Response to Comments

ORANGE COUNTY SANITATION DISTRICT 1999 STRATEGIC PLAN

Final Program Environmental Impact Report

October 1999

Prepared for:

Orange County Sanitation District

ESA Environmental Science Associates

In Association with
MEC Analytical Systems, Inc.
&
KP Lindstrom, Inc.

Orange County Sanitation District

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Orange County Sanitation District

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TABLE OF CONTENTS

OCSD 1999 STRATEGIC PLAN FINAL PROGRAM ENVIRONMENTAL IMPACT REPORT

		Page
1.0	**INTRODUCTION**	**1-1**
2.0	**MASTER LIST OF COMMENT LETTERS**	**2-1**
3.0	**COMMENTS AND RESPONSES TO COMMENTS ON THE DRAFT PEIR**	**3-1**
3.1	**Federal**	
A.	Federal Aviation Administration (FAA)	3-2
B.	U.S. Fish and Wildlife Service (FWS)	3-4
3.2	**State**	**3-19**
C.	California State Lands Commission (SLC)	3-20
D.	California Department of Conservation, Mines and Geology (DOC)	3-23
E.	California Department of Transportation (DOT)	3-28
F.	California Regional Water Quality Control Board, Santa Ana Region(RWQCB)	3-31
3.3	**Regional/Local**	**3-41**
G.	Metro-Link, Southern California Regional Rail Authority (SCRRA)	3-42
H.	Southern California Association of Governments (SCAG)	3-46
I.	Metropolitan Water District of Southern California (MWD)	3-56
J.	Costa Mesa Sanitary District (CMSD)	3-64
K.	Irvine Ranch Water District (IRWD)	3-66
L.	City of Fountain Valley (FV)	3-69
M.	City of Seal Beach (SB)	3-71
N.	City of Anaheim (ANA)	3-77
O.	City of Tustin (TUST)	3-81
P.	City of Garden Grove (GG)	3-88
Q.	City of Huntington Beach (HB)	3-90
R.	County of Orange (CO)	3-101
3.4	**Interested Organizations**	**3-108**
S.	Surfrider Foundation (SURF)	3-109
T.	Southeast Huntington Beach Neighborhood Association (SHBNA)	3-113
3.5	**Individual**	**3-127**
U.	Donald Schulz, e-mail (DS1)	3-128

Page

V. Edward LaBahn, e-mail (EL) 3-131
W. Donald Schulz, e-mail (DS2) 3-135

3.6 Public Hearing Comments 3-139
X. Don Schulz 3-139
Y. Victor Leipzig 3-139
Z. John Ely 3-140

4.0 TEXT REVISIONS

4.1 Introduction 4-1
4.2 Text Revisions 4-1
4.3 New, Revised, and Rejected Mitigation Measures and Impacts 4-43

ATTACHMENTS

A. Odor Control A-1
B. Microfiltration B-1
C. Mitigation Monitoring/Reporting Program (MMRP) C-1

CHAPTER 1
INTRODUCTION

1.1 PURPOSE OF THE FINAL ENVIRONMENTAL IMPACT REPORT

This report has been prepared to accompany the Draft Program Environmental Impact Report (Draft PEIR) for Orange County Sanitation District's (OCSD or the District) 1999 Strategic Plan Project. The Draft PEIR identified the environmental consequences associated with implementation of treatment plant expansion and upgrade, sewer collection systems replacement and rehabilitation, and discharge capacity increase, and recommended mitigation measures to reduce significant and potentially significant impacts.

This "Response to Comments" document responds to the comments on the Draft PEIR and makes revisions to the Draft PEIR as necessary in response to these comments.

This document, together with the Draft EIR, constitutes the Final PEIR upon certification by the OCSD Board of Directors as complete and adequate under the California Environmental Quality Act (CEQA).

1.2 ENVIRONMENTAL REVIEW PROCESS

The CEQA statutes and *Guidelines* require lead agencies to consult with public agencies having jurisdiction over a proposed project, and to provide the public and other interested parties with an opportunity to comment on the Draft PEIR. This Final PEIR has been prepared to respond to those comments received on the Draft PEIR.

The Draft PEIR was made available for public review on June 29, 1999. The Draft PEIR was distributed to responsible and trustee agencies. The District filed a Notice of Completion (NOC) with the Governor's Office of Planning and Research, State Clearinghouse indicating that the Draft PEIR had been completed and was available for review by the public. A public hearing on the Draft PEIR was held on July 21, 1999, and the public review and comment period on the DEIR ended on August 16, 1999. Copies of all written comments received on the Draft PEIR, and a summary of all comments made at the public hearing, are contained in this report.

The District will review this Final PEIR for adequacy and consider it for certification pursuant to the requirements of Section 15090 of the CEQA *Guidelines*. Before the OCSD Board of Directors may approve the projects outlined within the PEIR, it must first certify that the Final EIR adequately discloses the environmental effects of the proposed projects, that the PEIR has been completed in conformance with CEQA, and that the decision-making body of the Lead Agency independently reviewed and considered the information contained in the PEIR.

1.3 REPORT ORGANIZATION

The remaining sections of this document contain the following information:

Chapter 2. List of Comment Letters

Chapter 3, Comments and Responses to Comments on the Draft PEIR. This chapter contains all comments received during circulation of the Draft PEIR and responses to those comments. However, attachments to comment letters (e.g., cultural resources reports and general plan from the City of Seal Beach and application forms from Metrolink) and the public hearing transcripts are not reprinted in this document.

Copies of all letters received on the Draft PEIR are located in Chapter 3. Each letter has been assigned a letter (e.g., A, B, C…) and each comment within that letter has been assigned an alpha-numeric code. For example, the first letter presented in this document (from the Federal Aviation Association) is identified as letter A. The first comment within this letter is coded FAA-1, the second comment is FAA-2, etc. Written responses to each comment are assigned the same number. Responses follow each letter. Responses to public hearing comments are also included in this chapter.

Chapter 4, Text Revisions. This chapter includes corrections, revisions, and changes to the Draft PEIR as a result of comments, or based on corrections initiated by OCSD staff.

Attachment A, Odor Control. The attachment provides additional information on the District's odor control management practices. It discusses existing odor control programs for Treatment Plants Nos. 1 and 2 and the collection system and also discusses future air quality control facilities proposed in the Strategic Plan. In addition, the Attachment contains four Appendices:

- Appendix 1: Odor Readiness Plan for summer 1999-2000
- Appendix 2: Storm Drain Odor Abatement Program
- Appendix 3: Odor Readiness Operating and Best Management Practices for Summer
- Appendix 4: Summary of Odor Sources and Abatement Programs

Attachment B, Microfiltration. The attachment provides a brief discussion on microfiltration research being conducted by OCSD and reported in the 1996/97 Annual Report. In addition the Attachment contains one Appendix:

- Appendix 1: Orange County Water District Memorandum on Pathogen Removal by Membrane Filtration

1.4 REVISED TEXT

In order to clarify revisions and additions to the Final PEIR, Chapters 3 and 4 track revisions with strike-through and underlined text. ~~Strike-through text~~ indicates text that has been deleted from the Final PEIR. <u>Underlined text</u> indicates text that has been added to the Final PEIR. All revisions are noted in the margins with vertical lines.

CHAPTER 2

MASTER LIST OF COMMENT LETTERS

This chapter contains a master list of the comment letters received on the Draft Program Environmental Impact Report (PEIR) during the public review period, from June 29, 1999 to August 16, 1999. The list is divided into groups: federal agencies, state agencies, regional/local interested parties, interested organizations, individuals, and public hearing speakers. A total of 23 comment letters were received.

The comment list identifies general areas of concern expressed within the comment letters. These include construction impacts from projects proposed in the PEIR, on-going operational impacts including treatment plant operations and ocean discharge impacts, and emergency operations impacts including use of the 78-inch diameter outfall during infrequent peak flow.

The Governor's Office of Planning and Research, State Clearinghouse confirmation letter is included within this chapter following the master list of comments. This letter confirms that the Clearinghouse received the Draft PEIR and disseminated copies to interested agencies per California Environmental Quality Act (CEQA) procedures.

Comment Letters Received for the Orange County Sanitation District, Strategic Plan, Draft EIR

Comment Letters Received: 23

Organization or Author	Date	Construction Impacts	Operational Impacts	Emergency Use 78-inch
Federal				
Federal Aviation Administration	7/6/99	x		
U.S. Fish and Wildlife Service	8/16/99	x	x	
State				
California State Lands Commission	7/29/99	x		
California Department of Conservation, Mines and Geology	8/6/99		x	
California Department of Transportation	8/12/99	x		
California Regional Water Quality Control Board, Santa Ana Region	8/16/99		x	x
Regional/Local				
Metro-Link, Southern California Regional Rail Authority	7/16/99	x		
Southern California Association of Governments	8/5/99		x	
Metropolitan Water District of Southern California	8/13/99		x	
Costa Mesa Sanitary District	8/13/99		x	
Irvine Ranch Water District	8/16/99	x		
City of Fountain Valley	7/21/99	x		
City of Seal Beach	7/29/99	x		
City of Anaheim	8/2/99	x		
City of Tustin	8/12/99	x		
City of Garden Grove	8/16/99		x	
City of Huntington Beach	8/16/99	x	x	x
County of Orange	8/16/99	x	x	
Interested Organizations				
Surfrider Foundation	8/13/99		x	x
Southeast Huntington Beach Neighborhood Association	8/16/99		x	
Individuals				
Donald Schulz, e-mail	6/29/99		x	
Edward LaBahn, e-mail	7/13/99		x	
Donald Schulz, e-mail	8/12/99		x	x
Public Hearing Comments				
Don Schulz	7/21/99		x	x
Victor Leipzig	7/21/99		x	x
John Ely	7/21/99		x	

STATE OF CALIFORNIA
Governor's Office of Planning and Research
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Gray Davis
GOVERNOR

Loretta Lynch
DIRECTOR

ACKNOWLEDGEMENT OF RECEIPT

DATE: July 7, 1999

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

RE: Draft Program EIR-1999 Strategic Plan (Wastewater Management)(PROGRAM EIR STRATEGIC PLAN FOR WASTEWATER MANAGEMENT)
SCH#: 97101065

This is to acknowledge that the State Clearinghouse has received your environmental document for state review. The review period assigned by the State Clearinghouse is:

Review Start Date: June 29, 1999
Review End Date: August 12, 1999

We have distributed your document to the following agencies and departments:

California Coastal Commission
Caltrans, District 12
Department of Conservation
Department of Fish and Game, Region 5
Department of Parks and Recreation
Department of Toxic Substances Control
Office of Historic Preservation
Regional Water Quality Control Board, Region 8
Resources Agency
State Lands Commission
State Water Resources Control Board, Division of Water Quality

The State Clearinghouse will provide a closing letter with any state agency comments to your attention on the date following the close of the review period.

Thank you for your participation in the State Clearinghouse review process.

CHAPTER 3

RESPONSE TO COMMENTS

3.1 FEDERAL AGENCIES

A

U.S. Department
of Transportation
**Federal Aviation
Administration**

Western-Pacific Region

P.O. Box 92007
Worldway Postal Center
Los Angeles, CA 90009

Orange County Sanitation District
Attn: James Herberg
10844 Ellis Avenue
Fountain Valley, California 92708

AUG 0 6 1999

Dear Mr. Herberg:

Review of Draft Program Environmental Impact Report for Orange County Sanitation District 1999 Strategic Plan

The Environmental Engineering Section, AWP-474, reviewed the Draft Program Environmental Impact Report for Orange County Sanitation District 1999 Strategic Plan. There are no known facilities or land parcels under the jurisdiction of the Airway Facilities Division (AFD) on or near this project. There were no issues found within the document that are of concern to the AFD. **FAA-1**

If any additional information is required, please contact Vince Mancus, AWP-474/NISC at (310) 725-7460.

Sincerely,

Alan L. Hanson
for Donald Tom
Manager, Airway Facilities Division

A FEDERAL AVIATION ADMINISTRATION

FAA-1 The letter states that there were no issues found within the document that are of concern to the Airway Facilities Division. No response is necessary.

B

United States Department of the Interior
Fish and Wildlife Service
Ecological Services
Carlsbad Fish and Wildlife Office
2730 Loker Avenue West
Carlsbad, California 92008

AUG 16 1999

James D. Herberg
Engineering Supervisor
Orange County Sanitation District
10844 Ellis Avenue
Fountain Valley, California 92708

Re: Draft Orange County Sanitation District 1999 Strategic Plan Program Environmental Impact Report, Orange County, California

Dear Mr. Herberg:

We have reviewed the Draft Orange County Sanitation District 1999 Strategic Plan Program Environmental Impact Report (DEIR). We offer the following comments and recommendations regarding project-associated biological impacts and proposed mitigation measures based on our knowledge of sensitive and declining habitat types and species in Orange County.

We are concerned for the protection of fish and wildlife resources and their habitats. In this regard, we provide comments on public notices issued for projects potentially affecting the Nation's waters pursuant to the Clean Water Act. We also administer the Endangered Species Act of 1973, as amended (Act). Section 9 of the Act prohibits "take" (e.g., harm, harassment, pursuit, injury, kill) of federally listed wildlife species. "Harm" (i.e., "take") is further defined to include habitat modification or degradation where it kills or injures wildlife by impairing essential behavioral patterns including breeding, feeding, or sheltering. "Take" can only be permitted pursuant to the pertinent language and provisions in sections 7 (Federal consultations) and 10 of the Act. If a Federal agency action (including issuance of a permit or other Federal authorization which may result in construction) may affect a listed threatened or endangered species, the action agency may begin section 7 formal or informal consultation. If there is no Federal nexus, then "take" could be permitted per the section 10 process, which involves the preparation of a habitat conservation plan. Based on the information provided in the DEIR, a new outfall pipeline would appear to require authorization from the U.S. Army Corps of Engineers, and as such, could require section 7 consultation. FWS-1

The Orange County Sanitation District (District) presently serves 23 cities in Orange County and small portions of Los Angeles, Riverside, and San Bernardino counties. Collection and treatment facilities are located throughout the service area. The wastewater treatment plant, Reclamation Plant No. 1, is located adjacent to the Santa Ana River in Fountain Valley. Treatment Plant No. 2 is located in Huntington Beach adjacent to the Santa Ana River, about 1,500 feet from the Pacific Ocean. Effluent is now discharged through an existing 4-mile, 120-inch diameter outfall

pipe adjacent to the mouth of the Santa Ana River into the Pacific Ocean. A shorter, existing 78-inch diameter pipeline is designated for emergency use and has not been used since the 120-inch outfall was installed. Two 50-foot weirs at Plant No. 2 are also available for discharge into the Santa Ana River under extreme emergencies. Treated discharge into the Pacific Ocean is permitted by a National Pollution Discharge Elimination System (NPDES) permit by the U.S. Environmental Protection Agency (EPA) and the Regional Water Quality Control Board (RWQCB).

The existing facilities, under current conditions, cannot meet anticipated long-term (year 2020) wastewater conveyance in the region. Proposed improvements were evaluated in the Program EIR for the following: treatment plants, ocean outfall, a collection system, and a biosolids program. Under all six treatment scenarios, all proposed additional treatment facilities would be located within the existing boundaries of the two District plants. To reconcile discharge capacity deficiencies during peak flow periods, alternatives evaluated include the construction of a new 120-inch outfall, construction of a new barrel adjacent to the existing 120-inch outfall, or the use of the existing 78-inch outfall. To enhance the collection system, the District proposes to replace and rehabilitate nearly 47 miles of pipelines and upgrade several pump stations located primarily within developed city streets throughout the service area. With respect to the biosolids program, the District recommends no immediate changes in the processing or disposal methods, although several studies are proposed.

All six treatment scenarios are evaluated in this Program DEIR. Various treatment alternatives include a Groundwater Replenishment (GWR) System project. Whereas Scenarios 1 and 2 ensure NPDES compliance whereby all wastewater would receive advanced primary treatment and a portion of the effluent would receive secondary treatment prior to ocean discharge, only scenario 2 would include the utilization of the GWR system. Scenarios 3 and 4 consist of full secondary treatment prior to ocean disposal, with Scenario 4 utilizing the GWR system. Scenarios 5 and 6 consist of all wastewater receiving advanced primary treatment and 50 percent also receiving secondary treatment prior to ocean disposal, with Scenario 6 utilizing the GWR project. Currently, the District provides discharge of a blend of 50/50, similar to Scenarios 5 and 6. The preferred alternative is Scenario 2.

Specific Comments

Ocean Discharge Facilities

We are concerned about any increases in volume or concentration of any pollutants discharged into the outfall that could potentially adversely affect biological resources, such as fish and wildlife (including listed species) and their habitats. Numerous sensitive birds are known to nest or otherwise occur in the vicinity of the coastal marshes and beach adjacent to the Santa Ana River mouth, nearshore areas (near the 78-inch outfall), and offshore areas (near the 120-inch outfall) (DEIR, p. 5.1-45). These include the federally endangered California least tern (*Sterna antillarum* [=*albifrons*] *browni*; tern), endangered brown pelican (*Pelecanus occidentalis*; pelican), endangered light-footed clapper rail (*Rallus longirostris levipes*), and threatened

FWS-2

western snowy plover (*Charadrius alexandrinus nivosus*). In addition, other State-listed species, such as Belding's savannah sparrow (*Passerculus sandwichensis beldingi*), and other federally listed marine mammals under the jurisdiction of the National Marine Fisheries Service are expected to occur within the project area (p. 5.1-48).

According to the DEIR, the pelican and tern, both fish-eating birds, possibly would be impacted by the operation of facilities or the discharge of less-than-secondary treated wastewater (DEIR, 5.1-49). Please expand on the range of impacts that could occur to these two species, other listed or sensitive species, and to fish and wildlife in general under the various scenarios. Please also identify measures to avoid and minimize impacts to sensitive and listed species and please mitigate unavoidable impacts. **FWS-2 (Cont'd)**

We are particularly concerned about adverse effects to sensitive coastal biological resources resulting from oil and grease, brine, pathogens, and other pollutants. The reported information suggests that observable floating particles consisting of oil and grease may result in permit violations under Scenarios 1, 2, and 5 (DEIR, p. S-18). Mitigation proposed consists of monitoring the receiving waters and modifying treatment if floating particulates are observed. We recommend frequent, accurate, and intensive monitoring and treatment modifications to ensure that any problems are identified prior to adversely affecting fish and wildlife and their habitats. Increased discharge of brine under any scenario, but particularly under Scenarios 2, 4, and 6 with the GWR system, could result in potentially significant toxicity effects, and additional study is needed (DEIR, p. 5.2-36). Although it is stated that if non-compliance occurs, and/or adverse marine life impacts are observed, additional analysis and appropriate source control measures would be implemented (DEIR, p. S-18), we request clarification of the methods employed to detect adverse marine life impacts. We recommend that any modifications to operations should be conducted prior to the confirmation of adverse effects to wildlife. Please note that not all adverse effects to wildlife are easily detected (e.g., shorter life-span, reduced reproductive capability). **FWS-3**

We are concerned about the potential for significant unavoidable impacts resulting from the use of the 78-inch outfall, which would discharge cumulative pollutant loads (particularly pathogens) to the nearshore environment. Proposed mitigation would involve pathogen reduction of the wastewater prior to discharge as well as beach closure (DEIR, p. S-18). Although micro-filtration was proposed as one method of pathogen reduction, the final method has not been chosen in the DEIR, because disinfection is not currently approved by the RWQCB and other "new technologies" have not been presented or discussed (DEIR, p. 5.2-102). Closure of beaches for human use, of course, would not preclude the use of the contaminated areas by wildlife and could create additional wildlife use of contaminated areas due to reductions in human disturbance. Appropriate analyses should be conducted to determine potential impacts to wildlife species from these contaminants, as well as measures to avoid, minimize, and mitigate impacts. **FWS-4**

We are concerned that the laying of pipeline for a new outfall could result in significant effects to coastal biological resources, including listed species. Listed species may be adversely affected **FWS-5**

depending on location and timing of construction. For instance, endangered least terns nest over an area of the District's buried outfall (DEIR, p. 5.1-48). Depending on the specific construction parameters, the tern may be adversely affected. Also, increases in turbidity during the nesting season of this season can adversely affect this species.

Although the District would conduct additional detailed, site-specific studies for the siting of a new second 120-inch ocean outfall (DEIR, p. 5.2-109) which would clarify the extent of marine resources that would be affected by construction and identified mitigation measures (DEIR, p. S-19), we are concerned about the extent of contamination that would be released during construction. We concur that further studies area needed to determine impacts of the potential release of pathogens to areas of water contact (DEIR, p. 5.2-106). We would appreciate the opportunity to review any site-specific studies in this regard. We are also concerned about similar potential effects from cleaning out accumulated sediments of the existing 120-inch diameter outfall (e.g., increases in turbidity).

FWS-5 (Cont'd)

FWS-6

Proposed Treatment System Facilities

According to the DEIR, no impacts to biological resources would result from onsite operations or construction within the boundaries of either plant because the areas have already been disturbed and no natural habitat exists on these properties (p. 6.3-3). However, we are concerned about indirect impacts (e.g., increased noise, human activity) during construction to the sensitive ecological areas adjacent to the two sites. For example, several new digesters are proposed along the southern boundary of the Treatment Plant No. 2. Given the magnitude of construction disturbance expected and its close proximity to the saltmarsh south of the site (separated by landscaping and a bike path), resources at the marsh apparently may be significantly disturbed. We note and appreciate that an acoustical engineer would be hired to determine evaluate other alternatives for mitigating impacts from extensive pile driving activities (p. S-22). The development of noise contours is appropriate to confirm that any impacts associated with noise would not be significant to sensitive wildlife resources, including listed species. However, to prevent potential, perhaps unforeseen impacts to listed species, we recommend that construction be conducted outside of the breeding seasons of the listed bird species present. Mitigation measures such as the use of temporary sound barriers may also help to reduce the level of impact.

FWS-7

According to the DEIR, expansion and operation of the proposed facilities could result in the removal of trees (p. S-20). Because birds may nest in the trees or on the buildings (e.g., on overhangs) onsite, we recommend that construction activities occur outside of the nesting season for birds. Prior to any construction (including demolition of buildings), a qualified biologist should survey the site to ensure that no nests are to be disturbed or removed during construction.

FWS-8

According to the DEIR, expansion and operation of the proposed facilities could introduce new sources of light and glare (p. S-20) and measures would be implemented by the District to ensure that no light is visible from neighboring residential areas, such as directing and orienting lighting downward and avoiding the use of highly reflective materials (p. S-21, Mitigation Measure 6.2-1). Measures to modify lighting should specifically ensure that no additional lighting is

FWS-9

visible from the sensitive ecological areas adjacent to the facilities (e.g., the wetlands immediately south and east of Treatment Plant No. 2). FWS-9 (Cont'd)

We are concerned about the increased risk that ground shaking could cause spills of raw sewage or other chemicals and result in adverse significant impacts to sensitive resources (e.g., marsh south of Treatment Plant No. 2). We note and appreciate that secondary containment (i.e., berms) is proposed to reduce the risks of contamination to the Santa Ana River. We recommend that consideration should also be given to the sensitive resources located in the vicinity of potential contaminant sources. FWS-10

Proposed Collection System Facilities

According to the DEIR, construction of the collection pipeline improvements would occur largely on previously disturbed, developed areas, primarily public streets, and no biological impacts would occur if projects occur on paved streets. According to the DEIR, if a project alignment includes unpaved, undeveloped or open space area, additional CEQA review would be necessary.

Habitat patches are found within urbanized areas and disturbance to these areas potentially could be considered a significant effect. Some projects are proposed to cross drainage channels (p. S-37). Even in highly urbanized areas, flood control channels can sustain wetlands and provide habitat for wildlife. Direct impacts to habitats should be avoided and minimized and appropriate measures should be taken to mitigate any unavoidable significant impacts. Also, in areas with potential for nesting birds (e.g., trees present), construction should be conducted outside of the nesting season. Alternately, a biological monitor should survey prior to, and/or during, construction to ensure that no nests are disturbed or removed as a result of the project. FWS-11

Several proposed projects would occur immediately adjacent to known sensitive ecological resources or to public areas with potential for sensitive ecological resources, such as Bolsa Chica Ecological Reserve, Yorba Regional Park, Mile Square Regional park, Anaheim Wetlands Park, and Santa Ana River. Any potential indirect impacts to sensitive ecological areas adjacent to proposed construction (e.g., increases in noise, human activity, nighttime lighting, traffic) should be identified in the FEIR, and appropriate measures identified to avoid and minimize impacts, and mitigate any unavoidable impacts. These impacts should be identified in the FEIR and appropriately analyzed in the FEIR or during additional project-specific CEQA documentation. FWS-12

Non Point-Source Runoff

We are concerned about cumulative impacts from non-point source runoff to wetlands and other sensitive ecological areas. Some sanitation districts are considering diverting the non-point source runoff and treating it, as an alternative to allowing it to flow to the ocean untreated. We request that the District identify if this, and the corresponding capability of the treatment facilities, have been considered. FWS-13

Conservation and Land Planning

The District's expansion of its wastewater treatment system would remove one obstacle to further urban development and population growth in northern Orange County (p. 11-1). Some secondary effects of growth planned by the cities and the County have been determined to be significant and unavoidable, including loss of open space (p. S-13). According to the DEIR, the District is minimizing the growth-inducement potential by implementing the Strategic Plan as a response to reduced flow projections and by revising the Strategic Plan periodically allowing treatment needs to best meet the actual needs of the service area. Development of habitat conservation plans (HCPs) by the local jurisdictions is identified as a measure to mitigate growth impacts to biological resources (DEIR, p. 11-14).

Comprehensive, regional planning efforts can be used to address regional impacts associated with growth-facilitating effects. The District should discuss its involvement in these planning efforts in areas with expected growth as a result of this Strategic Plan and how the District proposes to mitigate its portion of the unavoidable significant effects associated with new growth (e.g., loss of open space). According to the DEIR, the Strategic Plan for expansion and improvement of the District's system has been designed to accommodate land use development and growth in accordance with the adopted general plans for the land use jurisdictions within its service area (p. 11-2). The District should address how these general plans are based on the biological needs within these areas. FWS-14

Portions of the service area are within the boundaries of the Central and Coastal Subregion Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP). The County of Orange is signatory to this plan. Please clarify the District's role with respect to this plan and address any effects to the NCCP/HCP reserve system (including indirect effects) in the FEIR. FWS-15

Thank you for the opportunity to respond to the above referenced DEIR for potential impacts to biological resources. We look forward to reviewing responses to comments and the FEIR. If you have any questions pertaining to these comments, please contact Judi Tamasi of my staff at (760) 431-9440.

