposed facilities.

Measure 6.6-1b: Seismic Safety. The District will design and construct new facilities in accordance with District seismic standards and/or meet or exceed seismic, design standards in the most recent edition of the California Building Code.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
<ol style="list-style-type: none"> 1. Include design-level geotechnical evaluations in specifications prior to construction. 2. Include in specifications compliance with California Building Code 	Maintain record of specifications for administrative record.	OCSD	Prior to construction

Impact 6.6-2: Groundshaking could cause spills of raw sewage, causing a significant impact to public health. Less than Significant impact with Mitigation Measures.

Measure 6.6-2a: Spill Prevention. The District will implement the Spill Prevention Containment and Countermeasures Plan (SPCC).

Measure 6.6-2b: Spill Containment. OCSD chemical facilities will be designed with secondary containment, such as berms, to contain and divert toxic chemicals from wastewater flows and isolate damaged facilities to reduce contamination risks.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
<ol style="list-style-type: none"> 1. Implement and update SPCC plan. 	Maintain record of SPCC for administrative record.	OCSD	As needed.

Hydrology

Impact 6.7-1: Construction of any of the treatment system scenarios could result in an increase in erosion and siltation into surface waters. Construction could also result in chemical spills (e.g., fuels, oils, or grease) to stormwater, and increase turbidity and decrease water quality in waters of the U.S. Less than Significant with Mitigation Measures.

Measure 6.7-1a: Best Management Practices. The District will implement Best Management Practices (BMPs) as outlined in the SWMP.

Measure 6.7-1b: Storm Water Management. The District will train construction and operation employees in storm water pollution prevention practices. Individual contractors performing construction at each treatment facility shall be required to comply with provisions of the SWMP.

Measure 6.7-1c: Storm Drain Inspection. The District will inspect and maintain all on-site storm water drains and catch basins on plant property regularly.

Measure 6.7-1d: Regional Board. The District will apply the SARWQCB's recommended BMPs during construction and operation as specified in the SWMP.

Measure 6.7-1e: Construction Site Storm Water. For construction involving disturbance greater than five acres of land, the District will incorporate into contract specifications the following requirements:

The District will comply with the RWQCB requirements of the NPDES General Permit for Discharges of Storm Water Associated with Construction Activity. The District will require that the contractor implement control measures that are consistent with the General Permit and with the recommendations and policies of the RWQCB. This would include submitting a Notice of Intent and site map to the RWQCB, developing a Storm Water Pollution Prevention Plan, and implementing site-specific best management practices to prevent sedimentation to surface waters.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
<ol style="list-style-type: none"> 1. Implement BMPs. 2. Implement SWMP. 3. Periodically update SWMP. 4. Implement mitigation measures listed above. 5. Periodically inspect construction sites. 	<p>Maintain compliance with SWMP for administrative record.</p> <p>Maintain record of site inspections.</p>	<p>OCSD</p>	<p>As needed.</p>

Impact 6.7-2: Pile driving and excavation activities at Reclamation Plant No. 1 and Treatment Plant No. 2 may encounter groundwater, and local dewatering may be required. Less than Significant with Mitigation Measures.

Measure 6.7-2a: Groundwater Dewatering. Construction contractors will comply with the District's Dewatering Specifications.

Measure 6.7-2b: Dewatering Discharge. Water from dewatering operations will be disposed of in a suitable manner in conformance with the NPDES permit, as approved by the RWQCB.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
1. Update dewatering procedures periodically.	Maintain record of dewatering procedures for administrative record	OCSD	During construction.
2. Periodically inspect construction sites.	Maintain record of site inspections.		

Impact 6.7-3: Reclamation Plant No. 1. and Treatment Plant No. 2 are located in the 100-year floodplain of the Santa Ana River. New facilities proposed under any of the scenarios considered would expose structures and people to a 100-year flood event and/or effects of a tsunami. Less than Significant With Mitigation Measures.

Measure 6.7-3a: Chemical Spills During Floods. The District shall construct and maintain secondary containment berms to protect against release of toxic chemicals in an event of a spill from flooding.

Measure 6.7-3b: Coordination with COE. The District shall coordinate with the Army Corp of Engineers to ensure levees located adjacent to Reclamation Plant No. 1 and Treatment Plant No. 2 continue to provide adequate protection for a 100-year flood event.

Measure 6.7-3c: Hazard Awareness Notification. The District shall adhere to the Emergency Contingency Plan and the Flood Protection Plan to minimize the affects of flooding and tsunamis to Reclamation Plant No.1 and Treatment Plant No. 2. These measures shall include hazard awareness notifications to neighborhoods downstream from Reclamation Plant No. 1.

Measure 6.7-3d: Flood Protection. The District shall adhere to Orange County's flood protection program as implemented by the Orange County Flood Control District.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
1. Comply with programs listed in mitigation measures.	Maintain record of communication with U.S. Army Corps of Engineers and County Flood Control District for administrative record.	OCSD	On going.

Hazardous Materials

Impact 6.9-1: Increasing quantities of hazardous materials stored on site could impact public health in the event of a catastrophic spill or explosion. Increasing liquid oxygen storage could increase the hazard. Less than Significant with Mitigation Measures.

Measure 6.9-1a: Worker Safety Training. Worker safety training shall emphasize hazards of liquid oxygen and stored methane. Routine safety measures including hazard communication shall be adopted and strictly enforced in hazardous areas. Hazard training and communication shall include laboratory operations and routine process chemical use.

Measure 6.9-1b: Oxygen Facility Safety. If additional liquid oxygen storage facilities are installed, the District shall research explosion and fire potential to determine explosion arc perimeters. If neighboring land uses are not adequately distant, the District shall reconfigure the oxygen storage facility to remove explosion hazards on neighboring land uses.

Measure 6.9-1c: Risk Management Program. Liquid oxygen operations shall be included in the District's Risk Management Program.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
<ol style="list-style-type: none"> 1. Maintain and periodically update Risk Management Program. 2. Maintain and periodically update worker safety program. 3. Implement mitigation measures listed above. 4. Conduct monthly and annual safety inspections. 	<p>Maintain training records, medical records, notification records, and safety record for administrative record.</p>	<p>OCSD</p>	<p>On going.</p>

Cumulative

Impact 6.11-1: Cumulative impacts to air quality and noise could occur as a result of treatment facility construction activities coupled with the construction of the GWR System treatment facilities. Significant unavoidable.

Measure 6.11-1a: Construction Coordination with OCWD. Coordinate construction activities with OCWD to minimize PM₁₀ emissions, construction vehicle exhaust, and cumulative noise impacts during excavation and pile driving activities.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
<ol style="list-style-type: none"> 1. Include air emissions restrictions and standard operating procedures for construction work in contract specifications. 2. Conduct oversight of construction activities to ensure scope of work is carried out. 	Maintain record of construction oversight for administrative record.	OCSD	Prior to and during construction.

Growth-Inducement

Impact 11-1: By removing wastewater treatment capacity as one barrier to growth, the District would have indirect, growth-inducement potential to support planned development within the Service Area that is consistent with and within the levels of development approved in the adopted General Plans. Less the Significant with Mitigation Measures.

Measure 11-1a: Phased Construction. The project's phased design helps minimize growth inducement potential. The Strategic Plan allows for the incremental expansion of treatment capacity, allowing Service Area cities to re-evaluate and revise long-term needs before completing full "build out."

Measure 11-1b: Lower Flow Projections. The District revises its Strategic Plan periodically allowing the treatment facilities to best meet the actual needs of the Service Area. The implementation of this Strategic Plan was based on a projected decrease influent flow and serves to decrease anticipated capacity requirements. Future revisions every five years will assist the District in maintaining service for reasonably foreseeable planned growth levels.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
<ol style="list-style-type: none"> 1. Phase construction of new facilities as outlined in the Strategic Plan. 2. Review and incorporate growth predictions every five years. 3. Update Strategic Plan periodically. 	Begin update Strategic Plan in 2004.	OCSD	Begin in 2004.

Impact 11-2: The OCSD Strategic Plan would accommodate planned growth in the Service Area. Implementation of planned growth would result in secondary environmental effects. The effects of planned growth have been identified and addressed in the EIRs on Regional Plans, General Plans for

Service Area cities, and associated Specific Plans. Some of the secondary effects of growth which have been identified as significant and unavoidable include air quality and traffic congestion.

Measure 11-2: Growth Mitigation Measures. OCSD does not have the authority to make land use and development decisions, nor does it have the authority or jurisdiction to address many of the identified significant, secondary effects of planned growth. Authority to implement such measures lies with the County and cities which enforce local, state, and federal regulations through the permit process. Other agencies with authority to require mitigation or with responsibility to implement measures to mitigate the effects of planned growth include regional and state agencies such as the South Coast Air Quality management District (SCAQMD), Regional Water Quality Control Board (RWQCB), California Department of Fish and Game (CDFG), California Department of Health Services (DHS), California Department of Transportation (Caltrans), and federal agencies including U.S. Fish and Wildlife Service (USFWS), U.S. Environmental Protection Agency (EPA), and the U.S. Corps of Engineers (USACE).

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
<ol style="list-style-type: none"> 1. Phase construction of new facilities as outlined in the Strategic Plan. 2. Review and incorporate growth predictions every five years. 3. Update Strategic Plan periodically. 	Begin update Strategic Plan in 2004.	OCSD	Begin in 2004.

Collection System

Land Use

Impact 7.1-1: Construction activities associated with the trunk sewer systems would involve the rehabilitation and replacement of existing pipelines. Construction activities would result in short-term disturbance of adjacent land uses. Less than Significant with Mitigation Measures.

Measure 7.1-1a: Construction Hours. The District will comply with local ordinances and restrict construction activities to daylight hours or as specified in encroachment permits.

Measure 7.1-1b: Construction Notification. The District shall post notices or provide notification of construction activities to adjacent property owners (including homeowners and adjacent businesses) at least 72 hours in advance of construction and provide a contact and phone number of a District staff person to be contacted regarding questions or concerns about construction activity.

Measure 7.1-1c: Emergency Services Access. The District shall coordinate with officials of adjacent fire station, the Fountain Valley Regional Hospital as well as other hospital to ensure that 24-hour emergency access is available.

Measure 7.1-1d: Covered Trenches. To minimize disruption of access to driveways to adjacent land uses, the District or its contractor(s) shall maintain steel-trench plates at the construction sites to restore access across open trenches. Construction trenches in streets will not be left open after work hours.

Measure 7.1-1e: Signage. The District shall provide temporary signage indicating that businesses are open.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
<ol style="list-style-type: none"> 1. Include compliance with local construction ordinances in construction specifications including site safety during non construction hours. 2. Include the preparation and distribution of notifications prior to construction activities in contract specifications. 3. Include 24-hour emergency access in contract specifications. 4. Maintain record of communication with local authorities. 5. Include signage for impacted businesses in contract specifications. 6. Conduct periodic construction site inspections. 	<p>Maintain record of signage, business and fire department notifications, inspections, and construction schedule.</p>	<p>OCSD</p>	<p>Prior to and during construction</p>

Traffic

Impact 7.2-1: Construction activities during trenching in city streets will impact traffic circulation during construction period. Less than Significant with Mitigation Measures.

Measure 7.2-1a: Traffic Control Plans. Traffic control plans will be prepared by a qualified professional engineer, prior to the construction phase of each sewer line project as implementation proceeds.

Measure 7.2-1b: Alternative Routes. Traffic control plans will consider the ability of alternative routes to carry additional traffic and identify the least disruptive hours of construction site truck access routes, and the type and location of warning signs, lights and other traffic control devices. Consideration will be given to maintaining access to commercial parking lots, private driveways and sidewalks, bikeways and equestrian trails, to the greatest extent feasible.

Measure 7.2-1c: Encroachment Permits. Encroachment permits for all work within public rights-of-way will be obtained from each involved agency prior to commencement of any construction. Agencies involved include Caltrans, the Orange County Planning and Development Services (PDS) (Development Services Section) and the various cities where work will occur. The District will comply with traffic control requirements, as identified by Caltrans and the affected local jurisdictions.

Measure 7.2-1d: Traffic Control Plans. Traffic control plans will comply with the Work Area Traffic Control Handbook and/or the Manual of Traffic Controls as determined by each affected local agency, to minimize any traffic and pedestrian hazards that exist during project construction.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
<ol style="list-style-type: none"> 1. Contract with qualified traffic control engineer to prepare Control Plan for each construction project. 2. Ensure that issues highlighted in mitigation measures are included in Control Plan. 3. Include within contract specifications the acquisition of all necessary encroachment permits. 4. Review list of required permits and verify adequacy prior to construction. 5. Conduct periodic site inspections including post-completion inspection. 	<p>Maintain traffic control plan, permits, and construction schedule and methods for administrative record.</p> <p>Maintain record of site inspections including post-construction inspections.</p>	OCSD	Prior to and during construction

Measure 7.2-1e: Traffic Disruption Avoidance. The construction technique for the implementation of the proposed sewer lines, such as tunneling, cut and cover with partial street closure, or cut and cover with full street closure, shall include consideration of the ability of the roadway system, both the street in question and alternate routes, to carry existing traffic volumes during project construction. If necessary, adjacent parallel streets will be selected as alternate alignments for the proposed sewer improvements. As required by local jurisdictions, trunk sewers will be jacked under select major intersections, to avoid traffic disruption and congestion.

Measure 7.2-1f: Street Closure. Public streets will generally be kept operational during construction, particularly in the morning and evening peak hours of traffic. Lane closures will be minimized during peak traffic hours.

Measure 7.2-1g: Roadway Restoration. Public roadways will be restored to a condition mutually agreed to between the District and local jurisdictions prior to construction.

Measure 7.2-1h: Sewer Construction Coordination. The Districts will attempt to schedule construction of relief facilities to occur jointly with other public works projects already planned in the affected locations, through careful coordination with all local agencies involved.

Measure 7.2-1i: Emergency Services. Emergency service purveyors will be contacted and consulted to preclude the creation of unnecessary traffic bottlenecks that will seriously impede response times. Additionally, measures to provide an adequate level of access to private properties shall be maintained to allow delivery of emergency services.

Measure 7.2-1j: OCTA Coordination. OCTA will be contacted when construction affects roadways that are part of the OCTA bus network.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
<ol style="list-style-type: none"> 1. Include adherence to the Traffic Control Plan in contract specifications 2. Contact local authorities listed in mitigation measures and maintain record of communication. 3. Conduct periodic site inspections including post-completion inspection. 	<p>Maintain traffic control plan, permits, and construction schedule and methods for administrative record.</p> <p>Maintain record of site inspections including post-construction inspections.</p>	OCSD	Prior to and during construction

Measure 7.2-1k: Railroad Encroachment Procedures. This measure is applicable to the following collection systems improvements: Lower Santa Ana River Interceptor Improvements, Newhope-Placentia Trunk Replacement, and Gisler-Redhill System Improvements – B. To reduce impacts to railroad rights-of-way, the District is required to follow the Right-of-Way Encroachment Approval Procedures – SCRRA Form No. 36. The procedures for temporary encroachment calls for 1) the submittal of a written statement on the reason and location of the encroachment; 2) a completed and executed SCRRA Form No. 6, Right-of-Entry Agreement; 3) plan check, inspection, and flagging fees; and 4) insurance certificates as described in the Right-of-Entry Agreement. Per SCRRA Form No. 6, the District must comply with the rules and regulations of this agreement at all times when working on SCRRA property, including those outlined in the “Rules and Requirements for Construction at Railway Property, SCRRA Form No. 37” and General Safety Regulations for Construction / Maintenance Activity on Railway Property”.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
<ol style="list-style-type: none"> 1. Include application for SCRRRA encroachment permit in contract specifications 2. Contact SCRRRA prior to project design. 	<p>Maintain encroachment permit application and permit for administrative record.</p>	<p>OCSD and SCRRRA</p>	<p>Prior to and during construction</p>

Measure 7.2-1l: Trails and Bikeways. Short term construction impacts and closures to locally designated trails and bikeways, as found in the County's Master Plan of Regional Riding and Hiking Trails (RRHT) and Commuter Bikeways Strategic Plan (CBSP), shall be mitigated with detours, signage, flagmen and reconstruction as appropriate. Long term impacts such as permanent trail link closures should be mitigated with provisions for new rights-of-way for trails and/or bikeways and reconstruction.

Measure 7.2-1m: County of Orange Coordination. Any construction plans that could potentially impact regional riding and hiking trails or Class I bikeways shall be submitted to the County's Division of Harbors, Beaches and Parks/Trails Planning and Implementation for review and approval prior to project construction activities.

Measure 7.2-1n: Trails Restoration. Regional Riding and Hiking Trails and Class I Bikeways impacted by construction activities shall be restored to their original condition after project construction.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
<ol style="list-style-type: none"> 1. Include adherence with County of Orange RRHT and CBSP in contract specifications. 2. Contact County of Orange prior to designing detours. 	<p>Maintain construction design for administrative record.</p>	<p>OCSD and SCRRRA</p>	<p>Prior to and during construction</p>

Biology

Impact 7.3-1: Based on conceptual alignment information for OCSD's proposed collection system projects, construction of the collection pipeline system improvements would occur in previously disturbed, developed areas, primarily public streets. No impact to biological resources would occur if projects occur within paved areas. However, if final project alignments are revised to include an undeveloped area or open space, potential impacts to biological resource could occur; in these cases OCSD would conduct additional CEQA as needed to clarify and address impacts to biological resources.

Measure 7.3-1: Additional CEQA Review. If in the future, as OCSD develops the design of each specific collection system project for implementation, a project alignment includes unpaved, undeveloped park or open space area, OCSD will conduct additional CEQA review as needed to clarify and address potential impacts to biological resources.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
1. Biological surveys will be conducted for construction activities in previously undisturbed locations.	Maintain record of previous condition for each construction site for administrative record.	OCSD	Prior to and during construction

Noise

Impact 7.4-1: Construction activities related to the proposed collection system improvements would intermittently and temporarily generate noise levels above existing ambient levels in the project vicinity. Less than Significant with Mitigation Measures.

Measure 7.4-1a: Hours of Construction. Construction activities shall be limited to between the hours of 7:30 a.m. and 5:30 p.m. and as necessary to comply with local ordinances. Any nighttime or weekend construction activities would be subject to local permitting.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
1. Include compliance with local noise and construction ordinances in construction specifications. 2. Provide construction oversight to ensure scope of work is carried out.	Maintain record of construction oversight for administrative record.	OCSD	Prior to and during construction

Measure 7.4-1b: Noise Control. All equipment used during construction shall be muffled and maintained in good operating condition. All internal combustion engine driven equipment shall be fitted with intake and exhaust mufflers that are in good condition.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
<ol style="list-style-type: none"> 1. Include compliance with local noise and construction ordinances in construction specifications. 2. Include noise reduction procedures in construction specifications 3. Provide construction oversight to ensure scope of work is carried out. 	Maintain record of construction oversight for administrative record.	OCSD	Prior to and during construction

Measure 7.4-1c: Pile-Driving Noise Reduction. Contractors shall use vibratory pile drivers instead of conventional pile drivers where feasible and effective in reducing impact noise from shoring of jack-pit locations in close proximity to residential areas, where applicable.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
<ol style="list-style-type: none"> 1. Include preference to avoid pilings where possible in project design specifications. 	Maintain record of design specifications.	OCSD	Prior to project design

Measure 7.4-1d: Construction Notification. Sensitive receptors affected by pipeline replacement projects, and manhole rehabilitation activities shall be notified concerning the project timing and construction schedule, and shall be provided with a phone number to call with questions or complaints.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
1. Prepare and distribute notifications.	Maintain record of notification distribution list.	OCSD	Prior to construction

Air Quality

Impact 7.5-1: The proposed improvements to OCSD's collection systems would generate short-term emissions of air pollutants, including dust and criteria pollutants, from excavation, installation and/or replacement activities. This is considered a short-term significant impact that would cease at the completion of construction activities. Construction emission impacts are estimated to occur for an average of three to four weeks within one block of any given property. Less than Significant with Mitigation Measures.

Measure 7.5-1a: Dust Control. The District shall require the contractors to implement a dust abatement program that would reduce fugitive dust generation to lessen impacts to nearby sensitive receptors. The dust abatement program could include the following measures:

- Water all active construction sites at least twice daily.
- Cover all trucks having soil, sand, or other loose material or require all trucks to maintain at least two feet of freeboard.
- Apply water as necessary, or apply non-toxic soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites.
- Sweep daily (with water sweepers) all paved access roads, parking areas and staging areas at construction sites.
- Sweep daily (with water sweepers) if visible soil material is carried into adjacent streets.
- Water twice daily or apply non-toxic soil binders to exposed soil stockpiles.
- Limit traffic speeds on unpaved roads to 15 mph.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
1. Conduct mitigation measures to reduce construction air emissions.	Maintain record of construction methods for administrative record.	OCSD	Prior to and during construction
2. Conduct periodic construction site inspections.	Maintain record of site inspections for administrative record.		

Measure 7.5-1b: Exhaust Emissions. Contractors shall maintain equipment engines in proper working order and operate construction equipment so as to minimize exhaust emissions. Such equipment shall not be operated during first or second stage smog alerts.

Measure 7.5-1c: Truck Emissions Reductions. During construction, trucks and vehicles in loading or unloading queues shall be kept with their engines off, when not in use, to reduce vehicle emissions. Construction activities shall be discontinued during second-stage smog alerts.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
<ol style="list-style-type: none"> 1. Include air emission reduction mitigation measures in construction specifications. 2. Conduct periodic site inspections to verify adherence to mitigation measures. 	Maintain record of construction specifications and site inspections for administrative record.	OCSD	Prior to construction

Geology

Impact 7.6-1: Project facilities would be located in areas susceptible to primary and secondary seismic hazards (groundshaking, liquefaction, settlement). Damage to facilities could result in the event of a major earthquake. Less than Significant with Mitigation Measures.

Measure 7.6-1a: Seismic Safety. The District will design and construct new facilities in accordance with District seismic standards and/or meet or exceed seismic, design standards in the most recent edition of the California Building Code.

Measure 7.6-1b: Soils Survey. Soils surveys shall be conducted to determine the liquefaction potential along the collection system improvements route.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
<ol style="list-style-type: none"> 1. Use design criteria to reduce seismic hazards. 2. Contract with qualified geologist to conduct geotechnical evaluations prior to construction. 	Maintain record of construction specifications and geotechnical information.	OCSD	Prior to construction

Hydrology

Impact 7.7-1: Construction activities could result in erosion and siltation into nearby surface waters, leading to degradation of water quality or flooding hazards. Construction could also result in chemical spills (e.g., fuels, oils, or grease) to stormwater, and increase turbidity and decrease water quality in waters of the U.S. Less than Significant with Mitigation Measures.

Measure 7.7-1a: Contractor BMPs. Construction contractors will implement Best Management Practices to prevent erosion and sedimentation to avoid significant adverse impacts to surface water quality.

Measure 7.7-1b: Storm Season Restrictions. In addition, open-trench installation of pipelines across open drainage channels and the interplant connector shall be limited to the dry season.

Measure 7.7-1c: County of Orange Coordination. The District shall coordinate with the Orange County Public Facilities and Resources Department (Orange County Flood Control District) Planning Section to ensure compatibility and joint use feasibility with existing and future projects.

Measure 7.7-1d: Waterway Protection. The District shall incorporate into contract specifications the requirement that the contractor(s) enforce strict on-site handling rules to keep construction and maintenance materials out of receiving waters. The rules will include measures to:

- Store all reserve fuel supplies only within the confines of a designated construction staging area.
- Refuel equipment only within designated construction staging area.
- Regularly inspect all construction vehicles for leaks.