Sincerely,

Jim A. Bartel
Assistant Field Supervisor

1-6-99-TA-321

B FISH AND WILDLIFE SERVICE

FISH AND WILDLIFE SERVICE

FWS-1 The commentor indicates that the installation of a new 120-inch outfall would involve federal agency approval by the U.S. Army Corps of Engineers and therefore involve federal Endangered Species Act compliance through the Section 7 consultation provisions. The preferred project does not include the building of a new outfall. Section 3.8.2, page 3-39 of the Draft PEIR, states that additional detailed studies will be required prior to the construction of a new 120-inch diameter outfall if pursued. Section 6.3.2, page 6.3-3, also states that installation of a new 120-inch diameter outfall pipeline would require additional biological studies to assess impacts to the beach and marine environment. The District acknowledges that installation of a new 120-inch diameter outfall would require a permit from the Army Corps of Engineers and Section 7 consultation with the Fish and Wildlife Service and the National Marine Fisheries Service prior to installation. In addition, the District has already installed adequate outfall pipelines through the beach area as noted on page 3-39 of the Draft PEIR, to support a new ocean outfall.

FWS-2 The commentor requests additional detail on impacts to sensitive species, specifically pelicans and terns. As discussed in the Draft PEIR on p. 5.1-49, the California brown pelican and California least tern occur in offshore waters near the outfall. Other species of birds are found in nearby wetlands, beaches, or bays but not in offshore waters. Mammals are occasional visitors to the area.

California least terns forage in waters near shore during their nesting season (May through August). California brown pelicans forage in coastal waters year-round. Both species are fish-eaters. As discussed in the Draft PEIR on p. 5.2-102, effluent discharge under the six proposed treatment scenarios and two discharge locations and with emergency use of the 78-inch outfall would not result in significant impacts to levels of pollutants in fish tissues. This finding is based on 13 years of comprehensive monitoring (See Draft PEIR 5.1-4 for an overview of the District's monitoring program). Therefore, impacts from the discharge of pollutants associated with the six scenarios, two discharge locations, and emergency use of the 78-inch outfall would not result in significant impacts to birds that forage on these fish.

As discussed in the Draft PEIR on p. 5.2-106, construction of the new outfall would disturb bottom sediments, resulting in short-term release of contaminants into the water and increased sedimentation. Increased turbidity may temporarily obscure waters and prevent the birds' foraging for fish in the local area. Short-term turbidity impacts would not have significant impacts on marine organism

populations and would be mitigated through the use of barriers such as silt curtains to contain the sediment and by avoiding construction activity when least terns are present (April through mid-September). If and when the District pursues a new outfall, it will conducted detailed siting studies and further environmental impact assessment (including CEQA, NEPA and Endangered Species Act compliance as appropriate). That process will identify site specific mitigation measures where warranted.

FWS-3 The comment addresses potential oil and grease, and brine effects on water quality. Oil and Grease are discussed in impact 5-3 (Draft PEIR p. 5.2-33). As discussed, the projected concentration levels of oil and grease through the year 2020 would be 24 mg/l, which would comply with the permit limit of 25 mg/l. Over the next twenty years mass loading would increase approximately 42 percent. There is no model useful for predicting whether the increase in oil and grease discharged with the effluent would result in observable floatables. Although the concentrations are predicted to remain within permit limits because there would be a notable percentage increase in oil and grease discharge, the EIR calls this to the District's attention to continue to watch in the future and be prepared to respond to with treatment process and/or effluent blend adjustments. The District already conducts a comprehensive and intensive monitoring program for its ocean discharge in accordance with the requirements of its NPDES permit, which includes effluent quality testing prior to discharge and ocean monitoring for oil and grease. Through this program the District will have advance notice of increasing oil and grease levels and will be able to implement the proper adjustments to maintain permit compliance and protection of public and aquatic health. Mitigation measure 5-3 is revised as follows to clarify the actions the District could take to reduce oil and grease levels if necessary.

Mitigation Measure 5-3a: 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.

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

With respect to potential brine impacts, as discussed in Impact 5-5, Draft PEIR p. 5.2-36, increased discharge of brine under any scenario, but especially under Scenarios 2, 4, and 6 with the GWR system, could reduce initial dilution and increase metals concentrations. This could result in potentially significant toxicity impacts, but additional study is needed before GWR begins to determine if this potential effect is significant and requires mitigation action. Mass loading of metals would not increase, but concentrations would change. The District routinely tests effluent quality, including specific toxicity testing, in accordance with the requirements of its NPDES permit. Therefore, the District has a process for constantly monitoring the effects of increasing brine disposal on effluent toxicity and will have advance notice to implement source reduction or treatment measures if warranted to maintain full compliance with effluent toxicity requirements. The District is proposing a special study to determine potential toxic effects. This study would involve bioassay testing in the laboratory using aquatic organisms. Toxicity would be measured using brine alone and brine in conjunction with various concentrations of primary and secondary effluent. Mitigation measure 5-5 is revised as follows to further clarify the actions the District could implement if warranted:

Mitigation Measure 5-5: 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

FWS-4The comment requests clarification on impacts to near shore aquatic and wildlife species from en peak wet weather flows. Based on the last 20 years of storm data, this has a probability of occurring once every three years by the year 2020. Effluent discharged to the 78-inch outfall during emergency use would release pathogens in the nearshore environment. It is expected that pathogen levels in the shallow nearshore and surfzone waters would exceed permitted levels and require short-term beach closure. Beach closure is identified as a significant impact for all scenarios. With respect to potential impacts to aquatic and wildlife resources (Impact 5-10), the District's 13 years of monitoring of the impact of daily effluent discharge through the 120-inch outfall do not indicate significant impact on marine organisms. Based on this information coupled with the very short duration and infrequent use of the 78-inch nearshore outfall, use of the 78-inch outfall for infrequent, treated peak wet weather discharges would not have a significant impact on fish or wildlife resources in the nearshore area.

Mitigation measure 5-9a indicates that the RWQCB does not recommend or support disinfection of discharges through the 78-inch outfall; the reasons for this include cost considerations, facility issues, and potential impact to marine organisms from possible residual disinfectant (chlorine) in the discharge. The District acknowledges that new technologies are being developed, including microfiltration processes, that may provide some additional reduction of pathogen levels without the impact of disinfection. The District is committed to evaluating new technologies for potential application at District facilities. However, there is no specific technology that is proposed as a mitigation measure at this time. Even with some additional pathogen removal, beach closure would still likely be required. The mitigation measure will be revised as follows:

Mitigation Measure 5-9a: 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.

FWS-5 The District acknowledges the FWS concerns over impacts to biological resources resulting from the installation of a new 120-inch diameter outfall. At this time the

District has provided only program-level analysis of a potential new outfall since this is not part of the preferred alternative and would be a future project if pursued at all. As such, Section 6.3.2, page 6.3-3 of the Draft PEIR states that installation of a new 120-inch diameter outfall pipeline would require additional biological studies to assess impacts to the beach and marine environment. If and when the District pursues a new ocean outfall, it would conduct detailed siting studies and a project level impact analysis, including consultation with USFWS and NMFS. With respect to the least tern nesting area, the District has already installed adequate outfall pipelines through the beach area as noted on page 3-39 of the Draft PEIR, to support a new ocean outfall. The District does not expected to undertake additional construction through this area. Turbidity in the feeding ground waters could increase during off-shore construction and future impact assessment for this project would establish appropriate seasonal restriction to protected sensitive species. Similarly, the issue of sediment disturbance and contaminant release would be evaluated further and presented in project level CEQA documentation for USFWS review.

FWS-6 The comment expresses concern over impacts to wildlife from the cleaning out of the existing 120-inch outfall. Short-term impacts to marine biota during outfall clean-out may include increased turbidity, resulting in reduced light penetration and decreased concentrations of dissolved oxygen, and release of contaminants resulting in elevation in levels of pollutants in surrounding waters. These effects would be localized and temporary and would not have significant impact on marine organism populations. At this time, it is not known whether or not the District will need to clean out the outfall (refer to discussion p. 5.2-106). If cleaning is needed, the sediment in the outfall would be analyzed for contaminants, and a plan would be developed to remove the sediment without significant impacts to water quality or biota. This plan would likely include the use of barriers such as silt curtains to contain the material and minimize effects of turbidity and contaminant release. Monitoring would also be implemented to ensure waters outside of the containment area are not affected.

FWS-7 The comment suggests that construction noise could impact adjacent wildlife areas. Noise impacts from construction at the treatment plants are identified on page 6.4-5 of the Draft PEIR. The impacts are considered significant and unavoidable, although short-term with no permanent change to the environment. Mitigation measures listed on page 6.4-8 identify methods to reduce the impacts. However, no mitigation measures were included specifically for impacts to wildlife in the wetlands to the south and southeast of Treatment Plant No. 2. The District will add the following mitigation measure to the findings in order to reduce the impact to wildlife as feasible.

Mitigation Measure 6.4-1g: 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.

FWS-8 Volume 9 of the Strategic Plan, Urban Design Element outlines specific measures to screen the facilities from surrounding land uses. The Urban Design Element is discussed on page 6.1-10 of the Draft PEIR. As part of the plan, trees will be planted along the perimeter of each facility. Several eucalyptus trees along the Santa Ana River at Reclamation Plant No.1 are infested with the longhorn borer beetle for which there is no effective cure. These trees will eventually die, reducing screening at the plant borders. A few trees may exist on site in areas where construction is planned.

The District will include the following impact to the Draft PEIR.

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.

The District will include the following mitigation measure to the findings to reduce impacts to nesting birds.

Mitigation Measure 6.3-1: 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.

FWS-9 The comment suggests that lighting could impact adjacent wildlife areas. Light and glare impacts at the treatment plants are identified on page 6.1-10 of the Draft PEIR. Mitigation measures listed on page 6.1-11 identify methods to reduce the impacts. However, no mitigation measures were included specifically for impacts to wildlife in the wetlands to the south and southeast of Treatment Plant No. 2. Although eliminating light sources from the facilities is not possible, the District will add the following mitigation measure to the findings in order to reduce the impact to wildlife as feasible.

Mitigation Measure 6.4-1h: 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.

FWS-10 The comment expresses concern that ground shaking could cause sewage spills that could impact surrounding wildlife. The Draft PEIR identifies raw sewage spills at the treatment facilities as a potential impact to surrounding areas. Mitigation measures 6.6-2a and b reduce this impact to less than significant levels through the implementation of a Spill Prevention Containment and Countermeasure plan as

well as the installation of secondary containment. These measures are equally effective for the protection of surrounding wildlife.

FWS-11 The comment suggests that "habitat patches" exist throughout the Service Area which could potentially support sensitive wildlife. As noted on page 7.3-2 of the Draft PEIR, much of the proposed construction in the Service Area will occur in previously disturbed locations. However, mitigation measure 7.3-1 states that construction projects that could impact undeveloped areas or open space would require additional biological surveys and impact assessments. This would include the removal of trees along construction corridors within the Service Area.

FWS-12 The comment suggests that construction activities adjacent to open space, ecological reserves, and recreation areas could impact biological resources. The proposed projects within the Service Area are predominantly in highly urbanized areas. The open spaces and parks noted on page 7.3-1 of the Draft PEIR are surrounded by urban areas. Impacts from human activity adjacent to open space would not be significantly increased by the short-term construction projects proposed in the Strategic Plan. Mitigation Measure 7.4-1a requires construction activities to cease by 5:30 p.m., unless other hours are specified by a local jurisdiction. As a result, impacts from nighttime activity, noise, and lighting would not occur by the proposed projects. Mitigation Measure 7.3-1 states that if project designs are modified resulting in the disturbance of undeveloped park land and open space, additional CEQA analysis would be necessary. Based on the short-term nature of the construction projects, the nighttime restrictions, and the predominant urban setting, the District does not feel that biological resources in adjacent open spaces and ecological reserves would be significantly impacted by the proposed construction projects.

FWS-13 The comment suggests that non-point source storm water runoff can impact biological resources and asks if the District has plans for treating storm water runoff. At this time, the District does not have plans to treat any significant amount of storm water runoff within the Service Area. As noted on page 7.7-2 of the Draft PEIR, storm drains are owned and maintained by local jurisdictions. Regionally, the Orange County Flood Control District maintains flood control channels that convey storm water runoff from local municipal systems ultimately to the Pacific Ocean. The District acknowledges that non-point source contamination impacts the water quality of the Santa Ana River, local wetlands, and the Pacific Ocean. However, these impacts are outside the scope of the District's Strategic Plan. The District maintains that source controls and best management practices are the most practical methods of reducing these impacts to regional water quality.

The District is participating in regional discussions concerning storm water collection and treatment, particularly with regard to the Santa Ana River. The

District spends millions of dollars annually monitoring water quality in the ocean. As evidenced in the results contained in the annual monitoring report submitted to the RWQCB, non-point source pollution contributes significantly to the pollutant load discharged to the ocean.

FWS-14 The comment requests more information regarding the District's involvement with regional planning efforts to reduce the secondary impacts of growth, specifically the loss of open space. As stated in Mitigation Measure 11-2, the District does not have authority to make land use and development decisions, nor does it have the authority to address many of the identified significant, secondary effects of planned growth. Table 11-4 of the Draft PEIR lists the entities with authority to manage growth in Orange County and/or provide key services to accommodate planned growth. Table 11-5 lists mitigation measures derived from regional planning documents including the Southern California Association of Governments (SCAG), Regional Comprehensive Plan and Guide (RCPG). As noted in the comment, local jurisdictions have the primary authority to limit impacts to biological resources from growth. Table 11-5 suggests that local jurisdictions should develop habitat conservation plans and require biological surveys prior to construction. It is not within the District's authority to ascertain compliance with this recommendation.

The District's primary function is to protect public health and the environment in the management of the wastewater from the service area. The District spends millions of dollars annually on ocean monitoring in an effort to ensure protection of the marine environment. The 1999 Strategic Plan represents an extensive effort by the District to maximize the level of wastewater treatment through the year 2020 while pursuing ambitious water reclamation projects. None of the projects currently proposed involve loss of open space.

FWS-15 The comment requests clarification on the District's involvement within the Southern California Natural Community Conservation Plan (NCCP) for the Central and Coastal Subregions within Orange County. The NCCP approved by the California Department of Fish and Game in 1996 provides for conservation and open space banking mechanisms for the preservation of local habitats. The projects proposed within the District's 1999 Strategic Plan do not impact open space and ecologically sensitive areas within the Service Area. Mitigation Measure 7.3-1 on page 7.3-2 of the Draft PEIR indicates that further studies would be required should construction projects impact undeveloped land. Biological assessment would include discussions on the relationship to the NCCP of the property in question. Otherwise, the district does not have a role in either land use decisions or the implementation of the regional NCCP. The District has a service mandate to accommodate planned growth as adopted and acted on by the local land use

jurisdictions. In turn, the land use jurisdictions have the authority and responsibility for land use decisions in coordination with the NCCP.

3.2 STATE AGENCIES

CALIFORNIA STATE LANDS COMMISSION
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825-8202

PAUL D. THAYER, *Executive Officer*
(916) 574-1800 FAX (916) 574-1810
California Relay Service From TDD Phone **1-800-735-2922**
from Voice Phone **1-800-735-2929**

Contact Phone: **(916) 574-1892**
Contact FAX: **(916) 574-1925**

July 29, 1999

C

File Ref: PRC 722
PRC 4007

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

Dear Mr. Herberg:

SUBJECT: Draft Program Environmental Impact Report for Orange County Sanitation District 1999 Strategic Plan

Staff of the California State Lands Commission (CSLC) has reviewed the subject document. Under the California Environmental Quality Act (CEQA), the County is the Lead Agency and the CSLC is a Responsible and/or Trustee Agency for any and all projects which could directly or indirectly affect sovereign lands, their accompanying Public Trust resources or uses, and the public easement in navigable waters.

Our files indicate that by letter dated December 12, 1997, CSLC staff provided comments on the Notice of Preparation for this document. Those comments still apply and a copy is attached for reference. **SLC-1**

The document states that the preferred alternative would involve using the existing 78-inch diameter outfall to accommodate peak flows in excess of current discharge capacity. As you are aware, the County has existing leases from the CSLC for both the 78-inch and 120-inch diameter outfalls. If the preferred alternative is ultimately selected, no amendment of the existing leases is necessary. Any proposed modifications or new construction would require CSLC authorization as stated in our comments to the NOP. We note that the Draft PEIR lists the CSLC as one of the agencies for which project approval may be required. **SLC-2**

We appreciate the opportunity to comment on the draft document. If you have any questions concerning the CSLC's jurisdiction, please contact Jane E. Smith, Public Land Management Specialist, at (916) 574-1892.

Sincerely,

MARY GRIGGS
Assistant Chief
Division of Environmental
Planning and Management

Enclosure

cc: Jane E. Smith

C STATE LANDS COMMISSION

SLC-1 The District is in receipt of the State Lands Commission comment letter on the Notice of Preparation for the OCSD Strategic Plan Draft PEIR. A copy of the letter is included in Appendix B of the Technical Appendices of the Draft PEIR.

SLC-2 The comment notes that if the preferred alternative (Scenario 2) is ultimately selected, no amendments of the existing leases for the 78-inch diameter outfall across State-owned property along the coast would be necessary. The District acknowledges that modifications or new construction to outfall facilities across State-owned property would require authorization from the State Lands Commission. Section 3.11, page 3-66 of the Draft PEIR includes the State Lands Commission as an agency from which project approvals or permits would be required.

State of California **The Resources Agency**

(D)

MEMORANDUM

To: Project Coordinator
Resources Agency

Date: August 6, 1999

Mr. James Herberg, Engineering Supervisor
Orange County Sanitation District
10844 Ellis Avenue
Fountain Valley, CA 92708

From: Department of Conservation
Office of Governmental and Environmental Relations

Subject: Draft Program Environmental Impact Report (DPEIR) for the Orange County Sanitation District 1999 Strategic Plan, Orange County - **SCH# 97101081/ 970101065**

The Department of Conservation's Divisions of Oil, Gas, and Geothermal Resources (DOGGR) and Mines and Geology (DMG) have reviewed the DPEIR for the referenced project. DOGGR supervises the drilling, maintenance, and plugging and abandonment of oil, gas, and geothermal wells in California. DMG gathers, analyzes and distributes information to land use decision-makers on geologic hazards in California. The Department offers the following comments for your consideration.

Oil, Gas and Geothermal Resources

The Department commented on this project's notice of preparation on December 30, 1997. Upon review of the DPEIR, we find that our original comments have not been addressed. We reiterate our previous comments below.

The project area encompasses 16 oil fields (Anaheim, Buena Park East, Buena Park West, East Coyote, Esperanza, Huntington Beach, Kraemer, Northeast Kraemer, West Kraemer, Newport, West Newport, Olive, Richfield, Sunset Beach, Talbert, and Yorba Linda) and portions of Brea-Olinda, West Coyote, and Seal Beach oil fields. Proposed development may impact present production and potential exploration. Surface development can restrict access to the future production of the State's limited oil resources. In addition, without consideration of abandoned and existing wells, and oil fields, surface development can create safety and public nuisance problems. DOC-1

Therefore, proposed development should ensure that adequate access is maintained to all tank setting and well locations. Access must be sufficient to allow for the entry and operation of heavy equipment, tank trucks and well workover rigs.

Within the project area are many previously plugged and abandoned wells. If structures are to be located over or in the proximity of a previously plugged and abandoned well, the well may need to be plugged to current Division specifications. In fact, the State Oil and Gas Supervisor is authorized to order the reabandonment of a previously plugged and abandoned well if construction over or in the proximity of a well could result in a hazard (Public Resources Code Section 3208.1). When abandonment is required, the cost of operations is the responsibility of the owner of the property upon which the structure will be located.

If any plugged and abandoned, or unrecorded wells are damaged or uncovered during excavation or grading, remedial plugging operations may be required. If such damage or discovery occurs, the Division's district office in Cypress will need to be contacted to obtain information on the requirements for, and approval to perform remedial operations.

DOC-1 (Cont'd)

The possibilities of future problems from oil and gas wells that have been plugged and abandoned, or reabandoned to the Division's current specifications, are remote. Nevertheless, the Division suggests that a diligent effort be made to avoid building over plugged and abandoned wells. If construction over an abandoned well is unavoidable, an adequate gas venting system should be placed over the well.

Seismic Hazards

DMG has prepared Seismic Hazard Zone Maps that provide coverage for all of coastal Orange County. These official maps were released March 25, 1999, and delineate official liquefaction zones that pertain to areas addressed in the master plan for the Orange County Sanitation District. You will find these liquefaction maps useful in your long-term strategic planning. We suggest that extracts of these maps be used to site sewage treatment facilities and trunk lines.

DMG has also published Special Publication 117, *Guidelines for Evaluating and Mitigating Seismic Hazards in California*, 1997. This 74-page document provides specific guidelines for liquefaction analysis. You can download copies from our website at: www.consrv.ca.gov/dmg.

DOC-2

Upon reviewing Section 6.6 (Geology) of the DPEIR, we suggest that you use and reference the new DMG Map Sheet 48, *Seismic Hazard Shaking Maps of California*, 1999, which will indicate the ground motion for coastal Orange County. This is for the Design Basis Earthquake with a 10 percent chance of exceedance in 50 years (reference Section 1627 of 1997 Uniform Building Code).

Thank you for the opportunity to comment on the DPEIR. If you have any questions on our oil, gas or geothermal comments, or require technical information or assistance, please contact David Sanchez at the DOGGR Cypress district office. The address is 5816 Corporate Avenue, Suite 200, Cypress, CA 90630; or, phone (714) 816-6847. For seismic safety issues, you may contact Robert Sydnor, Senior Geologist with DMG. He can be reached at 801 K Street, MS 12-32, Sacramento, CA 95814; or, by calling (916) 323-4399.

Sincerely,

Jason Marshall
Assistant Director

cc: R.H. Sydnor
Division of Mines and Geology

David Sanchez
Division of Oil, Gas and Geothermal Resources, Cypress

Linda Campion
Division of Oil, Gas and Geothermal Resources, Sacramento

D DEPARTMENT OF CONSERVATION, DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES AND THE DIVISION OF MINES AND GEOLOGY

DOC-1 The District is in receipt of the Department of Conservation comments on the Notice of Preparation for the OCSD Strategic Plan Draft PEIR dated December 30, 1997. The letter is included in Appendix B of the Technical Appendices of the Draft PEIR. The District acknowledges that the Service Area encompasses 16 oil fields including Anaheim, Buena Park East and West, East Coyote, Esperanza, Huntington Beach, Kraemer, Northeast Kraemer, West Kraemer, Newport, West Newport, Olive, Richfield, Sunset Beach, Talbert, and Yorba Linda. The projects proposed in the Draft PEIR are generally sewer retrofits under existing city streets and would not reduce access to geologic resources. Projects proposed outside existing sewer rights-of-way would require additional CEQA analysis. Treatment plant facility improvements would occur within the District's existing property boundaries. The preferred alternative, Scenario 2, would construct the least amount of new permanent facilities.

The District acknowledges that abandoned and existing oil production wells exist within the Service Area and within treatment plant property boundaries. Encountering such wells unexpectedly during construction activities could expose workers and the public to unsafe conditions. However, as discussed above, sewer construction projects covered at a project level within this Draft PEIR are generally retrofits, replacing existing pipes within existing sewer easements. The likelihood of encountering an unidentified abandoned well is slight. Nonetheless, in response to the comment, the following mitigation measures under construction impacts to utilities will be added to the findings.

Mitigation Measure 7.8-3e: 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.

Mitigation Measure 7.8-3f: 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.

DOC-2 The District appreciates the resources provided by the Department of Conservation, Division of Mines and Geology (DMG) including the Seismic Hazard Shaking Maps available on line. The maps identify areas where historic occurrence of liquefaction, or local geological, geotechnical and groundwater conditions indicate

a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required. The maps indicate that both Reclamation Plant No. 1 and Treatment Plant No. 2 are within seismic hazard zones for liquefaction. The Draft PEIR identifies impacts to the treatment plants and collection system components from seismic hazards. Impacts 6.6-1, 6.6-2, and 7.6-1 identify hazards including ground shaking, liquefaction, and settlement. Mitigation Measures 6.6-1a, 6.6-1b, 6.6-2a, 6.6-2b, and 7.6-1a reduce impacts from seismic hazards to less-than-significant levels.

E

STATE OF CALIFORNIA—BUSINESS AND TRANSPORTATION AGENCY GRAY DAVIS, *Governor*

DEPARTMENT OF TRANSPORTATION

DISTRICT 12
3347 MICHELSON DRIVE, SUITE 100
IRVINE, CA 92612-0661

August 12, 1999

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

IGR/CEQA
SCH# 97101065
DEIS
Log # 561

Dear Mr. Herberg:

Subject: 1999 Orange County Sanitation District Strategic Plan

Thank you for the opportunity to review and comment on the 1999 Orange County Sanitation District (OCSD) Strategic Plan. The proposed project is the master plan for sewer collection treatment facilities, with emphasis on new discharge options, and large scale water reclamation. Plant No. 1 is located in the City of Fountain Valley and Plant No. 2 is located in the City of Huntington Beach. Sewer pipelines are located throughout North and Central Orange County.

Caltrans District 12 is a reviewing agency and has the following comments:

- Encroachment Permits will be required for sewerlines crossing Route 1 (PCH); Route 91 (at State College, La Palma); Route 90 (at La Palma, Rose Drive); I-405 (at Euclid Street); Route 39 (at Trask Avenue); and I-5 (at Prospect Avenue, Redhill Avenue). **DOT-1**
- Final contract plans should be submitted to Caltrans for review. **DOT-2**
- There were no traffic volume, control plans, detour plans, etc. provided with this report. This information is needed to comment on traffic-related impacts to our facilities. **DOT-3**

Please continue to keep us informed of projects that may potentially impact our State Transportation Facilities. If you have any questions or need assistance please contact Lynne Gear at (949) 724-2241.

Sincerely,

for Robert F. Joseph, Chief
Advance Planning Branch

cc: Tom Loftus, OPR
Ron Helgeson, HDQTRS Planning
Roger Kao, Hydrology
Edwardo, Traffic Operations
Roger Neilson, Environmental Engineering

E DEPARTMENT OF TRANSPORTATION

DOT-1 This comment highlights projects in areas that will require encroachment permits. The comment is noted. Mitigation 7.2-1c states that the District will obtain and comply with encroachment permits. The mitigation measure states that "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..."

DOT-2 This comment requests submittal of final contract plans to Caltrans. For projects requiring encroachment permits from Caltrans, the District will submit traffic control plans and construction design plans to Caltrans for review prior to construction.

DOT-3 The comment indicates that more information is needed to assess traffic impacts. The District acknowledges that traffic control plans will be prepared prior to construction as noted in Mitigation Measures 7.2-1a, b, and d. The plans will include methods to reduce traffic, congestion and delays. For projects affecting Caltrans facilities, traffic control plans and construction design plans will be submitted to Caltrans for review.

California Regional Water Quality Control Board

Santa Ana Region

Winston H. Hickox
Secretary for Environmental Protection

Internet Address: http://www.swrcb.ca.gov
3737 Main Street, Suite 500, Riverside, California 92501-3339
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Gray Davis
Governor

F

August 16, 1999

Donald McIntyre, General Manager
Orange County Sanitation District
10844 Ellis Ave.
Fountain Valley, CA 92708-7108

DRAFT PROGRAM ENVIRONMENTAL IMPACT REPORT FOR THE ORANGE COUNTY SANITATION DISTRICT 1999 STRATEGIC PLAN

Dear Mr. McIntyre:

Regional Water Quality Control Board staff have reviewed the draft environmental impact report (DEIR) and have the following comments.

In general, we are pleased with this document and with OCSD's commitment to environmentally sound management of its wastewater treatment facilities and operations. The DEIR demonstrates a flexible and sensitive approach to wastewater treatment, discharge and reuse, as reflected by the following:

1) A common feature of all the alternative treatment scenarios is compliance with current and future NPDES requirements. The DEIR appropriately recognizes that these requirements may change over time.

2) All of the alternatives address water quality issues in relation to beneficial uses.

3) The alternatives are nonexclusive and no alternative precludes the implementation of another at a later date.

The "Preferred Alternative" treatment scenario seems to be a reasonable balance of all environmental impacts, including impacts to water quality and beneficial uses. Under this alternative, all wastewater would receive advanced primary treatment, with a percentage also receiving secondary treatment prior to ocean discharge. The percentage of secondary treatment would be governed by NPDES permit requirements and by the needs of the Groundwater Replenishment (GWR) System Project, which is also a component of this alternative. It is expected that the amount of secondary wastewater in the ocean discharge would be substantially less than the current 50%, and may be as low as 20%. Selection of this alternative reflects careful consideration and balancing of the full range of potential impacts on the aquatic and terrestrial environment, including biosolids generation and disposal, air quality emissions, energy consumption, and water quality and beneficial uses. It also reflects consideration of potential benefits, including

opportunities to enhance water supplies. The Regional Board has already expressed its support for the GWR System Project.

The remainder of our comments on the DEIR relate to the presentation and clarity of this document, and are detailed below.

1) We have several concerns regarding the discussion of the use of the 78-inch outfall.

1.1) All of the alternatives assume that there will be a need for infrequent use of the 78-inch outfall (in addition to the 120-inch outfall) during winter peak wet-weather events, and that such use will necessitate beach closures since the discharges are not disinfected. The DEIR recognizes that OCSD's current NPDES permit authorizes such discharges; however, it should be emphasized that this authorization pertains to emergency conditions only. The underlying premise is that discharges from the 78 inch outfall would occur infrequently, and only as a last resort after exhausting all other peak flow minimization measures. The current NPDES permit does not require disinfection of these discharges, reflecting consideration of (i) the costs of chlorination (the traditional disinfection method) and dechlorination (which would be necessary to protect aquatic life), (ii) the infrequent expected occurrence of the discharges, and (iii) the transitory nature of impacts to beneficial uses (water contact recreation and shellfish harvesting) resulting from the discharges. In short, a requirement to provide disinfection was not found to be commensurate with the effective and reasonable protection of beneficial uses. We note that the mitigation measure proposed in the DEIR to address pathogen-related impacts of these discharges includes pathogen reduction by microfiltration and other new technologies (p. S-18, Measure 5-9). The DEIR does not include any discussion of these technologies, which may avoid the adverse aquatic life impacts associated with chlorination, nor does the DEIR describe or evaluate these technologies as present or future components of the alternative treatment scenarios. The purpose and status of this mitigation measure is therefore unclear. As already noted, NPDES permit requirements may change over time. This may include modifications to the requirements for discharges from the 78-inch outfall, based on reconsideration of the feasibility and environmental impacts of new disinfection technologies.

RWQCB-1

RWQCB-2

1.2) There are two main concerns related to the emergency use of the 78-inch outfall: pathogens and "other" pollutants including metals. Both Impacts 5-9 and 5-13 address the impact of pathogens to near shore areas in the emergency use of the 78-inch outfall. Impact 5-13 also addresses the issue of "cumulative pollutants"; however, Measure 5-13 only addresses pathogen reduction, and does not include mitigation of other pollutants including metals and solids. The potential impacts of these other pollutants should be described in the DEIR and appropriate mitigation should be identified in Measure 5-13 and discussed in the text. We believe that an appropriate mitigation measure would be

RWQCB-3

the explicit commitment to discharge the best quality water available , i.e., maximize the discharge of secondary effluent. This appears to be OCSD's intent (p. 5.2-2, "78-inch Outfall Discharge"), but this is not explicitly stated in the DEIR as a mitigation measure nor is it discussed in the text. **RWQCB-3 (Cont'd)**

2) Tables S-2 through S-5: In general, there are detailed descriptions of each impact in the text, including data excerpted from annual monitoring reports; however, for many measures, no details are given as to how these measures will be implemented. In most cases in the text, the measure is simply restated at the end of the discussion of the impact. For example, in Table S-2 Measure 5-3 states "...modify treatment to reduce oil and grease in the effluent", but no further details are given in the text as to how treatment may be modified. We assume that for this measure the treatment modification would be to increase the ratio of secondary to primary effluent, but this is not stated in the DEIR. (This matter may also be addressed by including a list of treatment options to address the specific impact.) **RWQCB-4**

3) The section entitled "Preferred Alternative" (p. S-9 et seq.) is confusing in that it includes discussion of other treatment alternatives, especially under the subsection "Treatment Plant Expansion". The same writing style occurs in the section entitled "Environmentally Superior Alternative" (p. S-14); the subsection "Overview" addresses the preferred alternative, but this is followed by the subsection "Treatment Levels", which is not limited to the "environmentally superior alternative". **RWQCB-5**

4) In the title statement "(Bold numbers represent comparable data)" (Table 5-3), it is not clear what the term "comparable data" refers to. If this refers to the SCCWRP 1990 Ref. Site Survey data (included in Table 5-3), there are no reference numbers for As, Be, Hg, Se and Th, so why are there bold numbers under these metals and where is the comparative data? **RWQCB-6**

5) In Figure 5-7, the color brown, that appears on the chart for Scenario 2, is not defined in the legend. **RWQCB-7**

6) On p.4-5, in the section entitled "Habitats", the DEIR states that "...eight vegetation communities exist" while only seven vegetation types are listed. **RWQCB-8**

7) We recognize that the DEIR relies heavily on the results and reports of the ocean monitoring program to describe the present aquatic environment and the potential effects of the alternative treatment scenarios. We recognize also that the data and reports are voluminous and that the DEIR must abbreviate its discussion of necessity. Nevertheless, we must note the concern that there appears to be a lack of specificity/clarity in the DEIR, and overgeneralization in some conclusions drawn about data. There also appear to be inconsistencies in conclusions as to the significance of the impacts listed in the DEIR. We **RWQCB-9**

believe that the DEIR should be reviewed for internal consistency, especially with respect to statements regarding the significance of impacts, and for clarification of unclear statements. Examples of inconsistencies and lack of specificity/clarity follow. RWQCB-9 (Cont'd)

7.1) Inconsistency in conclusions – Impact 5-12 (Table S-2) states that [impact may be] "Potentially significant but can be mitigated", while the statement under the "Level of Significance..." column states that the impact is "Less than significant". In addition, the discussion of impact 5-12 in the text (p. 5.2-107) states that "These impacts are not significant." Please clarify and review the analysis of this and other impacts for the consistency of conclusions. RWQCB-10

7.2) Lack of specificity/clarity and overgeneralizations.

- There is significant use of the words "changes" (without referring to increase or decrease), "some metals" etc. RWQCB-11
- On p.5.2-106, the statement "At this time, it the District may or may not need to clean out the outfall" is noncommittal and unclear. RWQCB-12
- On p. 5.1-23, bottom of 1st paragraph, the DEIR states that "Total polychlorinated biphenyls ...were approximately one order of magnitude higher than values at the reference area..." but goes on to say that "These results indicated that wastewater discharges contributed slightly to elevated polychlorinated biphenyls near the outfall..." . In our opinion, an order of magnitude change is not equivalent to "slightly". If the intended meaning is that the wastewater discharges contributed to elevated polychlorinated biphenyls near the outfall, but the impacts on the benthic community appear to be insignificant, it should be stated as such. RWQCB-13
- P. 5.2-16 4th para. DEIR states that "Effects of pesticides ...would be the same for the three treatment types." It is not clear as to which "three treatment types" this statement refers Please review the DEIR for clarity of these types of statements. RWQCB-14

We appreciate the commitment to environmental stewardship that is evident in the Strategic Plan and the DEIR. If you have any questions, please call me at (909) 782-3284, Joanne Schneider at (909) 782-3287, or Linda M. Candelaria at (909) 782-4991.

Sincerely,

for Gerard J. Thibeault
Executive Officer

cc: Regional Board
Jim Herberg, OCSD

F REGIONAL WATER QUALITY CONTROL BOARD, SANTA ANA REGION

RWQCB-1 The comment emphasizes that the NPDES permit allows the 78-inch diameter outfall to be used under "emergency" conditions only. The comment states that the authorization for use of the 78-inch diameter outfall is predicated on infrequent use as a last result after exhausting all other peak flow minimization procedures. The District acknowledges the comment and concurs with the conclusions. A discussion of this issue is provided on page 3-36 of the Draft PEIR.

The Strategic Plan projects that flows will exceed the capacity of the 120-inch diameter outfall in the future unless hydraulic relief is provided during peak wet weather. This assumption was derived using a hydraulic model. The model incorporates rainfall data over a twenty year period coupled with wastewater flow projections, inflow/infiltration assumptions, and projected relief capacity of the GWR System and other planned equalization projects.

The District has identified in the Strategic Plan several measures it proposes to implement to both reduce peak wet weather flows into the system and to manage those flows. Emergency use of the 78-inch outfall is the measure of last resort. These measures include:

- Flow reduction via water conservation of up to 13 mgd by 2020.
- Inflow and Infiltration (I/I) flow reduction of extraneous water entering the collection system by up to 20 percent by 2020
- Utilize and maximize existing in-plant storage (7 mg)
- Participate in the GWR System Project – Phase 1 (50 mgd average daily flow and 100 mgd of peak wet-weather flow diversion for reuse).
- Add stormwater detention storage at the treatment plants.
- Use the 78-inch outfall for infrequent wet weather discharges, only when the capacity provided by all of the above measures is exceeded.

The results of the modeling indicate that by the year 2020 the rate of occurrence for use of the 78-inch diameter outfall would be statistically once every three years. In a worst case scenario, approximately 85 million gallons would be discharged in a single event lasting less than ten hours.

The assumptions used in the hydraulic modeling are conservative and should not be assumed to represent actual conditions. Statistical models are used for planning purposes with built-in safety margins. In actuality, plant operators should have

more operational flexibility than reflected in the model to minimize the need for use of the 78-inch outfall. For example, although the design capacity of the 120-inch outfall is 480 mgd, it has accommodated a maximum of 550 mgd. The same model for the current, existing conditions for 1999 predicts that the 78-inch diameter outfall would be needed on five occasions in three years, when in fact the outfall has not been used since it was decommissioned in 1971. The modeling actually shows a decrease in the potential frequency of the need for the 78-inch diameter outfall for emergency wet-weather discharge at 2020 compared to current conditions.

For planning purposes, based on worst case scenarios, the District's strategic modeling is useful to ensure public safety. Based on the results of the model, the District has developed discharge procedures to accommodate peak events. These procedures include water conservation programs, inflow and infiltration (I/I) reduction by up to 20%, in-plant storage, in system storage, storm water detention, and implementation of the GWR System. Use of the 78-inch outfall would be a last resort measure to relieve the 120-inch diameter outfall during peak wet weather. No discharges would be specifically planned in advance or occur for any other reason than to provide excess discharge capacity during a large storm.

The District is continuing to research methods of further minimizing the projected need of the 78-inch diameter outfall. For example, the hydraulic model assumed that the GWR System would accept 100 mgd from OCSD during peak wet weather to assist in providing hydraulic relief for the 120-inch diameter outfall. This assumption is based on the anticipated capacity of Phase I of the GWR System. At this time, the District has not committed to pursuing Phase II or III. However, as indicated in Table 3-27 of the Draft PEIR, Phase III of the GWR System could provide up to 174 mgd hydraulic relief. This additional relief would greatly reduce the projected need for the 78-inch outfall. In addition, the District is studying on-site storm water storage basins and in-system storage within the collection system for additional equalization storage capability.

The District updates its long range planning periodically (every five to seven years on average). The 1999 Strategic Plan provides a flexible framework from which to plan future wastewater treatment needs.

RWQCB-2 The comment states that Mitigation Measure 5-9 providing for microfiltration or other new pathogen reduction technologies is vague. Please see response to Letter B, comment FWS-4 that also addresses this same issue and provides further clarification for Measure 5-9a. The District has recently begun research on new filter technologies for pathogen reduction. Preliminary results are promising. The OCSD 1996/97 annual report contains a brief description of microfiltration technologies. This description is contained in Attachment B.

As discussed on page 3-36 of the Draft PEIR, microfiltration has shown high pathogen removal in the range of 4 to 5 logs (<1,000 MPN/100ml). The Mitigation Measure 5-9 includes microfiltration as an example of future possibilities but does not establish a mandatory program. Because a specific project is not identified for pathogen reduction, the Draft PEIR is clear to point out that the mitigation does not reduce the impact to less-than-significant levels. The impact remains significant and unavoidable until new technologies are proven to be effective.

RWQCB-3 The comment states that Impact 5-13 should include pollutants other than pathogens. Impact 5-9 focuses on impacts to public health from pathogens released during emergency use of the 78-inch outfall, and Impact 5-13 addresses cumulative effects.

Impacts from the release of solids during emergency use of the 78-inch outfall are discussed in Impact 5-4 (p. 5.2-34). The release of solids during emergency use of the 78-inch outfall has the potential to impact water color and transmissivity. An increase in suspended solids of 0.20 to 0.44 mg/L above the ambient conditions is expected beyond the ZID (refer to discussion p. 5.2-36). The intended use of the 78-inch outfall would be during winter rainfall events when storm flows exceed the capacity of the 120-inch outfall. The expected decrease in transmissivity and change in water color from these concentrations are not expected to be distinguishable from storm flow influences. Thus, emergency use of the 78-inch outfall would not result in significant impacts to total suspended solids.

Impacts to sediment quality from the release of metals during emergency use of the 78-inch outfall are discussed in Impact 5-6 (p. 5.2-38). Projected effluent quality for metals is listed in Table 5-28. Effluent concentrations would be diluted by a factor of 100 beyond the ZID in the receiving waters. Estimated values for metals in the receiving waters are all less than water quality objectives listed in the California Ocean Plan.

As stated on page 5.2-2, full secondary treated effluent would be discharged to the 78-inch outfall when enough is available. It is the District's intent to discharge the best quality water available. The text will be modified to read, "The best quality water available would be discharged to the 78-inch outfall, i.e., secondary treated effluent would be discharged when enough is available."

RWQCB-4 The comment suggests that many mitigation measures do not provide specific details. The comment gives Mitigation Measure 5-3 as an example. Mitigation Measure 5-3 states that the District will modify treatment if oil and grease are observed during visual surface water monitoring near the outfall diffuser. The measure has been revised to further clarify actions the District would implement.

Please see response to Letter B – Comment FWS-3 for the mitigation revisions and further discussion of this issue.

To maintain oil and grease levels in compliance with its NPDES permit, the District could adjust the effluent blend of advanced primary and secondary effluent and/or could employ new chemical treatment (polymers) to increase removal. If the effluent concentrations of oil and grease are found to gradually increase as the level of secondary treatment is reduced, then the amount of flow receiving secondary treatment can be increased using secondary treatment reserve capacity. An other option would be to add chemicals to enhance oil and grease separation and removal during advanced primary treatment. New polymers are constantly being developed to optimize removals. OCSD has an operations research unit that evaluates treatment methods on an on-going basis and they will be evaluating new methods to assure compliance with permit conditions.

In addition, source control efforts will continue. At present, efforts are underway through the Cooperative Projects program to have various entities within the service area implement local grease trap ordinances for commercial establishments (mainly restaurants) to reduce the amount of oil and grease entering the sewer collection system. Grease traps capture oil and grease on-site for separation and recycling. Local cities and sanitary districts can adopt these ordinances and enforce them resulting in fewer adverse impacts from grease deposits in the sewer collection system and pump stations. Build-up of grease represents a major problem for maintenance personnel. The grease can clog float control devices that regulate pumping and can physically cause blockages of flow.

OCSD will not allow oil and grease levels to increase to concentrations that would cause a violation of numerical permit limits. Ocean monitoring will continue to determine if there are any visible effects on water quality from oil and grease. Any unusual observations will be investigated and a determination made on how to reduce any impact or assure compliance with permit limits.

RWQCB-5 The comment states that the "Preferred Alternative" section on page S-9 and the discussion of the environmentally superior alternative on page S-14 are confusing since they include discussion of other alternatives within the section. Discussion of the other treatment alternatives is provided for comparison to highlight the reasons that Scenario 2 is the preferred alternative and environmentally superior alternative. The Preferred Alternative is Scenario 2. The discussion on page S-9 in the Summary Section compares each of the alternatives rather than just the Preferred Alternative. The same discussion is more clearly presented in Chapter 3 of the document.

RWQCB-6 The comment requests clarification for Table 5-3. The phrase "comparable data" in Table 5-3 refers to the District's data that can be compared to the SCCWRP reference site data listed at the bottom of the table. Data in bold were indicated as comparable because the depths at which the sediments were collected were similar to depths for which there are SCCWRP data (i.e., depths of 30, 60, and 150 m). The comment points out that there are no SCCWRP reference data at any depth for the metals arsenic, beryllium, mercury, selenium, or thallium. Values for these metals, therefore, are not comparable and should not be bold. The table has been modified accordingly. Please see Chapter 4, Text Revisions.

RWQCB-7 The comment requests clarification for Figure 5-7. In Figure 5-7, a brown color appears in the bar chart for Scenario 2 but is not listed in the legend. This is an error -- the area indicated by the brown color should be green, representing Plant #2, Oxygen Activated Sludge.

RWQCB-8 The comment notes that only seven of eight regional habitats are listed on page 4-5. Comment noted. The eighth habitat was inadvertently omitted from the list of habitats listed in the Orange County General Plan Resources Element. The eighth habitat type occurring in the region is as follows:

- Marsh: May be saltwater or freshwater. Supports significant biological diversity. Fresh water marshes are characterized by the presence of tule, cattail, rushes, sedges and pond weeds. Saltwater marshes are characterized by salt grass, pickle weed, and other salt tolerant plants.

This will be added to the revisions section provided in Chapter 4 of this report.

RWQCB-9 The comment states that the Draft PEIR is over-generalized in places and should be reviewed for internal consistency especially with respect to statements regarding the significance of impacts. The Draft PEIR covers the District's entire operations. The Strategic Plan consists of nine distinct volumes of data and analysis. As noted in the comment, the Draft PEIR summarizes information provided under separate cover to the RWQCB in the annual monitoring reports. Inconsistencies identified during the public review period with regard to conclusions or statements of significance are noted in the errata section of this document (See Chapter 4.0, Text Revisions).

RWQCB-10 For impact 5-12, the commentor indicates a discrepancy regarding the impact significance conclusion between the main text and the summary table. There is an error in Table S-2 on page S-19, which identified the impact in the first column as "potentially significant but can be mitigated." The text should read less than significant with mitigation. The conclusion of less than significant is consistent throughout the analysis and conclusions. A consistency check of the other impacts requiring impact significance conclusions has been completed.

RWQCB-11 The commentor states that there is a lack of specificity in the document as indicated by the significant use of the words "changes" (without specifying higher or lower) and "some metals" (without saying which ones). No specific examples were provided. The comment does not request specific information lacking within the document. The comment is noted, but without specific examples, a specific response to explain the discussion or make changes can not be made.

RWQCB-12 The comment presents an example of the lack of specificity on page 5.2-106: "At this time, the District may or may not need to clean out the outfall." At the time of the publication of the Draft PEIR, the District did not know whether the clean out would be necessary. The lack of specificity was based on the information available at the time. The District is continuing to gather information on the substance collecting in the outfall as well as conducting hydraulic studies to determine whether a cleaning is necessary. The Draft PEIR provides the available information in an attempt to provide full disclosure of potential future actions as foreseen by the District. If a cleaning is necessary, the Draft PEIR provides mitigation measures to reduce impacts to the marine environment including consultation with the RWQCB.

RWQCB-13 The comment requests clarification for analysis of polychlorinated biphenyls (PCBs). During 1993, the District conducted a special study to determine spatial patterns in sediment organochlorine concentrations. Total polychlorinated biphenyls were 22.3-88.7 nanograms per gram (ng/g) near the outfall, approximately one order of magnitude greater than at the District's reference area (2.5-6.2 ng/g). Regional reference areas throughout the Southern California Bight reported total polychlorinated biphenyl concentrations of 7.1 to 12.3 ng/g. Results from the 1993 study showed that ratios of total polychlorinated biphenyls/total DDT decreased logarithmically with distance from the outfall. This gradient indicates that the wastewater discharge was responsible for the elevated polychlorinated biphenyl concentrations near the outfall compared to the reference area. A special study conducted in 1994 indicated that depth-averaged concentrations of polychlorinated biphenyls in sediments near the outfall were generally at levels lower than those in deeper waters away from the outfall and in Newport Bay but greater than those in sediments collected at shallower depths. While patterns are detectable, overall values are low, and impacts to the benthic community appear to be insignificant.

RWQCB-14 The commentor requests clarification. The three treatment types or levels referred to on page 5.2-16 are 1) current NPDES conditions; 2) full secondary; and 3) 50:50 blend. Each of these three treatment levels is considered with and without implementation of the GWR System Project for groundwater replenishment, which results in the six treatment scenarios considered.

3.3 REGIONAL/LOCAL

METROLINK
SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY

G

July 16, 1999

File: G0000297

Mr. James D. Herberg
Engineering Supervisor
Orange County Sanitation District
P. O. Box 8127
Fountain Valley, CA 92728-8127

Dear Mr. Herberg:

ORANGE COUNTY SANITATION DISTRICT 1999 STRATEGIC PLAN
DRAFT ENVIRONMENTAL IMPACT REPORT

We are in receipt of your letter dated June 29, 1999 and a copy of the Environmental Impact Report (EIR) for the above-noted project in the County of Orange.

The construction and modification at the wastewater treatment facility does not affect Metrolink services or the railroad right-of-way. The proposed collection system improvements will affect the railroad right-of-ways at the following locations:

Location	Drawing No.	Interceptor Name
Orange-Olive Rd. at Riverdale Ave.	A3	Lower SARI Inceptor
State College N/O Katella Ave.	A6	Newhope-Placentia Trunk Imps
Redhill Ave. at Edinger Ave.	A11	Gisler-Redhill System Imps.

The pipelines will cross two railroads known as Orange and Olive Subdivisions. As information, the Orange County Transportation Authority (OCTA) owns the railroad right-of-ways. The Southern California Regional Rail Authority (SCRRA), a five County Joint Powers Authority, provides engineering services to its five member agencies of which OCTA is one of the member agencies.

SCRRA has a special procedures and standards for any encroachment activity on the railroad right-of-ways. Attached please find documents that will help you in obtaining our approval of your future construction projects.

SCRRA-1

You may want to add a paragraph or two in the EIR, possibly section 7.0, that will mention the ownership of the rail lines and also the SCRRA approval procedures.

SCRRA-2

700 S. Flower Street 26th Floor Los Angeles CA 90017 Tel [213] 452.0200 Fax [213] 452.0425

If you have any questions, please call me at (213) 452-0256.

Sincerely,

Naresh V. Patel

NARESH PATEL, P. E.
Public Projects Engineer

NP:np [A:G292]
Attachments

cc: Bill Mock (OCTA)
Mike McGinley
Ron Mathieu
SCRRA Central Files

G METROLINK

SCRRA-1 Southern California Regional Rail Authority (SCRRA) indicates that collection system improvements would affect railroad right-of-ways in certain locations. Per SCRRA's request, text has been added to Section 7.2 regarding project impacts to railroad rights-of-way. The following has been added to page 7.2-11 under the following heading:

Lower Santa Ana River Interceptor Improvements

This project is located along the Santa Ana River and is not anticipated to impact area roadways. However, this project would affect the railroad right-of-ways owned by OCTA[1], on Orange-Olive Road, at Riverdale Avenue.

The following has been added to the end of the first paragraph on page 7.2-12:

This project would affect the railroad right-of-ways owned by OCTA, on State College, north of Katella Avenue.

The following has been added to page 7.2-15, at the end of the 2nd paragraph under the following heading:

Gisler-Redhill System Improvements – B

Construction along this segment of roadway could impact OCTA Bus Routes 71 and 463. In addition, Projects 13 and 22 would impact OCTA railroad rights-of-way on Redhill Avenue at Edinger Avenue.

As a result of these changes, Mitigation 7.2-1k has been added as follows:

Mitigation Measure 7.2-1k: 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, which. The procedures for temporary encroachment calls for 1) the submittal of a written statement on the reason and location of the

[1] The Southern California Regional Rail Authority (SCRRA), a five County Joint Powers Authority, provides engineering services to its five member agencies, of which OCTA is one of the member agencies.

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".

SOUTHERN CALIFORNIA

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August 5, 1999

Mr. Jerry Herberg
County Sanitation Districts of Orange County
10844 Ellis Avenue
P. O. Box 8127
Fountain Valley, CA 92227

RE: **Comments on the Draft Environmental Impact Report for the County Sanitation Districts of Orange County Strategic Plan. - SCAG No. I9900330**

Dear Mr. Herberg:

Thank you for submitting the above referenced Project to SCAG for review and comment. As area wide clearinghouse for regionally significant projects, SCAG assists cities, counties and other agencies in reviewing projects and plans for consistency with regional plans.

The attached detailed comments are meant to provide guidance for considering the proposed project within the context of our regional goals and policies. If you have any questions regarding the attached comments, please contact me at (213) 236-1917.