Measure 7.7-1e: Spill Prevention. The District shall incorporate into contract specifications the requirement that the contractor(s) prepare a Spill Prevention, Control, and Countermeasure Plan. The plan would include measures to be taken in the event of an accidental spill.

Measure 7.7-1f: Spill Containment. The District shall incorporate into contract specifications the requirement that the construction staging areas be designed to contain contaminants such as oil, grease, and fuel products so that they do not drain towards receiving waters or storm drain inlets. If heavy-duty construction equipment is stored overnight adjacent to a potential receiving water, drip pans will be placed beneath the machinery engine block and hydraulic systems.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
<ol style="list-style-type: none"> 1. Implement BMPs of State-wide SWPPP. 2. Prepare construction SWPPP for sites greater than 5 acres. 3. Implement existing SWMP and SPCC. 4. Periodically update SWMP and SPCC. 5. Provide adequate spill prevention and surface water management SOPs in contract specifications. 6. Periodically inspect construction sites. 	<p>Maintain compliance with SWMP and SPCC for administrative record. Including annual reports to the SWRCB.</p> <p>Maintain record of site inspections and sample analysis results.</p>	OCSD	On going

Measure 7.7-1g: Flood Control Facilities. The District will contact the Orange County Flood Control District prior to excavation activities involved with the construction of the interplant connector to ensure the integrity of the flood control system along the Santa Ana River.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
<ol style="list-style-type: none"> 1. Contract with qualified engineer to assess structural impacts to SAR levee prior to construction of interplant connector. 2. Periodically inspect construction site. 	<p>Maintain reports for administrative record.</p> <p>Maintain record of site inspections.</p>	OCSD	Prior to construction of interplant connector.

Public Services

Impact 7.8-1: Construction of the collection pipeline system could result in short-term disruption of emergency services in the vicinity of the project area. Less than significant with Mitigation Measures.

Measure 7.8-1a: Traffic Control Plan Notifications. The contractor shall provide a copy of the Traffic Control Plan to the Sheriff's Department local police departments and fire departments prior to construction. The District shall provide 72-hour notice of construction to the local service providers of individual pipeline segments.

Measure 7.8-1b: Emergency Facility Access. Access to fire stations and emergency medical facilities must be maintained on a 24-hour basis and at least one access to medical facilities shall be available at any one time during construction. The District shall notify appropriate officials at the impacted medical facility regarding construction schedule.

Measure 7.8-1c: Trench Openings. Trenches shall be promptly backfilled after pipeline installation. If installation is incomplete, steel trench plates shall be used to cover open trenches.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
<ol style="list-style-type: none"> 1. Include site safety measures in contract specifications. 2. Notify local authorities of construction schedule. 3. Maintain access to emergency facilities during construction activities including during non-work hours. 4. Periodically inspect construction sites. 	<p>Maintain record of notifications for administrative record.</p> <p>Maintain record of site inspections.</p>	OCSD	During construction

Impact 7.8-2: Construction of the collection system projects would create a public safety hazard in the vicinity of the construction area. Less than Significant with Mitigation Measures.

Measure 7.8-2a: Pedestrian Safety. Construction contractors shall ensure that adequate barriers would be established to prevent pedestrians from entering open trenches of an active construction area. Warnings shall also be posted sufficient distances from the work area to allow pedestrians to cross the street at controlled intersections rather than having to jaywalk.

Measure 7.8-2b: Equipment Security. Construction contractors shall be responsible for providing appropriate security measures, including the provision of security guards, for all equipment staging and/or storage areas needed for the project.

Measure 7.8-2c: Construction Refuse. Construction contractors shall dispose of construction refuse at approved disposal locations. Contractors shall not be permitted to dispose of construction debris in residential or business containers.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
<ol style="list-style-type: none"> 1. Include site safety measures in contract specifications. 2. Include waste disposal methods in construction specifications. 3. Periodically inspect construction sites. 	<p>Maintain specifications for administrative record.</p> <p>Maintain record of site inspections.</p>	OCSD	Prior to and during construction.

Impact 7.8-3: Construction of the collection pipeline system could result in short-term disruption of utility service and may require utilities relocation. Less than Significant with Mitigation Measures.

Measure 7.8-3a: Utility Search. A detailed study identifying utilities along the pipeline routes shall be conducted during the design stages of the project. For segments with adverse impacts the following mitigations shall be implemented.

- Utility excavation or encroachment permits shall be required from the appropriate agencies. These permits include measures to minimize utility disruption. The District and its contractors shall comply with permit conditions and such conditions shall be included in construction contract specifications.
- Utility locations shall be verified through field survey.
- Detailed specifications shall be prepared as part of the design plans to include procedures for the excavation, support, and fill of areas around utility cables and pipes. All affected utility services would be notified of the District's construction plans and schedule. Arrangements shall be made with these entities regarding protection, relocation, or temporary disconnection of services.

Measure 7.8-3b: Utility Conflicts. In order to reduce potential impacts associated with utility conflicts, the following measures should be implemented in conjunction with 7.8-3a.

- Disconnected cables and lines would be promptly reconnected.
- The District shall observe Department of Health Services (DHS) standards which require a 10-foot horizontal separation between parallel sewer and water mains; (2) one foot vertical separation between perpendicular water and sewer line crossings. In the event that the separation requirements cannot be maintained, the District shall obtain DHS variance through provisions of water encasement, or other means deemed suitable by DHS; and (3) encasing water mains in protective sleeves where a new sewer force main crosses under or over an existing sewer main.

Measure 7.8-3c: Protect Utilities. The construction contractor shall comply with District requirements and specification to protect existing utility lines.

Measure 7.8-3d: Agency Coordination. The District should coordinate with the Orange County Public Facilities Resources Department, Orange County Flood Control District, Planning Section, Metropolitan Water District of Southern California, Municipal Water District of Orange County, Coastal

Municipal Water District, and Orange County Water District, and affected jurisdictions to ensure compatibility and joint use feasibility with existing future projects.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
1. Implement mitigation measures listed above.	Maintain specifications for administrative record.	OCSD	Prior to and during construction.
2. Include underground utility surveys in construction specifications.	Maintain record of site inspections.		
3. Coordinate with local authorities to minimize utility disruption.			
4. Periodically inspect construction sites.			

Measure 7.8-3e: Identify Abandoned Oil Wells. Prior to construction, the District shall identify existing and abandoned oil production wells within the project area using the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR), District 1 well location maps. Access to identified non-abandoned oil wells will be maintained. Previously abandoned wells identified beneath proposed structures or utility corridors may need to be plugged to current DOGGR specifications including adequate gas venting systems.

Measure 7.8-3f: Abandon Wells. Should construction activities uncover previously unidentified oil production wells, the DOGGR will be notified, and the well will be abandoned following DOGGR specifications for well abandonment.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
1. Include existing and abandoned oil well surveys in construction specifications.	Maintain specifications for administrative record.	OCSD	Prior to and during construction.
2. Coordinate with Department of Conservation to expedite search.	Maintain record of oil well discoveries and searches for the administrative record.		

Aesthetics

Impact 7.9-1: Project implementation could result in short-term visual impacts resulting from construction activities. Less than Significant after Mitigation Measures.

Measure 7.9-1a: Construction Site Restoration. The District shall ensure that its contractors restore disturbed areas along the pipe line alignment to a condition mutually agreed to between the District and local jurisdictions prior to construction such that short-term construction disturbance does not result in long-term visual impacts.

Measure 7.9-1b: Construction Housekeeping. Construction contractors shall be required to keep construction and staging areas orderly, free of trash and debris.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
1. Include construction site house-keeping measures in contract specifications.	Maintain specifications for administrative record.	OCSD	Prior to and during construction.
2. Conduct post-construction site inspections.	Maintain record of site inspections.		

Cultural Resources

Impact 7.10-1: Implementation of the proposed collection system improvements may affect known, significant archaeological resources. Less than Significant with Mitigation Measures.

Measure 7.10-1: Archaeological Surveys. During project design, within the area of the 6 recorded archaeological sites within proposed project alignments, a qualified archaeologist shall conduct a subsurface testing program to determine whether intact significant deposits exist in the excavation area. Shall testing indicate that areas of significant deposits do exist, the deposits would be preserved in place, if feasible. If preservation in place is not feasible, a Data Recovery Plan would be prepared to address the removal of those deposits and would be implemented before the beginning of construction. The Plan would define how and when mechanical and manual excavation would be conducted, the anticipated volume of recovered soils, artifact analysis, cataloging and curation, and monitoring and reporting requirements. For the three sites where human remains have been recorded (CA-ORA-85, CA-ORA-87, and CA-ORO-300), the District would enter into a written agreement between an archaeological consultant, to be retained by the District, and a Native American representative prior to construction in the vicinity of these sites. This agreement would specify terms as to the treatment and disposition of the human remains, and shall define "associated burial goods" with reference to Public Resources Code Sections 5097.94, 5097.98, and 5097.99 and Health and Safety Code Section 7050.5.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
<ol style="list-style-type: none"> 1. Contract with a qualified archaeologist to conduct pre-construction site surveys in areas with a high probability of cultural resources. 2. Include necessary actions in specifications shall archaeological artifacts be discovered during construction activities. 3. Conduct post-construction site inspections. 	<p>Maintain construction specifications for administrative record.</p> <p>Maintain record of site inspections.</p>	<p>OCS D</p>	<p>Prior to and during construction.</p>

Impact 7.10-2: Implementation of the proposed collection system improvements may affect unknown, potentially significant archeological resources. Less than Significant with Mitigation Measures.

Measure 7.10-2a: Archaeological Resources. Subsurface construction has a low to very high potential for exposing significant subsurface cultural resources. Due to the likelihood of encountering cultural resources, the District shall implement the following prior to project construction:

- Language shall be included in the General Specifications section of any subsurface construction contracts alerting the contractor to the potential for subsurface cultural resources and trespassing on known or potential resources adjacent to the project.
- Prior to construction, contractors and District staff will receive an archaeological orientation from a professional archaeologist regarding the types of resources which may be uncovered and how to identify these resources during construction activities. The orientation shall also cover procedures to follow in the case of any archaeological discovery.

Measure 7.10-2b: Cultural Resources. If cultural resources are encountered at any time during project excavation, construction personnel would avoid altering these materials and their context until a qualified archaeologist has evaluated the situation. Project personnel would not collect or retain cultural resources. Prehistoric resources include, but are not limited to, chert or obsidian flakes, projectile points, mortars, and pestles; and dark, friable soil containing shell and bone, dietary debris, heat-affected rock, or human burials. Historic resources include stone or adobe foundations or walls; structures and remains with square nails; and refuse deposits (glass, metal, wood, ceramics), often found in old wells and privies.

Measure 7.10-2c: Human Remains Alert. In the event of accidental discovery or recognition of any human remains, the County Coroner would be notified immediately and construction activities shall be halted. If the remains are found to be Native American, the Native American Heritage Commission would be notified within 24 hours. Guidelines of the Native American Heritage Commission shall be adhered to in the treatment and disposition of the remains.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
<ol style="list-style-type: none"> 1. Implement the mitigation measures listed above. 2. Contract with a qualified archaeologist to conduct pre-construction site surveys for areas with a high probability of cultural resources. 3. Include necessary actions in specifications shall archaeological artifacts be discovered during construction activities. 	<p>Maintain construction specifications for administrative record.</p> <p>Maintain record of site inspections.</p>	OCSD	Prior to and during construction.

Cumulative

Impact 7.11-1: Construction activities of the collection system projects in conjunction with other projects would result in short-term cumulative impacts. Less than Significant with Mitigation Measures.

Measure 7.11-1a: Coordinate Construction. The District will continue to coordinate construction activities with the county and city public works and planning departments and other local agencies to identify overlapping pipeline routes, project areas, and construction schedules. To the extent feasible, construction activities shall be coordinated to consolidate the occurrence of short-term construction-related impacts.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
<ol style="list-style-type: none"> 1. Coordinate with local authorities prior to final design. 2. Conduct coordination incentives with local jurisdictions. 	<p>Maintain record of communication and outreach with local authorities for administrative record.</p>	OCSD	Prior to construction.

Measure 7.11-1b: Recycling. To reduce cumulative impacts related to solid waste, the District shall make all practicable efforts to recycle where feasible.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
1. Where feasible, include recycling measures in construction contracts.	Maintain record of soils hauling.	OCSD	Prior to construction.
2. Conduct site surveys to ensure scope of work is followed.	Maintain record site surveys for administrative record.		

Biosolids

Impact 8-2: The projected increase in residual solids volumes would increase truck traffic on local roadways. Less than Significant with Mitigation.

Measure 8-2: Trucking Impact Reduction. The District shall limit truck trips associated with the transport of residual solids to off-peak hours when possible as a means of reducing truck travel times and minimizing congestion impacts to the regional transportation system.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
1. Include preferred schedule in contracts with haulers.	Maintain record of contract for administrative record.	OCSD	On going

Impact 8-3: The projected increase in residual solids volumes and related truck traffic would increase ambient noise levels at nearby sensitive receptor locations. Less than Significant with Mitigation Measures.

Measure 8-3a: Truck Noise Reduction. The District shall limit truck trips associated with the transport of residual solids at Treatment Plant No. 2 to non-noise sensitive (daytime) and non-peak hour periods as a means of reducing exposure of residences to truck-related noise whenever possible.

Measure 8-3b: Biosolids Transport. The District shall investigate options for reducing the number of biosolids truck trips at Treatment Plant No. 2. The study could focus on evaluating such practices as using underground pipelines to pump biosolids from Plant 2 up to Plant 1.

MITIGATION MONITORING AND REPORTING PROGRAM

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
1. Include preferred schedule in contract with haulers.	Maintain record of contract for administrative record.	OCSD	On going

Impact 8-5: The projected increase in biosolids production from POTWs in the Southern California region could present a cumulative impact on the availability of land application sites. Less than Significant with Mitigation.

Measure 8-5a: Biosolids Application Sites. The District will continue to research land application sites in the region and consider the management options including the acquisition of dedicated application sites.

Measure 8-5b: Biosolids Land Application. The District will continue to coordinate with other POTWs in the region to cooperatively research innovative ways to solve land availability issues.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
1. Continue research and efforts to increase land application. 2. Coordinate with POTWs in the region.	Maintain record of research and efforts for administrative record.	OCSD	On going

APPENDIX B

NOTICE OF PREPARATION



ORANGE COUNTY SANITATION DISTRICT

Notice of Preparation

Date June 3, 2002

To: Interested Parties

Subject Notice of Preparation (NOP) of a Supplemental Environmental Impact Report assessing the installation of the Effluent Pump Station Annex (Job No. J-77) and the implementation of the Collection System Odor and Corrosion Control Program

The Orange County Sanitation District (District) is the lead agency under the California Environmental Quality Act (CEQA) for the preparation of a Supplemental Environmental Impact Report (SEIR) for the construction of the Effluent Pump Station Annex and the implementation of the Collection System Odor and Corrosion Control Program. The proposed designs of these projects have been altered since the District's Strategic Plan Program Environmental Impact Report (PEIR) was certified in October 1999. The SEIR will augment analysis contained in the 1999 PEIR.

The District is soliciting the views of interested persons and agencies as to the scope and content of the environmental information to be studied in the SEIR. In accordance with CEQA, agencies are requested to review the project description provided in this NOP and provide comments on environmental issues related to the statutory responsibilities of the agency. The SEIR will address written comments submitted during this initial review period and will be used by the Lead Agency when considering the project and permit approval actions.

In accordance with the time limits mandated by CEQA, responses to the NOP must be received by the District no later than 30 days after receipt of this notice. We request that comments to this NOP be received no later than July 3, 2002. Please send your comments to Angie Anderson at the address shown below. Please include a return address and contact name with your comments.

Project Title: Effluent Pump Station Annex and Collection System Odor and Corrosion Control Program Supplemental Environmental Impact Report No. 1

Signature:

Title:

Engineering Manager

Address:

Orange County Sanitation District
10844 Ellis Avenue
Fountain Valley, CA 92708
Attention: Angie Anderson

Telephone:

(714) 593-7305

Effluent Pump Station Annex and
Collection System Odor and
Corrosion Control Program

1

June 2002

ESA/201168

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Member Agencies

Cities

Anaheim
Brea
Buena Park
Cypress
Fountain Valley
Fullerton
Garden Grove
Huntington Beach
Irvine
La Habra
La Palma
Los Alamitos
Newport Beach
Orange
Placentia
Santa Ana
Seal Beach
Stanton
Tustin
Villa Park
Yorba Linda

County of Orange

Sanitary Districts

Costa Mesa
Midway City

Water Districts

Irvine Ranch

INTRODUCTION

The Orange County Sanitation District (District) is proposing to construct the Effluent Pump Station Annex (EPSA) at Treatment Plant No. 2 to replace the existing Foster Pump Station (District Job Number J-77). The EPSA would act as a back-up pump station for discharging treated wastewater to the District's five-mile outfall to the Pacific Ocean. In addition, the District is proposing to implement a new Collection System Odor and Corrosion Control Program (OCP). The OCP would involve applying odor-reducing chemicals to trunk sewers using information developed through the pilot testing begun in 2000.

These projects were not described in the 1999 Program Environmental Impact Report (PEIR) prepared for the District's 20-year Strategic Plan. Therefore, the District is preparing a Supplemental Environmental Impact Report (SEIR) pursuant to the California Environmental Quality Act (CEQA) Guidelines, Section 15163. CEQA provides that a supplement to a previously certified EIR may be prepared if a discretionary action is required for a project for which new information has become available, but for which little revision to the initial EIR, is foreseen as necessary. A SEIR discloses the new information and assesses potential impacts pertaining exclusively to the new information.

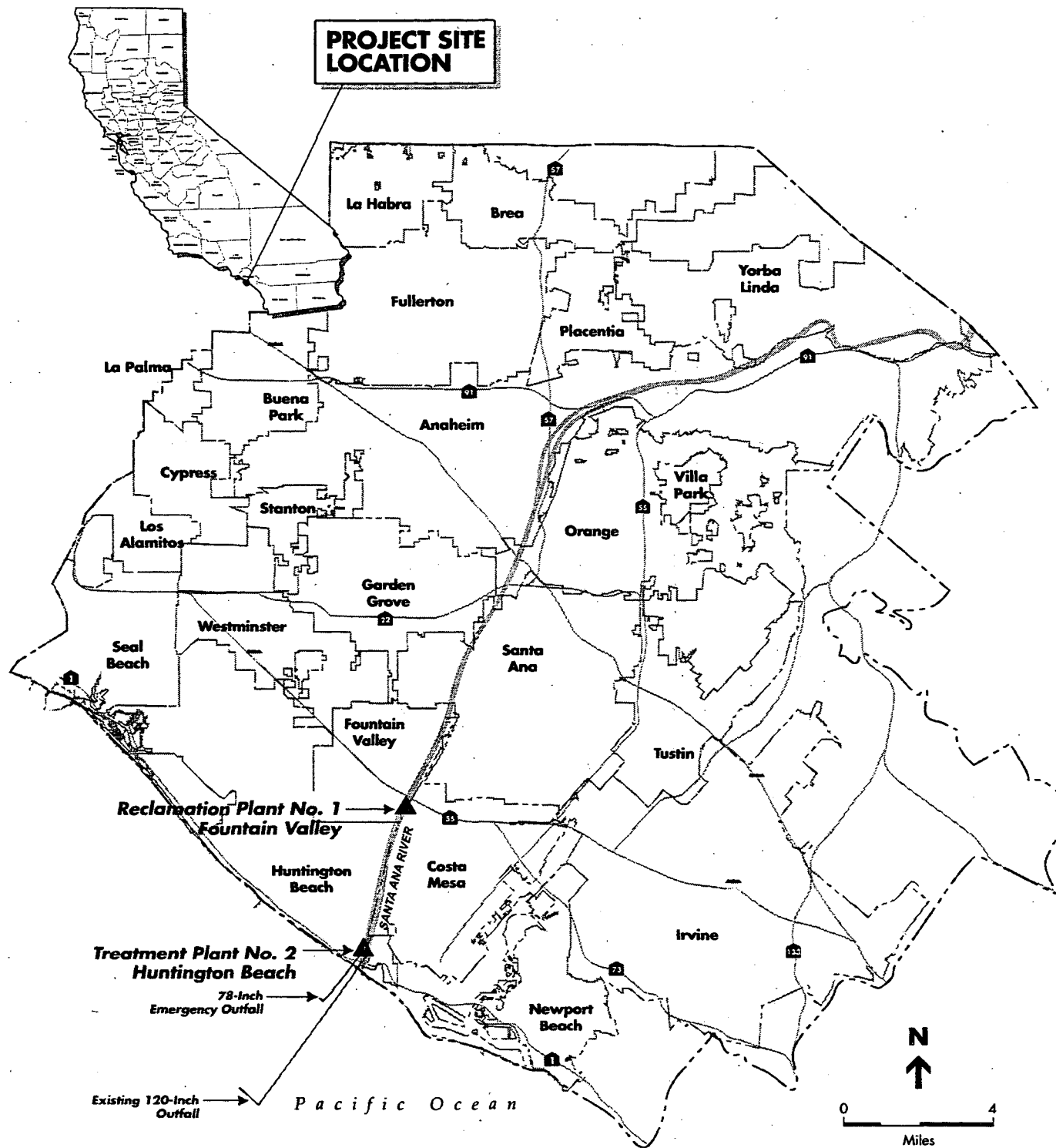
PROJECT BACKGROUND

Orange County Sanitation District provides wastewater services to approximately 2.3 million people within a 450-square mile area of northern Orange County. The District operates the third largest wastewater system on the West Coast, consisting of over 700 miles of trunk and subtrunk sewers, two regional wastewater treatment plants, and an ocean disposal system.

The District was formed in 1946 under the County Sanitation District Act of 1923 as a single purpose entity, providing wastewater treatment for northern Orange County. The District began full operation in 1954 with a network of trunk sewers, two treatment plants, and a 7,200-foot long, 78-inch diameter ocean outfall with a design rated capacity of 240 million gallons per day (mgd). A new 120-inch diameter ocean outfall with a design rated capacity of 480 mgd was installed in 1971. This outfall, currently in service, extends approximately four miles into the ocean where it connects with a diffuser extending another 6,000 feet northward. The effluent discharged to the ocean is a blend of advanced primary and secondary treated wastewater as specified in the District's National Pollutant Discharge Elimination System (NPDES) permit issued jointly by the Santa Ana Regional Water Quality Control Board (RWQCB) and the U.S. EPA.

Treatment Plant No. 2 is located in Huntington Beach adjacent to the Santa Ana River (SAR) about 1,500 feet from the ocean. The plant is located on approximately 110-acres bounded by Brookhurst Street on the northwest, Pacific Coast Highway on the southwest, and the SAR on the east. The existing treatment facilities occupy the southern two-thirds of the site, with the area to the northeast remaining undeveloped (Figure 1). The plant receives raw wastewater from five major sewers and provides a mix of advanced primary and secondary treatment. All of the effluent from the plant is discharged to the ocean disposal system.

In 1999, the District prepared a Strategic Plan to identify projects needed to accommodate projected population growth in its service area through 2020. A Program EIR (PEIR) for the



SOURCE: Environmental Science Associates

OCSD Effluent Pump Station SEIR / 201168 ■

Figure 1
Service Area with Existing Treatment Facilities

Strategic Plan was certified in October 1999. The PEIR assessed the potential effects of the Strategic Plan on the local and regional environment. The PEIR provides program-level analysis of long-term broad planning strategies and project-level analysis for projects designed and planned to occur in the near-term (up to the year 2005).