Sincerely,

J. DAVID STEIN
Manager, Performance Assessment and Implementation

COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE COUNTY SANITATION DISTRICTS OF ORANGE COUNTY STRATEGIC PLAN. - SCAG NO. I9900330

PROJECT DESCRIPTION

The Strategic Plan will serve as a tool to assist the District in planning infrastructure needs for anticipated growth and development into the year 2020, and full build out in the year 2030. The plan recommends replacement and expansion of wastewater infrastructure facilities throughout the service area.

INTRODUCTION TO SCAG REVIEW PROCESS

The document that provides the primary reference for SCAG's project review activity is the *Regional Comprehensive Plan and Guide* (RCPG). The RCPG chapters fall into three categories: core, ancillary, and bridge. The *Growth Management* (adopted June 1994), *Regional Transportation (adopted April 1998), Air Quality (adopted October 1995), Hazardous Waste Management* (adopted November 1994), and *Water Quality* (adopted January 1995) chapters constitute the core chapters. These core chapters respond directly to federal and state planning requirements. The core chapters constitute the base on which local governments ensure consistency of their plans with applicable regional plans under CEQA. The Air Quality and Growth Management chapters contain both core and ancillary policies, which are differentiated in the comment portion of this letter. The Regional Transportation Element (RTE) constitutes the region's Transportation Plan (also referred to as Community Link 21). The RTE policies are incorporated into the RCPG.

Ancillary chapters are those on the Economy, Housing, Human Resources and Services, Finance, Open Space and Conservation, Water Resources, Energy, and Integrated Solid Waste Management. These chapters address important issues facing the region and may reflect other regional plans. Ancillary chapters, however, do not contain actions or policies required of local government. Hence, they are entirely advisory and establish no new mandates or policies for the region.

Bridge chapters include the Strategy and Implementation chapters, functioning as links between the Core and Ancillary chapters of the RCPG.

Each of the applicable policies related to the proposed project is identified by number and reproduced below in italics followed by SCAG staff comments regarding the consistency of the Project with those policies.

General SCAG Staff Comments

In terms of CEQA:

1. Guidelines Section 15125, Environmental Setting, Subsection [c] requires discussion of the regional setting. Further, commentary included in the **Discussion** following the cited Section states:...*"A number of agencies have been required to spend large amounts of public funds to develop regional plans as a way of dealing with large-scale environmental problems involving air and water pollution, solid waste and transportation. Where individual projects would run counter to the efforts identified as desirable or approved by agencies in the regional plans, the Lead Agency should address the inconsistency between the project plans and the regional plans."...*

2. In addition, Section 15125 [d] states that: *"The EIR shall discuss any inconsistencies between the proposed project and applicable general plans and regional plans. Such regional plans include, but are not limited to, the applicable air quality attainment or maintenance plan or State Implementation Plan, area-wide waste treatment and water quality control plans, regional transportation plans, regional housing allocation plans, habitat conservation plans, natural community conservation plans and regional land use plans for the protection of the Coastal Zone, Lake Tahoe Basin, San Francisco Bay, and Santa Monica Mountains"*. Discussions in the EIR are lacking on the consistency of the project with applicable regional plans, specifically the *Regional Transportation Plan and the Regional Comprehensive Plan and Guide* (which incorporates references to policies in the other regional plans). The final document should address the relationships (consistency with core policies and support of ancillary policies) to SCAG's *Regional Comprehensive Plan and Guide* and *Regional Transportation Plan.* SCAG-1

3. Is the project consistent with the applicable Urban Water Management Plan, pursuant to § 21151.9 of CEQA? SCAG-2

Consistency With Regional Comprehensive Plan and Guide Policies

The Growth Management Chapter (GMC) of the Regional Comprehensive Plan and Guide contains a number of policies that are particularly applicable to the Project.

a *Core Growth Management Policies*

3.01 The population, housing, and jobs forecasts, which are adopted by SCAG's Regional Council and that reflect local plans and policies, shall be used by SCAG in all phases

of implementation and review.

SCAG staff comments. As SCAG has designated subregions, the project is situated in the Orange Council of Governments (OCOG) subregion. The Draft EIR, page 11-3, provides a brief discussion of the 2020 population for the Service Area and the City of Irvine. The Irvine 2020 forecast in the document is 437,852. The forecasts used are not consistent with the most recently adopted SCAG forecasts. SCAG population forecast for the City of Irvine for the Year 2020 is 157,000. By subtracting the Service Area without Irvine, from the Service Area with Irvine, the projected Irvine population is 437,852. SCAG's most recently adopted growth forecasts for the project area are reflected in the RTP97 Final Baseline (April 1998). SCAG Population, Household and Employment forecasts for the OCOG Subregion and the City of Irvine follow:

SCAG OCOG Subregion Forecasts	**2000**	**2005**	**2010**	**2015**	**2020**
Population	**2,859,100**	**3,005,700**	**3,105,500**	**3,165,400**	**3,244,800**
Households	**910,100**	**952,400**	**1,013,100**	**1,064,100**	**1,102,300**
Employment	**1,381,700**	**1,550,700**	**1,717,400**	**1,882,600**	**2,116,600**
City of Irvine	**2000**	**2005**	**2010**	**2015**	**2020**
Population	**135,700**	**143,900**	**149,300**	**152,600**	**157,000**
Households	**44,900**	**47,300**	**50,700**	**53,500**	**55,700**
Employment	**157,000**	**171,000**	**184,900**	**198,700**	**218,100**

SCAG-3

The Final EIR should provide comparison with SCAG projections and discuss any inconsistencies. We are unable to determine consistency with this core policy.

SCAG-4

3.03 The timing, financing, and location of public facilities, utility systems, and transportation systems shall be used by SCAG to implement the region's growth policies.

SCAG staff comments. The document, on pages 3-25 through 3-30, discusses phasing of the improvements and alternatives. The proposed projects appear to be generally consistent with this core policy.

SCAG-5

GMC POLICIES RELATED TO THE RCPG GOAL TO IMPROVE THE REGIONAL STANDARD OF LIVING

The Growth Management goals to develop urban forms that enable individuals to spend less income on housing cost, that minimize public and private development costs, and that enable firms to be more competitive, strengthen the regional strategic goal to stimulate the regional economy. The evaluation of the proposed project in relation to the following policies would be intended to guide efforts toward achievement of such goals and does not infer regional interference with local land use powers.

3.09 Support local jurisdictions' efforts to minimize the cost of infrastructure and public service delivery, and efforts to seek new sources of funding for development and the provision of services.

SCAG staff comments. The Draft EIR identifies on-site infrastructure facilities to serve the Project. These improvements reflect necessary modifications of existing facilities. Infrastructure is designed to minimize cost to the maximum extent. The Project is supportive of this ancillary RCPG policy. **SCAG-6**

2. The Air Quality Chapter (AQC) core action that is generally applicable to the Project follows:

5.11 Through the environmental document review process, ensure that plans at all levels of government (regional, air basin, county, subregional and local) consider air quality, land use, transportation and economic relationships to ensure consistency and minimize conflicts.

SCAG staff comments. The Draft EIR, page 11-9, adequately addresses air quality considerations. Land use and economic issues associated with the strategic plan are also addressed in the Draft Program EIR. The project is consistent with this core RCPG policy. **SCAG-7**

c. *The Water Quality Chapter (WQC) core recommendations and policy options relate to the two water quality goals: to restore and maintain the chemical, physical and biological integrity of the nation's water; and, to achieve and maintain water quality objectives that are necessary to protect all beneficial uses of all waters. The core recommendations and policy options that are particularly applicable to Project include the following:*

11.02 Encourage "watershed management" programs and strategies, recognizing the primary role of local government in such efforts.

SCAG staff comments. Watershed is discussed on pages 4-18 and 4-19. All identified potential impacts have been reduced to less than significant. The project is consistent with this policy. SCAG-8

11.07 Encourage water reclamation throughout the region where it is cost-effective, feasible, and appropriate to reduce reliance on imported water and wastewater discharges. Current administrative impediments to increased use of wastewater should be addressed.

SCAG staff comments. The Draft EIR, pages 2-20 and 2-21 contains discussion regarding water reclamation and conservation. The Project is consistent with this core RCPG policy. SCAG-9

Conclusions and Recommendations:

_1__As noted in the staff comments, the proposed Project is consistent with or supports the core and ancillary policies in the *Regional Comprehensive Plan and Guide* and *Regional Transportation Plan*. SCAG-10

(2) All mitigation measures associated with the project should be monitored in accordance with AB 3180 requirements. SCAG-11

ENDNOTE

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

Roles and Authorities

SCAG is a ***Joint Powers Agency*** established under California Government Code Section 6502 et seq. Under federal and state law,
SCAG is designated as a Council of Governments (COG), a Regional Transportation Planning Agency (RTPA), and a Metropolitan
Planning Organization (MPO). SCAG's mandated roles and responsibilities include the following::

- Designated by the federal government as the Region's ***Metropolitan Planning Organization*** and mandated to maintain a continuing, cooperative, and comprehensive transportation planning process resulting in a Regional Transportation Plan and a Regional Transportation Improvement Program pursuant to 23 U.S.C. §134(g)-(h), 49 U.S.C. §1607(f)-(g) et seq., 23 C.F.R. §450, and 49 C.F.R. §613. The Association is also the designated *Regional Transportation Planning Agency*, and as such is responsible for both preparation of the Regional Transportation Plan (RTP) and Regional Transportation Improvement Program (RTIP) under California Government Code Section 65080.

- Responsible for developing the demographic projections and the integrated land use, housing, employment, and transportation programs, measures, and strategies portions of the ***South Coast Air Quality Management Plan***, pursuant to California Health and Safety Code Section 40460(b)-(c). The Association is also designated under 42 U.S.C. §7504(a) as a ***Co-Lead Agency*** for air quality planning for the Central Coast and Southeast Desert Air Basin District.

- Responsible under the Federal Clean Air Act for determining ***Conformity*** of Projects, Plans and Programs to the State Implementation Plan, pursuant to 42 U.S.C. §7506.

- Responsible, pursuant to California Government Code Section 65089.2, for *reviewing all **Congestion Management Plans (CMPs) for consistency with regional transportation plans*** required by Section 65080 of the Government Code. The Association must also evaluate the consistency and compatibility of such programs within the region.

- The authorized regional agency for ***Inter-Governmental Review*** of Programs proposed for federal financial assistance and direct development activities, pursuant to Presidential Executive Order 12,372 (replacing A-95 Review).

- Responsible for reviewing, pursuant to Sections 15125(b) and 15206 of the CEQA Guidelines, ***Environmental Impact Reports*** of projects of regional significance for consistency with regional plans.

- The authorized ***Area wide Waste Treatment Management Planning Agency***, pursuant to 33 U.S.C. §1288(a)(2) (Section 208 of the Federal Water Pollution Control Act)

- Responsible for preparation of the ***Regional Housing Needs Assessment***, pursuant to California Government Code Section 65584(a).

H SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

SCAG-1 The comment requests that the document include discussion on the Strategic Plan's consistency with core and ancillary policies of regional management plans, specifically SCAG's Regional Comprehensive Plan and Guide (RCPG) and Regional Transportation Plan (RTP). The comment letter then provides commentary on the Draft PEIR's consistency with core and ancillary policies of the RCPG and RTP. The comment letter expresses SCAG's finding of consistency of the District's Strategic Plan with the policies reviewed. See responses to comments SCAG-2 through SCAG-11.

The findings are supported by analysis in the Draft PEIR. Based on the revised water consumption rate of 125 gallons per capita per day (gpcd), the Draft PEIR establishes that the projected future treatment and discharge capacity requirements have diminished. As a result, fewer facilities are necessary, resulting in less construction and fewer construction-related impacts. The preferred treatment alternative (Scenario 2) will require fewer biosolid haul trips and chemical haul trips resulting in less air emissions and traffic congestion. The water reclamation project (GWR) will greatly enhance the region's groundwater recharge operations, reducing the projected need for imported water.

SCAG-2 The comment asks if the Draft PEIR is consistent with the Urban Water Management Plan per CEQA Section 21151.9. The referenced section in CEQA reads as follows:

Whenever a city or county determines that an environmental impact report is required in connection with a project, as defined in Section 10913, and described in Section 10910, of the Water Code, it shall comply with Part 2.10 (commencing with Section 10910) of Division 6 of the Water Code.

Section 10910 of the California Water Code includes the following excerpt:

10910. (a) Any city or county that determines that an environmental impact report is required in connection with a project, as defined in Section 10913, shall comply with this part if, as part of the approval of the project, either of the following is required:

The adoption of a specific plan, if the city or county has not previously complied with this part for the project in question.

An amendment to, or revision of, the land use element of a general plan, or a specific plan, that will result in a net increase in the stated population density or building intensity to provide for additional development.

The cited regulation generally applies to development projects for which new water service is being supplied. The District's Strategic Plan does not require the

adoption of a new Specific Plan or amendment to an existing Specific Plan. Section 7-8 of the Draft PEIR lists water service providers in the Service Area.

The Regional Comprehensive Plan and Guide (RCPG) does not include a wastewater management plan. The Water Resources and Water Quality elements of the RCPG emphasize water conservation and reclamation. As noted on page 11-11 of the Draft PEIR, water conservation and reclamation projects mitigate impacts of regional growth on water resources. The RCPG recommends that wastewater treatment facility planning be consistent with population projections. In addition the RCPG recommends that wastewater treatment districts build facilities in cost-effective increments of capacity, well enough in advance to reliably meet demands, and provide adequate standby capacity for public safety and environmental protection. Mitigation Measures 11-1a and 11-1b provide for appropriate phasing and periodic review to establish consistency with the RCPG.

SCAG-3 The comment provides demographic data for Orange County and for the City of Irvine and highlights discrepancies with the data provided in the Draft PEIR. As described on page 11-3, the demographic data in the Draft PEIR was supplied by the Center for Demographic Research (CDR) using population data from the OCP-96-modified report. The CDR under contract with the District further tailored these projections to fit the District's Revenue Areas within the Service Area. Table 11-1 of the Draft PEIR provides these figures. The table lists the Cities of Irvine and Irvine Lake separately. In actuality, these projections apply to the Revenue Areas 14 (Irvine) and 55 (Irvine Lake). The Revenue Areas do not correlate with city boundaries. The comment provides population data for the City of Irvine at 2020 to be 157,000. The Draft PEIR assigns a population of 370,716 to Revenue Area 14 at 2020. This figure includes the unincorporated areas of Orange County north of Irvine.

SCAG-4 The comment states that SCAG is unable to determine consistency with core growth management policies. The demographic numbers used in the Draft PEIR are different from SCAG forecasts since the data was tailored to fit the District's Service Area. SCAG population projections are grouped by city and county whereas the demographic numbers in the Draft PEIR are grouped by Revenue Area. The numbers are based on those used by SCAG for Orange County as published in the OCP-96-modified report. The more recent figures published in the RTP97 Final Baseline Report were not yet completed at the time the District was analyzing flow projections. However, the 1996 population figures used in the District's analysis appear to be similar to the more recently prepared County-wide figures and do not alter the analysis results significantly.

SCAG-5 The comment states that the Draft PEIR appears to be consistent with the core RCPG policy of adequate timing, phasing, financing, and location of public facilities. Comment noted.

SCAG-6 The comment states that the Draft PEIR is supportive of the ancillary RCPG policy that local jurisdictions minimize the cost of infrastructure. Comment noted.

SCAG-7 The comment states that the Draft PEIR is consistent with the RCPG core policy regarding air quality, land use, and economic relationships. Comment noted.

SCAG-8 The comment states that the Draft PEIR is consistent with the RCPG policy regarding watershed management. Comment noted.

SCAG-9 The comment states that the Draft PEIR is consistent with the core RCPG policy regarding water reclamation and conservation. Comment noted.

SCAG-10 The comment states that the Draft PEIR is consistent with or supports the core and ancillary policies in the RCPG and Regional Transportation Plan. Comment noted.

SCAG-11 The comment states that all mitigation measures will be monitored in accordance with AB 3180. A Mitigation Monitoring and Reporting Plan (MMRP) will be prepared and adopted along with the findings of the Final PEIR by the OCSD Board of Directors.

I

MWD
METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Office of the General Manager

August 13, 1999

Mr. James D. Herberg
Engineering Supervisor
Orange County Sanitation District
10844 Ellis Avenue
Fountain Valley, CA 92708

Dear Mr. Herberg:

Draft Program Environmental Impact Report for the
Orange County Sanitation District 1999 Strategic Plan

The Metropolitan Water District of Southern California (Metropolitan) has received the Draft Program Environmental Impact Report (PEIR) for the Orange County Sanitation District (OCSD) 1999 Strategic Plan. The Strategic Plan Draft PEIR evaluates projects for new sewers, wastewater treatment and ocean disposal facilities. The Strategic Plan also includes participation in the Groundwater Replenishment (GWR) System, a joint project of the Orange County Water District and OCSD to implement large-scale water reclamation. This letter contains our response as a potentially affected public agency.

Metropolitan supports and encourages projects within its service area to include water conservation measures. While Metropolitan continues to build new supplies and develop means for more efficient use of current resources, projected population and economic growth will increase demands on the current system. Water conservation, reclaimed water use, and groundwater recharge programs are integral components to regional water supply planning. Metropolitan supports mitigation measures such as using water efficient fixtures, drought-tolerant landscaping, and reclaimed water to offset any increase in water use associated with the proposed project. **MWD-1**

General Comments

As indicated in our previous response (dated November 26, 1997) to the Notice of Preparation, Metropolitan has several facilities in the area of the proposed project. Metropolitan's Lower Feeder, Second Lower Feeder, and the Santa Ana Cross Feeder traverse the project site generally in an east-west direction. In addition, our Orange County Feeder, West Orange County Feeder, **MWD-2**

700 N. Alameda Street, Los Angeles, California 90012 • Mailing address: Box 54153, Los Angeles, California 90054-0153 • Telephone (213) 217-6000

East Orange County Feeder, East Orange County Feeder No. 2, Orange County Feeder Extension, Yorba Linda Feeder, Santiago Lateral, and the Allen McColloch Pipelines traverse the project area generally in a north-south direction. It will be necessary for the OCSD to consider these facilities in its project planning. In addition, we request that any plans for any activity in the area of Metropolitan's pipelines and rights-of-way be submitted for our review and written approval. **MWD-2 (Cont'd)**

Specific Comments

Page 4-18 (Surface Water), fourth paragraph, first sentence.
It is noted that the Santa Ana River and Santiago Creek supply a small percentage of the water used in northern Orange County. While this may be true as far as use as a surface water supply, we recommend that this paragraph be modified to acknowledge the fact that both the Santa Ana River and Santiago Creek are major sources of groundwater replenishment to the Orange County Groundwater Basin. **MWD-3**

Page 4-18 (Groundwater), second paragraph, fourth sentence.
The statement that "By the late 1800's, the only water percolating into the groundwater supply was precipitation and runoff from winter storms" is confusing. While these are the main sources of recharge to any groundwater basin (except for imported water recharge, which was not occurring back then.) it is important that other sources of percolation be clarified. **MWD-4**

Page 4-19 (Groundwater), fourth paragraph, first sentence
The statement that "In spite of water management programs, a significant cumulative loss of freshwater storage occurred due to saline water intrusion along the coast..." is misleading. This may be interpreted to imply that the saline water intrusion caused the loss of the freshwater storage, when actually it was the over-pumping of the groundwater in this region that caused the problem. Overpumping of the groundwater lowered the groundwater table and led to the saline water intrusion – which now certainly can be viewed as a loss in freshwater storage. We recommend that this sentence be reworded. **MWD-5**

Page 4-20 (Imported Water and Future Reclamation), first, second and third paragraphs
Although the existing text is not incorrect, Metropolitan recommends that these paragraphs be revised to provide a more comprehensive discussion of regional water supplies. **MWD-6**

"Orange County has historically met its growing regional water demands that exceeded the natural surface water and groundwater supplies through imported water deliveries and wastewater reclamation. These growing water demands include increasing residential, commercial, and industrial needs, as well as irrigation demands, groundwater replenishment programs, and seawater intrusion barrier injection systems. Currently, more than 50% of the water demands are

met through imported water deliveries. The Orange County region is within the service area of the Metropolitan Water District of Southern California (Metropolitan), the major imported water wholesaler for southern California. Metropolitan consists of 27 cities and water districts (Member Agencies) that provide drinking water to more than 16 million people in parts of Los Angeles, Orange, San Diego, Riverside, San Bernardino, and Ventura Counties. Metropolitan was incorporated by the California State Legislature in 1928 to build the Colorado River Aqueduct, a facility it still owns and operates. In addition, Metropolitan imports water from northern California through the State Water Project (SWP), a facility owned and operated by the California State Department of Water Resources (DWR.).

Five of these Member Agencies serve Orange County: the City of Anaheim, the City of Santa Ana, the City of Fullerton, the Municipal Water District of Orange County (MWDOC), and the Coastal Municipal Water District. In 1949, OCWD began purchasing Colorado River water for groundwater recharge to maintain an adequate amount of groundwater to meet increasing demands and to prevent further seawater intrusion of the groundwater basin (OCWD, 1983). **MWD-6 (Cont'd)**

By the 1950s, it became clear that the Coastal Plain of Southern California and other parts of the State would need additional sources of imported water in order to meet growing water demands. At that time, Metropolitan's Colorado River Aqueduct was the only source of imported water supply to Orange County area. In 1960, the voters of California approved bond measures for the construction of the SWP. The SWP is a series of reservoirs, aqueducts, power plants and pumping plants for water storage and delivery. The SWP transports water from the Sacramento/San Joaquin Delta to 29 urban and agricultural water suppliers in northern California, the San Francisco Bay Area, the San Joaquin Valley, and southern California. The SWP was designed and constructed by DWR, with initial delivery of northern California water to southern California in 1973."

Page 4-20 (Imported Water and Future Reclamation), fourth paragraph, last sentence
Please substitute the word "supplies" with "demand" such that the sentence reads "...population increase is projected to result in a need for more than 150,000 acre-feet per year (AFY) in additional new water demands." **MDW-7**

Page 4-20 (Imported Water and Future Reclamation), fifth paragraph, first sentence
Through Metropolitan's Integrated Resource Planning, water supplies sufficient to meet the regional project demands are projected to be available through the year 2020, therefore, no deficiency in regional water supply is anticipated. We recommend that the first sentence be revised as follows: "The GAP and the GWR system would help offset the need for imported water supplies to meet these additional demands in water supply within the County...." **MWD-8**
Metropolitan also believes that such a regional approach to groundwater recharge has been occurring ever since OCWD began its groundwater spreading operations along the Santa Ana River many years ago. Perhaps the intent of the sentence is enabling the addressing of the regional scale of groundwater replenishment with reclaimed water, since this project would be the

first attempt to bring wastewater reclamation and recharge inland in the Orange County groundwater basin. MWD-8 (Cont'd)

Table 7.8-1 (Public Service & Utility Providers in the Project Area)
In regards to the "Water" category, this table may be a little confusing with reference to Metropolitan, i.e. "MWD", as noted in the table. It may be the intent of the table to show the direct source of water for each of these communities. Although some of these water agencies may receive water from a direct connection to a Metropolitan pipeline, Metropolitan is a wholesaler of water to its Member Agencies and Sub-Agencies. Metropolitan's Member Agencies in the study area are: the Municipal Water District of Orange County, Coastal Municipal Water District, City of Anaheim, City of Santa Ana and City of Fullerton. The three cities do retail the water to their consumers, while the two water districts sell the water to Sub-Agencies who retail the water to the consumer. We did not attempt to verify that Metropolitan does directly supply the communities listed. However, it should be noted that all the communities presented in the table are within the service area of Metropolitan and they may have Metropolitan facilities (i.e., pipelines, pressure/flow control structures, valve structures, etc.) within the boundaries of their communities, even though they do not take Metropolitan water directly. In fact, many do take Metropolitan water indirectly through groundwater pumping in the Orange County Basin – pumping of Metropolitan untreated water from the Basin as a result of the recharge programs of MWDOC and OCWD. We recommend that if Metropolitan is noted in this table, that it be noted as a wholesale water agency for the region, and that it is not the direct supplier of water to the consumer. MWD-9

Page 7.8-5 (Mitigation Measure 7.8-3d)
From a water agency standpoint, we recommend that the following agencies be added to those listed for coordination to ensure compatibility and joint use feasibility with existing and future projects: Metropolitan Water District of Southern California, Municipal Water District of Orange County, Coastal Municipal Water District, and Orange County Water District, as well as the Cities of Santa Ana, Anaheim, and Fullerton. Additionally, it may be advantageous to also include the many Sub-Agency retailers too who could be impacted. MWD-10

Page 11-13 (Table 11-4, Agencies Having Authority To Implement Major Mitigation Measures For Growth-Related Impacts)
Please remove Metropolitan from this list. We are a wholesale water agency for the region and only provide water that local jurisdictions require. Metropolitan, therefore, has no authority to implement major mitigation for growth-related impacts as suggested in this section. MWD-11

We appreciate the opportunity to provide input to your planning process and we look forward to receiving future environmental documentation on this project. If we can be of further assistance, please contact me at (213) 217-6242.

Very truly yours,

Laura J. Simonek

Laura J. Simonek
Principal Environmental Specialist

DTF

I METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

MWD-1 The comment expresses support and encouragement of projects that include water conservation measures. The District is committed to water conservation. As discussed on Draft PEIR page 3-3, one of the objectives of the project is "to maximize the use of treated effluent for water recycling." Scenario 2, the Preferred Project, proposes NPDES compliance with the Groundwater Replenishment (GWR) System Project (see discussion on pages 3-7 through 3-10 of the Draft PEIR). The GWR System project is a joint water recycling project between and Orange County Water District (OCWD) and OCSD. This project "would be the largest water reclamation project in the United States. It would allow for the diversion of 100 mgd of secondary effluent flow that would otherwise be discharged to the District's outfall" (page 3-67).

MWD-2 The comment states that Metropolitan has facilities within the District's Service Area and requests that these facilities be considered during the District's project planning. In addition, Metropolitan requests that the District submit plans for activity in the area of Metropolitan's pipelines and rights-of-way. Draft PEIR Section 7.8 evaluates potential utilities conflicts resulting from improvements to the collection system. Measure 7.8-3a (page 7.8-4) stipulates that a detailed study identifying utilities along the pipeline routes be conducted and utility excavation or encroachment permits be obtained from the appropriate agencies, including Metropolitan, prior to construction.

MWD-3 The comment suggests revision to the Environmental Setting sections. Comment noted. The following paragraph on Draft PEIR page 4-18 has been revised as follows:

The Santa Ana River and Santiago Creek supply a small percentage of the surface water used in the northern Orange County, but are major sources of groundwater replenishment to the Orange County Groundwater Basin. They are also important contributors to the coastal plain's water supply and valuable providers of important wildlife habitat.

MWD-4 The comment suggests clarification on sources of percolation in the Environmental Setting sections. Comment noted. Text on Draft PEIR page 4-18 (6th paragraph, line 5) has been revised as follows:

By the late 1800s, the primary source of water percolating into the groundwater supply was precipitation and runoff from winter storms.

MWD-5 The comment suggests text changes to the Environmental Setting sections. Comment noted. Text on Draft PEIR page 4-19 (first paragraph) has been revised as follows:

In spite of water management programs, a significant cumulative loss of freshwater storage occurred due to overpumping of the groundwater. Overpumping led to saline intrusion along the coast and further depleted the freshwater storage until an artificial recharge barrier involving recharge of reclaimed wastewater to prevent saline intrusion was implemented in the early 1970s.

MWD-6 The comment suggests text changes to the Environmental Setting sections. Comment noted. Text on Draft PEIR page 4-20 (first, second, and third paragraphs) has been replaced with the following:

Orange County has historically met its growing regional water demands that exceeded the natural surface water and groundwater supplies through imported water deliveries and wastewater reclamation. These growing water demands include increasing residential, commercial, and industrial needs, as well as irrigation demands, groundwater replenishment programs, and seawater intrusion barrier injection systems. Currently, more than 50% of the water demands are met through imported water deliveries. The Orange County region is within the service area of the Metropolitan Water District of Southern California (Metropolitan), the major imported water wholesaler for southern California. Metropolitan consists of 27 cities and water districts (Member Agencies) that provide drinking water to more than 16 million people in parts of Los Angeles, Orange, San Diego, Riverside, San Bernardino, and Ventura Counties. Metropolitan was incorporated by the California State Legislature in 1928 to build the Colorado River Aqueduct, a facility it still owns and operates. In addition, Metropolitan imports water from northern California through the State Water Project (SWP), a facility owned and operated by the California State Department of Water Resources (DWR).

Five of these Member Agencies serve Orange County: the City of Anaheim, the City of Santa Ana, the City of Fullerton, the Municipal Water District of Orange County (MWDOC), and the Coastal Municipal Water District. In 1949, OCWD began purchasing Colorado River water for groundwater recharge to maintain an adequate amount of groundwater to meet increasing demands and to prevent further seawater intrusion of the groundwater basin (OCWD, 1983).

By the 1950s, it became clear that the Coastal Plain of Southern California and other parts of the State would need additional sources of imported water in order to meet growing water demands. At that time, Metropolitan's Colorado River Aqueduct was the only source of imported water supply to Orange County area. In 1960, the voters of California approved bond measures for the construction of the SWP. The SWP is a series of reservoirs, aqueducts, power plants and pumping plants for water storage and delivery. The SWP transports water from the Sacramento/San Joaquin Delta to 29 urban and agricultural water suppliers in northern California, the San Francisco Bay Area, the San Joaquin Valley, and southern California. The SWP was designed and constructed by DWR, with initial delivery of northern California water to southern California in 1973.

MWD-7 The comment suggests text changes to the Environmental Setting sections. Comment noted. Text on Draft PEIR page 4-20 (end of fourth paragraph) has been revised as follows:

Even with extensive water conservation efforts, the sheer size of Orange County's population increase is projected to result in a need for more than 150,000 acre-feet per year (AFY) in additional new water demand.

MWD-8 The comment suggests text changes to the Environmental Setting sections. Comment noted. The first sentence of the fifth paragraph on Draft PEIR page 4-20 has been replaced as follows:

The GAP and the GWR System would help offset the need for imported water supplies to meet these additional demands in water supply within the County.

MWD-9 The comment provides clarification on MWD's role as a water wholesaler rather than a direct supplier of water. The following note has been included in Table 7.8-1:

Note: All the communities shown on this table are within Metropolitan Water District's service area. MWD is a wholesale water agency for the region and is not a direct supplier of water to the consumer.

MWD-10 Metropolitan recommends revising Mitigation Measure 7.8-3d (Draft PEIR page 7.8-5) to include other agencies. Mitigation 7.8-3d has been revised as follows:

Mitigation 7.8-3d: 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.

MWD-11 Metropolitan requests revision of Table 11-4 (Draft PEIR page 11-13). The District acknowledges MWD's role as a water wholesaler but also recognizes MWD's role as an agency with regional responsibilities and authorities. The broad list of regional authorities summarized in the table will not be modified.

J

Costa Mesa Sanitary District

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Mailing Address
P. O. Box 1200
Costa Mesa, CA
92628-1200

Street Address
77 Fair Drive
Costa Mesa, CA
92626-6520

August 13, 1999

Mr. James Herberg
OCSD
P. O. Box 8127
Fountain Valley, CA 92728-8127

RE: OCSD 1999 STRATEGIC PLAN

Dear Jim:

The Costa Mesa Sanitary District has reviewed the Draft Program EIR and Technical Appendix for the Sanitation District's 1999 Strategic Plan.

The Board of Directors of the Sanitary District is aware of the important issues facing OCSD as it looks towards the year 2020. As outlined in the EIR, OCSD must plan for wastewater collection, treatment, disposal, ocean discharge permit conditions, water recycling, and the needs of the individual communities as the population in Orange County continually increases.

The Board of the Sanitary District voted its full support of the Strategic Plan and is confident that OCSD will meet this challenge just as it has continually maintained a high level of service for the residents of Orange County.

CMSD-1

Sincerely,

Art Perry

Art Perry
President

cc Board
Staff

J COSTA MESA SANITARY DISTRICT

CMSD-1 The comment expresses the Costa Mesa Sanitary District's support of the project. Comment noted.

K

IRVINE RANCH WATER DISTRICT 15600 Sand Canyon Ave. • P.O. Box 57000 • Irvine, CA 92619-7000 • (714) 453-5300

August 16, 1999

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

Subject: Draft Program Environmental Impact Report for Orange County Sanitation District 1999 Strategic Plan

Dear Mr. Herberg:

Thank you for the opportunity to review and provide comments on the subject document (DEIR), as well as the underlying Strategic Plan. As you would expect, as an OCSD member agency, IRWD takes a keen interest in both the DEIR and Strategic Plan and respectfully submits the comments herewith.

First, we would like to compliment OCSD staff and your consultants on the completion of this very significant effort. A great deal of personal pride is evident across the wide breadth of these documents.

In terms of the content of the documents, as an OCSD member agency, long-time user and proponent of the use of recycled (reclaimed) water, and groundwater pumper, IRWD strongly supports OCSD's preferred alternative – providing sufficient secondary treatment to meet the needs of the GWR System Project and to comply with NPDES permit requirements for ocean discharge. This project will not only provide a cost-effective way to manage peak wastewater flows, but will also enhance groundwater management capabilities and reduce reliance on the use of imported water for groundwater recharge. Similar to the GWR System Project, we believe there are projects within the IRWD area (Revenue Area 14) which could provide peak flow reduction benefits to OCSD. Although not necessarily in the Strategic Plan or EIR, we have a strong interest in initiating discussions with you on the benefits and potential participation by OCSD in these projects. IRWD-1 IRWD-2

Regarding collection system improvements, we have an interest in recommended improvements for the Gisler-Red Hill System, particularly in Section B which is adjacent to the (now closed) MCAS Tustin base. Pursuant to our letter to Chuck Winsor of your IRWD-3

office dated July 13, 1999, and as has historically been the case, we believe future sewage flows for areas in the northwestern portion of the base should permanently sewer to OCSD's Red Hill trunk, rather than to the new (onsite and offsite) sewer to be located in Armstrong Avenue. We believe this provides the most logical service given the existing connections to Red Hill and the fact that buildings in this area are planned to be reused; significant redevelopment is not presently envisioned in this area. Under these conditions redirecting sewage from Red Hill to Armstrong would appear to be costly and unnecessary, particularly since the strategic plan calls for replacement of the existing Red Hill sewer. The preferred size for this replacement should be reviewed with the an additional 0.48 MGD (peak) flow from this area of the base.

IRWD-3 (Cont'd)

Figure 3-21 from the Summary Report of the Strategic Plan shows Revenue Area 14 (IRWD) is responsible for "miscellaneous projects" in the Santa Ana River Trunk Sewer System. This does not appear to be correct since, to our knowledge, none of IRWD's flows are tributary to this system. In addition, Table 7.8-1 indicates utility providers in project areas of impact. IRWD provides service to all of Irvine and portions of Orange, Tustin, Santa Ana, Newport Beach and unincorporated areas of Orange County within district boundaries. We recommend OCSD review the table for accuracy in the event the proposed projects affect IRWD facilities in these areas. It should also be noted, work that impacts IRWD facilities will be required to adhere to IRWD Procedural Guidelines.

IRWD-4

Thank you for the opportunity to comment on the DEIR. Should you have any questions or require additional information, please contact Dick Diamond, Senior Planner, at (949) 453-5594.

Yours truly,

Gregory P. Heiertz, P.E.
Director of Engineering and Planning

GPH/RAD/GKH

K IRVINE RANCH WATER DISTRICT

IRWD-1 The comment expresses support of the project and document. Comment noted.

IRWD-2 The comment suggests that additional projects may be feasible to provide peak flow reduction benefits to the District. The comment does not specify the nature of the projects, but rather expresses a "strong interest" in initiating discussions. The comment is noted. As discussed in the response to comment RWQCB-1, the District is very interested in researching ways of avoiding the use of the 78-inch diameter outfall through peak wet weather relief.

IRWD-3 The comment suggests that sewer lines in the northwest portion of the former Marine Corps Air Station Tustin should be routed to the Gisler-Redhill Trunk System rather than the proposed Armstrong Sewer. The District acknowledges the comment. The District can accommodate future sewage flows (0.48 mgd peak) for areas in the northwestern portion of the base to the District's Gisler-Redhill Trunk, rather than to the new sewer to be located in Armstrong Avenue. This plan is compatible with IRWD's 1999 Marine Corps Air Facility Tustin Redevelopment SAMP for planning areas identified as S-1, CP, LV-1, T/EH, and the northern half of area LV-2. It has never been the intent of the District to redirect flow from Redhill Trunk to the proposed Armstrong Sewer for these planning areas.

IRWD-4 The comment questions the information in Appendix C of the Draft PEIR regarding Revenue Area 14. The comment also notes that IRWD is not mentioned in Table 7.8-1. The District acknowledges that the Miscellaneous Projects within the Santa Ana Trunk Sewer were identified in error under Revenue Area 14. This will be changed in the Draft PEIR as well as in the Strategic Plan. IRWD was not included in Table 7.8-1 since the table does not include wastewater service providers.

L

CITY OF FOUNTAIN VALLEY

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

July 21, 1999

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

RE: Construction Projects within District's Service Area

Dear Ms. Anderson:

In response to your letter dated April 2, 1999, I would first of all like to apologize for the oversight in responding back to you in a timely fashion. It is the City's desire to cooperate with the Sanitation District in your construction plans and hopefully avoid conflicts with City projects.

The City of Fountain Valley does in fact have a major street rehabilitation project occurring on Euclid Street during the same time your project is scheduled in our City. Listed below are the scheduled dates of our street improvement project:

Euclid	Talbert to Slater	1999 - 2000
Euclid	Slater to Warner	2000 - 2001
Euclid	Warner to Heil	2001 - 2002
Euclid	Heil to Edinger	2001 - 2002

FV-1

We are very interested in working with the Sanitation District and coordinating our projects so that minimal disruption to the community and maximum benefit can be realized by both the City and Sanitation District in the actual construction of these improvements.

Please feel free to telephone me at (714) 593-4434 regarding these projects and potential conflicts so that we may discuss alternatives for dealing with them.

Sincerely,

William R. Ault
Director of Public Works

WRA/gr

cc: Jeff Sinn, City Engineer

L CITY OF FOUNTAIN VALLEY

FV-1 The comment presents projects on Euclid Street that would occur during construction of the District's collection systems projects. The City of Fountain Valley expresses interest in coordinating projects with the District to reduce disruption to the community. The District acknowledges that scheduling conflicts exist within the year 2000 to 2002 timeframe for projects within Fountain Valley. The Euclid Relief Improvements – A in the Strategic Plan is scheduled for completion in the year 2004. The District Engineering Department will coordinate this project with the City so that the pipeline is placed prior to final paving. See response to comment TUST-2.

City of Seal Beach

CITY HALL • 211 EIGHTH STREET
SEAL BEACH, CALIFORNIA 90740-6379
(562) 431-2527

July 29, 1999

Orange County Sanitation District
Attn: James Herberg
10844 Ellis Avenue
Fountain Valley, CA 92708

SUBJECT: **City of Seal Beach Comments re: "*Draft Program Environmental Impact Report for the Orange County Sanitation District Strategic Plan*"**

Dear Mr. Herberg:

The City of Seal Beach has reviewed the above referenced Draft Program Environmental Impact Report (DPEIR) and has several comments relative to the document. The proposed project document evaluates the areas of potential environmental impacts of the proposed adoption of the 1999 Strategic Plan. The Strategic Plan identifies proposed projects needed to accommodate projected population increases within Orange County through the year 2020.

OCSD has identified Scenario 2 as the environmentally superior alternative. This scenario is generally described as follows:

> **Scenario 2: NPDES Permit Compliance with GWR System Project.** Provide the level of treatment necessary to meet the NPDES permit conditions and the California Ocean Plan. All wastewater would receive advanced primary treatment with a percentage also receiving secondary treatment prior to ocean discharge. In coordination with OCWD, 50-60 mgd daily flow and up to 100 mgd peak wet weather flow of secondary effluent would be diverted from OCSD to the GWR System. The amount of secondary treatment in the ocean discharge would be governed by the needs of the GWR System and by the NPDES permit limits.

The City of Seal Beach concurs with the determination of OCSD that Scenario 2 is the environmentally superior alternative and urges the District to approve this scenario as the environmentally superior alternative in its certification process of the Final Program EIR. **SB-1**

and adopt this scenario as the approved project upon completion of the environmental review process.

Although the City supports the proposed plan, it is requested that a discussion regarding the future consideration of the treatment of drainage waters during the dry season be added to the DEIR. The future countywide compliance of NPDES requirements will ultimately require us to investigate the treatment of drainage waters. This future potential need further supports the strategic plan to utilize a regional Groundwater Replenishment System and provide the best possible coastal water quality. **SB-2**

Given the countywide scope of the proposed project, Seal Beach has focused its review to those issues of a local concern. The OCSD is proposing pipeline improvements to the "West Side Relief Interceptor" (Project 23) between 2006 and 2010. In reviewing this proposal and the identified environmental impacts of this project, along with the appropriate "Mitigation Measure" as set forth in Table S-4, please find below the comments of the City of Seal Beach on several issues identified within the Draft Program EIR and the proposed Mitigation Measures.

- Traffic – Impact 7.2-1 – Impact on traffic circulation during construction period

  The City concurs with the determination regarding evaluation within the EIR regarding construction or project operational impacts upon traffic circulation. The City appreciates the cooperative position of OCSD in working with local jurisdictions in the formulation and approval of the required traffic control plans. **SB-3**

- Air Quality – Impact 7.5-1– Dust suppression

  The City concurs with the determination regarding evaluation within the EIR regarding dust suppression programs. It is suggested, given the time frame over which this mitigation measure might apply, that language be added indicating the intent of this mitigation measure is to comply with Rule 403 of the South Coast Air Quality Management District, as that rule is in effect at the time of any specific project initiation. **SB-4**

- Cultural Resources – Impact 7.10-2 - Archaeological Resources

  The City of Seal Beach has an adopted "Archaeological and Historical Element" of the General Plan (provided as Attachment 1 to this letter), and requests compliance with the goals and standards set forth within that document for cultural resource impacts within the City. In relation to the "West Side Relief Interceptor Improvements (Project 23), the City does not concur with proposed Mitigation Measure 7.10-2a. The City requests a full-time archaeological and Native American monitor(s) during all excavation stages of this project within the City of Seal Beach. The City has recently received a copy of "Archaeological Survey and Testing at Bixby Old Ranch Towne Center Seal Beach, Orange County, California" prepared by KEA Environmental and "Revised Draft Historic **SB-5**

Properties Evaluation Plan for Sites 30-00150, 30-001503, and 30-001504, Naval Weapons Support Station, Seal Beach, California", prepared by Mooney & Associates of San Diego (Documents provided as Attachments 2 and 3). Given the information within these documents, and additional information regarding the Bixby Old Ranch Towne Center area which has been provided based on excavation activities related to site preparation for a golf course on the Bixby Ranch properties, the requested full-time archaeological and Native American monitor(s) should be required, at a minimum. The potential for unknown cultural resource sites to exist at buried locations within this portion of Seal Beach appear to be very high, given the information in the above referenced reports. **SB-5 (Cont'd)**

In addition, the Initial Study indicates the proposed pipeline would pass through a recorded archaeological site on the Bolsa Chica Mesa (CA-ORA-83). The EIR should evaluate the impacts to this recorded archaeological site, which has been determined to be eligible for inclusion in the National Register of Historic Places, and especially evaluate alternative alignments within this impact area to avoid CA-ORA-83 entirely.

The Environmental Quality Control Board (EQCB) considered and discussed the Draft EIR document on July 28, 1999. The EQCB authorized the Chairman to sign this letter indicating the official comments of the City of Seal Beach.

Upon the preparation of the Draft EIR for this project, please send two (2) copies to Mr. Lee Whittenberg, Director of Development Services, City Hall, 211 Eighth Street, Seal Beach, 90740. Thank you for your consideration of the comments of the City of Seal Beach. If you have questions concerning this matter, please do not hesitate to contact Mr. Whittenberg at (562) 431-2527, extension 313. He will be most happy to provide any additional information or to provide clarification of the matters discussed in this comment letter **SB-6**

Sincerely,

William G. Hurley

William Hurley
Vice-Chairperson, Environmental Quality Control Board
City of Seal Beach

Attachments: (3)

Attachment 1: "*Archaeological and Historical Element*", City of Seal Beach General Plan, August 1992

Attachment 2: "*Archaeological Survey and Testing at Bixby Old Ranch Towne Center Seal Beach, Orange County, California*" prepared by KEA Environmental, Inc., dated June 1999

Attachment 3: "*Revised Draft Historic Properties Evaluation Plan for Sites 30-00150, 30-001503, and 30-001504, Naval Weapons Support Station, Seal Beach, California*", prepared by Mooney & Associates of San Diego, dated June 1, 1999

Distribution:

Seal Beach City Council
City Manager
Seal Beach Planning Commission
Director of Development Services

M CITY OF SEAL BEACH

SB-1 The comment urges the District to approve the environmentally superior alternative (Scenario 2). Comment acknowledged.

SB-2 The comment requests future consideration of the treatment of drainage waters during the dry season. This comment is assumed to be referring to storm drain flows. At this time, the District has no definite plan to treat dry weather storm drain flows. However, the District remains open to suggestions and proposals. See Response to Comment FWS-13.

SB-3 The comment supports the cooperative position of the District in working with local jurisdictions in the formulation and approval of the required traffic control plans. Comment acknowledged.

SB-4 The comment suggests incorporating language that specifies compliance with Rule 403 of the South Coast Air Quality Management District. The last sentence on Draft PEIR page 7.5-8 (above heading "EIR-Identified Mitigation") is revised as follows:

> The mitigation measures identified below is intended to comply with Rule 403 of the South Coast Air Quality Management District, and would reduce emissions associated with construction activities to a less-than-significant level.

SB-5 The comment presents data on an archaeological site in Seal Beach. The City requests that the District comply with the goals and standards set forth within the General Plan regarding archaeological and historic resources and suggests changing the language of Measure 7.10-2a. Only one project (Project 23 – West Side Relief Interceptor) passes through Seal Beach. Map A9 (Draft PEIR Map Appendix A) shows the detailed location of Project 23. As noted in Table 7.10-2 (Draft PEIR page 7.10-18), the likelihood of occurrence of cultural resources within Project 23 is considered "high". The "Revised Draft Historic Properties Evaluation Plan for Sites 30-00150, 30-001503, and 30-001504, Naval Weapons Support Station, Seal Beach, California" confirms the high probability of cultural resources in this general area. The District is committed to abiding by the regulations of the "Archaeological and Historical Element" of the City of Seal Beach General Plan and recommends that a preconstruction, cultural resources site survey be conducted by an archaeological consultant prior to excavation for projects with high probability to impact known cultural resources. Table 7.10-1 lists the projects of high probability requiring a pre-construction cultural resources survey. The West Side Relief Interceptor is included in Table 7.10-1.

SB-6 The City requests two copies of the Draft EIR (presumably the Final PEIR) upon completion. The District will ensure that copies of the Final PEIR are sent to the City of Seal Beach.

CITY OF ANAHEIM, CALIFORNIA

Planning Department

August 2, 1999

Orange County Sanitation District
10844 Ellis Avenue
Fountain Valley, CA 92708
Attention: James D. Herberg

Re: Draft Environmental Impact Report for the 1999 Strategic Plan - Orange County Sanitation District (OCSD)

Dear Mr. Herberg:

Thank you for the opportunity to review and comment on the above referenced document (see attachment). City of Anaheim staff would offer the following comments:

1. **Solid Waste Management** - The first sentence of the first paragraph at the top of page 7.2.8 states, "*Removed pavement and excavated soil will be hauled off for disposal*". It is requested that this sentence be changed to read, "Removed pavement and excavated soil will be hauled off to be recycled with the minimum amount of disposal [as] practicable". Any other statements in the EIR that fail to recommend recycling and reuse over disposal should also be changed. The project's EIR should recognize that the proposed OCSD Program could result in significant impacts to County and City AB939 Disposal Reduction Programs. Staff also recommends that the following mitigation measures be incorporated into the subject document to reduce disposal impacts of roadway materials:

   - All practicable efforts should be utilized to divert from landfills any asphalt, concrete and haul soil that are generated from the proposed project; and,
   - Recycle the maximum amount practicable of other recyclable materials such as wood and metals generated during the implementation of the proposed project.

   Should you have any questions regarding these comments, please contact Mr. Rod Hallock, Street Maintenance Superintendent of the Public Works Department, Streets and Sanitation Division at (714)765-6882.

ANA-1
ANA-2
ANA-3
ANA-4

2. **Traffic/Circulation Impacts** - Pages 7.2-8 and 9, and page 7.2-11 propose sewer line expansion projects that are located within the City of Anaheim public rights-of-ways. The EIR mitigation measures should be modified to indicate that prior to OCSD construction within these locations, the OCSD will coordinate their efforts with the City of Anaheim Public Works Department, obtain proper permits, and pay required fees for work within City rights-of-ways.

ANA-5

Please note that any installation of sewer lines within the City of Anaheim should be designed to have minimal disruption to traffic circulation to the surrounding Anaheim businesses and residents. Please also note that special working conditions may be required around State College Boulevard and Katella Avenue to minimize any disruptions to activities from Edison Field of Anaheim, Tinseltown, and Sportstown businesses. Should you have any questions regarding these traffic-related comments, please contact John Lower, the Anaheim Traffic and Transportation Manager, at (714)765-5183. Additionally, if you have any concerns regarding sewer line impacts, please contact Mark Komoto, Principal Civil Engineer at the Public Works Department at (714)765-5259. **ANA-6** **ANA-7**

3. <u>Restoration</u> - Mitigation measure 7.9-1 indicates that lands disturbed by the proposed project are to be restored back to their "pre-condition" state by the contractor. Staff recommends this verbiage be revised to indicate that when properties are disturbed, they should be replaced to a condition approved by the local jurisdiction. Of particular concern are street trees and median landscaping on public streets. Additionally, the document's wording regarding mitigation measures for this issue tends to be permissive by using "should" instead of "shall". It is recommended that this wording be changed to "shall". Should you have any questions regarding these comments, please contact Mr. Dick Mayer, Park Planner at the Community Services Department at (714)765-4463. **ANA-8** **ANA-9**

4. <u>Public Utilities</u> - The City of Anaheim has underground conversion projects along State College Boulevard, Orangethorpe Avenue and La Palma Avenue which will be affected by the proposed "OCSD 1999 Strategic Plan". The EIR should acknowledge these undergrounding projects and provide mitigation measures that coordinate the Plan's proposed sewer lines with Anaheim's Utility Undergrounding Program. This mitigation should also incorporate measures that ensure emergency access through the construction site to the surrounding impacted residents and merchants. Should you have any questions regarding these comments, please contact Mr. Mahendra Garg, Principal Electrical Engineer at (714)765-5280, Extension 4243. **ANA-10**

Again, we would like to thank you for the opportunity to comment on this Draft EIR. 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

cc: John Lower, PW-Traffic Engineering
Russ Maguire, PW-Design
Rod Hallock, PW-Streets & Sanitation
Jafar Taghavi, Util.-Electrical Engr.
Alfred Yalda, PW-Traffic Engineering
Mark Komoto, PW-Design
Dick Mayer, Community Services
Mahendra Garg, Util.-Electrical Engr.

jwright/evnrevie/ocounty/sewer1.doc

N CITY OF ANAHEIM

ANA-1 The comment recommends recycling and reuse of excavation materials over disposal and suggests text changes in Chapter 7 of the Draft PEIR. The District concurs that excavated materials should be recycled where possible. Text on Draft PEIR page 7.2-8 has been revised as follows:

Removed pavement and excavated soil will be hauled off to be recycled with the minimum amount of disposal when practical and cost effective. .

ANA-2 The comment states that all other references regarding disposal should be revised to include recycling. The mitigation measure added in response to comment ANA-4 is adequate to respond to the comment. See response to comment ANA-4.

ANA-3 The comment refers to compliance with County and City AB939 Disposal Reduction Programs. The District acknowledges the potential for recycling as encouraged through AB939. The mitigation measure added in response to comment ANA-4 is adequate to respond to the comment. See response to comment ANA-4.

ANA-4 The comment suggests incorporation of additional mitigation measures to reduce disposal impacts. The following mitigation measure is added to Impact 7.11-1 (Draft PEIR page 7.11-4):

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

ANA-5 The comment suggests that mitigation measures should state that cities will review plans and issue permits prior to construction. Mitigation Measures 7.2-1b through 7.2-1d state that cities will review plans prior to construction.

ANA-6 The comment states that installation of sewer lines within the City of Anaheim should be designed to have minimal disruption to traffic circulation to the surrounding Anaheim businesses and residents. The Draft PEIR evaluates the impacts on adjacent land uses (see Section 7.1). Measures 7.1-1b and 7.1-1d would provide advance notice to affected property owners (including businesses) and maintain access to land uses. Measure 7.1-1e addresses businesses specifically through the provision of temporary signage to indicate that businesses are open. Mitigation Measures 7.2-1a through 7.2-1j adequately mitigate impacts to traffic circulation. Local jurisdictions will have the opportunity to review the traffic control plans and approve encroachment permits prior to construction activities.