PROJECT DESCRIPTION

EFFLUENT PUMP STATION ANNEX

The Ocean Outfall Booster Station (OOBS) pumps treated effluent from Plant No. 1 and Plant No. 2 and discharges through the District's 120-inch diameter outfall approximately five-miles from the shoreline. The existing OOBS, located at Plant No. 2, consists of five pumps providing a design rated capacity of 480 mgd (four 120 mgd pumps with one 120 mgd backup pump). The Foster Pump Station (FPS), located southwesterly of OOBS, is used as a backup system. Historically, the FPS has been used during emergency peak flow events and/or when the OOBS is out of service or down for maintenance. The FPS was last used for emergency operation in 1995.

The District evaluated the upgrade of the existing FPS in a preliminary study. The effectiveness of this facility was determined to be negligible during a peak flow emergency. The FPS system is incapable of pumping concurrently at the system head of the existing OOBS facility. Therefore, the FPS can only operate when the OOBS facility is not active. Additionally, the FPS is located on an active geologic fault and would require extensive seismic upgrades to meet current codes. The costs to upgrade the FPS and ensure the reliability of the existing pumping capacity would be comparable to construction of a new facility. For these reasons, the District is proposing construction of a new backup pump station, the EPSA, to replace the FPS. The EPSA will operate in conjunction with OOBS and provide a design rated pumping capacity of up to 240 mgd.

The FPS will remain in-service until the middle of construction of the EPSA, at which time the FPS will be demolished and removed from the Plant No. 2 site. Figure 2 shows the location of the existing OOBS facility and Foster Pump Station. The proposed EPSA will consist of three different buildings and associated piping listed below and as shown on Figure 3:

- The Pump Building will be approximately 4,600 square feet (sf) and 40 feet tall. The building will house three 2,500 horsepower dry-pit pumps and a wet-well, with a design rated capacity of 240 mgd (half of the existing OOBS capacity).
- The Distribution Center "E" Building will be approximately 5,400 sf and less than 30 feet tall. It will house the EPSA control room and appurtenant electrical equipment.
- The Standby Power Facility will be approximately 7,800 sf, and 26 feet tall. It will house five 2-megawatt (MW) generators, switchgear, battery bank and chargers, grounding resistors, and motor controllers for backup power for the OOBS/EPSA system. This facility will be designed and built with three extra electrical bays for use by future projects. The Standby Power Facility will be located near the existing OOBS building (Figure 3). Two double-walled, fiberglass-clad steel underground storage tanks will be installed as part of the project. The 20,000-gallon capacity tanks will be supplied with cathodic protection and equipped with a continuous inventory/leak detection system.

- Associated Piping - Some of the existing suction piping will be modified and some new piping will be installed to convey flow to EPSA from OOBs as well as from the Plant No. 2 primary and secondary clarifiers. The project will also include the installation of discharge piping to convey flow from EPSA to the District ocean outfalls. The EPSA will be designed to discharge to either the 120-inch or the 78-inch diameter ocean outfall (same as existing FPS). Figure 3 shows the location of the planned structures and piping.
- Adjustable Emergency Overflow Weirs – The existing SAR emergency overflow weirs will be demolished and replaced with four adjustable weirs. The installation will require excavation into the SAR levee. The levee is owned and maintained by the County of Orange. The new weir will include a motor(s) which will allow the weir to raise and lower in elevation. Figure 3 shows the locations of the weirs.

Demolition and Construction

To make room for the EPSA and Distribution Center “E” Building, the twenty-foot tall, 10,200 sf existing Service Center building (Figure 2) will be demolished and the area excavated to a maximum depth of 40 feet. Several suction side conduits and junction boxes will also be demolished or modified. Approximately 40,000 – 50,000 cubic yards (cy) of soil will be excavated during construction. Following installation of cut and cover piping and other facilities, approximately 10,000 – 20,000 cy of soil will be needed for fill. Therefore, the net volume of soil to be removed from the site is about 30,000 cy. In addition, approximately 1.5 acres of existing property will be graded and designed to generally match existing grades. The duration of construction activity will be approximately 750 days and is anticipated to start construction beginning in December 2002 and ending in September 2005. The on-site construction workforce will likely average about 35 to 45 workers per day over the course of the project. During peak construction activity, this number will range from approximately 100 to 150 workers.

ODOR CONTROL PROGRAM

The District manages an odor control program for the collection system that consists of applying doses of sodium hydroxide (caustic soda) in the upper reaches of the trunk sewer collection system. The District’s collection system generates odorous gases, primarily hydrogen sulfide (H₂S), which can be released into the air creating a nuisance to surrounding land uses. The mixing of H₂S and caustic soda reduces odor but creates sulfuric acid, which is known to be corrosive to the sewer infrastructure. The application of caustic soda is applied intermittently to reduce corrosion impacts and minimize H₂S production as the wastewater is conveyed from the collection system to the District treatment plants.

Caustic soda is delivered by tanker truck to various locations throughout the collection system. The chemicals are discharged into the sewers through manholes in the street. The application sites vary throughout the collection system depending on need, but 15 or 20 manhole locations are commonly used. During the period of April through October, approximately one truck per day is dispatched, whereas in the winter months the demand is reduced to one or two trucks per week. Each tanker truck discharges its entire load (4,000 gallons) of caustic soda per application. Annual usage for the whole system is approximately 400,000 gallons.

In an effort to provide a more effective odor control program for the collection system, the District is proposing to implement a new Collection System Odor and Corrosion Control Program involving new chemicals and application methods. The proposed new program would implement odor control measures developed in an on-going pilot study conducted by the District. The pilot study was initiated in the summer of 2000 to evaluate alternative treatment technologies for controlling sulfide odor and corrosion. Several different chemicals and application methods were assessed to reduce odor production in the sewers, including continuous feed systems. Chemicals considered included ferrous chloride, hydrogen peroxide, magnesium hydroxide, sodium nitrate, and calcium nitrate.

The pilot study recommended continuing with the caustic soda application as well as installing several continuous feed systems that would discharge a mixture of hydrogen peroxide and ferrous chloride into three trunk sewers, and magnesium hydroxide/nitrates into one trunk sewer. Approximately eight continuous feed systems were recommended in various locations throughout the collection system, with more possible locations to be identified in the future. Installation of the systems is a relatively minor operation involving the installation of temporary polyethylene tanks with PVC pipes running from the tank to the pumps and injection points. These aboveground tanks have a storage capacity of roughly 4,000 gallons and range in size from 8 to 12 feet in diameter and 8 to 16 feet in height. The tanks would be refilled approximately 1 to 3 times per week. Installation of the feed system and storage tanks takes one to two weeks and may involve minor excavation, trenching, and potentially temporary lane closures.

Currently, there are nineteen chemical application sites in operation. Twelve sites continue the caustic soda application method, and seven are using continuous feed systems. The District is proposing to keep these sites in operation and make them permanent features of the District's odor control program. The continuous feed system's annual chemical usage is approximately 1,500,000 gallons of ferrous chloride, 500,000 gallons of hydrogen peroxide, 440,000 gallons of magnesium hydroxide, and 550,000 gallons of nitrates.

DISCUSSION OF POTENTIAL IMPACTS

The Supplemental Environmental Impact Report (SEIR) will focus on potential impacts associated with implementation of the EPSA and Collection System Odor Control Program that were not addressed in the 1999 PEIR. The following discussions highlight potentially significant impacts of the project to be addressed in the SEIR. Other resource areas discussed in the 1999 PEIR will not be addressed in the SEIR since the project would not alter the analysis or conclusions of the PEIR.

AESTHETICS

The EPSA project would involve constructing a new building near the southeastern edge of Treatment Plant No. 2. The project site is adjacent to the Santa Ana River and a bikeway corridor to the east. Landscaping has been installed along the facility's eastern boundary to filter views into the plant. Nonetheless, the new building may be visible from the residential area in Newport Beach east of the Santa Ana River as well as from the river levee bike path and potentially from Pacific Coast Highway. Currently, the treatment plant facilities, including the two 94-foot tall surge towers, can be viewed from the residential area across the river and

adjacent wetlands. The Santa Ana River levee and existing landscaping soften or block the long-range views considerably. The 20-foot tall Service Center building to be demolished for this project is currently not visible from the residential areas due to the levee.

The character of the proposed 40-foot tall building would be similar to existing facilities at Plant No. 2, and would be less visually obtrusive than the existing surge towers. The architectural design of the pump station would integrate with the surrounding area. Landscaping of the site would be incorporated into the design. Nonetheless, since the proposed new building may be visible from off-site, the visual impacts are potentially significant and will be further evaluated in the SEIR.

AIR QUALITY

Construction activities for installation of the EPSA would consist of demolition, excavation, construction, pipeline placement, and trench back-filling. Construction exhaust emissions would be generated from construction equipment, earth movement and demolition activities, construction workers' commute, and material hauling for the entire construction period. It is anticipated that the proposed project would be completed within 22 months from the beginning of site clearing. Construction-related activities would occur eight hours per day, five days per week. During this period, due to the size of the construction project, daily emissions thresholds of significance established by the South Coast Air Quality Management District (SCAQMD) could be exceeded. The SEIR will estimate daily exhaust emissions based on detailed construction activities to assess the potential short-term air quality impact.

The proposed EPSA would require the installation of emergency back-up power capability. Five 2 MW back-up diesel generators would be installed as part of the project. Although these generators would only operate in case of a general power failure, they would add to the potential air emissions inventory for the Treatment Plant. As such they would require permits to operate from the SCAQMD. To facilitate the permitting process, the generators will be commercially available SCAQMD "pre-certified" diesel units.

GEOLOGY AND SOILS

Treatment Plant No. 2 is located near the Newport-Inglewood Fault, an active and potentially hazardous fault zone. Multiple fault splays run through the treatment plant site. Other major faults in the region include the Whittier Fault Zone and the Palos Verdes Fault. Seismic activity on any of these known faults within the region could cause considerable ground shaking in the project area.

The new buildings to be constructed for the EPSA project will be located at least fifty feet from the location of known active faults. It is likely that some piping will have to cross at least one known fault splay. The existing FPS that will be taken out of service as part of this project is located on an active fault splay. The project will upgrade existing facilities, providing more protection from seismic impacts than currently exists. The potential for soil liquefaction in the project area is considered high due to the unconsolidated soils and high water table. The design of wastewater treatment facilities would have to account for these seismic hazards present on the treatment plant site.

HAZARDS AND HAZARDOUS MATERIALS

Implementation of the proposed OCP would require the transport, storage, and use of significant quantities of chemicals including hydrogen peroxide, ferrous chloride, sodium nitrate, calcium nitrate, and magnesium hydroxide. The chemicals would be routinely delivered to newly constructed storage facilities throughout the service area. As such, the possibility exists during the lifetime of the project for an accidental release of these materials. The SEIR will evaluate the potential hazard of each chemical to be used.

Ferrous chloride and hydrogen peroxide are considered strong oxidizers, and can cause burns to unprotected skin. However, both chemicals are quickly neutralized when spilled and would not pose a toxic vapor hazard. Sodium nitrate and calcium nitrate are considered mild oxidizers, and magnesium hydroxide is generally non-reactive.

HYDROLOGY

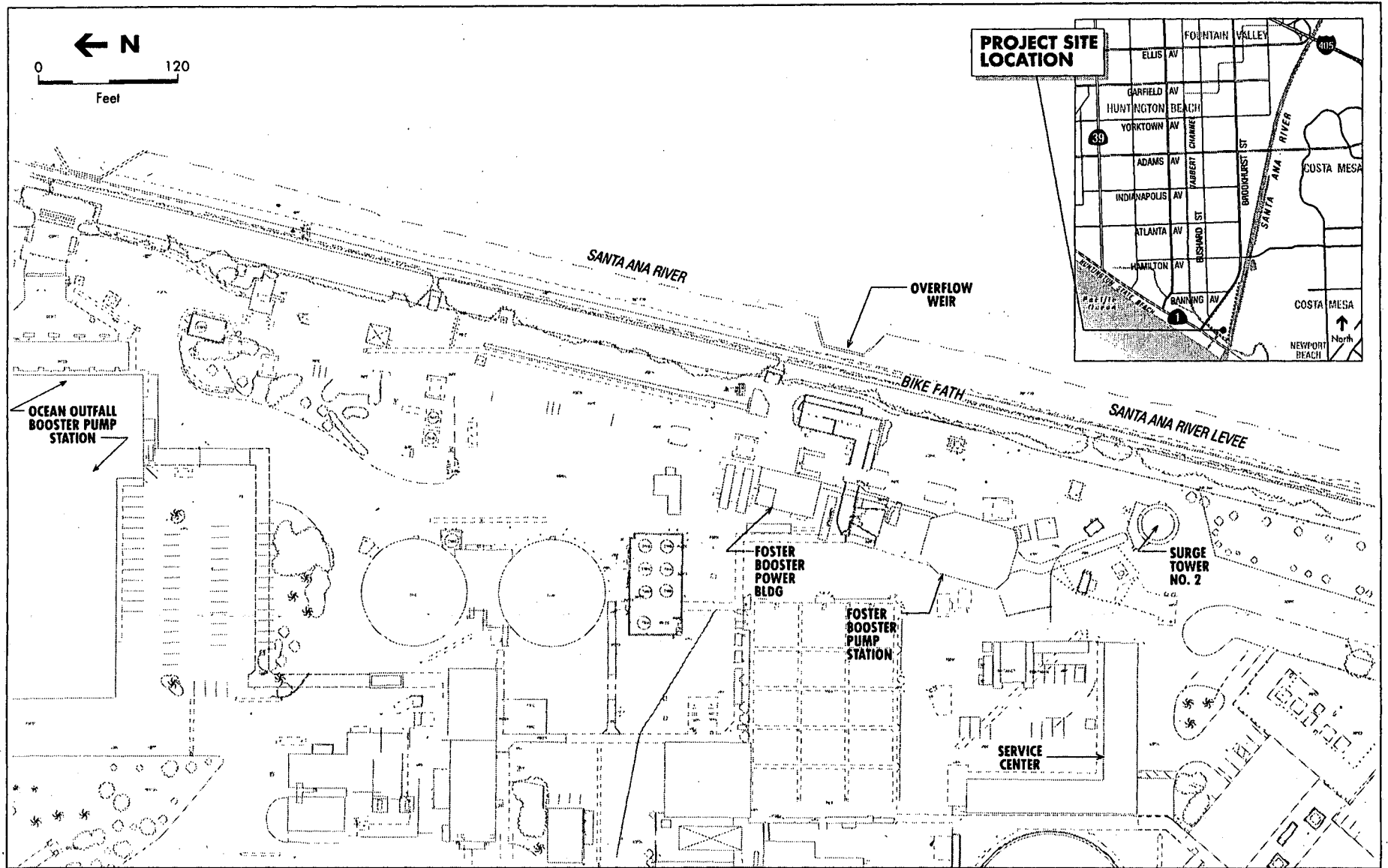
The project would require excavating soils to install the pump station building and ancillary piping. Since groundwater is extremely shallow, the excavations would likely encounter groundwater, requiring dewatering during the construction activities. The groundwater would be discharged in compliance with the District's dewatering permit.

TRAFFIC AND TRANSPORTATION

Construction activities will temporarily increase traffic to Treatment Plant No. 2 as workers access the site and building materials are delivered. This temporary increase is not expected to significantly impact local intersections. Construction of the continuous feed systems including installing storage tanks could require temporary lane closures in some roadways, including Pacific Coast Highway. The potential lane closures would be necessary for only portions of one day during installation. Chemical deliveries to storage tanks associated with the continuous feed systems could require lane closures. Also, the slug application method of discharging caustic soda to the sewer through manholes requires temporary lane closures. These activities would be short term and are not expected to pose significant impacts to traffic circulation.

NOISE

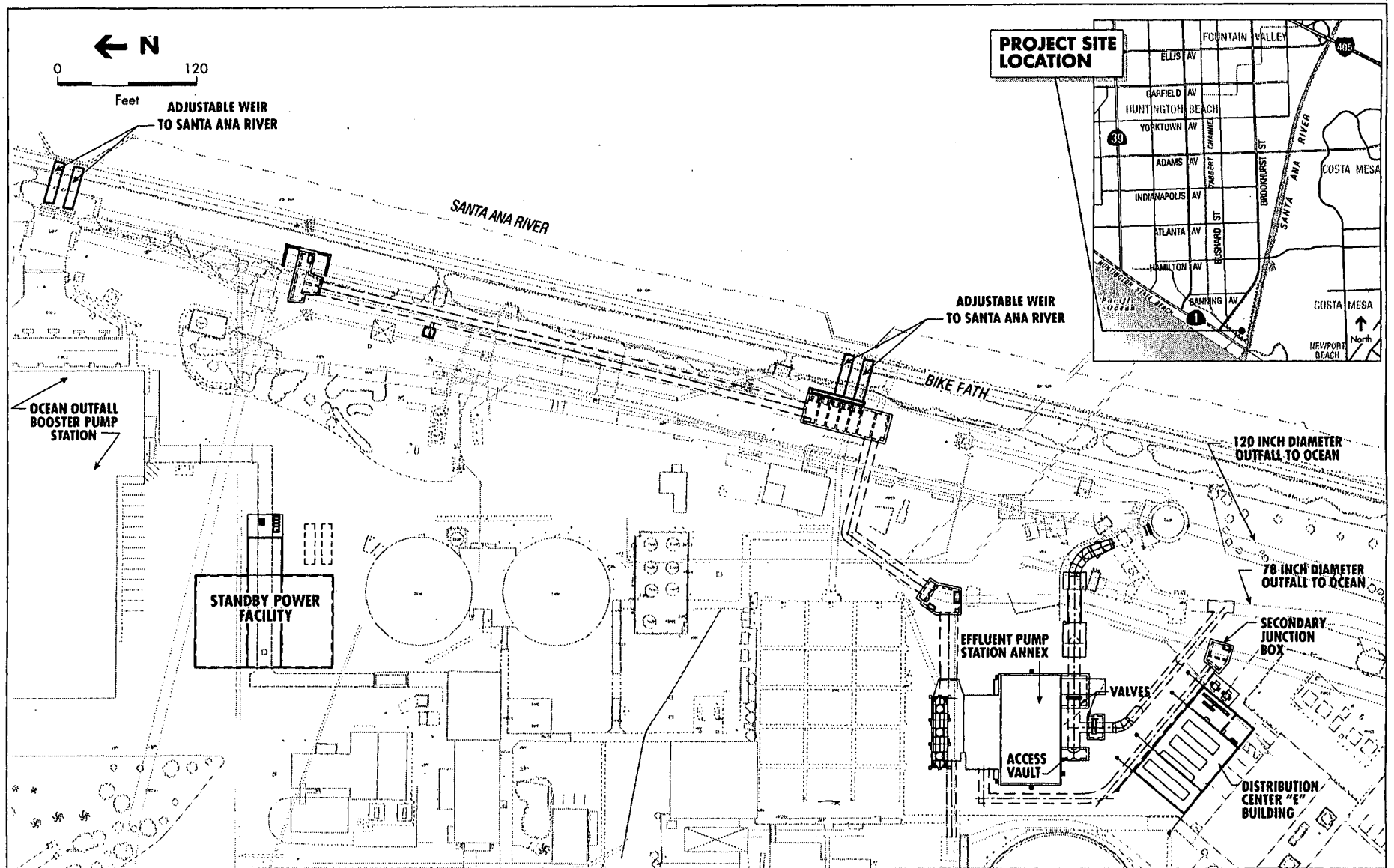
Construction activities associated with the project would generate short-term noise that could exceed fence-line noise thresholds. In particular, prolonged pile driving activities could create nuisance conditions in nearby residential neighborhoods during the day. This would be considered a significant impact of the project. Although construction noise would only occur during the day in compliance with local ordinances, measures will be evaluated to reduce the nuisance where possible.



SOURCE: Black and Veatch

OCSD Effluent Pump Station SEIR / 201168 ■

Figure 2
Existing Site Plan at Treatment Plant No. 2



SOURCE: Black and Veatch

OCSD Effluent Pump Station SEIR / 201168 ■

Figure 3
Proposed Site Plan at Treatment Plant No. 2

APPENDIX C

COMMENTS RECEIVED ON NOTICE OF PREPARATION



Gray Davis
GOVERNOR

STATE OF CALIFORNIA

Governor's Office of Planning and Research
State Clearinghouse



Tal Finney
INTERIM DIRECTOR

Notice of Preparation

June 3, 2002

To: Reviewing Agencies

Re: Supplemental EIR-Effluent Pump Station Annex and Collection System Odor and Corrosion Control Program
SCH# 1997101065

Attached for your review and comment is the Notice of Preparation (NOP) for the Supplemental EIR-Effluent Pump Station Annex and Collection System Odor and Corrosion Control Program draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

James Herberg
Orange County Sanitation District
10844 Ellis Avenue
Fountain Valley, CA 92708-7018

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

Scott Morgan
Project Analyst, State Clearinghouse

Attachments
cc: Lead Agency

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JUN 12 11:35
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State Clearinghouse Data Base

SCH# 1997101065
Project Title Supplemental EIR-Effluent Pump Station Annex and Collection System Odor and Corrosion Control
Lead Agency Program
 Orange County Sanitation District

Type **NOP** Notice of Preparation
Description To supplement the 1999 Strategic Plan Program Environmental Impact Report (SEIR), the Orange County Sanitation District (OCSD) will construct the Effluent Pump Station Annex (EPSA) at its Treatment Plant No. 2 facility, located within the City of Huntington Beach, Ca. The EPSA will serve as a back-up pump station for discharging treated wastewater to OCSD's ocean outfalls to the Pacific Ocean. Additionally, a new collection system Odor and Corrosion Control Program (OCP) will apply odor-reducing chemicals intermittently in the upper reaches of OCSD's trunk sewer system as wastewater is conveyed from northern and central Orange County to the District treatment facilities.

Lead Agency Contact

Name James Herberg
Agency Orange County Sanitation District.
Phone 714-962-2411 ext. 2000 **Fax**
email
Address 10844 Ellis Avenue
City Fountain Valley **State** CA **Zip** 92708-7018

Project Location

County Orange
City Fountain Valley, Huntington Beach
Region
Cross Streets
Parcel No.