ANA-7 The comment states that special working conditions may be required for specific streets. Section 7.2 evaluates impact to traffic circulation resulting from

construction activities, which is considered short-term. Implementation of Mitigation Measures 7.2-1a through 7.2-1j would reduce traffic impacts to a less-than-significant level. Local jurisdictions will have the opportunity to review the traffic control plans and approve encroachment permits prior to construction activities.

Impact 7.11-1 (Draft PEIR page 7.11-4) acknowledges cumulative impacts resulting from construction activities of collection system projects in conjunction with local jurisdiction projects. Mitigation Measure 7.11-1a states that the District will continue to work cooperatively with affected jurisdictions regarding construction activities. The strategic planning process has provided local jurisdictions with comprehensive lists of construction projects and schedules. On-going communications between the District and local jurisdictions will facilitate coordination. Special working conditions would be negotiated during the permit process.

ANA-8 The comment addresses the language of Mitigation Measure 7.9-1a, regarding restoration of disturbed areas along the pipeline alignment. The mitigation measure has been revised as follows:

Mitigation Measure 7.9-1a: The District shall ensure that its contractors restore disturbed areas along the pipeline alignment to a condition mutually agreed to by each agency prior to construction such that short-term construction disturbance does not result in long-term visual impacts.

ANA-9 The comment suggests substituting the word "should" with "shall" in all mitigation measures. The District concurs with the City and has replaced the word "should" with "shall" in mitigation measures.

ANA-10 The comment addresses impacts of the project on the City of Anaheim's underground conversion projects. The Draft PEIR acknowledges the presence of underground utilities in Section 7.8. Impact 7.8-3 (Draft PEIR page 7.8-4) indicates that "impacts to utilities is considered significant if construction resulted in direct or possibly lengthy disruption of essential utility services." Measure 7.8-3a would identify utilities during the design stages of the project. In addition, local jurisdictions will have the opportunity to review the traffic control plans and approve encroachment permits prior to construction activities.

Community Development Department

City of Tustin

300 Centennial Way
Tustin, CA 92780
(714) 573-3100

August 12, 1999

Orange County Sanitation District
10844 Ellis Avenue
Fountain Valley, CA 92708
Attn: James Herberg

Re: Draft Program Environmental Impact Report (PEIR) for Orange County Sanitation District 1999 Strategic Plan

The City of Tustin has reviewed the Draft PEIR for the 1999 Strategic Plan and offers the following comments:

1. The list of projects and the associated locations of construction in this Draft PEIR is significantly different from the list faxed to the City of Tustin in April 1999. The City's comments, dated April 19, 1999, on this faxed list are included in the Technical Appendix to the Draft PEIR. These comments are now inadequate considering that the current list included in the Draft PEIR has expanded these areas of construction. **TUST-1**

2. The current list of projects in the Draft PEIR have very general dates of completion, which makes it difficult to determine whether City of Tustin Capital Improvement Projects will be impacted and the extent of this impact. Many of the City's projects will be significantly affected, however, specific comments cannot be provided unless more accurate timeframes, including start and end dates are given. **TUST-2**

3. *SECTION 1.2 PURPOSE OF THE PEIR*: This section states that the PEIR is intended to serve as the "project level analysis" for projects slated for completion up to the year 2005. The mitigation specified in the Draft PEIR however is not project specific and is therefore inadequate. Generic language provided in the Draft PEIR is not sufficient to address all issues related to each project and the unique set of circumstances relating to it. The mitigation measures for any project that is to be constructed within the City of Tustin must address each specific project. **TUST-3**

4. *SECTION 3.9.4 PIPELINE CONSTRUCTION METHODS*. The PEIR should indicate what type of construction method will be used for pipeline replacement and rehabilitation in the City of Tustin. The appropriate location to include this information is under Collection System Setting, Impacts and Mitigation Improvement discussion. **TUST-4**

5. It is our understanding that the City of Tustin will be provided the opportunity to review the mitigation measures for each individual project. This language should be included in the appropriate sections in the PEIR. **TUST-5**

6. *CHAPTER 7.0.* All mitigation measure language should be changed from *should* (permissive) to *shall* (mandatory). **TUST-6**

7. *Mitigation 7.1-1b.* This measure should include a specific time (prior to construction) when adjacent owners will be notified. The notification should also include adjacent businesses. **TUST-7**

8. *Mitigation 7.2-1e*: This section states that construction technique (i.e. cut and cover, tunneling, jacking) will include consideration of the ability of the roadway system. However, there are many locations in the City of Tustin where local businesses will be significantly impacted by the construction. This disruption should also be taken into consideration when these construction options are explored. **TUST-8**

9. *SECTION 7.2.2 IMPACTS AND MITIGATION MEASURES, Orange Trunk Improvements* and *TABLE 7.2.1*: The first sentence of this section states that the project is in the County of Orange, however, it is also in the City of Tustin. The City of Tustin is also listed in the portion of the table referencing this project. This should be revised and the report should be generally reviewed to insure that jurisdictions impacted are accurately referenced and to insure that no other omission exists. **TUST-9**

10. *TABLE 7.2-1, GISLER-RED HILL/NORTH TRUNK IMPROVEMENTS*: The two projects listed under this heading do not include completion dates. These dates should be included. **TUST-10**

11. *SECTION 7.2.2 IMPACTS AND MITIGATION MEASURES* and *Mitigation 7.2-1g*: The first paragraph of section 7.2.2 states "affected roadways and trails will be restored to fully operable conditions and there will be no long-term effects to these circulation routes." This statement should be revised to include a statement that the streets and trails shall be repaired or replaced in a manner and to a level satisfactory to the individual jurisdictions responsible for their maintenance and repair. **TUST-11**

12. *Mitigation 7.2-1g*: This section states "Public roadways will be restored to their existing conditions after project construction is completed." This statement should be revised to conform with the comment #8, above. **TUST-12**

13. *Figure 3-13*: This figure shows the Armstrong Subtrunk Sewer (7-27) stopping well short of Barranca Parkway, which is the northern limit of this project. This figure should be revised to accurately reflect the location of this project as well as the others referenced. **TUST-13**

14. Appendix D, Section 2) Orange County – Public Works & Utility Coordinating Committee Project List: This section contains lists from many cities in Orange County, which describe the date and type of project anticipated to be constructed. However, this section does not include a complete list from the City of Tustin. Therefore, this list should not be referenced as a source of information with regard to capital improvement projects in the City of Tustin. **TUST-14**

15. The preceeding comments may be applicable to additional sections of the Draft PEIR not referenced above. However, changes to this document must be comprehensive and must be made at every applicable location regardless of whether or not the section is cited in these comments. **TUST-15**

The City of Tustin appreciates the opportunity to review the document and provide comments. If you have any questions, please contact either Dana Kasdan, Engineering Services Manager at (714) 573-3171 or me at (714) 573-3109.

Sincerely,

Rita T. Westfield

Rita T. Westfield
Assistant Community Development Director

cc: Elizabeth Binsack
Tim Serlet
Dana Kasdan
Keith Linker

O CITY OF TUSTIN

TUST-1 The comment states that the list of projects has changed since the City of Tustin was originally notified in April. The City's response to the original notification is included in Appendix D of the Draft PEIR. The District acknowledges that the list was modified during the preparation of the Draft PEIR. The project list may change again in the future as flow deficiency calculations for specific alignments are refined. Please see response to the comment TUST-2.

TUST-2 The comment states that more precise start and finish dates are necessary to provide input and coordination. Table 3-19 summarizes the proposed collection system projects including anticipated completion dates. Specific start dates are not yet available. However, prior to construction, local jurisdictions will have the opportunity to review project design plans and traffic control plans for each construction project proposed by the District. In addition, prior to beginning work, the City must approve the encroachment permit applications for each construction project. These measures to coordinate and comply with local jurisdictions are substantiated in Mitigation Measures 7.2-1a through 7.2-1j. Local jurisdictions will have ample opportunity to review and comment on project designs and traffic control measures prior to approving construction projects. Project start dates are contingent on encroachment permit application approvals.

Impact 7.11-1 (Draft PEIR page 7.11-4) acknowledges cumulative impacts resulting from construction activities of collection system projects in conjunction with local jurisdiction projects. Mitigation Measure 7.11-1a states that the District will continue to work cooperatively with affected jurisdictions regarding construction activities. These mitigation measures establish appropriate procedures and performance standards to mitigate impacts to less than significant levels. Specific details will be developed during the design process and local permitting process. The District realizes that it must work with each community on each project to arrange the appropriate, mutually agreeable, site-specific construction conditions and details. The mitigation measures within the Draft PEIR commit the District to that process to minimize impact in accordance with local requirements.

The strategic planning process has provided local jurisdictions with comprehensive lists of construction projects and schedules. On-going communications between the District and local jurisdictions will facilitate coordination. Please also see response to comment TUST-3.

TUST-3 The comment finds the Draft PEIR analysis to be not adequate enough for project-level analysis. The District disagrees with this comment. The presentation of information for the project-level analysis is consistent with CEQA Guidelines Section 15161, which states that a project-level analysis focuses "primarily on the

changes in the environment that would result from the development project. The EIR shall examine all phases of the project including planning, construction, and operation." The Draft PEIR analyzes construction and operational impacts. Most of the construction impacts would occur within city street rights-of-way using open trench or jack-and-bore techniques as described on page 3-25. Construction widths are described on page 3-58. Pipeline dimensions are listed in Table 3-19. Table 3-23 provides speed of construction estimates, excavated soil volumes, and truck trips for each size of pipeline.

As substantiated in Mitigation Measures 7.2-1a through 7.2-1d, the District will be required to prepare traffic control plans for each project. These plans will be sent to local jurisdictions for review and comment. Impacts to particular residences, businesses, and intersections will be addressed in the traffic control plans. Prior to construction, the District will apply for encroachment permits from local jurisdictions. Prior to permit approval, local jurisdictions will again have the opportunity to review traffic control plans and project designs.

TUST-4 The comment suggests that the Draft PEIR should specify the construction method used for pipeline replacement and rehabilitation in the City of Tustin. The Draft PEIR on page 3-58 provides a discussion on the construction methods for pipeline replacements. "The construction process involves digging a trench in the street to expose the pipes, providing appropriate diversions to modify wastewater flow patterns around the affected area, and removing and replacing the sewer pipeline (page 3-43)…The District has developed detailed construction specifications, health and safety procedures, and traffic control measures for maintenance work including open trench excavation on trunk sewers." Pages 3-58 and 3-59 discuss in detail two types of construction: open trench and jacking-and-boring. Unless a the pipeline project traverses a major intersection, open trench construction would be used.

Pipeline rehabilitation construction methods are described in the Draft PEIR on page 3-62. Rehabilitation projects will require lane closures to provide access to manholes. Underground work during rehabilitation projects will be performed through manhole areas. No trenching or substantial soil removal will occur during rehabilitation projects. Table 3-20 provides a list of rehabilitation projects.

TUST-5 The comment requests a review of mitigation measures by the City of Tustin for each project within the City. The District will work closely with affected jurisdictions, including the City of Tustin, to plan for construction projects. Draft PEIR page 7.11-4 states that the District would work cooperatively with local agencies to minimize cumulative construction effects where possible. No additional CEQA documentation will be prepared for the projects slated to be constructed prior to 2005. The City of Tustin will have the opportunity to

comment on project design plans and traffic control plans and will issue encroachment permits. For individual projects planned beyond 2005, the City of Tustin will be able to review subsequent CEQA documentation and provide comments on mitigation measures. See response to comment TUST-3.

TUST-6 The comment suggests substituting the word "should" with "shall" in all mitigation measures. The District concurs with the City and has replaced the word "should" with "shall" throughout the mitigation measures in the Draft PEIR.

TUST-7 The comment requests modification to Mitigation Measure 7.1-1b. The Measure has been revised to indicate a specific time prior to public notification.

Mitigation Measure 7.1-1b: 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.

TUST-8 The comment suggests consideration of businesses in determining the type of construction techniques to be applied. The Draft PEIR evaluates construction impacts to adjacent land uses in Impact 7.1-1 (page 7.1-2). The Draft PEIR acknowledges community disruption impacts, including the generation of noise, dust, construction, traffic, and the disruption of streets and access to adjacent land uses. Measures 7.1-1b and Measures 7.1-1d would reduce disruption to adjacent land uses. Measure 7.1-1e specifically addresses to businesses and ensures that the District provides temporary signage that businesses are open during the construction period. Traffic control plans may also contain specific measures to reduce impacts to specific businesses.

TUST-9 The comment requests that Table 7.2-1 be revised to accurately reflect project locations. Page 7.2-16 (under the subheading "Orange Trunk Improvements") has been revised to include the City of Tustin, as follows:

This project is located along Hewes Street, Vanderlip Avenue and Holt Avenue within the County of Orange and the City of Tustin.

The comment suggests review of the document for other inconsistent information. The District has continued to review and update the Draft PEIR based on comments received. Please see Chapter 4, Text Revisions, of this document for revisions to the text, graphics, or tables.

TUST-10 The comment requests completion dates for the Gisler-Redhill/North Trunk Improvements Projects. Table 3-19 (Draft PEIR page 3-51) specifies the

completion date of 2002. Table 7.2-1 (page 7.2-5) has been revised to include the completion date for the Gisler-Redhill/North Trunk Improvements Project.

TUST-11 The comment requests modifications to the language regarding restoration of affected roadways and trails. The text on page 7.2-2 and Mitigation Measure 7.2-1g have been revised. Page 7.2-1 (under Impact 7.2-1 statement) has been revised as follows:

Impacts to circulation routes will be short-term, related to the construction activities involved in installing the proposed relief facilities. Upon completion of each project, the affected roadways and trails will be restored to conditions agreed to between the District and local jurisdictions prior to construction.

Mitigation Measure 7.2-1g has been revised as follows:
Mitigation Measure 7.2-1g: Public roadways will be restored to a condition mutually agreed to between the District and local jurisdictions prior to construction.

TUST-12 The comment requests modification to Mitigation Measure 7.2-1g. See response to comment TUST-11:

TUST-13 The comment suggests revisions to Figure 3-13. Figure 3-13 is a schematic showing generally the location of the collection systems projects. A detailed description of Project 7-27 is located in Map Appendix A (Map A12). The figure shows the northern portion of the pipeline at Barranca Parkway. Figure 3-13 will not be revised.

TUST-14 The comment indicates that the Orange County Public Works & Utility Coordinating Committee Project List (see Appendix D) has compiled an incomplete list of projects within the City of Tustin, and therefore this list should not be referenced. Section 7.11, Cumulative Impacts, references the Orange County Project List. Although incomplete, this list represents some of the projects that are proposed in the County. The Draft PEIR does not rely exclusively on this list for cumulative projects. As discussed on Draft PEIR page 7.11-2, the District sent letters on April 2, 1999 to local jurisdictions requesting project lists from individual cities. In combination with the list provided by the City of Tustin, potential cumulative projects are fairly represented. Please also refer to Response TUST-1 and TUST-3. The District will contact each local City and other relevant affected agencies to coordinate during design of each project.

TUST-15 The comment suggests making comprehensive changes to the text of the Draft PEIR based on the above comments. The District has revised the Draft PEIR based on comments received.

GARDEN GROVE

CITY OF GARDEN GROVE, CALIFORNIA

PUBLIC WORKS DEPARTMENT
13802 NEWHOPE STREET, GARDEN GROVE, CALIFORNIA 92843

P

August 16, 1999

Orange County Sanitation District
Attn.: James Herberg
10844 Ellis Avenue
Fountain Valley, CA 92708

RE: 1999 STRATEGIC PLAN - ENVIRONMENTAL IMPACT REPORT

Dear Mr. Herberg:

The City of Garden Grove has reviewed the Orange County Sanitation District (OCSD) 1999 Strategic Plan and offers the following comments:

Estimated Average Flows - We understand that the Strategic Plan details a series of projects to meet projected population growth and wastewater flow for the year 2020. Plans are based on estimates which assume decreases in flow, up to 13 million gallons per day by 2020, due to water conservation and improvements to the wastewater collection system. Garden Grove would encourage the OCSD to aggressively initiate and continue programs, such as the Cooperative Projects Program, which will ensure such flow reduction. It is our belief that relatively inexpensive programs such as the Cooperative Projects Program which address individual sewer systems are as important to the future operations of the OCSD as the Groundwater Replenishment System Project. **GG-1**

Thank you for your consideration. If you have any questions about this letter, please contact Terry E. Lane, Utilities Services Manager, at 714/741-5395.

Sincerely,

Les M. Jones II
Public ~~Works~~ Director

P CITY OF GARDEN GROVE

GG-1 The City encourages the District to aggressively initiate and continue programs, such as the Cooperative Projects Program, which will ensure wastewater flow reduction. The District concurs with the importance of cooperative projects programs such as the inflow and infiltration reduction funding program, the water conservation program involving low-flow toilets, and the GWR System.

Q

City of Huntington Beach

2000 MAIN STREET CALIFORNIA 92648

DEPARTMENT OF PLANNING

Phone 536-5271
Fax 374-1540
374-1648

August 16, 1999

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

RE: DEIR for 1999 Strategic Plan

Dear Mr. Herberg:

The City of Huntington Beach has reviewed the Draft Program Environmental Impact Report for the Orange County Sanitation District 1999 Strategic Plan which identifies projects that are needed to accommodate projected population increases through the year 2020. We have the following comments on the proposal:

1. All of the alternatives in the District's plan propose using the existing 78 inch diameter outfall for peak wet weather flow discharge when the capacity of all other measures has been exceeded. The District's modeling indicates that by 2020 the probability of this discharge would be once every three years and would last from one to several hours. According to the DEIR, the discharge would elevate pathogen levels in the nearshore environment and would require short-term beach closures to protect public health. Beach closures of any kind that result from the possibility of compromise of public health are generally viewed poorly by the public. As development of the City's beach area becomes more intense and is responsible for increasing commerce, beach closures will have a negative impact on the City of Huntington Beach. **HB-1**

2. More detail should be presented in the DEIR regarding the anticipated increase in truck traffic on city streets. The EIR indicates that traffic increases will be a small percentage increase or insignificant. However, no data are provided regarding the capacity or level of service for the existing street network. Rather, the analysis compares the number of trips needed for existing treatment with those projected for future treatment levels. While this is helpful information for OCSD planning purposes, It does not analyze or address traffic impacts. Even a seemingly small increase on a street or at an intersection that is operating at an unacceptable level of service can be significant. **HB-2**

3. Although most projects within arterial highways should still allow traffic to circulate, Bushard Street is expected to be an exception. Installation of a 120 inch pipeline within this street, which has only 64 feet of pavement width, will most certainly require closure of the entire street within the work area. Impacts on circulation will be noticeable and resident access to adjacent homes will be significantly affected. Construction within local streets, such as Los Patos Avenue, will cause similar impacts. In addition, the **HB-3**

immediate proximity of homes will make the project especially sensitive to those residents. The EIR incorrectly assumes that all streets will remain at least partially open during construction. HB-3 (Cont'd)

4. The construction of the proposed new 120 inch pipeline in Bushard Street from Garfield Avenue to Brookhurst Street should be coordinated closely with appropriate City departments. This coordination effort should begin prior to preliminary design so that any special needs may be included early in the project. Personnel from both OCSD and the city should coordinate regularly in order to provide a project that runs smoothly and minimizes impacts to residents and the public in general. Other improvements that the city or other agencies have planned should be timed to coincide appropriately with the construction of this pipeline. Public consensus of construction impact mitigation measures should be pursued with community informational meetings being held as appropriate. HB-4

5. Although the report indicates that biosolids transportation would take place in non-peak hours, the time of day is still sensitive. To adequately evaluate this impact will require more information. If the additional trips occur in the late night and early morning hours, noise levels of the vehicles should be stated and discussed, as the most likely truck routes traverse residential areas. Finally, a method of monitoring compliance with any mitigation program should be established. HB-5

6. Impacts on surrounding land uses from the proposed lining of the existing 60 inch Interplant pipeline along the Santa Ana River are not adequately discussed. This analysis should be included in the DEIR so that impacts are clearly established. This project should also be added to the appropriate maps in the report, as its full extent is not clearly shown anywhere. Additionally, inconsistencies in the report's description of the project should be corrected. For example, in section 3.7.4, the project is described as a new pipeline being installed. In section 3.9.3, it is described as a project that would insert a liner into an existing pipeline. HB-6

7. Inconsistencies in project location descriptions should be corrected. The project location maps in Appendix A of the report do not agree in all cases with the written descriptions of the projects. Written descriptions do not always agree with each other as well. As an example, the report states that the proposed new interplant effluent pump station would be located on Garfield Avenue. On the maps of Plant No. 2, the pump station is shown at the plant's southern end adjacent to the existing outfall pumping stations. Additionally, definitions of the various types of pipeline rehabilitation should be listed so as to enable the reader to understand more of the extent of these types of projects. Any concerns arising from that work could then be more fully evaluated. HB-7

8. With regard to Mitigation Measure No. 7.8-3b, it should be documented that design drawings for new trunk sewer pipelines will need to be reviewed and approved by the State of California Department of Health Services prior to city approval. HB-8

9. With regard to Mitigation Measure No. 7.9-1b, it should be required that the project areas be hand broom and machine swept clean at the end of each work day, as well as other times as may be required. HB-9

10. Under section 2.5.4, the detail of the potable water system at Plant No. 2 should be discussed as it is for Plant No. 1. HB-10

11. In section 3.12, it is not explained as to how the GWR System can accept a doubling of its normal treatment flows to help relieve ocean outfall discharges of peak wet weather flows. This needs to be explained in greater detail. HB-11

12. On page 4-26, it should be noted that Huntington Beach was incorporated in 1909. It is currently not listed with the other agencies shown in the report. HB-12

13. On page 7.1-8, the description of the Bushard Trunk Improvement is inconsistent with a description for the same project on page 7.2-17 of the report. The actual design will make a significant difference in impacts to city residents. The city's preferred alignment of this pipeline would avoid construction on residential streets by limiting alignments to existing arterial highways. HB-13

14. Table 7.2-1 should be reviewed for accuracy of location descriptions. For example, the Edinger/Bolsa Chica Trunk Improvements should indicate Liles Lane as one limit of the project, not Hummingbird Lane. The description on page 7.2-13 is similarly inaccurate. HB-14

15. Page 7.2-13 describes a "Heil Avenue" portion of the Edinger/Bolsa Chica Trunk Improvements. It appears that this should refer to Edinger Avenue in lieu of Heil Avenue. HB-15

16. Page 7.2-17 indicates incorrect limits for the Bushard Trunk Improvements. HB-16

17. Page 6.5-19 states that the project under each of the treatment scenarios could generate objectionable odors in the project vicinity and in other areas. Mitigation Measure 6.5-5a addresses this issue by indicating that the District will evaluate the need for odor control equipment for future facilities and that there will be periodical reviews of air emissions to determine if odor control is necessary. The increase in odor emissions as a result of this project is significant unless proper mitigation measures are implemented. The referenced mitigation measure is vague. At a minimum, the District, based on its experience, should be able to include in the mitigation measure what some of the options for odor control equipment will be based on the improvements proposed. Because no time line is mentioned in this mitigation measure, the City of Huntington Beach, should be informed as to future dates for evaluations and reviews. We request that the OCSD forward the results of these evaluations and reviews to the City so that we have data to relay to concerned residents in the area. The District should pursue new methods and technologies to mitigate odor emissions. In addition, the District should explain in this section their system for responding to increased odor complaints. HB-17

18. Mitigation Measure 6.1-3a references implementation of the Urban Design Element of the Strategic Plan. This Element was submitted to the City for review and comment at 50 percent completion, however, the City never received the Element for further review and comment as was agreed to and incorporated into conditions of approval for Coastal Development Permit No. 95-39 and Variance No. 95-32. The City requests that the Urban Design Element be submitted for review and comment prior to the Board acting on the EIR. The choice and plant materials at Plant No. 2 has been an area of ongoing HB-18

interest and concern for the City and the Department of Fish and Game. Adequate review of the Urban Design Element is necessary to ensure appropriate mitigation. HB-18 (Cont'd)

Finally, a method of monitoring compliance with any mitigation program should be established and the City of Huntington Beach should be notified when a method is developed. Thank you for the opportunity to provide comments. If you have any questions on this letter, please contact me at (714) 536-5274. HB-19

Sincerely,

Cindy Chie
Assistant Planner

CC:

g:\commdev\chie\OCSDeir

Q CITY OF HUNTINGTON BEACH

HB-1 The comment states that beach closures would have a negative impact on the City of Huntington Beach. The District acknowledges this comment. Impact 5-9 of the Draft PEIR indicates that beach closures would be a significant unavoidable impact. Chapter 9 of the Draft PEIR provides a discussion on the alternatives analyzed and the rationale for designating the 78-inch diameter outfall as emergency peak flow relief. The Summary Chapter of the Draft PEIR provides additional discussion on alternatives and the environmentally superior alternative. As discussed on page S-16, the discharges to the 78-inch diameter outfall would be brief and beach closures would be expected to be short term as well. Please see response to comment RWQCB-1.

HB-2 The comment states that impacts to traffic from increased truck traffic could be significant and that the Draft PEIR does not include analysis of capacity or levels of service for affected intersections. The Draft PEIR discusses truck traffic from expanded operations on page 6.2-4. Impact 6.2-2 indicates that impacts to traffic would be significant. Mitigation Measures 6.2-2a and 6.2-2b would reduce these impacts to less-than-significant levels. Mitigation Measure 6.2-2b states that biosolids trucks will avoid operating during peak traffic times when possible.

Impact 7.2-1 indicates that impacts to traffic from construction throughout the Service Area will be significant. The Draft PEIR provides ten mitigation measures to reduce these impacts to less than significant levels. Mitigation Measure 7.2-1a provides for traffic control plans to be prepared for each construction project. Since many of the construction projects may not begin for several years, current level of service designations may not apply at the time of construction. For projects planned before 2005, traffic control plans will identify impacted intersections and provide detours and access to local residences and businesses to minimize the short-term construction impacts.

The Draft PEIR provides biosolids volumes for each plant site for the year 2020 in Chapter 8, Table 8-1. These volumes have been revised since the publication of the Draft PEIR. Chapter 4 of the Final PEIR provides the revisions. Based on revised operations estimates, the number of biosolid haul trips will remain similar to current levels at Treatment Plant 2. The following table (Table 6.2-2) and text will be added to Section 6.2 to better illustrate the impact to local traffic.

The number of biosolids trucks is expected to nearly double by 2020. However, most of the additional trips will originate from Reclamation Plant No. 1. Employee commutes will continue to be the primary source of traffic. By the year 2020, the District anticipates that truck traffic will increase by approximately 31 trips per

day. Employee commutes are anticipated to increase by approximately 22 trips per day.

TABLE 6.2-2
VEHICLE TRIPS PER DAY

	Chemical Deliveries	Employee Trips	Biosolids Hauling	Grit and Screenings	Total
1998					
P1	2	209	10	0.11	222
P2	4	209	17	0.16	231
TOTAL	6	418	27	0.27	453
2020 – Scenario 2					
P1	5	220	33	0.16	249
P2	5	220	19	0.22	253
TOTAL	10	440	52	0.38	502
2020 – Scenario 4					
P1	6	220	41	0.16	257
P2	6	220	24	0.22	259
TOTAL	12	440	65	0.38	516

The Huntington Beach General Plan identifies current levels of service (LOS) for key intersections. One intersection used by haul trucks (Brookhurst and Adams) is identified within the General Plan as currently having a LOS rating of D during evening peak hours indicating that congestion occurs. The General Plan also includes projected LOS ratings at intersections anticipated after the General Plan has been implemented. (The General Plan was last amended in 1995.) One intersection used by haul trucks (Brookhurst and Hamilton) is identified as having a LOS rating of D during peak hours. The City of Fountain Valley General Plan states that on-ramps to the Interstate-405 currently operate at LOS D or better during peak hours.

HB-3 The comment states that construction on Bushard Street, Los Patos Avenue, and other local streets would most likely require closure, thereby impacting circulation and adjacent residents. Anticipated road closures for each trunk sewer system are

provided in the Draft PEIR on pages 7.2-8 through 7.2-18. It should be noted that the PEIR does not make the assumption that all streets will remain partially open during construction. Page 7.2-13 indicates that pipeline construction may require the temporary closure of Los Patos Avenue. The District acknowledges that Bushard Street may also be closed during construction. Phased construction along this alignment will be employed to minimize impacts to local residences and cross traffic (page 7.2-18). The Draft PEIR recognizes that construction would impact traffic circulation and adjacent residents. Page 7.2-1 specifies the temporary nature of construction activities. To reduce construction impacts, the District has proposed Mitigation 7.1-1d and Mitigation 7.2-1a through 7.2-1g. These measures specify methods to minimize disruption to driveways and adjacent land uses, including preparation and implementation of a traffic control plan, compliance with encroachment permits, limiting lane closures during peak traffic hours, and coordination with OCTA.

HB-4 The comment suggests that the District coordinate with the City of Huntington Beach with regard to construction along Bushard Street. The District acknowledges and concurs with this comment. In addition, the City advocates public consensus of construction impact mitigation measures. The District advocates open communication with local jurisdictions and will work with the City to reduce construction-related impacts to nearby residents, drivers, pedestrians, and bicyclists. A public hearing was held on July 21, 1999 to record public comments on the Draft PEIR. Subsequent CEQA documents, including negative declarations, will require additional public review periods. However, the public comment period for this Draft PEIR was ended on August 16, 1999.

HB-5 The comment suggests that more information is necessary to adequately evaluate the impacts of increased truck traffic. See response to comment HB-2. Noise impacts from increased truck traffic are discussed in Chapter 8 on page 8-15 of the Draft PEIR. Impact 8-3 identifies noise impacts from increased truck traffic. The mitigation measure states that biosolids haul schedules will avoid noise-sensitive hours of the day when possible.

The Draft PEIR provides biosolids volumes for each plant site for the year 2020 in Chapter 8, Table 8-1. These volumes have been revised. Chapter 4 of the Final PEIR provides the revisions. Based on revised operations estimates, the number of biosolid haul trips will remain similar to current levels at Treatment Plant No. 2. Therefore, noise and circulation impacts along Brookhurst Street should remain relatively equal to current levels. Increased truck hauling trips from Reclamation Plant No. 1 are expected to pose fewer impacts due to the proximity of the freeway on-ramp and the small amount of residential areas between the plant and the freeway.

HB-6 The comment requests more information regarding the interplant connector construction methods and points out inconsistencies in the text. The District acknowledges the inconsistencies. The text in Section 3.7.4 will be revised as follows:

3.7.4 INTERPLANT/JOINT WORKS

A new secondary effluent pump station is proposed to pump water from the secondary treatment facilities at Plant No. 2 through a pipeline back up to Plant No. 1 for delivery to the Orange County Water District and various proposed reclamation projects by 2008. The pumping capacity for this pipeline will increase to 25 mgd by 2015. The new pump station will allow secondary effluent from Treatment Plant No. 2 to contribute to the GWR System's overall needs, alleviating some of the demand on Reclamation Plant No. 1 and reducing the need for new secondary facilities. The secondary effluent will be pumped through an existing 66-inch diameter underground pipeline along the 30-foot-wide strip of land adjacent to the Santa Ana River between Reclamation Plant No.1 and Treatment Plant No. 2. The corridor was purchased by the Sanitation Districts in the early 1950s. Presently, this interplant corridor contains six pipe lines carrying either liquids (untreated effluent diverted from Plant No 1 to Plant No. 2 for treatment, Plant No. 1 effluent for ocean disposal), digester gas, and communication lines. The existing pipeline will be re-lined to convey secondary water to Reclamation Plant 1 as discussed on page 3-43.

As discussed on page 3-43, a liner will be inserted into the existing 66-inch diameter pipeline. The pipeline will be accessed at regular intervals through trenching. The Santa Ana River Trail may be closed during short term construction activities along the Santa Ana River corridor as discussed on page 7.2-18 of the Draft PEIR. However, the District must obtain the approval of Orange County prior to impacting the bike trails.

HB-7 The comment points out inconsistencies between the Draft PEIR graphics and text. The District has been reviewing and updating the Draft PEIR. The comment does not specify where in the Draft PEIR the secondary effluent pump station is identified on Garfield St. Figure 3-11 shows the correct location of the pump station. Draft PEIR pages 3-62 and 3-58 describe pipeline rehabilitation. Projects which could potentially disrupt traffic or disturb residences more than is indicated in the Draft PEIR may require additional CEQA documentation.

HB-8 The comment states that the California Department of Health Services (DHS) must review sewer designs prior to review by local jurisdictions. It is the District's responsibility to comply with DHS standards. The District is not required to have DHS approve sewer designs unless sewer and water line separation standards con not be met and a variance is necessary. It is the District's responsibility to comply with DHS standards. Mitigation Measure 7.8-3 has been revised as follows:

Mitigation Measure 7.8-3b: 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.

Please also see response to comment SHBNA-2.

HB-9 The comment suggests revisions to Mitigation Measure 7.9-1b. The mitigation measure adequately addresses the impact. Measure 7.5-1a requires measures to reduce dust emissions on access roads, parking areas, and staging areas at construction sites including sweeping if necessary. Revisions to Mitigation Measure 7.9-1b is not warranted.

HB-10 The comment requests more details of the potable water system at Treatment Plant No. 2. The following text will be added to page 2-10 of the Draft PEIR:

Treatment Plant No. 2 requires an average daily demand of approximately 9.1 mgd of in-plant water for domestic service water, process water, and irrigation applications. Treatment Plant No. 2 also maintains separate piping networks for plant water and potable water. Potable water is used for irrigation along Brookhurst Street, while other landscaping within the plant uses reclaimed water from the GAP project. Reclaimed water is supplied through interplant connector lines from Orange County Water District. Approximately 5 percent of the water use at Plant No. 2 is potable water supplied from the City of Huntington Beach. The remaining water is plant water or reclaimed water.

HB-11 The comment requests more detail regarding how the GWR System will accept a doubling of supply from the District during peak wet weather. The information provided in the Draft PEIR regarding peak wet weather relief capacity was supplied by the Orange County Water District (OCWD). OCWD is currently designing the GWR System in conjunction with OCSD. The OCWD Board of Directors recently certified the GWR System EIR. Engineering details of the GWR System are beyond the scope of this Draft PEIR.

The GWR System is being designed to accommodate high flows for several hours during peak wet weather events. The high flow operating conditions that would be experienced during a peak wet weather event have been simulated by OCWD at the microfiltration demonstration plant. These tests have shown that the microfiltration process can accommodate peak flows without damaging the microfilters or impacting the effluent quality. Other systems for the GWR System such as electrical facilities, pumping stations, disinfection facilities, and pipelines will also be designed to accommodate peak wet weather flows from OCSD.

HB-12 The comment provides clarification on the Regional Setting of the Draft PEIR. Text on page 4-26 (third paragraph) has been revised as follows:

The County of Orange was approved by the California legislature on June 4, 1889. At that time only three cities in the County had been founded: Anaheim (1878), Santa Ana (1886), and Orange (1888). Fullerton (1904), Huntington Beach (1909), Seal Beach (1915), Brea (1917), La Habra (1925), Placentia (1926), and Tustin (1927) were added in the early 1900s.

HB-13 The comment states that the description of Bushard Trunk Improvements are inconsistent in the Land Use and Traffic sections. The last sentence identifying jacking-and-boring under residences on page 7.1-8, third paragraph, "Bushard Trunk Improvements" is in error and has been deleted. See Chapter 4, Text Revisions.

HB-14 The comment suggests reviewing the accuracy of project locations in the Draft PEIR. The comment states that the eastward limit to the western portion of Project 30 should be to Liles Lane rather than Hummingbird Lane. Liles Lane is approximately 500 feet east of Hummingbird Lane. Preliminary analysis indicates that the sewer line along Edinger is deficient. The exact extent of the construction may end at Hummingbird Lane or may extend slightly beyond Hummingbird Lane to Liles Lane. Final design drawings will be submitted to the City of Huntington Beach for review prior to obtaining the encroachment permit.

HB-15 The comment suggests a text change to page 7.2-13. The Edinger/Bolsa Chica Trunk Improvement Project is not located on Heil Avenue as indicated on page 7.2-13 (last paragraph). The text will be changed as follows:

The second segment of the Edinger/Bolsa Chica Trunk Improvement Project is bound by Clubhouse Lane on the east and Graham Street on the west.

HB-16 The comment states that page 7.2-17 indicates incorrect limits for the Bushard Trunk Improvements. Comment noted. Page 7.2-17 (last paragraph) has been revised as follows:

This project is located along Bushard Street between Ellis Avenue to the north and Brookhurst Street at the OCSD Treatment Plant to the south.

HB-17 The comment requests more detailed information regarding odor control equipment, odor control management, and the District's system for responding to odor complaints. In response to this comment, Attachment A has been added to the Final PEIR summarizing the District's extensive odor control programs. Both Reclamation Plant No. 1 and Treatment Plant No. 2 are equipped with fully integrated odor control facilities for each treatment process. The District has developed and implemented a comprehensive odor control philosophy that consists of minimizing the formation of odorous gases where possible (by adding chemicals upstream in the collection system and through design features) and containing, collecting, and treating the odorous gases when they do occur. Chemical pretreatment facilities reduce the formation and evolution of hydrogen sulfide (H_2S) gas and other compounds associated with wastewater. OCSD contains odors by covering tanks, sumps and wet wells that may produce odorous compounds, and by enclosing wastewater treatment equipment and processes that might contribute to the overall odor emissions. After containment, these odorous gases can be treated using odor control scrubbers. Please reference Attachment A. See also response to comment SHBNA-2.

HB-18 The comment states that the District has not yet forwarded a copy of the final Urban Design Element. The District acknowledges the comment and will forward a copy to the City of Huntington Beach.

HB-19 The comment suggests that a method of monitoring compliance with mitigation measures be implemented. The OCSD Board of Directors will adopt a Mitigation Monitoring and Reporting Program (MMRP) upon certification of the Final PEIR. The MMRP will designate responsible parties to ensure mitigation measures are carried out.

County of Orange
Planning & Development Services Department

THOMAS B. MATHEWS
DIRECTOR

300 N. FLOWER ST.
SANTA ANA, CALIFORNIA

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P.O. BOX 4048
SANTA ANA, CA 92702-4048

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August 16, 1999

NCL 99-54

Mr. James Herberg, Engineering Supervisor
County Sanitation Districts of Orange County
P.O. Box 8127
Fountain Valley, CA 92728-8127

SUBJECT: DPEIR for the 1999 Strategic Plan

Dear Mr. Herberg:

The above referenced item is a Draft Program Environmental Impact Report (DPEIR) for the Orange County Sanitation District (OCSD). The Strategic Plan evaluates projects for new sewers, wastewater treatment and ocean disposal facilities. The Strategic Plan also includes participation in the Groundwater Replenishment System (GWR System), a joint project of the Orange County Water District and OCSD to implement large-scale water reclamation.

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

SANTA ANA RIVER

1. The Ground Water Replenishment Project (GWR), which is a part of the Strategic Plan and is likely to have significant impact to the Santa Ana River, has been reviewed separately and commented on in response to submittals specific to that project. **CO-1**

WATER QUALITY

2. On Pages 5.2-33 and 34 and 9-9 it is implicitly conceded that periodic violations of one or both of the narrative or numerical National Pollutant Discharge Elimination System (NPDES) permit standards for oil and grease will occur, with an unknown frequency.

   It is suggested that this impact will be "less than significant with mitigation", and yet the only mitigation offered is to monitor and, if necessary, "modify treatment". There is no discussion of how treatment might be modified to accomplish this, whether there is proven feasibility, what it might cost, etc. Without a declaration that such modified treatment is already recognized by OCSD as both "reasonable and feasible", it cannot **CO-2**

under State CEQA law be offered as a mitigation measure to reduce potentially significant impacts to levels of insignificance. CO-2 (Cont'd)

OPEN SPACE/RECREATION

3. Master Plan of Regional Recreational Facilities:

Our previous NOP comments indicated that the DPEIR should identify any potential impacts to Orange County Regional Recreational Facilities. These include, but are not limited to, aesthetic, resource, operational and construction impacts. Upon review of the DPEIR, no identification of impact analysis, and provision of mitigation measures as appropriate, appear evident. We recommend the Final PEIR address this. CO-3

4. Master Plan of Regional Riding and Hiking Trails/Commuter Bikeways Strategic Plan:

Upon review of subject documentation, no evidence of identification of the existing Santa Ana River Regional Riding and Hiking Trail, and the Santa Ana River Class I Bikeway are evident. Moreover, no impact analysis and mitigation measures (except Mitigation Measure 7.2-lb (Page S-31) are evident. This mitigation measure indicates that consideration will be given to the greatest extent feasible to maintain access to these trails. It should be noted that these two facilities represent the most heavily used trail and bikeway in Orange County. We recommend the following mitigation measures be provided:

a. Short term construction impacts, particularly any trail or bikeway closures, should 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 right-of-way for trails and/or bikeways and reconstruction. Mitigation measure implementation activities should be subject to the approval of the County's Harbors, Beaches and Parks/Trails Planning and Implementation, prior to commencement of construction activities. CO-4

b. Treatment Plant Expansion:

i. Reclamation Plant No. 1:

The County's Master Plan of Regional Riding and Hiking Trails (RRHT) identifies the Santa Ana River Trail along the west levee of the Santa Ana River, adjacent to Plant No. 1. As indicated above, we recommend mitigation measures to accommodate this trail be provided.

ii. Reclamation Plant No. 2

The RRHT and the County's Commuter Bikeways Strategic Plan (CBSP) identifies the Santa Ana River Trail and the Santa Ana River Trail along the west levee of the Santa Ana River, adjacent to Plant No. 2. As indicated

above, we suggest mitigation measures to accommodate this regional trail and parallel regional bikeway be provided.

c. Collection System Projects (Page 3-46 and Figure 3-13):
Some of the proposed pipeline replacements, rehabilitation of manholes and pipelines, and pump station improvements could potentially impact existing or proposed trails and bikeways. These may include, from west to east:

i. 17/28-Warner Avenue Relief Sewer (Wintersburg Channel Bikeway).

ii. 16-Hoover Feeder Improvements (Huntington-Westminster Rail Bikeway).

iii. 14-Euclid Relief Improvements (Mile Square Bikeway).

iv. 10-Fullerton Purchase Improvements (Fullerton Trail and Rolling Hills (Bikeway).

v. Interplant Connector and 27, 20, 25-Santa Ana River (Santa Ana River Bikeway).

vi. 4-Carbon Canyon Dam Trunk Improvements (El Cajon Trail, El Cajon Bikeway, Fullerton Trail).

vii. 2-Taft Branch Improvements (Tustin Branch Trail).

viii. 11-Gisler-Redhill System Improvements (Tustin Branch Trial). CO-4 (Cont'd)

ix. 5-Orange Trunk Improvements (Tustin Branch Trail).

x. 12-Tustin Trunk Improvements (Skyline Trail).

xi. 7-Orange Park Acres Trunk Replacement (Santiago Creek Trail and Santiago Creek Bikeway).

d. Additional Mitigation:

It is requested that the following mitigation measures also be incorporated:

i. Any project construction plans that could potentially impact regional riding and hiking trails, or Class I bikeways, be submitted to the County's Harbors, Beaches and Parks/Trails Planning and Implementation, for review and approval prior to project construction activities.

ii. Regional Riding and Hiking Trails, and Class I Bikeways, impacted by construction activities, should be restored to their existing condition after project construction is completed subject to the approval of the County's Harbors, Beaches and Parks/Trails Planning and Implementation.

FLOOD

5. Based on our review, the OCSD's proposal is expected to impact several Orange County Flood Control District (OCFCD) and County facilities including the following:

   a. East Richfield Storm Drain

   b. El Modena/Irvine Channel

   c. Santa Ana-Santa Fe Channel

   d. East Garden Grove-Wintersburg Channel

   e. Carbon Creek Channel

   We recommend that OCSD coordinate planning efforts with the County's Program Development Division Manager when details of the OCSD proposal become known and obtain encroachment permits for individual projects impacting OCFCD/County facilities.

CO-5

Thank you for the opportunity to respond to the DPEIR. If you have any questions, please contact me or feel free to call Charlotte Harryman directly. Charlotte may be reached at (714) 834-2522.

Very truly yours,

George Britton

George Britton, Manager
Environmental and Project
Planning Services Division

CH

R COUNTY OF ORANGE

CO-1 The comment states that the GWR System has been analyzed and commented on under a separate document. Comment noted.

CO-2 The comment states that Mitigation Measure 5-3 does not adequately describe the modified treatment process to reduce oil and grease levels and is therefore unacceptable. Mitigation Measure 5-3 states that the District will modify treatment if oil and grease are observed during visual surface water monitoring near the outfall diffuser. The treatment modification may involve the blend of secondary and advanced primary effluent or it may involve process modifications including the addition of different chemicals and polymers. See response to comment RWQCB-4.

CO-3 The comment states that the Draft PEIR does not address Orange County regional recreation facilities. The District acknowledges that the Draft PEIR does not contain a separate impact analysis chapter specifically for recreational facilities. Potential impact to recreational uses are addressed throughout the Draft PEIR. Recreational facilities in the vicinity of proposed construction projects are identified within the Land Use Sections (Section 6.1 and 7.1) and in the Map Appendix. The Traffic Section (Section 7.2) identifies bike paths in Table 7.2-1. Mitigation Measure 7.2-1b states that traffic control plans for construction projects will include considerations to maintaining bikeways and equestrian trails to the greatest extent feasible. The Aesthetics Section (Section 7.9) acknowledges aesthetic impacts to recreational uses and proposes mitigation measures to reduce aesthetic impacts. The Biology Sections (Sections 6.3 and 7.3) identify sensitive habitats and park lands near the proposed construction areas. The Marine Environment Chapter (Chapter 5) is devoted to analyzing impacts to the marine environment from the proposed wastewater discharges with respect to the beneficial uses designated by the RWQCB's Santa Ana River Basin Plan and the California Ocean Plan including recreational uses. The significance criteria for impacts to the water quality include effects on recreational uses.

CO-4 The comment indicates that the Draft PEIR does not include reference to the Santa Ana River Regional Riding and Hiking Trail and Class I Bikeway. Notwithstanding the consideration of bikeways and equestrian trails in Mitigation Measure 7.2-1b, the District concurs with the comment and will incorporate additional text changes and mitigation measures as follows:

Regional Bikeways

Table 7.2-2 identifies designated trials and bikeways which could be impacted by construction projects identified in the Draft PEIR.

TABLE 7.2-2
TRAILS AND BIKEWAYS IN OR NEAR PROPOSED PROJECT AREAS

Project Number	Project Name	Potentially Impacted Trails
17/18	Warner Avenue Relief Sewer	Wintersburg Channel Bikeway
16	Hoover Feeder Improvements	Huntington-Westminster Rail Bikeway
14	Euclid Relief Improvements	Mile Square Bikeway
10	Fullerton Purchase Improvements	Fullerton Trail and Rolling Hills Bikeway
27, 20, 25 and interplant connector	Santa Ana River	Santa Ana River Bikeway
4	Carbon Canyon Dam Trunk Improvements	El Cajon Trail, El Cajon Bikeway
2	Taft Branch Improvements	Tustin Branch Trail
11	Gisler-Redhill System Improvements	Tustin Branch Trail
5	Orange Trunk Improvements	Tustin Branch Trail
12	Tustin Trunk Improvements	Skyline Trail
7	Orange Park Acres Trunk Replacement	Santiago Creek Trail and Santiago Creek Bikeway

Source: County of Orange

Mitigation Measure 7.2-1l: 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.

Mitigation Measure 7.2-1m: 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.

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

Significance After Mitigation: Less than Significant.

The mitigation will be overseen by the County's Division of Harbors, Beaches and Parks/Trails Planning and Implementation, prior to commencement of construction activities.

CO-5 The comment lists flood control channels potentially impacted by the proposed construction projects. Mitigation Measures 7.7-1c and 7.7-1g state that the District will coordinate with the County of Orange Flood Control District prior to construction. This notwithstanding, the following text additions will be added to page 7.7-1 of the Draft PEIR:

Several flood control channels could potentially be impacted by proposed construction projects including the East Richfield Storm Drain, El Modena/Irvine Channel, Santa Ana-Santa Fe Channel, East Garden Grove-Wintersburg Channel, and the Carbon Creek Channel.

3.4 INTERESTED ORGANIZATIONS

SURFRIDER FOUNDATION
Huntington / Long Beach Chapter

S

Aug. 13,1999

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

Attn.: James Herberg

RE: 1999 Strategic Plan Draft Environmental Impact Report.

Dear Mr. Herberg

As members of the District's environmental stakeholder community, Surfrider Foundation, Huntington Beach/ Long Beach Chapter, appreciates the opportunity to review and comment on the very informative Draft Environmental Impact Report (DEIR), referenced above. As you know, we have always been, and continue to be, supportive of the joint OCSD/OCWD Groundwater Replenishment Project (GWR). Of the three scenarios described in the DEIR that include this option, however, we are disappointed that OCSD does not recognize and endorse Scenario 4 (full secondary with GWR) as the true environmentally superior option. This is the only (GRW) option that fully complies with the intent of the 1972 Clean Water Act (CWA).

Specifically among our concerns regarding the District's recommendation of scenario 2 (permit limits with GWR) are the following:

- As indicated in the report, the concentration of pathogenic virus discharged into the ocean is one order of magnitude (10x) greater with the District's recommendation (scenario 2) than it is with scenario 4. Neither the District, nor the County Health Service routinely monitor for virus concentrations in the off shore or near shore surf zone. This places swimmers and surfers and others that enjoy recreational water contact activities at a much greater health risk. **SURF-1**

- The determination that scenario 2 is "environmentally superior" to scenario 4 "because it generates less impact to land and air resources" should be made, at least in part, by County health agencies, and the AQMD. It is problematic as to weather the short term detrimental impact to land and air resources caused by scenario 4 is offset by the long term detrimental impact to ocean water quality caused by scenario 2. **SURF-2**

- The planned use of the 78" "emergency" discharge pipe off of Huntington Beach during peak wet weather events would have a detrimental impact on both the surf zone water quality, as well as the economy of our coastal communities that depend on income from beach visitors. **SURF-3**

- The projected frequency of occurrence of use of the 78" "emergency" discharge pipe (once every three years in the year 2020) does not meet any reasonable interpretation of the RWQB definition of "emergency" (extremely rare and infrequent) usage. **SURF-4**

- It would be inconsistent of the RWQB, which has already denied planned discharges of treated (chlorinated) secondary effluent into the near shore, to permit the planned discharges of untreated secondary effluent under anything less than extremely rare and infrequent (emergency) conditions. **SURF-5**

P.O. Box 3087 Long Beach , California 90803
(310) 438 - 6994

- Increasing the ratio of primary to secondary treated effluent into the offshore discharge pipe, as currently planned by OCSD and permitted by their 301(h) waiver, could lead to greater concentrations of certain toxic and carcinogenic pollutants released into the ocean than that presently allowed by the California Ocean Plan. It is not clear in the DEIR what plans (if any) OCSD has to mitigate this problem. **SURF-6**

We would encourage the technical staff at OCSD to continue to seek solutions to these problems, such as the application of microfiltration technology to reduce the polluted effluent discharged to the ocean, and offsite temporary storage to reduce the frequency of emergency discharge during peak wet weather events. **SURF-7**

Sincerely,

D.P. Schulz
Surfrider Foundation, H.B./L.B. Chapter
Blue Water Task Force

cc: Surfrider EIT

S SURFRIDER FOUNDATION

SURF-1 The comment expresses concern for elevated levels of viruses. As indicated in Tables 5-26 and 5-27, the projected effluent concentration of viruses is 0.23 PFU/10 mL for Scenario 2 and 0.03 PFU/10 mL for Scenario 4 in the year 2020. Currently there are no criteria for monitoring the concentration of viruses, and concentrations are not specified in the permit.

The health risk associated with viruses from the deepwater outfall is small since the probability of water contact in this area is remote. The District's discharge monitoring, and computer modeling, based on historical data, does not indicate transport of effluent from the outfall to nearshore waters. Also, monitoring of recreational waters at the 3-mile limit does not indicate the presence of an effluent plume that could contact swimmers. Surfzone monitoring is conducted up to 5 days/week and would indicate on shore movement of effluent if it were present. Effective management of health risks to swimmers is achieved by the location of the outfall and the monitoring program.

SURF-2 The comment states that the determination of the environmentally superior alternative should be made in part by the County Health Department and the SCAQMD. CEQA guidelines (Section 15126.6) require that an environmentally superior alternative be identified in the EIR by the lead agency. Based on the analysis of impacts to the ocean environment, the District identified Scenario 2 as the environmentally superior alternative since the proposed level of treatment will be adequate to protect the beneficial uses of the coastal receiving waters while significantly reducing construction impacts, air quality impacts, and solid waste production. As discussed in Chapter 10 of the Draft PEIR, Cross-Media Environmental Trade-Offs, the District's goal is to implement an appropriate balance of wastewater treatment, water reclamation, and operational efficiency. Copies of the Draft PEIR have been sent to the County and SCAQMD. The SCAQMD did not provide a response. The County's comments are included herein.