Township	Range	Section	Base

Proximity to:

Highways
Airports
Railways
Waterways
Schools
Land Use Industrial

Project Issues Aesthetic/Visual; Air Quality; Coastal Zone; Geologic/Seismic; Noise; Public Services; Soil Erosion/Compaction/Grading; Toxic/Hazardous; Other Issues

Reviewing Agencies Resources Agency; California Coastal Commission; Office of Historic Preservation; Department of Parks and Recreation; Department of Water Resources; Department of Health Services; Department of Fish and Game, Region 5; Department of Fish and Game, Marine Region; Native American Heritage Commission; State Lands Commission; Caltrans, District 12; Integrated Waste Management Board; State Water Resources Control Board; State Water Resources Control Board, Division of Water Rights; Department of Toxic Substances Control; Regional Water Quality Control Board, Region 8

Date Received 06/03/2002 **Start of Review** 06/03/2002 **End of Review** 07/02/2002

REP Distribution List

County: Orange

SCH# 1997101065

Resources Agency

- Resources Agency
Nadell Gayou
- Dept. of Boating & Waterways
Bill Curry
- California Coastal Commission
Elizabeth A. Fuchs
- Dept. of Conservation
Roseanne Taylor
- Dept. of Forestry & Fire Protection
Allen Robertson
- Office of Historic Preservation
Hans Kreuzberg
- Dept of Parks & Recreation
B. Noah Tilghman
Environmental Stewardship Section
- Reclamation Board
Pam Bruner
- S.F. Bay Conservation & Dev't. Comm.
Steve McAdam
- Dept. of Water Resources
Resources Agency
Nadell Gayou

Fish and Game

- Dept. of Fish & Game
Scott Flint
Environmental Services Division
- Dept. of Fish & Game 1
Donald Koch
Region 1
- Dept. of Fish & Game 2
Banky Curtis
Region 2
- Dept. of Fish & Game 3
Robert Floerke
Region 3
- Dept. of Fish & Game 4
William Lauder milk
Region 4
- Dept. of Fish & Game 5
Don Chadwick
Region 5, Habitat Conservation Program
- Dept. of Fish & Game 6
Gabrina Gatchel
Region 6, Habitat Conservation Program
- Dept. of Fish & Game 6 I/M
Tammy Allen
Region 6, Inyo/Mono, Habitat Conservation Program
- Dept. of Fish & Game M
Tom Napoli
Marine Region

Independent Commissions

- California Energy Commission
Environmental Office
- Native American Heritage Comm.
Debbie Treadway
- Public Utilities Commission
Ken Lewis
- State Lands Commission
Betty Silva
- Governor's Office of Planning & Research
State Clearinghouse Planner

- Colorado River Board
Gerald R. Zimmerman
- Tahoe Regional Planning Agency (TRPA)
Lyn Barnett
- Office of Emergency Services
John Rowden, Manager
- Delta Protection Commission
Debby Eddy
- Santa Monica Mountains Conservancy
Paul Edelman

Dept. of Transportation

- Dept. of Transportation 1
IGR/Planning
District 1
- Dept. of Transportation 2
Vicki Roe
Local, Development Review,
District 2
- Dept. of Transportation 3
Jeff Pulverman
District 3
- Dept. of Transportation 4
Jean Finney
District 4
- Dept. of Transportation 5
James Kilmer
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- Dept. of Transportation 8
Mike Sim
District 8
- Dept. of Transportation 9
Colleen O'Brien
District 9

- Dept. of Transportation 10
Chris Sayre
District 10
- Dept. of Transportation 11
Lou Salazar
District 11
- Dept. of Transportation 12
Aileen Kennedy
District 12

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- Housing & Community Development
Cathy Creswell
Housing Policy Division
- Caltrans - Division of Aeronautics
Sandy Hesnard
- California Highway Patrol
Lt. Julie Page
Office of Special Projects
- Dept. of Transportation
Ron Helgeson
Caltrans - Planning
- Dept. of General Services
Robert Sleppy
Environmental Services Section

Air Resources Board

- Airport Projects
Jim Lerner
- Transportation Projects
Kurt Karperos
- Industrial Projects
Mike Tollstrup
- California Integrated Waste Management Board
Sue O'Leary
- State Water Resources Control Board
Diane Edwards
Division of Clean Water Programs

- State Water Resources Control Board
Greg Frantz
Division of Water Quality
- State Water Resources Control Board
Mike Falkenstein
Division of Water Rights
- Dept. of Toxic Substances Control
CEQA Tracking Center

Regional Water Quality Control Board (RWQCB)

- RWQCB 1
Cathleen Hudson
North Coast Region (1)
- RWQCB 2
Environmental Document Coordinator
San Francisco Bay Region (2)
- RWQCB 3
Central Coast Region (3)
- RWQCB 4
Jonathan Bishop
Los Angeles Region (4)
- RWQCB 5S
Central Valley Region (5)
- RWQCB 5F
Central Valley Region (5)
Fresno Branch Office
- RWQCB 5R
Central Valley Region (5)
Redding Branch Office
- RWQCB 6
Lahontan Region (6)
- RWQCB 6V
Lahontan Region (6)
Victorville Branch Office
- RWQCB 7
Colorado River Basin Region (7)
- RWQCB 8
Santa Ana Region (8)
- RWQCB 9
San Diego Region (9)

Health & Welfare

- Health & Welfare
Wayne Hubbard
Dept. of Health/Drinking Water

Food & Agriculture

- Food & Agriculture
Steve Shaffer
Dept. of Food and Agriculture

DEPARTMENT OF TRANSPORTATION

District 12
3337 Michelson Drive, Suite 380
Irvine, CA 92612-8894



*Flex your power!
Be energy efficient!*

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ENGINEERING

July 2, 2002

Mr. James Herberg
Orange County Water District
10844 Ellis Avenue
Fountain Valley, CA 92708-7018

File: IGR/CEQA
SCH#: 1997101065
Log #: 631A
SR#: I-405 and PCH

Subject: Notice of Preparation (NOP) of a Supplemental Environmental Impact Report (SEIR) assessing the installation of the Effluent Pump Station Annex (Job No. J-77) and the implementation of the Collection System Odor and Corrosion Control Program

Dear Mr. Herberg;

Thank you for the opportunity to review and comment on the **NOP/SEIR for the Effluent Pump Station Annex Project** dated June 2002. The Orange County Sanitation District will be the Lead Agency for this project. The District is proposing to demolish the Foster Pump Station and construct the new replacement Effluent Pump Station Annex (EPSA) at Treatment Plant No.2. In addition, the District is proposing to implement a new Collection System Odor and Corrosion Control Program. State freeway facilities located closest to this project are Pacific Coast Highway (PCH) and Interstate 405.

Caltrans District 12 status is a review agency on this project and has the following comments:

1. Our main concern is that truck traffic generated by the proposed demolition, excavation and construction of the new project could aggravate traffic congestion on I-405 and PCH as these facilities are currently functioning at a low level of service during peak hours. We suggest that the construction schedule avoid the busy summer/tourist season and provisions made so there is little interference with the normal commuter traffic flow near state highways and ramps especially during peak hours;
2. No discharge is allowed into the State's transportation drainage facilities from the dewatering of the groundwater;
3. In the Notice of Preparation, *Project Site Location*, the map shown does not have the routes properly marked. The I-405 is marked as SR-55, and the I-5 is not identified. Please make the appropriate corrections to the map;
4. In the Notice of Preparation, *Traffic and Transportation*, traffic impacts related to construction are identified. However, traffic impacts related to the operation of the proposed facility should be identified as well. The environmental document needs to examine how the project will impact State transportation facilities;
5. If any project work (e.g. storage of materials, street widening, emergency access improvements, sewer connections, sound walls, storm drain construction, street connections, etc.) occurs in the vicinity of the Caltrans right-of-way, an encroachment permit would be required and environmental concerns must be adequately addressed. If the environmental documentation for the project does not meet Caltrans requirements, additional documentation (e.g. Native American Heritage Commission consultation for

cultural resources) would be required before approval of the encroachment permit. Please coordinate with Caltrans to meet requirements for any work within or near Caltrans right-of-way. (See attachment: *Environmental Review Requirements for Encroachment Permits*);

6. All work within the State right-of-way must conform to Caltrans' Standard Plans and Standard Specifications for Water Pollution Control, including production of a Water Pollution Control Program (WPCP) or Storm Water Pollution Prevention Plan (SWPPP) as required. Any run-off draining into Caltrans right-of-way from construction operations or from the resulting project cannot be approved by District 12 Environmental Planning. Measures must be incorporated to contain all vehicle loads and avoid any tracking of materialst that may fall or blow onto Caltrans roadways or facilities. (See attachment: *Water Pollution Control Provisions*).

We appreciate your cooperation in doing your share in ensuring that the traffic circulation on the local and state highway system is not degraded during project construction. Please continue to keep us informed of this project and other future developments that could potentially impact transportation facilities. If you have any questions or need to contact us, please do not hesitate to call Becky Shumway at (949) 440-4461.

Sincerely,



Robert F. Joseph, Chief
Advanced Planning Branch

Attachments

cc: R. Kao, Hydraulics
L. Manderscheid, Environmental Planning Branch B

MEMORANDUM

To: ~~BECKY SHIMWAY~~
ADVANCE PLANNING

Attn: OCSD

July 2, 2002

From: ED DOLAN
ENVIRONMENTAL PLANNING, BRANCH A

IGR # 631A
12-ORA-1

**Subject: NOP for a SEIR for the Construction of the Back-up Effluent Pump
Station Annex and Odor and Corrosion Control Program at the OCSD
Treatment Plant**

Thank you for the opportunity for Environmental Planning to review the above referenced project. We have the following comments:

- 1) Coordination must be initiated with Caltrans District 12 if project implementation necessitates lane closures on Pacific Coast Highway (SR-1).
- 2) Coordination may be required with the appropriate agencies (e.g. City, County) if the bike path that runs near the Treatment Plant is impacted.
- 3) Caltrans has various restoration projects near PCH and Brookhurst Street (e.g. Dune's restoration). OCSD should coordinate with us regarding any possible impacts to these projects.
- 4) If any construction activity is to occur within the Caltrans Right of Way, the applicant must apply for an Encroachment Permit. As a condition of the application process, the applicant will be required to submit either a Storm Water Pollution Prevention Plan (SWPPP) or a Water Pollution Control Program (WPCP) pursuant to the Caltrans Storm Water Quality Handbook. In addition, biological and cultural impacts will have to be assessed to meet Caltrans standards.
- 5) Any runoff draining into the Caltrans Right of Way from construction operations or from the resulting project must fully conform to the Caltrans Statewide NPDES Permit (Order No. 99-06-DWQ, NPDES No. CAS000003) and the current discharge requirements of the San Diego Regional Water Quality Control Board to avoid impacting water quality. Controls must be implemented to contain all vehicle loads and avoid any tracking of materials that may fall or blow onto Caltrans roadways or facilities.

I can be contacted at extension 2128 if you have any questions regarding this review.

ENVIRONMENTAL REVIEW REQUIREMENTS FOR ENCROACHMENT PERMITS

Any Party, outside of Caltrans, that does work on a State Highway or Interstate Highway in California needs to apply for an encroachment permit. To acquire any encroachment permit, environmental concerns must be addressed. Environmental review of encroachment permit applications may take 3 weeks if the application is complete or longer if the application is incomplete. For soil disturbing activities (e.g. geotechnical borings, grading, usage of unpaved roads from which dirt and other materials may be tracked onto the State/Interstate highways, etc.), compliance with Water Quality and Cultural Resources Provisions are emphasized. Surveys may/ may not be soil-disturbing activities, depending on the site and survey method.

A complete application for environmental review includes the following:

1. If an environmental document (CE, EIR/EIS, ND, etc.) has been completed for the project, copy of the final, approved document must be submitted with the application.
2. **Water Quality Provision:** All work within the State Right of Way must conform to Caltrans Standard Plans and Standard Specifications for Water Pollution Control including production of a Water Pollution Control Program or Storm Water Pollution Prevention Plan as required. The applicant must provide Encroachments with a copy of the Storm Water Pollution Prevention Plan (SWPPP) including Best Management Practices (BMPs) to be implemented for construction activities impacting Caltrans Right of Way, prepared for this as required by the NPDES Statewide Storm Water Permit for General Construction Activities. If no SWPPP has been prepared for this project, then the applicant must follow the requirements described in the attached Water Pollution Control Provisions (please see attachment).
3. **Cultural Resources Provisions:** If not included in the environmental document, before permit approval and project construction, the encroachment permit applicant must complete a Cultural Resource Assessment pursuant to Caltrans Environmental Handbook, Volume 2, Appendix B-1, and Exhibit 1, as amended. The Cultural Resources Assessment ascertains the presence or absence of cultural resources within a one-mile radius of the project area and evaluates the impact to any historical/cultural resource. Cultural Resources include "those resources significant in American history, architecture, archaeology, and culture, including Native American Resources" (Caltrans Environmental Handbook, Volume 2, Chapter 1, as amended)]. The Cultural Resource Assessment must include:
 - a) a clear project description and map indicating project work, staging areas, site access, etc.;
 - b) a Record Search conducted at the South Central Coastal Information Center (SCCIC) located at California State University, Fullerton. For information call (714) 278-5395;
 - c) proof of Native American consultation. Consultation involves contacting the Native American Heritage Commission (NAHC), requesting a search of their Sacred Lands File, and following the recommendations provided by the NAHC. For information call (916) 653-4082;
 - d) documentation of any historic properties (e.g. prehistoric and historic sites, buildings, structures, objects, or districts listed on, eligible for, or potentially eligible for listing on the National Register of Historic Places) within a one mile radius of the project area;
 - e) and a survey by qualified archaeologist for all areas that have not been previously researched.

The SCCIC and NAHC have an approximate turn around time of 2 weeks.

4. **Biological Resources Provisions:** Work conducted within Caltrans Right of Way should have the appropriate plant and wildlife surveys completed by a qualified biologist. If the information is not included in the environmental document, Environmental Planning requests that the applicant submit a copy of the biological study, survey, or technical report by a qualified biologist that provides details on the existing vegetation and wildlife at the project site and any vegetation that is to be removed during project activities. Official lists and databases should also be consulted for sensitive species such as the California Natural Diversity Database and lists provided by the U.S. Fish and Wildlife Service and the California Department of Fish and Game. Any impacts that affect waterways and drainages and/or open space during construction, or that occur indirectly as a result of the project must be coordinated with the appropriate resource agencies. As guidance, we ask that the applicant include:
 - a) clear description of project activities and the project site
 - b) completed environmental significance checklist (not just yes and no answers, but a description should be given as to the reason for the response),
 - c) staging/storage areas noted on project plans,
 - d) proposed time of year for work and duration of activities (with information available),
 - e) any proposed mitigation (if applicable to the project),
 - f) and a record of any prior resource agency correspondence (if applicable to the project).

**ATTACHMENT
CALTRANS DISTRICT 12
ENCROACHMENT PERMIT**

WATER POLLUTION CONTROL PROVISIONS

Any runoff draining into Caltrans Right of Way must fully conform to the current discharge requirements of the Regional Water Quality Control Board (RWQCB) to avoid impacting water quality. Permittee shall fully conform to the requirements of the Caltrans Statewide National Pollutant Discharge Elimination System (NPDES) Storm Water Permit, Order No. 99-06-DWQ, NPDES No. CAS000003, adopted by the State Water Resources Control Board (SWRCB) on July 15, 1999, in addition to the BMPs specified in the Caltrans Storm Water Management Plan (SWMP). When applicable, the Permittee will also conform to the requirements of the General NPDES Permit for Construction Activities, Order No. 99-08-DWQ, NPDES No. CAS000002, and any subsequent General Permit in effect at the time of issuance of this Encroachment Permit. These permits regulate storm water and non-storm water discharges associated with year-round construction activities.

Please note that project activities should pay extra attention to storm water pollution control during the "Rainy Season" (October 1st – May 1st) and follow the Water Pollution Control BMPs to minimize impact to receiving waters. Measures must be incorporated to contain all vehicle loads and avoid any tracking of materials, which may fall or blow onto Caltrans Right of Way.

For all projects resulting in 2 hectares (5 acres) or more of soil disturbance or otherwise subject to the NPDES program, the Contractor will develop, implement, and maintain a Storm Water Pollution Prevention Plan (SWPPP) conforming to the requirements of the Caltrans Specification Section 7-1.01G "Water Pollution Control", Caltrans Statewide NPDES Permit, the General NPDES Permit for Construction Activities, and the Caltrans Storm Water Quality Handbooks "Storm Water Pollution Prevention Plan (SWPPP) and Water Pollution Control Program (WPCP) Preparation Manual", and "Construction Site Best Management Practices (BMPs) Manual" effective November 2000, and subsequent revisions. In addition, the SWPPP must conform to the requirements of the SWRCB Resolution No. 2001-046, the Sampling and Analytical Procedures (SAP) Plan.

For all projects resulting in less than 2 hectares (5 acres) of soil disturbance or not otherwise subject to the requirements of the NPDES program, the Contractor will develop, implement, and maintain a Water Pollution Control Program (WPCP) conforming to the requirements of Caltrans Specifications Section 7-1-.01G, "Water Pollution Control", and the Caltrans Storm Water Quality Handbooks "Storm Water Pollution Prevention Plan (SWPPP) and Water Pollution Control Program (WPCP) Preparation Manual", and "Construction Site Best Management Practices (BMPs) Manual" effective November 2000, and subsequent revisions.

Copies of the Permits and the Construction Contractor's Guide and Specifications of the Caltrans Storm Water Quality Handbook may be obtained from the Department of Transportation, Material Operations Branch, Publication Distribution Unit, 1900 Royal Oaks Drive, Sacramento, California 95815, Telephone: (916) 445-3520. Copies of the Permits and Handbook are also available for review at Caltrans District 12, 3347 Michelson Drive, Suite 100, Irvine, California 92612, Telephone: (949) 724-2260. Electronic copies can be found at <http://www.dot.ca.gov/hq/construc/stormwater.html>



CITY OF ANAHEIM, CALIFORNIA

Planning Department

RECEIVED

2002 JUN 24 PM 3:35

ENGINEERING

June 20, 2002

Ms. Angie Anderson
Orange County Sanitation District
10844 Ellis Avenue
Fountain Valley, CA 92708

**RE: NOTICE OF PREPARATION OF A SUPPLEMENTAL ENVIRONMENTAL
IMPACT REPORT ASSESSING THE INSTALLATION OF THE EFFLUENT
PUMP STATION ANNEX (JOB NO. J-77) AND THE IMPLEMENTATION OF
THE COLLECTION SYSTEM ODOR AND CORROSION CONTROL PROGRAM**

Dear Ms. Anderson:

Thank you for the opportunity to review the above-referenced document. City staff has reviewed the document and has no comments at this time.

Please forward any subsequent public notices and/or environmental documents regarding this project to my attention at the address listed below.

If you have any questions regarding this response, please do not hesitate to contact me at (714) 765-5139, Extension 5750.

Sincerely,

Joseph W. Wright
Associate Planner

H:\DOCS\ADVPLAN\power\Projects\Responsible Agency Review\City of Buena Park\Shelley BMW\No Comment Letter.doc

200 South Anaheim Boulevard
P.O. Box 3222, Anaheim, California 92803 • (714) 765-5139 • www.anaheim.net





CITY OF FOUNTAIN VALLEY RECEIVED

10200 SLATER AVENUE • FOUNTAIN VALLEY, CA 92708-4736 • (714) 593-4400, FAX: (714) 593-4498

2002 JUN 28 PM 4:01
ENGINEERING

June 25, 2002

Angie Anderson
Orange County Sanitation District
10844 Ellis Avenue
Fountain Valley, CA 92708

Dear Ms. Anderson:

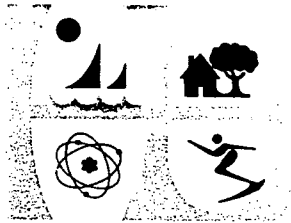
Thank you for the opportunity to review the Notice of Preparation (NOP) of a Supplemental Environmental Impact Report assessing the installation of the Effluent Pump Station Annex and the implementation of the Collection System Odor and Corrosion Control Program.

We have reviewed the NOP and request that the following issues be addressed in the Draft EIR. Page 5 of the NOP indicated that a pilot study recommended continuing with the caustic soda application as well as installing several continuous feed systems that would discharge a mixture of hydrogen peroxide and ferrous chloride into three (3) trunk sewers and magnesium hydroxide/nitrates into one trunk sewer. Moreover, the report indicates approximately eight (8) continuous feed systems were recommended in various locations throughout the collection system. The Planning Department would like to have these sites identified, particularly those within the City of Fountain Valley. We also request that the study analyzed the placement of the tanks.

Once again, thank you for the opportunity to review the NOP. We look forward to working with you as the matter. Please call me at (714) 593-4426 if you have any questions.

Sincerely,

Andrew Perea
Planning Director



City of Huntington Beach

2000 MAIN STREET

CALIFORNIA 92648

702 JUL -03 PM 12:36
DEPARTMENT OF PLANNING

ENGINEERING

Phone 536-5271
Fax 374-1540
374-1648

June 28, 2002

Ms. Angie Anderson
Orange County Sanitation District
10844 Ellis Avenue
Fountain Valley, CA 92708

Subject: Notice of Preparation of a Supplemental EIR for the Effluent Pump Station Annex and the Collection System Odor and Corrosion Control Program

Dear Ms. Anderson:

The City of Huntington Beach has reviewed the Notice of Preparation (NOP) for the proposed Effluent Pump Station Annex and the Collection System Odor and Corrosion Control Program. The City concurs with the list of potentially significant impacts presented in the NOP and looks forward to reviewing the environmental analysis. In addition, the City of Huntington Beach has the following comments and requests that these issues be addressed in the Supplemental Environmental Impact Report (SEIR) that will be prepared for this project.

1. Truck traffic - from 1,500 to 3,000 truck trips will be made to haul 30,000 CY of dirt away from the site. The routes and frequency (trips/day) should be identified and times specified. The number of truck trips associated with building materials imported to the site should also be quantified.
2. Construction parking - As many as 150 workers will be on site at one time. The SEIR needs to address where construction vehicles and construction employee vehicles will be parked.
3. If any construction work will take place in the City right of way, the City shall have opportunity to review plans.
4. It is our understanding from the plans titled, "Project No. J-77, Plant No. 2, Effluent Pump Station Annex" dated November 2001, that the point of connection for the new pipeline conveyance system to the EPSA Project shall connect to the existing on-site water system after the air gap, which is located immediately downstream of the 10-inch meters on Brookhurst Street. However, if the Orange County Sanitation District should construct a separate water service and meter for the EPSA Project or connects a new service before the air gap, backflow protection will be required.

Ms. Angie Anderson
June 28, 2002
Page 2 of 2

5. Demolition and Construction - A Storm Water Pollution Prevention Plan and erosion control plan shall be prepared.
6. A Spill Prevention Control & Countermeasures Plan shall be prepared to address all activities associated with the transportation, storage and use of all chemicals.
7. Hydrology - A detailed description of possible pollutants, environmental impacts and mitigation measures associated with dewatering should be included in the SEIR.

Thank you for the opportunity to comment on the NOP. The City of Huntington Beach looks forward to reviewing the Supplemental EIR for this project.

Sincerely,



Mary Beth Broeren
Principal Planner



City of La Habra

"A Caring Community"

ADMINISTRATION BUILDING

201 E. La Habra Boulevard

P.O. Box 337

La Habra, CA 90633-0337

Office: (562) 905-9700

Fax: (562) 905-9719

June 24, 2002

Ms. Angie Anderson
Orange County Sanitation District
10844 Ellis Avenue
Fountain Valley, California 92708

Re: Notice of Preparation/Supplemental Environmental Impact Report
Effluent Pump Station Annex (Job No. J-77)/Collection System Odor and Corrosion
Control Program

Dear Ms. Anderson;

Thank you for the opportunity to review the Notice of Preparation for the project titled, "Effluent Pump Station Annex (Job No. J-77)/Collection System Odor and Corrosion Control Program. As a potentially affected community, the City of La Habra would offer the following comments and concerns:

1. The Notice of Preparation indicated that associated with the Odor Control Program, the slug application method of discharging caustic soda to the sewer through manholes requires temporary land closures. These activities would appear to be short term in nature and should be addressed in the environmental document. It should be noted that the temporary closure of streets within the City of La Habra requires a traffic control plan be submitted to the City Engineer for review and approval.

We are prepared to assist you in addressing the above concern. I have attached for your information, a department Memorandum from our Public Works Department, expressing the subject concern. As always, we look forward to working with your staff on this matter. If you should have any questions, please feel free to contact me at (562) 905-9724.

Sincerely,

Carlos Jaramillo
Dep. Dir. of Community Development

ENGINEERING

JUN 27 11:24:45

RECEIVED



Public Works/ Engineering

Memorandum

DATE: June 24, 2002

TO: Carlos Jaramillo, DEP. DIR/Chief Planner

FROM: Sid Ashrafnia, Associate Civil Engineer

SUBJECT: Notice of Preparation – Effluent Pump Station Annex-
Orange County Sanitation District. (Planning)

We have reviewed the Notice of Preparation of a Supplemental Environmental Impact Report for the project entitled "Effluent Pump Station Annex (Job No. J-77)" by the Orange County Sanitation District. The Orange County Sanitation District is proposing to construct the Effluent Pump Station Annex (EPSA) at Treatment Plant No. 2 to replace the existing Foster Pump Station. The EPSA would act as a back-up pump station for discharging treated wastewater to the District's five-mile outfall to the Pacific Ocean. In addition, the District is proposing to implement a new Collection System Odor and Corrosion Control Program. Treatment Plant No. 2 is located in Huntington Beach adjacent to the Santa Ana River about 1,500 feet from the ocean.

Our review of the subject project as submitted indicates that the public works Department will have the following requirements:

ENGINEERING DIVISION: None

TRAFFIC & TRANSPORTATION:

1. The Notice of Preparation indicated that associated with the Odor Control Program, the slug application method of discharging caustic soda to the sewer through manholes requires temporary lane closures. These activities would be short term and are not expected to pose significant impacts to circulation. The City of La Habra requires a traffic control plan be submitted to the City Engineer for review and approval for any lane closures that will occur in the City.

STREET DIVISION: None

WATER DIVISION: None

SANITATION DIVISION: None

PARK & LANDSCAPE DIVISION: None

Sid:
Orange County Sanitation District



CITY OF ORANGE

RECEIVED

2002 JUL -1 PM 1:49

DEPARTMENT OF COMMUNITY DEVELOPMENT

ENGINEERING FAX (714) 744-7222

ADMINISTRATION
(714) 744-7240

PLANNING DIVISION
(714) 744-7220

BUILDING DIVISION
(714) 744-7200

June 25, 2002

#17-02

Ms. Angie Anderson
Orange County Sanitation District
10844 Ellis Avenue
Fountain Valley, CA 92708

Dear Ms. Anderson,

Subject: Notice of Preparation of a Supplemental EIR for the Installation of an Effluent Pump Station Annex and the Implementation of a Collection System Odor and Corrosion Control Program

The City of Orange (City) appreciates the opportunity to respond to the above referenced Notice of Preparation. The project consists of the installation of an Effluent Pump Station Annex in the City of Huntington Beach and the implementation of a Collection System Odor and Corrosion Control Program.

The City of Orange Community Development Department and the Public Works Department's Water Division and Maintenance Division have reviewed the NOP and determined that due to the Effluent Pump Station's location within the City of Huntington Beach, adverse impacts to areas or resources within our purview are unlikely.

The City is interested in the details of the proposed Odor and Corrosion Control Program. The NOP states that caustic soda is delivered by tanker truck to various locations throughout the collection system and is discharged through manholes in the street to reduce odor production in sewers. The NOP also states that continuous feed systems involving minor excavation, trenching and temporary lane closures may also be constructed in various locations throughout the collection system. The City cannot ascertain from the information presented in the NOP whether the proposed Odor and Corrosion Control Program would involve these activities within our City limits. If these activities were proposed within our City limits, we would be concerned about the transport of substantial quantities of chemicals through our City and would request that impacts be addressed and measures be proposed as part of the Supplemental EIR to protect public health and safety in our City. In addition, the City would request that temporary traffic impacts (e.g. lane closures) resulting from chemical deliveries and/or

Ms. Angie Anderson
June 25, 2002
Page 2

the construction of Odor and Corrosion Control Program facilities be analyzed as part of the EIR.

The City looks forward to reviewing the Draft Supplemental EIR upon its completion. If you have any questions, please contact me at (714) 744-7220.

Sincerely,



Karen Sully
Planning Manager
Community Development Department

cc: Steve Smith, Water Division Manager
Bob von Schimmelman, Street Maintenance Division Manager
Jennifer McDonald, Associate Planner/ Environmental Review Coordinator

MAYOR
Miguel A. Pulido
MAYOR PRO TEM
Patricia A. McGuigan
COUNCILMEMBERS
Claudia C. Alvarez
Lisa Bist
Alberta D. Christy
Brett Franklin
Jose Solorio



CITY OF SANTA ANA

PLANNING & BUILDING AGENCY
20 Civic Center Plaza (M-20)
P.O. BOX 1988 • Santa Ana, California 92702
Fax (714) 973-1461
www.santa-ana.org

CITY MANAGER
David N. Ream
CITY ATTORNEY
Joseph W. Fletcher
CLERK OF THE COUNCIL
Patricia E. Healy

June 24, 2002

Orange County Sanitation District
Angie Anderson
10844 Ellis Avenue
Fountain Valley, CA 92708

Dear Ms. Anderson,


The City of Santa Ana appreciates the opportunity to comment on the Notice of Preparation (NOP) for the Supplemental Environmental Impact Report (SEIR) for the proposed installation of the Effluent Pump Station Annex and the implementation of the Collection System Odor and Corrosion Control Program.

Based on the review of the NOP it is unclear to the City of Santa Ana where the various locations are for the proposed continuous chemical feed system for odor control. The City requests that the Draft SEIR identify and discuss in detail the locations of the proposed chemical feed systems.

The City of Santa Ana is concerned about potential aesthetic, air quality and public safety impacts associated with the continuous feed system. The City requests that the Draft SEIR evaluate potential aesthetic, air quality and public safety impacts associated with the proposed chemical feed systems. Additionally, the City requests that the Draft SEIR identify the safety precautions that would be involved with the installation of the proposed chemical feed systems.

Once again the City of Santa Ana appreciates the opportunity to comment on the NOP for the Supplemental EIR for the proposed Effluent Pump Station/Collection System Odor and Corrosion Control Program. When available, we would appreciate if two copies of the Draft SEIR would be forwarded to the City of Santa Ana for review. If you have any questions concerning our comments, please feel free to call me at (714) 667-2719.

Sincerely,


Dan Bott

Environmental Coordinator
c. Thom Coughran

ENGINEERING

2002 JUN 26 PM 12:43

RECEIVED



COUNTY OF ORANGE RECEIVED
PUBLIC FACILITIES & RESOURCES DEPARTMENT

2002 JUL -8 AM 10:40

ENGINEERING

Vicki L. Wilson, Director

*Herb Nakasone, Manager
Public Works/Flood Control*

300 N. Flower Street
Santa Ana, CA

P.O. Box 4048
Santa Ana, CA 92702-4048

Telephone: (714) 834-2300
Fax: (714) 834-5188

July 1, 2002

Angie Anderson
Orange County Sanitation District (OCSD)
P.O. Box 8127
Fountain Valley, CA 92728-8127

Subject: Notice Of Preparation of a Supplemental Environmental Impact Report for
OCSD's Effluent Pump Station Annex and Odor and Corrosion Control Program

Dear Ms. Anderson:

The Santa Ana River Project (SARP) Section has reviewed your Notice Of Preparation (NOP) of a Supplemental Environmental Impact Report (SEIR) for Orange County Sanitation District's (OCSD's) Effluent Pump Station Annex (EPSA) and Odor and Corrosion Control Program and has the following comments.

Additional detail is necessary in the project description specifying the number and location(s) of weirs to be demolished and replaced, and describing the differences between the existing and proposed weirs in terms of design and function. In addition, because the installation of the new weirs will require excavation into the levee, approval of this work is needed from the U.S. Army Corps of Engineers. It is therefore necessary for this NOP, and the Supplemental EIR, to be routed to the Corps for review and comment.

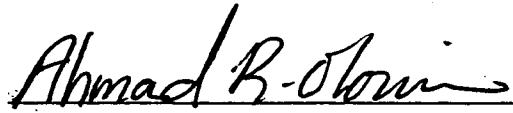
The NOP also mentions that 1.5 acres of existing property are to be graded. However, the attached maps do not show the location of the area to be graded and the text does not specify the existing use(s) on the area to be graded (e.g., is there native vegetation in the area or is it developed? What will be demolished? What will be constructed, or what will the area be used for?).

Issues to be addressed in regards to air quality should include impacts of existing odors from the collection system, and impacts on air quality from the use of the proposed chemicals. A comparison of these impacts should also be made. In addition, will the chemicals impact water quality in the Ocean, or are all chemicals removed as part of treatment, prior to discharge through the Ocean outfall?

Ms. Anderson
Page 2

If you have any questions, please contact Ahmad Olomi, Senior Civil Engineer, at (714) 834-2968, or Matthew Blinstrub, Planner IV, at (714) 834-2886.

Sincerely,



Ahmad Olomi, Senior Civil Engineer
PFRD/Flood Control Division/Santa Ana River Project

MJB:OCSD_EPSA_OdorContrl_SEIR_NOP_2002_7_1.doc

cc: Charlotte Harryman, PSAII, PDSD Environmental Planning Services Division



County of Orange
Planning & Development Services Department

THOMAS B. MATHEWS
DIRECTOR

300 N. FLOWER ST.
SANTA ANA, CALIFORNIA

MAILING ADDRESS:
P.O. BOX 4048
SANTA ANA, CA 92702-4048

RECEIVED

2002 JUL -8 PM 12:35

ENGINEERING

NCL 02-70

July 3, 2002

Angie Anderson
Orange County Sanitation District
P.O. Box 8127
10844 Ellis Avenue
Fountain Valley, Ca 92708

**SUBJECT: NOP of a DSEIR for the Effluent Pump Station Annex/Collection System Odor
And Corrosion Control Program**

Dear Ms. Anderson:

The above referenced item is a Notice of Preparation (NOP) of a Draft Supplemental Environmental Impact Report (DSEIR) for the Orange County Sanitation District (OCSD). The proposed project is at Treatment Plan No. 2 which is located in Huntington Beach adjacent to the Santa Ana River (SAR) about 1,500 feet from the ocean. The plant is located on approximately 110-acres bounded by Brookhurst Street on the northwest, Pacific Coast Highway on the southwest, and the SAR on the east. The project involves construction of the Effluent Pump Station Annex (EPSA) to replace the existing Foster Pump Station.

The County of Orange has reviewed the NOP and offers the following comments:

OPEN SPACE/RECREATION

Santa Ana River Bikeway:

1. The subject project is located immediately west of the Santa Ana River Bikeway, a regional Class I (paved off-road) bikeway. The bikeway is used by about 500,000 bicyclists and pedestrians per year, and is the major cycle-commuter route for Orange County.

Santa Ana River Trail:

2. The Santa Ana River Trail, a regional riding and hiking trail, is to be located parallel to the existing bikeway. The subject trail is used by equestrians, mountain bicyclists, and hikers. It exists north of Adams Avenue, and is proposed to continue downstream along the west levee of the river, parallel to the bikeway. We request the OCSD construct at least those portions of the trail where the project will excavate into the levee.
3. The combined width of the trail and bikeway is usually a minimum of 25 feet. However, the distance between the OCSD boundary and the levee edge may not provide adequate width for both the trail and bikeway. It is desirable for at least 6 to 8 feet of width between the OCSD property line and the bikeway be available for the future trail. (The bikeway must be at least 12 feet wide.)

Graphics:

4. The County of Orange requests the DSEIR contain photos of the levee with the existing bikeway and landscaping, and a diagram that clearly shows the OCSD boundary in relation to the bikeway. Also, the diagram should show the exact limits of each construction area on the Levee. Moreover, a typical cross section of the levee, showing the existing landscaping, the bikeway, and the proposed construction should be included.

Landscaping:

5. We also recommend landscaping in the impacted areas be modified to ensure adequate screening and shade, while also providing space for the trail and the separate bikeway. The landscape plan should be forwarded to the County for review and approval by the County's Chief of Trails Implementation, prior to commencement of construction activities. This should be incorporated as mitigation within the DSEIR.

Project Construction:

6. The DSEIR should discuss whether the levee is to be used by construction vehicles and/or for storage of materials. If landscaping has to be removed or cut back to make room for vehicles or storage, this represents an opportunity to construct a portion of the needed riding and hiking trail as part of re-constructive work. It involves surfacing the trail with 4 inches of decomposed granite (DG) over 6 inches of aggregate base (AB). Reconstruction of the paved bikeway would require 4 inches of asphalt concrete (AC) over 6 inches of AB.

County Property Permit:

7. Regarding the proposed excavation into the Santa Ana River levee (which would impact the existing bikeway), the project applicant will be required to apply for a County Property Permit. Permit conditions will include, but not be limited to, the following:
 - The bikeway shall remain open at all times.
 - A plan shall be submitted that provides for uninterrupted use of the bikeway during construction. This may be accomplished by placing metal plates over trenches. The plan shall include a diagram and text-outlining safety measures such as signage, barriers, flagmen, etc.
 - In the construction area and vicinity, the bikeway and the detour segment should be kept free of debris at all times.
 - After construction, the bikeway shall be restored to its original condition subject to the approval of the County's Chief of Trails Implementation.
8. The requirement for a County Property Permit, and conditions per bullet points above, should be incorporated as mitigation measures within the DSEIR.

HISTORICAL

9. The NOP listed the potential environmental impacts to be discussed in the proposed DSEIR. However, subsurface resources may be impacted during ground-disturbing activities such as trenching and rough grading as part of the new system being installed. The proposed underground piping would seem to involve potential impacts to paleontological resources. Therefore an appropriate mitigation would be to require grading observation for paleontological resources.
10. The cultural resources mitigation language used in the proposed DSEIR should address current standards for artifact curation and long-term collection management.
11. We encourage the Orange County Sanitation District to follow the Board of Supervisors example in requiring that cultural resource artifacts, which may be discovered during the site development, be donated to a suitable repository that will maintain the collection for future scientific study and exhibition "within Orange County." Prior to donation, the certified cultural resources consultant should prepare the collection "to the point of identification."

12. The project proponent should be prepared to pay "potential curation fees" to the County or other suitable repository for the long-term curation and maintenance of donated collections.

WASTE MANAGEMENT

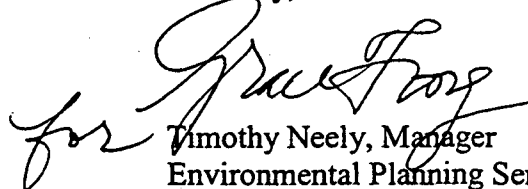
13. The City of Fountain Valley is responsible for meeting the Assembly Bill 939 (AB 939) mandate of 50% disposal reduction, and for preparing AB 939 solid waste planning documents. These documents include the Source Reduction and Recycling Element (SRRE), the Household Hazardous Waste Element (HHWE), and the Non-Disposal Facility Element (NDFE).

Since the project will include a significant amount of demolition, excavation, and construction activities, we recommend that this project address a waste reduction plan for C&D waste generated from this project. This plan should be coordinated with the recycling coordinator for the City of Fountain Valley to help ensure AB 939 requirements are properly addressed.

Construction- and- demolition generated waste (C&D) is heavy, inert material. This material creates significant problems when disposed of in landfills, since C&D debris does not decompose; it takes up valuable landfill capacity. Additionally, since C&D debris is heavy when compared with paper and plastic, it is more difficult for the County and cities to reduce the tonnage of disposed waste. For this reason, C&D waste debris has been specifically targeted by the State of California for diversion from the Waste stream. Projects, which will generate C&D waste, should emphasize deconstruction and diversion planning, rather than demolition. Deconstruction is the planned, organized dismantling of the prior construction project, which allows maximum use of the deconstructed materials for recycling in other construction projects and sends a minimum of the deconstruction material to landfills.

Thank you for the opportunity to respond to the NOP. Please send one complete set of the DSEIR to me at the above address when it becomes available. If you have any questions, please contact Charlotte Harryman at (714) 834-2522.

Sincerely,



Timothy Neely, Manager
Environmental Planning Services Division

ch



Department of Toxic Substances Control



Edwin F. Lowry, Director
5796 Corporate Avenue
Cypress, California 90630

Winston H. Hickox
Agency Secretary
California Environmental
Protection Agency

Gray Davis
Governor

June 28, 2002

Mr. James Herberg
Orange County Sanitation District
10844 Ellis Avenue
Fountain Valley, California 92708-7018

RECEIVED
2002 JUL -3 PM 12: 37
ENGINEERING

NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE SUPPLEMENTAL EIR -EFFLUENT PUMP STATION ANNEX AND COLLECTION SYSTEM ODOR AND CORROSION CONTROL PROGRAM - (SCH # 1997101065)

Dear Ms. Herberg:

The Department of Toxic Substances Control (DTSC) has received your Notice of Preparation (NOP) of a draft Environmental Impact Report (EIR) for the above-mentioned Project.

Based on the review of the document, DTSC's comments are as follows:

- 1) The draft EIR needs to identify and determine whether current or historic uses have resulted in any release of hazardous wastes/substances at the site.
- 2) The draft EIR needs to identify any known or potentially contaminated sites within the proposed Project area. For all identified sites, the draft EIR needs to evaluate whether conditions at the site pose a threat to human health or the environment.
- 3) The draft EIR should identify the mechanism to initiate any required investigation and/or remediation for any site that may require remediation and the government agency to provide appropriate regulatory oversight.
- 4) An environmental assessment should be conducted in the project area to evaluate whether the project area is contaminated with hazardous substances from the potential past and current uses including storage, transport, generation, and disposal of toxic and hazardous waste/materials. Potential hazard to the public or the environment through routine transportation, use, disposal or release of hazardous materials should be discussed in the draft EIR.

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our Web-site at www.dtsc.ca.gov.

- 5) The project construction may require soil excavation and soil filling in certain areas. Appropriate sampling is required prior to disposal of the excavated soil. If the soil is contaminated, properly dispose of it rather than placing it in another location. Land Disposal Restrictions (LDRs) may be applicable to these soils. Also, if the project is planning to import soil to backfill the areas excavated, proper sampling should be conducted to make sure that the imported soil is free of contamination.
- 6) Any hazardous wastes/materials encountered during construction should be remediated in accordance with local, state, and federal regulations. Prior to initiating any construction activities, an environmental assessment should be conducted to determine if a release of hazardous wastes/substances exists at the site. If so, further studies should be carried out to delineate the nature and extent of the contamination. Also, it is necessary to estimate the potential threat to public health and/or the environment posed by the site. It may be necessary to determine if an expedited response action is required to reduce existing or potential threats to public health or the environment. If no immediate threat exists, the final remedy should be implemented in compliance with state regulations and policies rather than excavation of soil prior to any assessments.
- 7) Since a potentially significant hazardous impact to the public may be associated with future uses of the site, potential uses and storage of hazardous materials at the site should be addressed in the draft EIR. A hazardous material storage permit may be required from an appropriate regulatory agency that has jurisdiction to regulate hazardous substances handling, storage, treatment and/or disposal. Contact the Certified Unified Program Agency (CUPA) to evaluate the permit requirements.
- 8) The NOP does not indicate whether or not there are any schools or daycares in the vicinity of the project area. Human health and the environment of students and faculty members should be protected during the construction or demolition activities. A study of the site should be conducted to provide basic information for determining if there are, have been, or will be, any threatening releases of hazardous materials that may pose a risk to human health or the environment.
- 9) Investigate the presence of lead paints or asbestos containing material (ACMs). If the presence of lead and ACMs are suspected, proper precautions should be taken during removal/excavation/demolition activities. Additionally, the contaminants should be remediated in compliance with the California environmental regulations.
- 10) If it is determined that hazardous wastes are, or will be, generated by the proposed project, the wastes must be managed in accordance with the California

Mr. James Herberg
June 28, 2002
Page 3

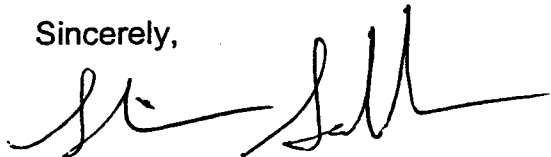
Hazardous Waste Control Law (California Health and Safety Code, Division 20, chapter 6.5) and the Hazardous Waste Control Regulations (California Code of Regulations, Title 22, Division 4.5).

- 11) If it is determined that hazardous wastes are or will be generated and the wastes are (a) stored in tanks or containers for more than ninety days, (b) treated onsite, or (c) disposed of onsite, then a permit from DTSC may be required. The facility should contact DTSC at (818) 551-2171 to initiate pre-application discussions and determine the permitting process applicable to the facility.
- 12) If it is determined that hazardous wastes will be generated, the facility should obtain a United States Environmental Protection Agency Identification Number by phoning (800) 618-6942.
- 13) All environmental investigation and/or remediation should be conducted under a Workplan which is approved by a regulatory agency who has jurisdiction to oversee hazardous waste cleanups. Complete characterization of the soil is needed prior to any excavation or removal action.
- 14) If during construction of the project, soil and/or groundwater contamination is suspected, suspend construction in the area and implement appropriate Health and Safety procedures. If it is determined that contaminated soil and/or groundwater exist, the draft EIR should identify how any required investigation and/or remediation will be conducted and which government agency will provide appropriate regulatory oversight.

DTSC provides guidance for Preliminary Endangerment Assessment (PEA) preparation and cleanup oversight through the Voluntary Cleanup Program (VCP). For additional information on the VCP, please visit DTSC's web site at www.dtsc.ca.gov.

If you have any questions regarding this letter, please contact Ms. Rania A. Zabaneh, Project Manager at (714) 484-5479.

Sincerely,



Haissam Y. Salloum, P.E.
Unit Chief
Southern California Cleanup Operations Branch
Cypress Office

cc: see next page

Mr. James Herberg
June 28, 2002
Page 4

cc: Governor's Office of Planning and Research
State Clearinghouse
P.O. Box 3044
Sacramento, California 95812-3044

Mr. Guenther W. Moskat, Chief
Planning and Environmental Analysis Section
CEQA Tracking Center
Department of Toxic Substances Control
P.O. Box 806
Sacramento, California 95812-0806



IRVINE RANCH WATER DISTRICT

15600 Sand Canyon Avenue • P.O. Box 57000 • Irvine, California 92619-7000 • (949) 453-5300 • www.irwd.com

June 19, 2002

Angie Anderson
Orange County Sanitation District
10844 Ellis Avenue
Fountain Valley, CA 92708

Subject: Notice of Preparation (NOP) of a Supplemental Environmental Impact Report assessing the installation of the Effluent Pump Station Annex (Job No. J-77) and the implementation of the Collection System Odor and Corrosion Control Program

Dear Ms. Anderson:

Irvine Ranch Water District (IRWD) has received and reviewed the subject NOP. As a significant discharging agency to OCSD, IRWD takes a keen interest in upgrades to the treatment plants and the subject project in particular. The project does not appear to affect operations or discharge by IRWD, however if construction does require changes in how IRWD conveys wastewater to OCSD, this potential should be discussed in the Supplemental EIR.

IRWD appreciates the opportunity to review and comment on this project, and looks forward to the issuance of the environmental impact report. Should you have any questions or require further information, please call Gregory Herr, Planning and Resources Specialist at (949) 453-5577.

Yours truly,

Richard B. Bell, P.E.
District Manager, Planning and Resources

RBB/GKH

RECEIVED

2002 JUN 16 PM 1:03

ENGINEERING

June 6, 2002

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DISTRICT

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WATER DISTRICT

DANA M. SMITH
EXECUTIVE OFFICER

Angie Anderson
Orange County Sanitation District
10844 Ellis Avenue
Fountain Valley, CA 92702

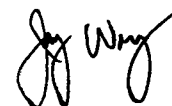
SUBJECT: Notice of Preparation of a Supplemental Environmental Impact Report assessing the installation of the Effluent Pump Station Annex and the implementation of the Collection System Odor and Corrosion Control Program

Dear Ms. Anderson:

Thank you for the opportunity to comment on the District's Notice of Preparation of a Supplemental EIR. We do not have any comments at this time.

If you have any questions, please contact me (jwong@orange.lafco.ca.gov) at (714) 834-2556.

Sincerely,



Jay Wong
Policy Analyst

NATIVE AMERICAN HERITAGE COMMISSION

915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-4082
(916) 657-5390 - Fax

RECEIVED

2002 JUN 17 PM 1:44

ENGINEERING

June 12, 2002

James Herberg
Orange County Sanitation District
10844 Ellis Avenue
Fountain Valley, CA 92708-7018

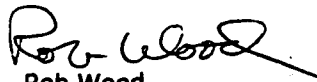
RE: SCH# 1997101065 - Supplemental EIR-Effluent Pump Station Annex and Collection System and Corrosion Control, Fountain Valley, Huntington Beach, Orange County

Dear Mr. Herberg:

The Native American Heritage Commission has reviewed the Notice of Preparation (NOP) regarding the above project. To adequately assess and mitigate project-related impacts on archaeological resources, the Commission recommends the following actions be required:

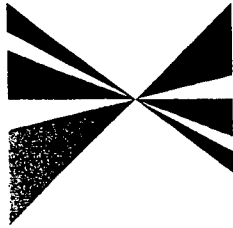
- ✓ Contact the appropriate Information Center for a record search. The record search will determine:
 - If a part or all of the area of project effect (APE) has been previously surveyed for cultural resources.
 - If any known cultural resources have already been recorded on or adjacent to the APE.
 - If the probability is low, moderate, or high that cultural resources are located in the APE.
 - If a survey is required to determine whether previously unrecorded cultural resources are present.
- ✓ If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
 - The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure.
 - The final written report should be submitted within 3 months after work has been completed to the appropriate regional archaeological Information Center.
- ✓ Contact the Native American Heritage Commission for:
 - A Sacred Lands File Check.
 - A list of appropriate Native American Contacts for consultation concerning the project site and to assist in the mitigation measures.
- ✓ Lack of surface evidence of archeological resources does not preclude their subsurface existence.
 - Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, per California Environmental Quality Act (CEQA) §15064.5 (f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities.
 - Lead agencies should include in their mitigation plan provisions for the disposition of recovered artifacts, in consultation with culturally affiliated Native Americans.
 - Lead agencies should include provisions for discovery of Native American human remains in their mitigation plan. Health and Safety Code §7050.5, CEQA §15064.5 (e), and Public Resources Code §5097.98 mandates the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.

Sincerely,


Rob Wood
Environmental Specialist III
(916) 653-4040

CC: State Clearinghouse

SOUTHERN CALIFORNIA



ASSOCIATION OF
GOVERNMENTS

Main Office

818 West Seventh Street

12th Floor

Los Angeles, California

90017-3435

t (213) 236-1800

f (213) 236-1825

www.scag.ca.gov

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Riverside County: Bob Buster, Riverside County • Ron Loweridge, Riverside • Greg Pettis, Cathedral City • Ron Roberts, Temecula • Jan Rudman, Corona • Charles White, Moreno Valley

San Bernardino County: Jon Mikels, San Bernardino County • Bill Alexander, Rancho Cucamonga • Lee Ann Garcia, Grand Terrace • Bob Hunter, Victorville • Susan Lien, San Bernardino • Gary Oviatt, Ontario • Debra Robertson, Rialto

Ventura County: Judy Mikels, Ventura County • Glen Becerra, Simi Valley • Carl Morehouse, San Buenaventura • Toni Young, Port Huemene

Riverside County Transportation Commission: Robin Lowe, Hemet

Ventura County Transportation Commission: Bill Davis, Simi Valley

RECEIVED

2002 JUL -1 PM 1:47

ENGINEERING

June 27, 2002

Ms. Angie Anderson
Orange County Sanitation District
10844 Ellis Avenue
Fountain Valley, CA 92708

RE: SCAG Clearinghouse No. I 20020331 Effluent Pump Station Annex (Job No. J-77)

Dear Ms. Anderson:

Thank you for submitting the Effluent Pump Station Annex (Job No. J-77) to SCAG for review and comment. As areawide clearinghouse for regionally significant projects, SCAG reviews the consistency of local plans, projects and programs with regional plans. This activity is based on SCAG's responsibilities as a regional planning organization pursuant to state and federal laws and regulations. Guidance provided by these reviews is intended to assist local agencies and project sponsors to take actions that contribute to the attainment of regional goals and policies.

We have reviewed the Effluent Pump Station Annex (Job No. J-77, and have determined that the proposed Project is not regionally significant per SCAG Intergovernmental Review (IGR) Criteria and California Environmental Quality Act (CEQA) Guidelines (Section 15206). Therefore, the proposed Project does not warrant comments at this time. Should there be a change in the scope of the proposed Project, we would appreciate the opportunity to review and comment at that time.

A description of the proposed Project was published in SCAG's June 16, 2002 Intergovernmental Review Clearinghouse Report for public review and comment.

The project title and SCAG Clearinghouse number should be used in all correspondence with SCAG concerning this Project. Correspondence should be sent to the attention of the Clearinghouse Coordinator. If you have any questions, please contact me at (213) 236-1867. Thank you.

Sincerely,


JEFFREY M. SMITH, AICP
Senior Regional Planner
Intergovernmental Review

RECEIVED

752 JUN 26 PM 12:41

ENGINEERING

June 24, 2002

Orange County Sanitation District
10844 Ellis Avenue
Fountain Valley, CA 92708
Attn: Angie Anderson

Dear Ms. Anderson,

In response to your request for comments on the notice of preparation dated June 3, 2002 : Maybe the Board should consider creating a utility district to take full advantage of the commodity your district is having so much trouble disposing of.

I'm sure you are aware of the Inland Empire Utility District being created because of the similar problem that area was having due to the dairy wastes in Chino. Creating this district became a win/win solution, controlling odor and generating power plus treating sewer sludge and manure to top "grade fertilizer". The fertilizer is given to fertilizer companies so that the IEUD does not have to pay for trucking, spreading and paying farmers to take it.

I have toured their facilities with an environmental group and they use the exhaust heat from the generators to heat the sludge and create more methane and to kill pathogens/etc. We also went through the 20-acre area where the fertilizer is delivered to private companies for bagging and selling. There were no odors or flies even though the fertilizer was in rows 15-20 feet high. This fertilizer is mixed sewer sludge and cow manure.

I would like to see Orange County Sanitation District develop a program similar to that of the Inland Empire Utilities District. This would alleviate the need to truck sludge and would make better use of our waste while not doing harm to the environment.

Sincerely,

Tom England

Tom England

9711 Swallow Lane

Garden Grove, CA 92841

Anderson, Angie

From: tagielow [tagielow@attbi.com]
Sent: Wednesday, July 03, 2002 7:18 PM
To: Anderson, Angie
Cc: Murphy, Lisa; Herberg, Jim
Subject: comments on the notice of preparation

Dear Angie,

As an "Interested Person" I am quite willing to give you my comments regarding the "Notice of Preparation" for the Supplemental Environmental Impact Report for the construction of the Effluent Pump Station Annex and the implementation of the Collection System Odor and Corrosion Control Program.

1. The letter and letter head paper does not make it clear to me for whom you are the lead agency. In the body of the letter could you refer to the agencies and cities for which you are "the lead"?
2. With the new, large, 40 foot high building, I am concerned about the aesthetics and impairment of view that will greet those who live nearby and those who live on the bluffs to the east – namely in Newport Beach and Costa Mesa. Both a view of the ocean and a partially obstructed view of the ocean could be devastating to their land values, not to mention to tourists, and should be minimized. Obstruction also works against the OCSD in public relations. Can the building be longer and shorter?
3. Regarding aesthetics, will the tanks holding the odor chemicals be camouflaged in some way – by design, by paint or by plants? What outside treatment is being considered for the surge towers and the 40 foot building?
4. By the way, the design will undoubtedly be an up-to-date facility for processing the effluent flow as is currently being processed, I presume. Is there flexibility in the design to accommodate the expected disinfection treatment process with this flow? Is there flexibility to allow additional or adjusted facilities, as will possibly be needed, to accommodate treatment processes used in a higher level of effluent treatment? Wouldn't it be a good idea to consider a design that would include, or could provide the future option for including, those additional treatments? Or, does it already?

Respectfully submitted, Judith M. Gielow

07/08/2002

RECEIVED
ALBERT T. HENDRICKER
8452 GRACE CRACE
HUNTINGTON BEACH, CA 92646-3125 P1 # 14

ENGINEERING

June 10, 2002

Orange County Sanitation District
Attn: Angie Anderson
10844 Ellis Avenue
Fountain Valley, CA 92708

SUBJECT: NOTICE OF PREPARATION OF SUPPLEMENTAL ENVIRONMENTAL
IMPACT REPORT – EFFLUENT PUMP STATION ANNEX (JOB NO. J-77)

Dear Ms. Anderson:

The project description states that two 20,000-gallon underground diesel storage tanks will be installed to provide fuel for the emergency power generators. Since there are potential environmental impacts associated with installation and operation of underground storage tanks, I believe the Supplemental Environmental Impact Report (“SEIR”) should include a discussion comparing installation of underground diesel storage tanks versus above ground storage tanks, including impacts due to tank leakage and soil volumes requiring offsite removal.

In addition to potential environmental impacts due to leakage, it would seem appropriate to evaluate the cost impacts for these two options resulting from installation and response to potential tank leaks, including tank repairs plus soil decontamination. Although it seems appropriate to evaluate these impacts, they would not necessarily need to be included in the SEIR.

Thank you for the opportunity to comment on the Notice of Preparation.

Yours truly,


Al Hendricker

ENGINEERING

2002 JUN 14 PM 4: 14

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OCSD
10844 Ellis
F.V. CA 92708%Angie Anderson

June 21, 2002

RE: NOP

My comments on the NOP

Pg 2) Project background.

1. I saw no mention of the waiver in "the effluent being discharged to the ocean is a blend--
--specified by NPDES issued jointly by Santa Ana Regional Quality Board and US EPA.

Question. Shouldn't the waiver be mentioned as a reason the 50/50 blend can be discharged.

2. Pg 3 Effluent Pump Station Annex.

The effectiveness of the FPS was determined to be negligible.... The FPS can only operate when the OOBS is not active... FPS is on an active geological fault... For these reasons the OCSD is building a new EFPS

Question. Doesn't this cause problems that should be addressed and/or mitigated

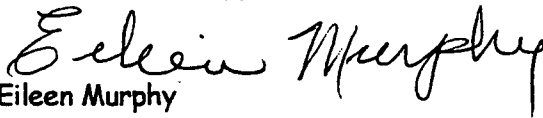
- a. "Piping from the new building will go across the fault" (Pg 6)
- b. "Potential of liquefaction is considered high." (Pg 6)
- c. "5 new generators diesel will be installed and used in an emergency which would add to the potential air emission inventory for the plant." (Pg 6)
- d. "PCH traffic will be affected" (Pg 7)

A traffic study should be done before this project should go forward.

e. Noise "fence line noise would be a significant impact of the project" (Pg. 7)

I had other concerns but maybe other members will mention them.

Thanks for the copy of the NOP


Eileen Murphy
201 21st Street
HB CA 92648
PAC2 and OOG

16915 Roundhill Drive
Huntington Beach, CA 92649

Randy T. Fuhrman

Fax

To: Angie Anderson

From: Randy T. Fuhrman

Fax: (714) 593-7859

Pages: 2 including cover sheet

Phone: (714) 593-7305

Date: 7/7/02

Re: SEIR for Job J077

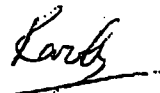
CC:

Urgent For Review Please Comment Please Reply Please Recycle

• **Comments:** Please call me at (714) 377-4487 to advise receipt of this facsimile (one page of views and comments for the scope of SEIR on Job J-77).

Thank you for your cooperation and assistance.

Randy



Orange County Sanitation District
10844 Ellis Avenue
Fountain Valley, CA 92708
Attention: Angie Anderson, engineering department

July 1, 2002

Regarding: SEIR for Job No. J-77 (Effluent Pump Station Annex and Collection System Odor and Corrosion Control Program Supplemental Environmental Impact Report No. 1)

The environmental information to be studied in the Supplemental Environmental Impact Report (SEIR) for Job No. J-77 should include the effects or possible impacts on air, land, and water as to the scope and content. The term "air" includes things contained in the atmosphere as well as transmitted through the atmosphere. The items listed below should be studied for their environmental impact and also for possible mitigation of effects.

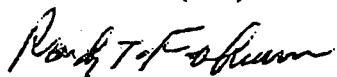
Air: --Chemical fumes, especially potentially harmful chemicals, possible release during construction, greater concern with the implementation of the Odor Control Program (OCP).
--Odors and foul or noxious smells released during the construction at plant 2 and during the implementation of the Collection System Odor and Corrosion Control Program (OCP).
--Noise pollution caused by the construction. As noted in the Notice of Preparation the prolonged pile driving is an example of one such cause of noise pollution that needs to be studied for possible mitigation. Other causes of noise from the construction site need to be studied and methods for mitigation need to be determined.
--Dirt/dust released and whipped up at the construction site.
--Visual pollution caused by the buildings to be constructed, especially the effects of these new buildings and methods of mitigating the visual effects of these buildings.

Land: --Road traffic effects due to construction vehicles, transportation for workers, delivering supplies, and such.
--Any harm to the adjacent land due to construction. Increased likelihood for seismic activity. Chemical leaks or spills onto the sites or the adjacent land.
--Any roads closed or torn up during construction or implementation?

Water: --Chemical or other pollution discharged or leaked.
--Leading to ground water effects? or runoff effects?
--Effects on the Santa Ana River or the ocean from either the construction or the OCP implementation.

Is the construction at plant 2 and the implementation of OCP in one stage or multiple stages? If both are done at once, will there be any concomitant impacts?

Contact me at (714) 377-4487 or the address shown below if there are any questions.


Randy T. Fuhrman
16915 Roundhill Drive
Huntington Beach, CA 92649



APPENDIX D

AIR EMISSIONS WORKSHEETS

ESTIMATED EMISSIONS FROM DEMOLITION

Demolition Inputs						
Total days Allowed for Project	50:00					
Total Days Allowed for Construction (Days)	50:00					
Total Site Acres (Acres)	1.50					
Number of Employees	20					
Average Trip Length One Way POV (Miles)	30					
Total Work Hours Per Day (Hours/Day)	8					
Daily Number of Haul Trucks	5					
Average Trip Length One Way Haul Trucks (Miles)	18					
Total VMT Water Trucks per day (Miles)	5					
Total VMT Dump Trucks per day (Miles)	5					
Total Number of Each Equipment used for Construction						
# of equipment	0	1	0	0	0	1
Hours per Day	0	6	0	0	0	6
Days in Operation	0	45	0	0	0	25
	bobcats	backhoe	compressor	boom truck	welder	crane
	diesel	diesel	diesel	diesel	diesel	diesel
# of equipment	0	2	0	0	0	0
Hours per Day	0	6	0	0	0	0
Days in Operation	0	45	0	0	0	0
	loaders	crawler dozer	mortor mix	grader	paver	crane
	diesel	diesel	diesel	diesel	diesel	diesel
Assumptions Used in EMFAC7G						
Chosen Speed	25		% LDA	66:00%		
% Cold Start	75:00%		%LDT	34:00%		
% Hot Start	25:00%		Season	summer		
Daily VMT LDA & LDT	1210:000		Daily VMT Haul Truck	180		
EMFAC7G Inputs						
		LDA	LDT	HDD		
		Grams/Mile	Grams/Mile	Grams/Mile		
Carbon Monoxide (CO)		4:2	4:49	9:98		
Reactive Organic Compounds (ROC)		0:24	0:29	1:51		
Nitrogen Oxides (NOx)		0:44	0:37	9:25		
Particulates (PM10)		0	0	0:59		

Source: EMFAC7G

Vehicle Exhaust Emissions from POV, Construction

Construction Workers POV Emissions				
	EMFAC7G	Cold Start	Hot Start	Est. Emissions lbs/day
	Emissions	Emissions	Emissions	
	Factor.	Factor.	Factor.	
	Grams/Mile	Grams/Trip	Grams/Trip	
Carbon Monoxide (CO)	4.2986	24.77205	0.52885	13.69
Reactive Organic Compounds (ROC)	0.257	2.2998	0.05255	0.89
Nitrogen Oxides (NOx)	0.5284	1.4394	0.148	1.55
Sulfur Oxides (SOx) *	0	0	0	0
Particulates (PM10)	0	0	0	0

Source: Emission Factors From EMFAC7G at 70 Deg Fahrenheit at Chosen Speed

*Source: Table A9-5-L SCAQMD CEQA Handbook

Haul Truck Emissions		
	EMFAC7G	Est. Emissions lbs/day
	Emissions	
	Factor. Grams/Mile	
Carbon Monoxide (CO)	9.98	3.96
Reactive Organic Compounds (ROC)	1.51	0.60
Nitrogen Oxides (NOx)	9.25	3.67
Sulfur Oxides (SOx)	NA	0
Particulates (PM10)	0.59	0.23

Source: EMFAC7G

Construction Equipment Emissions							
	bobcat 50 hp diesel lbs/hour	backhoe 250 hp diesel lbs/hour	compressor 50 hp diesel lbs/hour	boom truck 175 hp diesel lbs/hour	welder 50 hp diesel lbs/hour	crane 175 hp diesel lbs/hour	Total Emissions lbs/day
Carbon Monoxide (CO)	0.07	0.37	0.55	0.2	0.55	0.22	2.7
Reactive Organic Compounds (ROC)	0.04	0.19	0.1	0.11	0.1	0.11	1.4
Nitrogen Oxides (NOx)	0.62	3.36	0.9	1.85	0.9	2.01	24.2
Particulates (PM10)	0.02	0.08	0.05	0.05	0.05	0.05	0.6

	loaders 175 hp diesel lbs/hour	crawler dozer 250 hp diesel lbs/hour	mortor mixer 50 hp diesel lbs/hour	grader 175 hp diesel lbs/hour	paver 175 hp diesel lbs/hour	crane 175 hp diesel lbs/hour	Total Emissions lbs/day
Carbon Monoxide (CO)	0.22	0.31	0.5	0.24	0.24	0.22	3.3
Reactive Organic Compounds (ROC)	0.11	0.16	0.1	0.12	0.13	0.11	1.7
Nitrogen Oxides (NOx)	1.98	2.79	1.2	2.18	2.22	2.01	30.1
Particulates (PM10)	0.05	0.07	0.05	0.05	0.05	0.05	0.8

Source: ARB Emission Inventory Publication Number MO99_32.3 Table 13 released: 2000

Source: ARB Inventory Publication MO99_32.5 App. B released: 2000

Total PM10 Fugitive Dust Emissions from construction				
Air Pollutant	Emission Factor	Unmitigated Emissions	Est. Emissions (lbs/day)	
Particulates (PM10) Demolition	0.00042 lb/ft ³	8.6 lb/day	8.6	
Particulates (PM10) Bulldozer	2.4 lb/hr	28.8 lb/day	21.6	
Particulates (PM10) POV & Haul Truck*	0.42 gm/mile		1.29	
Total Particulates			31.49	

Source: Table 11.9-1 EPA AP-42

*Source: ARB Recommended

Total Air Emissions from Construction Including POV, Fugitive Dust, and			
Air Pollutant	Est. Emissions (lbs/day)	SCAQMD Thresholds (lbs/day)	Significant?
Carbon Monoxide (CO)	23.65	550.00	NO
Reactive Organic Compounds (ROC)	4.57	75.00	NO
Nitrogen Oxides (NOx)	59.52	100.00	NO
Particulates (PM10)	33.06	150.00	NO

Source: EMFAC7G and SCAQMD CEQA Air Quality Handbook

ESTIMATED EMISSIONS FROM CONSTRUCTION

Construction Imports Inputs						
Total days Allowed for Project	625:00					
Total Days Allowed for Construction (Days)	625:00					
Total Site Acres (Acres)	1:50					
Number of Employees	150					
Average Trip Length One Way POV (Miles)	30					
Total Work Hours Per Day (Hours/Day)	8					
Daily Number of Haul and concrete Trucks	10					
Average Trip Length One Way Haul Trucks (Miles)	30					
Total VMT Water Trucks per day (Miles)	5					
Total VMT Dump Trucks per day (Miles)	5					
Total Number of Each Equipment used for Construction						
# of equipment	1	1	1	0	1	1
Hours per Day	5	4	8	0	4	4
Days in Operation	200	150	600	0	200	400
	bobcats	forklift	compressor	boom truck	welder	crane
	diesel	diesel	diesel	diesel	diesel	diesel
# of equipment	1	1	1	0	1	0
Hours per Day	5	4	6	0	4	0
Days in Operation	200	75	200	0	5	0
	back-hoe	crawler dozer	mortor mix	grader	paver	crane
	diesel	diesel	diesel	diesel	diesel	diesel
Assumptions Used in EMFAC7G						
Chosen Speed	25		% LDA	66:00%		
% Cold Start	75:00%		%LDT	34:00%		
% Hot Start	25:00%		Season	summer		
Daily VMT LDA & LDT	9010:000		Daily VMT Haul Truck	600		
EMFAC7G Inputs						
	LDA	LDT	HDD			
	Grams/Mile	Grams/Mile	Grams/Mile			
Carbon Monoxide (CO)	4.2	4.49	9.98			
Reactive Organic Compounds (ROC)	0.24	0.29	1.51			
Nitrogen Oxides (NO _x)	0.44	0.7	9.25			
Particulates (PM10)	0	0	0.59			

Source: EMFAC7G

Vehicle Exhaust Emissions from POV, Construction

Construction Workers POV Emissions				
	EMFAC7G Emissions Factor. Grams/Mile	Cold Start Emissions Factor. Grams/Trip	Hot Start Emissions Factor. Grams/Trip	Est. Emissions lbs/day
Carbon Monoxide (CO)	4.2986	24.77205	0.52885	102.03
Reactive Organic Compounds (ROC)	0.257	2.2998	0.05255	6.65
Nitrogen Oxides (NOx)	0.5284	1.4394	0.148	11.54
Sulfur Oxides (SOx) *	0	0	0	0
Particulates (PM10)	0	0	0	0

Source: Emission Factors From EMFAC7G at 70 Deg Fahrenheit at Chosen Speed

*Source: Table A9-5-L SCAQMD CEQA Handbook

Haul Truck Emissions		
	EMFAC7G Emissions Factor. Grams/Mile	Est. Emissions lbs/day
Carbon Monoxide (CO)	9.98	13.19
Reactive Organic Compounds (ROC)	1.51	2.00
Nitrogen Oxides (NOx)	9.25	12.22
Sulfur Oxides (SOx)	NA	0
Particulates (PM10)	0.59	0.78

Source: EMFAC7G

Construction Equipment Emissions							
	bobcat 50 hp diesel lbs/hour	forklift 175 hp diesel lbs/hour	compressor 50 hp diesel lbs/hour	boom truck 175 hp diesel lbs/hour	welder 50 hp diesel lbs/hour	crane 175 hp diesel lbs/hour	Total Emissions lbs/day
Carbon Monoxide (CO)	0.07	0.24	0.55	0.2	0.55	0.22	5.8
Reactive Organic Compounds (ROC)	0.04	0.13	0.1	0.11	0.1	0.11	1.4
Nitrogen Oxides (NOx)	0.62	2.24	0.9	1.85	0.9	2.01	16.4
Particulates (PM10)	0.02	0.05	0.05	0.05	0.05	0.05	0.7

	back-hoe 175 hp diesel lbs/hour	crawler dozer 250 hp diesel lbs/hour	mortor mixer 50 hp diesel lbs/hour	grader 175 hp diesel lbs/hour	paver 175 hp diesel lbs/hour	crane 175 hp diesel lbs/hour	Total Emissions lbs/day
Carbon Monoxide (CO)	0.22	0.31	0.5	0.24	0.24	0.22	1.5
Reactive Organic Compounds (ROC)	0.11	0.16	0.1	0.12	0.13	0.11	0.4
Nitrogen Oxides (NOx)	1.98	2.79	1.2	2.18	2.22	2.01	6.9
Particulates (PM10)	0.05	0.07	0.05	0.05	0.05	0.05	0.2

Source: ARB Emission Inventory Publication Number MO99_32.3 Table 13 released: 2000

Source: ARB Inventory Publication MO99_32.5 App. B released: 2000

Total PM10 Fugitive Dust Emissions from construction			
Air Pollutant	Emission Factor	Unmitigated Emissions	Est. Emissions (lbs/day)
Particulates (PM10) Backhoe	2.4 lb/hr	12 lb/day	12
Particulates (PM10) Bulldozer	2.4 lb/hr	9.6 lb/day	9.6
Particulates (PM10) Grader @ 5MPH	0.765 lb/vmt	0 lb/day	0
Particulates (PM10) POV & Haul Truck*	0.42 gm/mile		8.89
		Total Particulates	30.49

Source: Table 11.9-1 EPA AP-42

*Source: ARB Recommended

Volatile Organic Compounds from Architectural Coatings		
Square Footage per day	Coating Equivalent	Equivalent Square Footage
1000 ft ² /day	2	2000 ft ² /day
Paint Coating Factor	Paint VOC Content	
400 ft ² /day	2.08 lb/gal	
	Total Commercial VOC from Architectural Coatings	
	10.4 lb/day VOC	

Source: SCAQMD Recommended

Reactive Organic Compounds From Street Paving	
Asphalt ROC Emission Factor*	2.62 lb/acre
Total Acres Being Paved	0.5 acres
Total ROC from Paving	1.31 lb/day ROC

*Source: Urbemis 7G Asphalt Emission Factor

Total Air Emissions from Construction Including POV, Fugitive Dust, and			
Air Pollutant	Est. Emissions (lbs/day)	SCAQMD Thresholds (lbs/day)	Significant?
Carbon Monoxide (CO)	122.52	550.00	NO
Reactive Organic Compounds (ROC)	21.13	75.00	NO
Nitrogen Oxides (NOx)	46.99	100.00	NO
Particulates (PM10)	32.14	150.00	NO

Source: EMFAC7G and SCAQMD CEQA Air Quality Handbook

APPENDIX E

MATERIAL SAFETY DATA SHEETS (MSDS)

MATERIAL SAFETY DATA SHEET
1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

Hydrogen Peroxide, 50%

Vulcan Chemical Technologies, Inc.
902 Channel Drive
West Sacramento, CA 95691-3477
Emergency Phone: (800) 424-9300 (CHEMTREC)
24 Hour Phone: (916) 375-0167

Revision Date: 10/10/97

MSDS# A329

2. COMPOSITION (OSHA HAZARDOUS INGREDIENTS)

<u>COMPONENTS</u>	<u>CAS #</u>	<u>WT. %</u>
Hydrogen peroxide	7722-84-1	50.0

3. HAZARD IDENTIFICATION

HAZARD SUMMARY

Clear, colorless liquid with sharp odor. Oxidizer! Corrosive! Contain all spills. Non-flammable. See Section 3, 5, 6.

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

EYES: Corrosive. Direct contact can cause corneal ulceration or perforation and possibly blindness. In rare cases, corneal injury can be delayed. Vapors may cause irritation, redness, and, and blurred vision.

SKIN: Corrosive and can cause irritation, pain, leaching of skin and hair, and burns.

INGESTION: Corrosive to mouth, throat, esophagus, and stomach, rupture of the colon, intestinal gangrene with gas embolization. Spontaneous vomiting is common. Complications of ingestion include ruptured viscus, coma, seizures, and gas embolization with subsequent shock and cardiac arrest. Sudden evolution of oxygen may cause injury by acute distention of the stomach and internal bleeding.

INHALATION: Can cause severe mucous membrane irritation and inflammation, pulmonary edema, and systemic poisoning with shock, coma, and seizures.

ROUTES OF ENTRY: Eye contact, skin contact, ingestion, and inhalation.

TARGET ORGANS: Eyes, skin, respiratory tract, stomach, mouth, and throat.

CHRONIC HEALTH EFFECTS

CHRONIC OVEREXPOSURE: Can cause sneezing, lacrimation, bleaching of hair and skin, dermatitis, eczema in some individuals, and conjunctivitis.

CARCINOGENICITY: Hydrogen peroxide is considered a Group 3 carcinogen by IARC (The International Agency for Research on Cancer.) There is limited evidence of carcinogenicity in animals. Hydrogen peroxide is not classifiable as to its carcinogenicity to humans.

MUTAGENICITY: Hydrogen peroxide has been found to cause DNA strand breaks and chromosomal aberrations. DNA strand breaks could be produced at dose levels lower than those which induced chromosomal aberrations.

TERATOGENICITY: No information regarding teratogenicity is available for the product as a whole or for components of this product.

REPRODUCTIVE TOXICITY: No information regarding reproductive toxicity is available for the product as a whole or for components of this product.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: May aggravate existing skin, eye, or respiratory tract conditions.

4. FIRST AID MEASURES

EYES: In case of contact, immediately flush eyes with water for at least 15-20 minutes. Lift upper and lower lids and rinse well under them. Get immediate medical attention.

SKIN: Immediately rinse excess material off skin with large amounts of water; remove contaminated clothing and shoes. Then wash with soap and water. If heavy contamination has occurred, then discard the clothing in a manner which limits further exposure. Otherwise, thoroughly clean contaminated clothing and shoes before use. Get medical attention.

INHALATION: Remove from exposure. If individual is not breathing, administer cardiopulmonary resuscitation (CPR) and get immediate medical attention. If individual is breathing, but with difficulty, get medical attention.

INGESTION: Do not induce vomiting. Do not give anything by mouth to an unconscious person. Immediately drink large quantities of milk or water. Get medical attention.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES
Oxidizer!

FLASH POINT: Hydrogen peroxide does not have a flash point.

METHOD USED: Hydrogen peroxide does not have a flash point.

FLAMMABLE LIMITS: Hydrogen peroxide does not have flammable limits.

EXTINGUISHING MEDIA: Use water only. DO NOT use CO₂, dry chemical, or halon.

FIRE & EXPLOSION HAZARDS: Fire may produce irritating or poisonous gases. Negligible fire hazard when exposed to heat or flame. Hydrogen peroxide is an oxidizer, which when heated, will yield oxygen or other gases which will increase the burning rate of combustible materials. Contact with easily oxidizable, organic, or other combustible materials may result in ignition, violent combustion, or explosion.

FIRE-FIGHTING EQUIPMENT: Protect personnel from skin and respiratory exposure. Wear self-contained breathing apparatus and personal protective equipment when fighting fires involving this product.

6. ACCIDENTAL RELEASE MEASURES

LARGE SPILL: Isolate hazard area and deny entry to unnecessary or unprotected personnel. Keep combustible materials away from spill area. Stop leaks if there is no risk. Use water spray to reduce vapors. Flush area with large quantities of water. Avoid runoff into storm sewers and ditches which lead to waterways. Never discharge directly into a lake, pond, stream, river, or other natural body of water.

SMALL SPILL: Mop up material immediately and place in a disposal container. Rinse spill area with large amounts of water.

7. HANDLING AND STORAGE

HANDLING: Wear appropriate protective clothing. Avoid prolonged contact with skin and clothing. Avoid breathing vapors. After handling, always wash hands and clothing thoroughly with soap and water. Do not allow spills dry. Drying on clothing or other combustible material may cause fire.

STORAGE: Store in a cool, dry, well ventilated place away from heat, cold, sources of ignition, oxidizable materials, strong alkalis, organic materials, and/or acids. Protect from freezing. Use approved equipment for transportation of drums to avoid puncturing or rupturing. Do not reuse drum or other containers. Storage containers for hydrogen peroxide must be vented and made of compatible plastics, 304 or 316 stainless steel, or high purity aluminum.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

RESPIRATORY PROTECTION: Use general room ventilation or local exhaust ventilation to keep airborne exposure below the PEL. If ventilation is not adequate to keep the airborne concentration below the PEL, wear an approved respirator.

SKIN PROTECTION: Wear impervious gloves, boots, and apron.

EYE PROTECTION: Use chemical safety goggles or a full face shield, as well as an eye wash shower, and washing facilities near the work area.

EXPOSURE GUIDELINES: Exposure guidelines have not been established for the product as a whole. The following are exposure guidelines for component(s) of this product.

COMPONENT	OSHA PEL-TWA	ACGIH TLV-TWA	NIOSH IDLH
Hydrogen peroxide	1 ppm	1 ppm	75 ppm

ENGINEERING CONTROLS: Use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Clear, colorless liquid

ODOR: Sharp odor

BOILING POINT: 223°F

SOLUBILITY IN WATER: Complete

SPECIFIC GRAVITY: 1.195 at 68°F

MELTING POINT: -13°F

VOLATILE: 100%

pH: Not available

10. STABILITY AND REACTIVITY

STABILITY: (CONDITIONS TO AVOID) Stable. Avoid sources of ignition and high temperatures.

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID) Avoid contact with soluble fuels, such as acetone, ethanol, and glycerol, oxidizable materials, iron, copper, brass, bronze, chromium, zinc, lead, manganese, silver, combustible materials, alkaline materials, organic materials, and acids.

HAZARDOUS DECOMPOSITION PRODUCTS: Decomposition products include heat and oxygen. Contamination by metals such as copper, cobalt, manganese, iron, nickel, and lead, dirt, dust, oils, or enzymes, will increase the rate of decomposition. This may lead to an explosion due to the quick evolution of heat and oxygen.

11. TOXICOLOGICAL INFORMATION

LD₅₀ (oral) mouse: 2 mg/kg for 90% hydrogen peroxide
LD_{Lo} (oral) man: 1429 mg/kg for 30% hydrogen peroxide

12. ECOLOGICAL INFORMATION

Ecological information is not available.

13. DISPOSAL CONSIDERATIONS

RCRA HAZARD CLASS: D001

WASTE MANAGEMENT INFORMATION: Any disposal practice must be in compliance with local, state, and federal laws and regulations (contact local or state environmental agency for specific rules.) Do not dump into sewers, on the ground, or into any body of water.

NOTE: Chemical additions, processing, use, or otherwise altering this product may render the disposal considerations invalid, inaccurate, and otherwise inappropriate.

14. TRANSPORT INFORMATION

TRANSPORTATION AND HAZARDOUS MATERIALS DESCRIPTION

For domestic shipments:

DOT SHIPPING NAME: Hydrogen peroxide, aqueous solutions *with more than 40 percent but not more than 60 percent hydrogen peroxide*

UN ID NO.: 2014

HAZARD CLASS, LABEL, AND PACKAGING GROUP: 5.1 (Oxidizer, Corrosive); II

EMERGENCY RESPONSE GUIDEBOOK NO.: 140

15. REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200): According to the OSHA Hazard Communication Standard this product is considered hazardous because it contains hydrogen peroxide.

CERCLA/SUPERFUND (40 CFR 117, 302): This product contains the following regulated compounds: None.

SARA 302 Extremely Hazardous Substances (40 CFR 355, Appendix A): Hydrogen peroxide, if over 52%.

SARA 311/312 Hazard Category (40 CFR 370.2): Immediate (acute) health hazard; Delayed (chronic) health hazard; Fire hazard.

SARA 313 INFORMATION (40 CFR 372): This product contains the following regulated compounds subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986.

<u>COMPONENT</u>	<u>CAS NO.</u>	<u>WT. %</u>
None	Not applicable	Not applicable

TOXIC SUBSTANCES CONTROL ACT (TSCA): The ingredients of this product are all on the TSCA Inventory list.

CALIFORNIA PROPOSITION 65: The following statement is made in order to comply with the California Safe Drinking Water and Toxic Enforcement Act of 1986: Chemicals known to the State of California to cause cancer are NOT present in this product at levels which pose "Significant Risk." [22 CCR 12705 (b)]

16. OTHER INFORMATION

NFPA Rating

Fire 0
Health 2
Reactivity 1
Hazard OX

HMIS Rating

Health 3
Flammability 0
Reactivity 1
Protection G¹

The HMIS Rating is intended to be established by the employer, as the employer is most aware of the employees' use or application of the product, work environment, and available personal protective equipment. This rating is intended for guidance only.

Information given herein is offered in good faith as accurate, but without guarantee. Conditions of use and suitability of the product for particular uses are beyond our control; all risks of use of the product are therefore assumed by the user and we expressly disclaim all warranties of every kind and nature, including warranties of merchantability and fitness for a particular purpose in respect to the use or suitability of the product. Nothing is intended as a recommendation for uses which infringe valid patents or as extending license under valid patents. Appropriate warnings and safe handling procedures should be provided to handlers and users.

REASON FOR ISSUE: New format. Change in company name (formerly Rio Linda Chemical Co., Inc.) Revised Sections 1, 5, 6, 7, 10, 13, and 15.

SUPERSEDES: 04-05-96

PREPARED BY: Product Stewardship Coordinator

TECHNICAL DEPARTMENT

Material Safety Data Sheet

Revision Issued: 8/21/97

Supersedes: 8/21/97

First Issued: 8/21/97

Section I - Chemical Product And Company Identification**Product Name: Thioguard**

CAS Number: 1309-42-8

HBCC MSDS No. CM04450

**HILL BROTHERS** *Chemical Co.*1675 NORTH MAIN STREET • ORANGE, CALIFORNIA 92667-3400
714-998-8800 • FAX 714-998-0310
http://HillBrothers.com

1675 No. Main Street, Orange, California 92867

Telephone No: 714-998-8800 | Outside Calif: 800-821-7234 | Chemtrec: 800-424-9300

Section II - Composition/Information On Ingredients

Chemical Name	CAS Number	%	Exposure Limits (TWAs) in Air		
			ACGIH TLV	OSHA PEL	STEL
Magnesium Hydroxide	1309-42-8	51-55	10 mg/m ³ (total dust) 5 mg/m ³ (respirable dust)	15 mg/m ³ (total dust)	N/A

Section III - Hazard Identification**Routes of Exposure:** N/A**Summary of Acute Health Hazards:** The product presents a very low health risk. Magnesium hydroxide is a general purpose food additive. Dust generated from the dried product is classified as a nuisance dust.**Ingestion:** Ingestion is unlikely. If ingested in sufficient quantity, may cause gastrointestinal disturbances. Symptoms may include irritation, nausea, vomiting, abdominal pain and diarrhea.**Inhalation:** May irritate the respiratory tract on prolonged or repeated contact. May aggravate pre-existing respiratory conditions.**Skin:** Repeated or prolonged contact may cause irritation.**Eyes:** May irritate or injure eyes.**Summary of Chronic Health Hazards:** The excessive inhalation above (TLV) of mineral dust, over long periods of time, may cause industrial bronchitis, reduce breathing capacity, and lead to increased susceptibility to other lung disease.**Signs and Symptoms of Exposure:** N/A**Effects of Overexposure:** N/A**Medical Conditions Generally Aggravated by Exposure:** Dust from the dried product may aggravate pre-existing chronic lung conditions such as, but not limited to, bronchitis.

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emphysema, and asthma.

Note to Physicians: N/A

Section IV - First Aid Measures

Ingestion: Low toxicity. Give 1 - 2 glasses of water and seek immediate medical attention. Never give anything by mouth to an unconscious person. Leave decision to induce vomiting for medical personnel, since some particles may be aspirated into the lungs.

Inhalation: Move to fresh air; if discomfort persists, get medical attention.

Skin: Wash with soap and water.

Eyes: Irrigate immediately with plenty of water. Obtain medical attention if necessary.

Section V - Fire Fighting Measures

Flash Point: N/A

Autoignition Temperature: N/A

Lower Explosive Limit: N/A

Upper Explosive Limit: N/A

Unusual Fire and Explosion Hazards: N/A

Extinguishing Media: N/A

Special Firefighting Procedures: N/A

Section VI - Accidental Release Measures

Dike the spilled liquid, and either pump back into original container or cover with clay-type substance for absorption.

Section VII - Handling and Storage

Store at ambient temperature. Prevent possible eye and skin contact by wearing protective clothing and equipment.

Section VIII - Exposure Controls/Personal Protection

Respiratory Protection: Respirator approved by NOISH/ MSHA are adequate for contaminate concentrations encountered.

Ventilation: N/A

Protective Clothing: Gloves are recommended, rubber gloves are recommended when repeated or prolonged contact is likely.

Eye Protection: Safety glasses are recommended.

Other Protective Clothing or Equipment: N/A

Work/Hygiene Practices: Avoid contact with the eyes and skin.

Section IX - Physical and Chemical Properties

Physical State: Milky liquid

pH: 10-11

Melting Point/Range: N/A

Boiling Point/Range: 212°F, 100°C

Appearance/Color/Odor: White-off white, no odor

Solubility in Water: Nil

Vapor Pressure(mmHg): 24 by volume

Specific Gravity (Water=1): 1.4@60°F

Molecular Weight: 58.34

Vapor Density(Air=1): N/A

% Volatiles: 51-55

How to detect this compound : N/A

Section X - Stability and Reactivity

Stability: Stable

Hazardous Polymerization: Will not occur

Conditions to Avoid: N/A

Materials to Avoid: Acids and maleic anhydride. Magnesium hydroxide is soluble in aqueous acids generating heat.

Hazardous Decomposition Products: None

Section XI - Toxicological Information

N/A

Section XII - Ecological Information

N/A

Section XIII - Disposal Considerations

May be disposed of in a secured sanitary landfill. Disposal must be done in accordance with Local, State, and Federal regulations.

Section XIV - Transport Information

DOT Proper Shipping Name: N/A

DOT Hazard Class/ LD. No.: N/A

Section XV - Regulatory Information

Reportable Quantity: N/A

NFPA Rating: Health - 1; Fire - 0; Reactivity - 0

0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

Carcinogenicity Lists: No NTP: No IARC Monograph: No OSHA Regulated: No

Section XVI - Other Information

Synonyms/Common Names: Brucite

Chemical Family/Type: Magnesium Hydroxide

IMPORTANT! Read this MSDS before use or disposal of this product. Pass along the information to employees and any other persons who could be exposed to the product to be sure that they are aware of the information before use or other exposure. This MSDS has been prepared according to the OSHA Hazard Communication Standard [29 CFR 1910.1200]. The MSDS information is based on sources believed to be reliable.

However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use, or misuse are beyond our control, Hill Brothers Chemical Company makes no warranty, either expressed or implied, with respect to the completeness or continuing accuracy of the information contained herein and disclaims all liability for reliance thereon. Also, additional information may be necessary or helpful for specific conditions and circumstances of use. It is the user's responsibility to determine the suitability of this product and to evaluate risks prior to use, and then to

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exercise appropriate precautions for protection of employees and others.

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MATERIAL SAFETY DATA SHEET

Sodium Nitrate Solution

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

KEMWATER NORTH AMERICA
P.O. Box 606
2151 Wilbur Avenue
Antioch, California 94509
1-800-321-4922

KEMIRA WATER TREATMENT
P.O. Box 2247
Savannah, Georgia 31402
1-800-342-8755

Product Name: Sodium Nitrate Solution
CAS#: 7631-99-4
Product Use: Water treatment chemical

Date Issued: 99/01/28
MSDS Code: NaNitrate

Emergency Contacts

FOR EMERGENCIES INVOLVING CHEMICAL SPILL OR RELEASE, CALL
CHEMTREC 1-800- 424-9300

SECTION 2: COMPOSITION, INFORMATION ON INGREDIENTS

Ingredient(s)	% (w/w)	ACGIH TWA	CAS NO.
Sodium Nitrate	4 - 20	Not Applicable	7631-99-4
Sodium Hydroxide	8	STEL 2 mg/m ³	1310-73-2
Water	72 - 88	Not Applicable	7732-18-5

SECTION 3: HAZARD IDENTIFICATION

Emergency Overview: Corrosive! Odorless. . Sodium nitrate is a strong oxidizer and may ignite or explode on contact with combustible materials. Sodium hydroxide reacts with some metals to liberate hydrogen gas, which can form explosive mixtures with air. May react with some incompatibles violently, explosively or form spontaneously combustible compounds. Harmful or fatal if swallowed. Causes burns on contact. Mists and vapors are irritating to eyes, respiratory system and skin. Read the entire MSDS for a more thorough evaluation of the hazards.

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Potential Health Effects:

Inhalation: Burns to mucous membranes, difficulty breathing

Skin Contact: Burns

Eye Contact: Burns

Ingestion: Dizziness, abdominal cramps, vomiting, bloody diarrhea, weakness, convulsions, and collapse.

Chronic Effects: Repeated or prolonged exposure to nitrates may lead to weakness, general depression, headache, mental impairment, anemia, nephritis, and possibly methemoglobinemia.

Carcinogenicity: Sodium nitrate is not classified as carcinogenic by ACGIH (American Conference of Governmental Industrial Hygienists) or IARC (International Agency for Research on Cancer), not regulated as carcinogens by OSHA (Occupational Safety and Health Administration), and not listed as carcinogens by NTP (National Toxicology Program).

SECTION 4 - FIRST AID MEASURES

General: If you feel unwell seek medical advice (show the label where possible).

Inhalation: If symptoms are experienced, move victim to fresh air. Give artificial respiration ONLY if breathing has stopped. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Obtain medical attention IMMEDIATELY.

Skin Contact: Remove contaminated clothing, jewelry, and shoes. Immediately wash skin with soap or mild detergent and running water for at least 15 - 20 minutes until no evidence of chemical remains. For burns, obtain medical attention immediately.

Eye Contact: Immediately flush eyes with running water for at least 20 minutes, occasionally lifting upper and lower lids, until no evidence of chemical remains. Obtain medical attention IMMEDIATELY.

Ingestion: If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Seek immediate medical attention.

SECTION 5 - FIRE FIGHTING MEASURES

Flash Point	Not applicable
Flammable Limits (Lower)	Not applicable
Flammable Limits (Upper)	Not applicable
Auto Ignition Temperature	Not applicable
Combustion and Thermal Decomposition Products	Carbon monoxide, carbon dioxide, nitrogen oxides
Rate of Burning	Does not burn
Explosive Power	Not available
Sensitivity to Mechanical Impact	Not available

SODIUM NITRATE SOLUTION

Date Prepared:

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Fire and Explosion Hazards: Sodium nitrate is an oxidizer – it will enhance the burning rate and may cause spontaneous ignition of combustible materials. During a fire, irritating/toxic nitrogen oxides may be generated. Explodes when heated to more than 1000 °C.

Extinguishing Media: Water only. Do not use dry chemicals, CO₂, Halon or foams. If material on fire or involved in fire: flood with water. Cool all affected containers with flooding quantities of water.

Special Information: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full facepiece operated in positive pressure mode. Move exposed containers from fire area if it can be done without risk. Apply water from as far a distance as possible. Cool any exposed containers with water.

Evacuation: If fire becomes uncontrollable consider evacuation of one-half (1/2)-mile radius.

NOTE: Also see "Section 10 - Stability and Reactivity"

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Spills, Leaks, or Releases:

- Restrict access to area until completion of clean up. Ensure trained personnel conduct clean up.
- Wear adequate personal protective equipment. Avoid contact with combustible materials. Do not touch spilled material.
- Stop leak if possible without personal risk.
- **Small spills:** Absorb spill with sand or non-combustible dry material and collect in appropriate container for disposal. Flush area with water.
- **Large spills:** Prevent entry into sewers and confined areas. Dike if possible. Keep unnecessary people away, isolate hazard area and deny entry. Absorb spill with sand or non-combustible dry material and collect in appropriate container for disposal. Flush area with water.

SECTION 7 - HANDLING AND STORAGE

Handling: Observe all warnings and precautions listed for the product. Wear rubber gloves, safety glasses and protective work clothing.

Storage Requirements: Store in tightly closed container, preferably the supplier container. Protect from damage. Keep dry and away from inflammable organics or easily oxidizable substances; wooden floor is not acceptable. Read the label before use.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

PREVENTIVE MEASURES

Recommendations listed in this section indicate the type of equipment, which will provide protection against over exposure to this product. Conditions of use, adequacy of engineering or other control measures, and actual exposures will dictate the need for specific protective devices at your workplace.

Engineering Controls: A ventilation system of local and/or general exhaust is recommended. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at

SODIUM NITRATE SOLUTION

Date Prepared:

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its source, preventing dispersion of it into the general work area. Ensure that eyewash station and safety showers are proximal to the workstation location.

PERSONAL PROTECTIVE EQUIPMENT

Eye Protection: Wear splash resistant chemical goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

Skin Protection: Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Recommended Protective Material: Neoprene, rubber or PVC

Respiratory Protection: Under conditions of frequent use or heavy exposure, respiratory protection may be needed. A NIOSH/MSHA-approved air-purifying respirator equipped with dust, mist, and fume cartridges up to ten times the TLV. For Unknown or high concentrations, use any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode.

EXPOSURE GUIDELINES

PRODUCT:

Sodium Nitrate: ACGIH as Particulate Not Otherwise Classified (PNOC):

TLV Inhalable -10 mg/m³

Sodium Hydroxide: ACGIH: TLV - 2 mg/m³ (ceiling)

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES	
Alternate Name(s)	Nitrate of Soda
Chemical Name	Sodium Nitrate
Chemical Family	Inorganic Salt
Molecular Formula	NaNO ₃
Molecular Weight	85.00
Appearance	Slightly opaque
Odor	Odorless
PH	10-13
Vapor Pressure (mm Hg at 20 °C)	Not available
Vapor Density (Air = 1)	Not applicable
Boiling Point	Not available
Freezing Point	Not available
Solubility (Water)	Very soluble
Solubility (Other)	ammonia, alcohol
Specific Gravity	Not available
Evaporation Rate	Not applicable
% Volatile by Volume	Not applicable
% Volatile Organic Compounds	Not applicable

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SECTION 10 - STABILITY AND REACTIVITY

Hazardous Decomposition Products: Thermal decomposition: Oxides of carbon, nitrogen

Chemical Stability: Stable at normal temperatures and pressure.

Conditions to Avoid: May ignite or explode on contact with combustible materials. Avoid heat, flames, sparks and other sources of ignition.

Incompatibility with other Substances: Reducing agents, combustible materials, metals, halocarbons, acids, metal oxides, metal salts, and cyanides

Hazardous Polymerization: Will not occur.

SECTION 11 - TOXICOLOGICAL INFORMATION

TOXICOLOGICAL DATA:

Sodium Nitrate: TDLo 14 mg/kg oral-woman; LDLo 22500 □g/kg oral-child;
LD50 1267 mg/kg oral-rat

Mutagenicity: Mutation in Microorganisms: Other microorganisms: 1000 ppm

Phage inhibition capacity: Escherichia coli - 133 µg/well

Unscheduled DNA synthesis - human HeLa cell 6 mmol/L

Reproductive Effects: TDLo (oral) male mouse 14 day(s) 16800 mg/kg

Teratogenicity and Fetotoxicity: Treatment of 2 groups of 10 and 15 pregnant rats with 1% and 0.3%, respectively, of sodium nitrate in the diet did not result in any embryotoxic or teratogenic effects on the 9th and 10th days of gestation.

Synergistic Materials: Not available.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicological Information:

Fish Toxicity:

573000 ng/L 96 hour(s) LC50 (Mortality) Planehead Filefish (Monacanthus hispidus)

Invertebrate Toxicity:

77200 ug/L 120 hour(s) LC50 (Immobilization) Caddisfly (Hydropsyche occidentalis)

Algal Toxicity: 120000 ug/L 1 year(s) (Photosynthesis) Blue-green algae (Plectonema boryanum)

Persistence and Degradation: No data available

SECTION 13 - DISPOSAL AND PREVENTION

Review federal, state and local government requirements prior to disposal.

Whatever cannot be saved for recovery or recycling, including containers should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options.

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SECTION 14 - TRANSPORT INFORMATION

	TDG	DOT
Shipping Name	Sodium Nitrate Solution	Corrosive liquid, oxidizing, n.o.s
Hazard Class/Division	8: Corrosive liquid 5.1: Oxidizer	8: Corrosive Liquid 5.1: Oxidizer
Identification No.	UN3093	UN 3093
Packing Group:	II	II

IATA/ICAO Class: 5.1, 8

Transportation Emergency Telephone Number: 1-800-424-9300

SECTION 15 - REGULATORY INFORMATION**USA Classification**

OSHA Classification: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200)

SARA Regulations sections 313 and 40 CFR 372: N

SARA Hazard Categories, SARA SECTIONS 311/312 (40CFR370.21):

ACUTE: Y

CHRONIC: N

FIRE: Y

REACTIVE: N

SUDDEN RELEASE: N

OSHA PROCESS SAFETY (29CFR1910.119): N

TSCA Inventory Status: Y

This product does not contain nor is it manufactured with ozone depleting substances.

Other Regulations/Legislation which apply to this product:

California Proposition 65: N

Right -To-Know: Florida, Massachusetts, New Jersey, Pennsylvania, and Rhode Island**Canadian Classification**

This product has been classified in accordance with the hazard criteria of the CPR (Controlled Products Regulations) and this MSDS (Material Safety Data Sheet) contains all the information required by the CPR.

Controlled Products Regulations (WHMIS) Classification: C: Oxidizer
E: Corrosive
D2B: Toxic Material**CEPA / Canadian Domestic Substances List (DSL):** The substance in this product is not on the Canadian Domestic Substances List (CEPA DSL).

EEC CLASSIFICATION

EINECS: 231-554-3

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SECTION 10 - OTHER INFORMATION

The information contained herein is offered only as a guide to the handling of this specific material and has been prepared in good faith by technically knowledgeable personnel. It is not intended to be all-inclusive and the manner and conditions of use and handling may involve other and additional considerations. No warranty of any kind is given or implied and PCI will not be liable for any damages, losses, injuries or consequential damages that may result from the use of or reliance on any information contained herein. This Material Safety Data Sheet is valid for three years.

Label Text: DANGER! OXIDIZER! CORROSIVE! CAUSES BURNS. HARMFUL IF SWALLOWED. Do not get in eyes, on skin, on clothing. Avoid breathing vapor. Keep in tightly closed container. Use with adequate ventilation. Wash thoroughly after handling.

National Fire Protection Association (NFPA) Rating Hazardous Materials Identification System (HMIS) Rating

	NFPA	HMIS
HEALTH	2	2
FIRE	0	0
REACTIVITY	1	1

4= Extreme/Severe
3 = High/Serious
2 = Moderate
1 = Slight
0 = Minimum

REFERENCES:

1. RTECS-Registry of Toxic Effects of Chemical Substances, On-line search, Canadian Centre for Occupational Health and Safety RTECS database, Doris V. Sweet, Ed., National Institute for Occupational Safety and Health, U.S. Dept. of Health and Human Services, Cincinnati, Entry Update/ Oct 1997.
2. "CHEMINFO", through "CCINFOdisc", Canadian Centre for Occupational Health and Safety, Hamilton, Ontario, Canada, (August, 1998).
3. HSDB-Hazardous Substances Data Bank, through "CCINFO disc", Canadian Centre for Occupational Health and Safety, Hamilton, Ontario, Canada, (August 1998).
4. NIOSH POCKET GUIDE TO CHEMICAL HAZARDS, U.S. Department of Health and Human Services, National Institute for Occupational Safety and Health, June 1997
5. Sax, N.I., "Dangerous Properties of Industrial Materials", 7th Edition, 1989
6. "1998 Threshold Limit Values and Biological Exposure Indices", American Conference of Government Industrial Hygienists, 1998.
7. Merck, 11th Edition, 1989
8. Supplier's Material Safety Data Sheets.

Legend:

CAS # - Chemical Abstracts Service Registry Number

CERCLA- Comprehensive Environmental Response, Compensation, and Liability Act

CFR - Code of Federal Regulations

SODIUM NITRATE SOLUTION

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-
- DOT - Department of Transportation
 - EPA - Environmental Protection Agency
 - LC₅₀ - The concentration of material in air expected to kill 50% of a group of test animals
 - LD₅₀ - Lethal Dose expected to kill 50% of a group of test animals
 - LEL - Lower Explosive Limit
 - MSHA - Mine Safety and Health Administration
 - NIOSH - National Institute for Occupational Safety and Health
 - PEL - Permissible Exposure Limit
 - PVC - Polyvinyl chloride
 - RCRA - Resource Conservation and Recovery Act
 - SARA - Superfund Amendments and Reauthorization Act of the U.S. EPA
 - STEL - Short Term Exposure Limit
 - TC - Transport Canada
 - TDG - Transportation of Dangerous Goods Act/Regulations
 - TLV - Threshold Limit Value
 - TSCA - Toxic Substances Control Act
 - TWA - Time-Weighted Average
 - UEL - Upper Explosive Limit

Prepared By: PCI Chemicals Canada Inc. (905) 403-2745

**MATERIAL SAFETY DATA SHEET
FERROUS CHLORIDE SOLUTION**

KEMIRON PACIFIC, INC
14000 San Bernardino Ave.
Fontana, CA 92335
(909) 429 4001
(800) 527 7457

Emergency Phone Number:
(800) 527 7457

CHEMTREC
(800) 424 9300



Certified to
ANSI/NFPA 69

I. PRODUCT INFORMATION

Chemical Formula: FeCl₂
Synonyms: Iron (II) Chloride, Iron Dichloride; Iron Protochloride
Molecular Weight: 126.75
CAS No.: 7758-94-3
NIOSH RTECS No.: NO540000
Chemical Family: Iron Salts

II. PHYSICAL PROPERTIES

Boiling Point: 225°F
Freezing Point: 32°F at 13.6% Fe²⁺
Specific Gravity (H₂O): Approximately 1.24 - 1.40
Vapor Pressure (mmHg): No Data
Solubility in H₂O: Completely Soluble
Evaporation Rate
(Butyl Acetate = 1): No Data
Flashpoint: Not Applicable
pH (apparent): 0.29
pH (1% solution): 3.33
Appearance: Clear greenish liquid
Odor: Slight, mild odor

III. INGREDIENTS

Components	CAS#	%	Exposure Limits	
			ACGIH TLV	OSHA-PEL
Ferrous Chloride (FeCl ₂)	7758-94-3	27-36	1 mg/m ³	1 mg/m ³
Ferric Chloride (FeCl ₃)	7705-08-0	≤0.50	1 mg/m ³	1 mg/m ³
Magnesium Chloride (MgCl ₂)	7786-30-3	0-3	Not listed	Not listed
Hydrochloric Acid (HCl)	7647-01-0	<0.50	5 ppm	5 ppm
Water	7732-18-5	Balance		None established

IV. HEALTH HAZARD INFORMATION

- A. Toxicity: orl-rat LD₅₀: 984 mg/kg orl-rbt LD₅₀: 890 mg/kg
 rec-rat LD₅₀: 498 mg/kg scu-rbt TD₅₀: 189 mg/kg
 ipr-mus LD₅₀: 93 mg/kg rec-rbt TD₅₀: 984 mg/kg
 Mutagenic Data Cited.
- B. Carcinogenicity: : Not listed as a carcinogen by NTP, IARC, OSHA, ACGIH, or NIOSH.
- C. Primary Route(s) of Entry: Skin contact, inhalation of mist, ingestion
- D. Exposure/Health Effects:
1. Inhalation – Minimal risk due to low vapor pressure. Product mists are irritating to mucous membranes, respiratory tract, and lung tissues. Altered respiratory rates may occur.
 2. Ingestion – Accidental ingestion may cause gastrointestinal irritation, nausea, and vomiting.
 3. Skin – Irritating to skin.
 4. Eyes – Irritating to eyes and mucous membranes.
- E. First Aid Measures
1. Inhalation – If inhaled in large amounts, move exposed person to fresh air. Restore and/or support breathing if necessary. Have qualified medical personnel administer oxygen.
 2. Ingestion – Do not induce vomiting. Dilute slowly with 1-2 glasses of milk or water. Seek medical attention.
 3. Skin – Wash off in flowing water or shower, then with soap and water. Contact a physician if irritation continues.
 4. Eyes – Immediate and continuous flushing with flowing water for at least 15 minutes. Prompt medical consultation is essential.

V. REACTIVITY DATA

- A. Stability – Stable under normal use and storage.
- B. Incompatibility – Can react violently with ethylene oxide, potassium, and sodium. It is corrosive to 304 and 440 stainless steel, cast iron, concrete, brass, aluminum, bronze, and copper and its alloys. Also corrosive to paints, enamels, and concrete.
- C. Hazardous Polymerization – None.
- D. Decomposition Products – Does not decompose under normal conditions of use. When heated to high temperatures, decomposition occurs and produces toxic fumes of iron oxides, hydrochloric acid, and chlorine.
- E. Conditions to Avoid – Open flames; avoid forming product mists.

VI. FIRE AND EXPLOSION

- A. **Fire** – Not considered a fire hazard.
- B. **Explosion** – Not considered an explosion hazard.
- C. **Fire Extinguishing Media** – Water, CO₂, or dry chemicals may be used.
- D. **Precautions** – At high temperatures, decomposition causes toxic fumes of iron oxides, hydrochloric acid, and chlorine. Wear a respirator with appropriate cartridges or a self-contained breathing apparatus (SCBA).

VII. PERSONAL PROTECTIVE GEAR

- A. **Eye and Face** – Use chemical goggles; where splash hazard exists wear full face shield.
- B. **Respiratory** – No respirator is required under normal conditions of use. If Threshold Limit Value (TLV) is exceeded, a dust/mist respirator (NIOSH approved) may be worn up to ten times the TLV. Alternatively, a supplied air full facepiece respirator or SCBA may be worn.
- C. **Skin** – Use of rubber gloves and protective suits may be needed where splash or spray hazards exist.
- D. **Shoes** – Safety shoes with rubber soles or rubber boots should be worn.

VIII. STORAGE AND HANDLING

Ferrous chloride is very corrosive to 304 and 440 stainless steel, cast iron, concrete, brass, and aluminum. Storage tanks may be rubber-lined or made of fiberglass or plastics (e.g. PE, PVC, CPVC, FRP). Appropriate protective gear should be worn when handling the material.

IX. SHIPPING INFORMATION

DOT Shipping Name:	Ferrous Chloride Solution
DOT Label:	Corrosive
DOT Hazard Class:	8
DOT Category:	ORM-B
DOT Placard:	NA 1760
Packing Group No.:	III
Reportable Quantity (RQ), lb. (gal.):	100 (9)
HMIS:	Personal Protective Code – B (Safety glasses, rubber gloves)
NFPA Rating:	2 (Health) – 0 (Flammability) – 0 (Reactivity)
ERG No.:	154

X. ENVIRONMENTAL PROTECTION PROCEDURE

- A. **Spill Response** – If possible, dike area of spill. Neutralize with lime, soda ash, or sodium bicarbonate. If the spill is equal to or in excess of the RQ (100 lbs or 9 gals), then the National Response Center (800 424 8802) and the appropriate state and local agencies must be immediately notified.
- B. **Waste Disposal** – Remove waste to an approved landfill or waste disposal facility. The treatment, storage, transportation, and disposal of waste material must be conducted in compliance with all applicable federal, state, and local regulations.
-

Prepared by: Fred D. Sims, Jr.

Effective Date: 10 May 2000

Revisions:

The information presented in this Material Safety Data Sheet (MSDS) is subject to revisions and is not all-inclusive, but represented as the best information available to date. This information was drawn from recognized sources believed to be reliable. Kemiron makes no representation as to the comprehensiveness or accuracy of the information. Consequently, Kemiron will not be responsible for damages of any kind resulting from the use of or reliance upon such information.

The product discussed is sold without warranty, expressed or implied, and upon condition that purchasers shall perform their own verification and testing to determine its suitability for a particular purpose.

This MSDS was prepared in accordance with
OSHA's Hazard Communication Standard 29 CFR
1910.1200

USFilter

Material Safety Data Sheet

SECTION 1 – CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name: BIOXIDE®

Part Number: None **Chemical Family:** Inorganic Salt Solution

Manufacturer's Name: USFilter's Davis Products

Address: 2650 Tallevast Road, Sarasota, FL 34243

Product/Technical Information Phone Number: 1.941.355.2971

Medical/Handling Emergency Phone Number: CHEMTREC 1.800.424.9300

Transportation Emergency Phone Number: CHEMTREC 1.800.424.9300

Issue Date: March 17, 2000

Revision Date/Revision Number: None

SECTION 2 – COMPOSITION INFORMATION

<u>Chemical Name</u>	<u>Percent by Weight</u>	<u>CAS#</u>
Calcium Nitrate Double Salt	Active: 60% H ₂ O: 40%	15245-12-2

SECTION 3 – HAZARDS IDENTIFICATION

Appearance & Odor: Clear or light brown solution.

Emergency Overview: Contains no hazardous substances as listed in 40 CFR 302.

Major active ingredient – nitrate containing salts.

Fire & Explosion Hazards: None.

Primary Route(s) of Exposure: Skin and eye contact, ingestion and inhalation.

Inhalation – Acute Effects: Spray or dust may irritate respiratory tract.

Skin Contact – Acute Effects: May irritate skin.

Eye Contact – Acute Effects: May irritate eyes.

Ingestion – Acute Effects: Ingestion of large amounts may cause violent gastroenteritis.

SECTION 4 – FIRST AID MEASURES

Inhalation First Aid: Remove affected person from area to fresh air and provide oxygen if breathing is difficult. Give artificial respiration ONLY if breathing has stopped.

Obtain medical attention if individual shows symptoms of exposure.

Skin Contact First Aid: Immediately remove clothing from affected area and wash skin with flowing water and soap. Clothing must be washed before reuse. **DO NOT** instruct person to neutralize affected skin area. Obtain medical attention if irritation occurs.

SECTION 4 – FIRST AID MEASURES - continued

Eye Contact First Aid: Immediately irrigate eyes with flowing water for 15-20 minutes while holding eyes open. Contacts should be removed before or during flushing. **DO NOT** instruct person to neutralize. Obtain medical attention immediately.

Ingestion First Aid: If victim is alert and not convulsing rinse mouth with water and give water to drink. **Induce vomiting.** When vomiting occurs, have affected person lean forward with head down to avoid breathing in of vomitus. Rinse mouth again and give more water to drink. **DO NOT** have unqualified person induce vomiting. **OBTAIN MEDICAL ATTENTION IMMEDIATELY.**

Medical Conditions Aggravated: None known.

Note to Physician: Treat patient symptomatically.

SECTION 5 – FIRE FIGHTING MEASURES

Flash Point/Method: Not applicable.

Auto Ignition Temperature: Not applicable.

Upper/Lower Explosion Limits: Not applicable.

Extinguishing Media: Not applicable.

Fire Fighting Procedures: Not applicable.

Fire & Explosion Hazards: Avoid drying, do not contact with organics, chlorine or hypochlorite products, and caustic products.

Hazardous Products of Decomposition and/or Combustion: Decomposition may produce nitrogen oxides, ammonia.

NFPA Ratings:

HEALTH-1 FLAMMABILITY-0 REACTIVITY-1 OTHER-None

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Mop up and containerize, or dilute to acceptable level with water. Recover for recycling or landfill.

DO NOT DUMP ON THE GROUND OR INTO ANY BODY OF WATER. All disposal methods must be in compliance with all Federal, State, Local, and Provincial laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator.

SECTION 7 – HANDLING AND STORAGE

Handling: Wash thoroughly after handling, immediately remove and dispose of any spillage. Immediately rinse contaminated clothing thoroughly with water.

Storage: Store in dry place at ambient temperatures apart from combustible and other readily oxidizable materials, food, beverage, and excessive heat.

General Comments: Rinse empty containers with water.

SECTION 8 – PERSONAL PROTECTION/ EXPOSURE CONTROL

Respiratory Protection: None required under normal use conditions. Use dust mask if product is dry.

Skin Protection: Wear protective gloves and other protective clothing as appropriate to prevent skin contact.

Eye Protection: Safety glasses or goggles are recommended.

Ventilation Protection: Adequate general and mechanical exhaust ventilation

Other Protection: Safety showers, with quick opening valves which stay open, and eye wash fountains, or other means of washing the eyes with a gentle flow of cool to tepid tap water should be readily available in all areas where this material is handled or stored.

Water should be supplied through insulated and heat-traced lines to prevent freeze-ups in cold weather. Employees should wash their hands and face before eating, drinking, or using tobacco products. Educate and train employees on the safe use and handling of this product.

Exposure Limits: No occupational exposure limits have been established for this product. Active ingredient-TXDS orl-hmn LDLo; 500 mg/Kg, orl-LDLo 200 mg/kg

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance & Odor: Clear or light brown solution

Vapor Pressure: 20

Vapor Density (Air=1): 0.03

Boiling Point: (of solution) 220° F

Melting Point: Not applicable

Specific Gravity: at 20 C 1.45

Solubility in Water: Complete

Volatile Percentage: (water) 40

pH: 5.5-7.5

Flash Point/method: None

Auto Ignition Temperature: None

Upper/Lower Explosion Limits: None applicable **Other:** Apparent viscosity (cP) 1.84

SECTION 10 – STABILITY AND REACTIVITY

Stability: This material is stable under normal use conditions.

Incompatibilities: BIOXIDE® is incompatible with organic materials, reducing agents, chlorine or hypochlorite products and caustic products.

Polymerization: Hazardous polymerization will not occur.

Decomposition: Decomposition may produce nitrogen oxides, ammonia.

Conditions to Avoid: Avoid evaporation to dryness, do not place BIOXIDE® in contact with organics, chlorine or hypochlorite products, and caustic products.

SECTION 11 – TOXICOLOGICAL INFORMATION

Inhalation – Acute: BIOXIDE® may irritate respiratory tract.

Inhalation – Chronic: No chronic inhalation effects of this product are known.

Skin Contact – Acute: This product may irritate skin.

Skin Contact – Chronic: No chronic dermal effects for this product are known.

Eye Contact – Acute: This product may irritate eyes.

SECTION 11 – TOXICOLOGICAL INFORMATION - continued

Ingestion – Acute: Ingestion of large amounts may result in violent gastroenteritis.

Active ingredient-TXDS orl-hmn LDLo; 500 mg/Kg, orl-LDLo 200 mg/kg

Ingestion – Chronic: No chronic ingestion effects of this product are known.

Carcinogenicity/Mutagenicity: No carcinogenic or mutagenic properties of this product are known.

Reproductive Effects: No reproductive effects of this product are known.

Neurotoxicity: No neurotoxic effects of this product are known.

Other Effects: None known.

Target Organs: Target organs include the skin and eyes.

SECTION 12 – ECOLOGICAL INFORMATION

No ecological effects of this product are known.

Safely store product to prevent inadvertent release to the environment and water supplies.

SECTION 13 – DISPOSAL CONSIDERATIONS

Contains no hazardous substances as listed in 40CFR302.

Material that cannot be used, or reprocessed for use, and empty containers should be disposed of in accordance with all applicable regulations. Product containers should be thoroughly emptied before disposal. Generators of waste material are required to evaluate all waste for compliance with RCRA and any local disposal procedures and regulations. NOTE: State and local regulations may be more stringent than federal regulations.

SECTION 14 – TRANSPORTATION INFORMATION

DOT Shipping Description: Non-regulated.

SECTION 15 – REGULATORY INFORMATION

Contains no hazardous substances as listed in 40 CFR 302

SECTION 16 – OTHER INFORMATION

Disclaimer: The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the user thereof. It is the buyer's responsibility to ensure that its activities comply with federal, state, provincial and local laws.

Created by: USFilter's Davis Products