SURF-3 The comment states that the use of the 78-inch diameter outfall would have a detrimental impact to water quality and to local economies dependant on beach visitors. Impact 5-9 of the Draft PEIR acknowledges that infrequent use of the 78-inch diameter outfall would significantly impact the region through beach closures due to elevated pathogen levels. The impact is considered significant and unavoidable. However, due to the low frequency of occurrences (once every three years), short duration of the discharge (maximum of 10 hours), and use only during high wet weather conditions that would not be expected to occur during peak recreation use, beaches could be re-opened relatively quickly and impacts to local economies would not be expected. Under current practices, beach closures are

common during large rain events due to non-point source runoff pollution unrelated to OCSD activities. The effects of the near-shore discharge during such an event would probably be insignificant compared to the effects from urban runoff. As discussed in the response to comment RWQCB-1, the District will continue to research ways of avoiding use of the 78-inch diameter outfall and of reducing the potential for beach closure events.

SURF-4 The comment states that the proposed use of the 78-inch diameter outfall would not constitute an "emergency" use. See the response to comment RWQCB-1.

SURF-5 The comment suggests that the discharge of undisinfected secondary effluent should not be allowed since the RWQCB does not even allow the District to discharge disinfected wastewater. The District's NPDES permit allows for emergency discharges of undisinfected treated wastewater to the 78-inch outfall and suggests that chlorine disinfection not be used. The RWQCB's policy on disinfection is outlined within the District's NPDES permit. Disinfection is not recommended due to the costs of chlorination and dechlorination, the infrequent expected occurrence, potential impact to aquatic resources, and the relatively small benefits. See the response to comment RWQCB-2.

SURF-6 The comment suggests that reducing the amount of secondary effluent would violate California Ocean Plan discharge limits and could impact marine water quality. The proposed treatment levels for Scenario 2 (the preferred alternative as described in Chapter 3 of the Draft PEIR) will be adequate to meet California Ocean Plan and RWQCB, NPDES permit requirements at a minimum. The District does not anticipate that the proposed wastewater discharge will violate the California Ocean Plan and will continue to monitor and document compliance as required. See response to comment RWQCB-4.

Chapter 5 of the Draft PEIR is devoted to analysis of the impacts of the proposed blend of secondary and advanced primary effluent to the marine environment. The impacts associated with the proposed treatment levels (Scenario 2) are described and mitigation measures are developed where appropriate and feasible. Impact 5-3 indicates that Scenario 2 could elevate levels of oil and grease. However, levels would not exceed Ocean Plan or NPDES permit limits. Impact 5-5 states that brine from the water reclamation projects may increase toxicity, but again, violations of the Ocean Plan limits are not expected. Please see response to comment RWQCB-4.

SURF-7 The comment encourages the District to increase efforts to develop microfiltration technologies and increase off-site storage capacities. See responses to comments RWQCB-1 and RWQCB-2.

Southeast Huntington Beach Neighborhood Association

22032 Capistrano Lane Huntington Beach, CA 92646-8309
Phone: (714) 962-1746 Fax: (714) 962-3416 e-mail: vespa7@earthlink.net

T

August 16, 1999

Board of Directors
Orange County Sanitation District
10844 Ellis Avenue
Fountain Valley, CA 92708

RE: OCSD Strategic Plan and Environmental Impact Report Comments

Dear Board Members:

The Orange County Sanitation District (OCSD) recently prepared a 1999 Strategic Plan that assessed the District's wastewater system's needs and options to the year 2020. The Draft Program Environmental Impact Report (EIR) for the strategic plan was completed 6/17/99.

SHBNA-1

SEHBNA has concerns regarding the accuracy and adequacy of these studies/plans. We believe that current negative air quality impacts to the neighborhood have been overlooked and understated. Future predictions of impacts of air quality (odors/chemical emissions) under the various EIR alternatives have not been adequately identified nor satisfactorily mitigated

SEHBNA Respectfully Requests the Following:

SHBNA-2

1. Recognition that adequate protection was not provided the residents of southeast Huntington Beach with respect to odor/chemical emission impacts of Plant #2 (under current conditions and under future potential EIR scenarios 1 – 6).

SHBNA-3

2. Recognizable funds should be added to the budget for incremental odor containment to confine odor/chemical emissions to the plant boundaries. OCSD should consider approving funds for odor containment incorporating specific mitigation measures as part of the total cost estimates/budgets of the Strategic Plan and also under each of the EIR alternatives. Such mitigation is not specific in the EIR.

SHBNA-4

3. OCSD should provide specific information as to the current sources of odor/chemical emissions (migrating across Brookhurst Street) and if not available, perform the necessary tests to determine the source of these odors. This information should be made available in order to gauge the adequacy of the EIR and properly mitigate the current and future air quality impacts to our neighborhood.

SHBNA-5

4. OCSD should extend the EIR review/comment period (past 8/16/99) to allow for more analysis of these problems in the EIR and comments by HB, residents, and other agencies.

Sincerely,

John Scott
Chairman

ANALYSIS

SHBNA-6

Background

OCSD's Plant #2 is located in southeast Huntington Beach (east of Brookhurst Street). The odors from this plant have historically impacted residents of our neighborhood. Although such emissions were substantially lessened by placing geodesic domes over some of the treatment tanks in the mid 1980s, odors and chemicals are still emitted on a regular basis, and migrate over the neighborhoods immediately adjacent to the plant. See Exhibit A.

Odors typically migrate in the morning and evenings. Whether odor occurrences are more frequent due to coastal wind patterns or the level of sewage operations (inflows, pipe capacities, etc.) is irrelevant. These conditions do exist, are probably measurable, and future impacts under the various scenarios were not adequately addressed in the EIR.

SHBNA-7

Although the planning process for the Strategic Plan and EIR began in 1997, residents of Southeast Huntington Beach were not adequately informed of the potential magnitude of the District's plans/EIR. Also, because of the ambiguity of the several project alternatives to this point, it is difficult to grasp the complex variables (i.e. groundwater replenishment program, treatment levels, etc.), partly because the public has not had access to full "draft" reports throughout the process. In fact, the actual Draft Strategic Plan which is the subject of the EIR, has not been fully released to the public. In this context, it is difficult for the public (or an expert) to comment within the short time frame given (close of public comments by 8/16/99).

SHBNA-8

The EIR's Preferred Scenario #2 offers the least facility build out and is clearly the best choice of the six EIR alternatives. However, it is just that – a preferred scenario – and is subject to several important and difficult variables and assumptions. At a minimum, this Perfect World Scenario #2 includes (1) continuation of permits for discharge of less than fully treated sewage from EPA (2) full implementation of the proposed Groundwater Replenishment Program (GWR). The reality is that the above, combined with changing EPA standards, pressure (vocally and possibly legally) from environmental groups (Surfriders and Heal the Bay), higher than anticipated costs could result in the future need for more secondary treatment. Hence, more facilities could be needed at Plant #2 (other stated EIR alternatives and more beyond 2020 as shown in Exhibit B). This would greatly impact the quality of life in our neighborhood.

SHBNA-9

The stated fact that only more odorous facilities could be added warrants a closer look at the impacts on our neighborhood.

It should also be noted that any future impact will be magnified by odors which could then be brought to the neighborhood from winds blowing west in addition to the current winds blowing in a northerly direction. The odor generators would somewhat wrap the neighborhood instead of being on the edge of it.

Although recognition of these impacts would seem to be elementary, they apparently were not discussed in scoping meetings and were not significantly addressed in the EIR.

SHBNA-10

Summary of Environmental Impact Report Comments

While the EIR noted odor emissions as Impacts 6.5.2 – 6.5.5 (pgs. 41 and 42 of Executive Summary), the vague mitigation measures only indicate that the District will attempt to comply with existing and future regulations. Only after air quality regulations become "more restrictive" will OCSD be "required to reduce emissions through process modifications or by implementing new control technologies". We are also not comfortable with the EIR's statement that odor emission at the plant will be "less than significant after mitigation measures" until the District proves it can and will fix the current odor problem in our neighborhood. What are these "new technologies" and why are they not in use now?

SHBNA-11

OCSD should not develop its facilities and operations without clear planning and money in the budget to mitigate current and future odor emissions. While the District's plans are detailed down to pipe and valve capacities, there is nothing in the Strategic Plan alternative budgets to accommodate the containment of the current odors beyond the current insufficient budget and those incremental impacts that may be caused by future expansion surrounding our neighborhood. Trusting the District to respond to complaints in the future and fix them with vague technologies is not enough. Odor containment to Plant #2's boundaries will not be accomplished unless it is accounted for in a budget. That the District has not allocated any additional funds for odor containment in its billion dollar budgets/cost estimates for Scenarios 1 – 6 points out the current inadequacy of the Strategic Plan, EIR and lack of concern for our neighborhood.

It is amazing that hundreds of pages of the EIR are dedicated to test results of fish habitat seven miles out in the ocean (2,000 ocean samples and 600 fish flesh) but OCSD seems reluctant or ambivalent to seriously test for odors/chemicals being released that are blown into our neighborhood. The EIR consultant's comment that "odors are hard to quantify" is not acceptable. Two types of odors are clearly present in our neighborhood and can be classified as Organic (sewage) and Chemical (bleach, hydrogen sulfides, hydrogen peroxides, etc.). It is hardly unquantifiable when the plant manager can stand in a resident's driveway with a cell phone, order up more bleach, and change the smell from organic to chemical. By the way, the chemical bleach smell is not pleasant either. No analysis was found in the EIR of the potential health impacts of these odors/chemicals that residents are exposed to on a regular basis.

To summarize, the clear prospect of adding more odorous/hazardous facilities at Plant #2 and its effect on our neighborhood appears to have been severely understated or ignored.

SHBNA-12

Strategic Plan

The actual Draft Strategic Plan cannot completely be discussed because it has not been fully provided to the public. The volumes are reportedly 4 feet wide on a shelf at the OCSD headquarters and are too expensive to reproduce. A copies of one of these volumes was given to SEHBNA within the last two weeks. Given its complexities, the public review period before the only public hearing (3 weeks) and the public response period (an additional 3 weeks to 8/16/99) is not sufficient to allow analysis and comment from the public or experts.

Specific Comments Regarding the EIR

Draft EIR Executive Summary and Sections of the EIR Noted

SHBNA-13

Page 8 (4th Paragraph) "None of the planned upgrades proposed for the Preferred Alternative would prevent OCSD from implementing full secondary capacity in the future if needed".

That statement shows the need for having odor mitigation built into the cost estimates/budget now, instead of later to adequately show the costs of the alternatives.

SHBNA-14

Page 11 (3rd Paragraph) "Although the District may choose not to implement Phase 2 and 3 of the GWR System Project, the analysis in this document (EIR) assumes each phase is implemented as currently planned"

What if Phases 2 and 3 of the GWR system are never implemented (resulting in a Scenario other than #2)? No defined odor mitigation appears to be quantifiable or is in the budget/cost estimates of the EIR alternatives.

Land Use:

SHBNA-15

Page 38 (Impacts 6.1-1–3) Landscape plans mentioned here and in Urban Design Element of strategic plan are vague and not defined. The ability to adequately screen the plant is questionable due to Dept of Fish & Game and other concerns.

SHBNA-16

Page 40 (Impacts 6.4-2) What is the noise level in DBA now? It can certainly be heard from bedroom windows at night.

Air Quality:

SHBNA-17

Page 41 (Impact 6.5-2) Reportedly, costs to meet the "increasingly restrictive standards that will be imposed by SCAQMD" have not been placed in the strategic plan budget even as a contingency. If the necessary permits will be "difficult to obtain", is Scenario #2 reasonable to achieve?

SHBNA-18

OCSD needs to be specific about how these emissions will be reduced. Which "process modifications" and/or implementation of "new technologies" are contemplated? Why are these processes not being used now? Again, the District needs to account for current and future mitigation in the cost estimate/budget now.

It is unclear as to how the District can say the Level of Significance after Mitigation will be "Less than Significant" if they do not know which future "new" technology will be utilized. It may not be possible and its impact needs to be quantified.

SHBNA-19

Page 42 (Impact 6.5-3) The central generating station (CGS) is a miniature power plant located within 300 feet of homes in our neighborhood. What increases in power generating capacity are planned in the strategic plan and will these emissions over our homes be increased?

SHBNA-20

Page 42 (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." As a mitigation measure, it states: "The District will evaluate the need for odor control equipment for future facilities to reduce fugitive foul odors and include odor control when necessary".

We in the impacted neighborhood are here to say that the plant <u>does</u> smell and there <u>is</u> a need for odor control now. The strategic plan needs to reflect this fact, determine a procedure/cost, and prepare to fix it as part of this 20-year Strategic Plan before it's too late. It is a tragedy that only 1.5 pages of the EIR were dedicated to these impacts.

SHBNA-21

Although the EIR suggests very few odor complaints are received by OCSD, it fails to note the difficulty of registering such complaints and apathy caused by it. There appears to be no clear method of taking complaints, direct phone complaint number, and little hope of a response (particularly after hours). A complaint caller, after working hours, must find the OCSD main phone number (listed in Fountain Valley), wade through a voicemail directory and how to stay on line (for emergencies), and know to ask for Plant #2. The attendant will then ask of the problem but only occasionally ask for an address of the caller. The District's reported small number of complaints in 1997-1998 is understated based on interviews with residents in the area but this cannot be proven given the District's apparent faulty complaint system. An example of this inaccuracy was shown at a recent SEHBNA Board Meeting. Board Members present indicated they, themselves, registered more complaints than indicated in the EIR (5 in 1998-1999).

SHBNA-22

EIR (Impact 6.5-6) The statement in this section of the EIR that implementation of the treatment scenarios is in conformance with Southern California Air Quality Management District's Air Quality Management Plan is not "consistent with the local General Plan or Air Quality Element". The Draft Strategic Plan and its EIR are clearly not consistent with the City of HB's General Plan, for reasons discussed below.

<u>Huntington Beach General Plan Inconsistencies</u>

The role and purpose of the City's 1996 General Plan (GP) is a "guide to civic decisions regarding land use.....and the protection of residents from natural and human-caused hazards." The GP specifically identifies OCSD's Plant #2 as a "hazardous material operation" (p. V-HM-3). While it is obvious that the majority of such hazardous waste generated at the plant is disposed of in better condition than it entered, the other important aspect of this hazardous waste is those odors and chemicals which are emitted into the air and migrate over our neighborhood.

SHBNA-22 (Cont'd)

The goals and objectives of the hazardous waste section of the GP focus on reducing the potential impacts of such generators. GP policies include reduction of hazardous waste amounts and encouragement of policies and technologies which will reduce the generation of such at their source. The Draft EIR lacks recognition of this and quantifiable mitigation of these impacts (both current and potential) and is therefore inconsistent with the GP.

To summarize, the EIR should consider whether OCSD is in compliance with Objective HM1.5 of the GP and ensure that these hazardous waste management concerns are adequately addressed in the regional hazardous waste OCSD Strategic Plan and EIR. We believe they have not been adequately addressed

SHBNA-23

Conclusion

The EIR's Preferred Alternative #2 is clearly the best plan – but it is only a perfect world plan subject to many difficult variables and assumptions. SEHBNA supports OCSD's efforts to improve many of its systems (i.e. GWR) and hopes future expansion of facilities be kept to a minimum.

SEHBNA does, however, feel that this Strategic Plan, EIR and cost estimates do not provide protection for our neighborhood in terms of recognizing the current and potential air quality impacts.

SHBNA-24

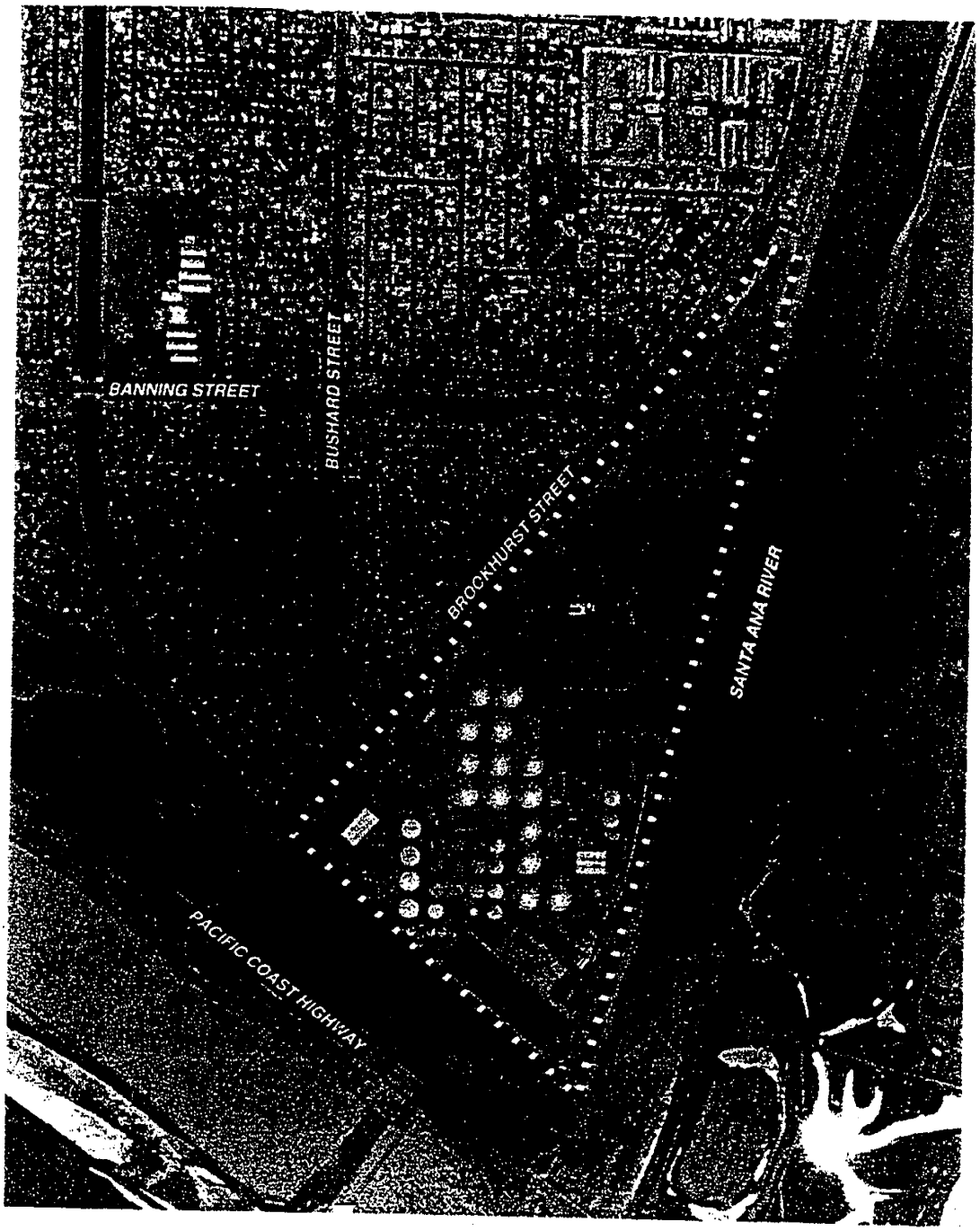
Again, SEHBNA Respectfully Requests the Following Action by OCSD:

1. Recognition that adequate protection has not been provided the residents of southeast Huntington Beach with respect to odor/chemical emission impacts of Plant #2 (under current conditions and under future potential EIR scenarios 1 – 6).

2. Recognizable funds should be added to the budget for incremental odor containment to contain such emissions to the plant boundaries. The OCSD Board of Directors should be asked to consider approving such and incorporating specific mitigation measures as part of the total cost estimates/budgets of the Strategic Plan and under each of the EIR alternatives.

3. OCSD should provide specific information as to the current sources of odor/chemical emissions (migrating across Brookhurst Street) and if not available, perform such tests. This information should be made available in order to gauge the adequacy of the EIR and properly mitigate the current and future air quality impacts to our neighborhood.

4. OCSD should extend the EIR review/comment period (past 8/16/99) to allow for more analysis in the EIR and comments by HB, residents, and other agencies.



SOURCE: OCSD

OCSD Strategic Plan Program EIR / 960436

Figure ES-3
Treatment Plant No. 2 Boundary and Vicinity

Exhibit A

Figure No. 16-7
Plant No. 2 Future Facilities Site Plan
Planning year 2020 (Phase 3 of GWR System)
Exhibit B
2/21/1999 2:15pm

T SOUTHEAST HUNTINGTON BEACH NEIGHBORHOOD ASSOCIATION

SHBNA-1 The comment suggests that the Draft PEIR inadequately describes air emission and odor impacts to surrounding neighborhoods. Section 6.5 of the Draft PEIR summarizes the District's extensive air quality management program. Impacts 6.5-1 through 6.5-6 identify potential impacts to air quality. Impact 6.5-5 states that objectionable odors from the treatment plants could impact neighboring areas. In response to this comment, the District has compiled information on odor control programs at both plants. This information has been included in this Final PEIR as Attachment A.

SHBNA-2 The comment asks the District to recognize that adequate protection has not been afforded neighboring communities with respect to air quality. The District disagrees with this comment. Air pollutant emissions from the plant including objectionable odors have decreased significantly in the past ten years in response to air quality regulations and as a matter of District policy set forward in the 1989 Master Plan. The District's primary objectives and purpose are to protect the public health through responsible wastewater treatment policies and procedures. This includes protection of the marine environment and beneficial uses of the coastal areas as well as protection of service area communities through strict air quality controls and good neighbor policies. Table 6.5-5 of the Draft PEIR shows the progress made by the District's odor control policies as recorded complaints have dropped precipitously. In recent years, odor complaints have increased slightly. The District is committed to reversing the trend through adoption of additional odor control equipment. Attachment A provides more information on the District's odor control programs.

In addition, the District is prepared to meet with local neighborhood groups as needed to discuss issues impacting the neighborhood and to work together to solve problems. The District has repeatedly shown their commitment to maintaining open lines of communication with concerned groups. In response to comments received on the Draft PEIR, the following mitigation measures have been added to the PEIR:

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

Mitigation Measure 6.5-5d: 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.

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

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

SHBNA-3 The comment states that funds should be made available in the budget for odor control. The District agrees that odor control is a priority. The Draft PEIR does not include cost information since CEQA does not require budget analysis for proposed alternatives or mitigation measures. However, several odor control projects do exist within the District's budget. The Strategic Plan includes $6 million per plant ($12 million total) for odor control enhancement projects through the year 2015. The current budget contains $1.6 million for odor control equipment rehabilitation. This money will primarily cover the installation of new odor control equipment. See Attachment A.

SHBNA-4 The comment requests that the District determine the source of the odors currently emanating from the plant. Odors generally are produced by raw sewage. The District maintains odor control programs to reduce odors in sewer lines, preliminary treatment facilities such as bar screens and grit chambers, and primary clarifier basins. Attachment A provides additional information on the District's odor control programs.

SHBNA-5 The comment requests a comment review period extension. The District has decided not to extend the comment period since few requests to do so were received.

SHBNA-6 The comment states that odors emanate from the plant in the morning and evening and that the Draft PEIR failed to adequately address the impact to neighboring areas. Impact 6.5-5 identifies odor as a significant impact. Mitigation measures to reduce the impact provided in the Draft PEIR include continued evaluation of the need for additional odor control and implementation when needed. To this end, the District remains open to discuss future strategies to detect and eliminate odors in surrounding neighborhoods. See response to comment SHBNA-2. Attachment A provides additional information on the District's odor control program.

SHBNA-7 The comment indicates that the Strategic Plan is not available to the public. In fact the Strategic Plan is available to the public. The document can be reviewed at District offices in Fountain Valley. The Draft PEIR was released for public review on June 29, 1999 in accordance with CEQA regulations. A public hearing was held on July 21, 1999 to receive public comments on the document and the public comment period extended through August 16, 1999.

SHBNA-8 The comment expresses support for Scenario 2 and apprehension over the remaining alternatives due to increased construction and industrial facilities in the neighborhood which the other alternatives would impose. The comment is acknowledged. Impacts to surrounding areas were analyzed throughout the document for the implementation of the full secondary alternative (Scenario 4). The current NPDES permit requires the analysis as part of the 301(h) waiver. Should the regulators revoke the District's 301(h) waver to discharge less than full secondary effluent, the District will be compelled to build additional facilities as described in the Draft PEIR. The Draft PEIR provides mitigation measures for each significant impact associated with this potential scenario.

SHBNA-9 The comment indicates that as more facilities are built more odor control will be necessary. The District acknowledges the comment. The Board of Directors has previously adopted requirements that new odor emitting treatment facilities be equipped with odor control equipment. Impact 6.5-5 and Mitigation Measures 6.5-5a and 6.5-5b within the Draft PEIR are directed at the issue of odor control. See Attachment A.

SHBNA-10 The comment expresses concern over the effectiveness of mitigation measures to reduce odor impacts. Impact 6.5-2 primarily addresses criteria pollutants from the power plants at each plant. New control technologies mentioned in Mitigation Measure 6.5-2b would apply to criteria pollutants. Impact 6.5-5 addresses odor. Mitigation Measure 6.5-5a states that the District will evaluate the need of implementing odor control described on page 6.5-19.

SHBNA-11 The comment states that current odor control practices are insufficient and the Draft PEIR neglects to identify health effects of odors. The District is in full compliance with regional air emissions regulations. These regulations are based on health standards. Nuisance odors are also regulated by the SCAQMD. See Attachment A.

SHBNA-12 The comment indicates that the Strategic Plan is not available to the public. See response to comment SHBNA-7.

SHBNA-13 The comment states that budgets should be prepared for odor control. See response to comment SHBNA-3.

SHBNA-14 The comment asks if odor control would be included under other scenarios. The Mitigation Measures in the Draft PEIR and the District's commitment to odor control will be implemented irrespective of the treatment alternative selected. See response to comment SHBNA-9.

SHBNA-15 The comment states that the Urban Design Element is vague and not defined. The objectives of the Urban Design Element are to screen the treatment plants from neighboring communities. Impact 6.1-3 discusses aesthetics of future expansion. Mitigation Measures 6.1-3a and 6.1-3b ensure that the visual appearance of the site will not adversely impact the neighborhood.

SHBNA-16 The comment asks for current noise level data. Noise management programs at both plants are described in Sections 4.6 and 6.4 of the Draft PEIR. The District houses large equipment and keeps insulated doors closed to reduce ambient noise levels. Impact 6.4-2 identifies operational noise as a significant impact mitigated through the adoption of fence-line noise thresholds of 50 dBA during the nighttime and 55 dBA during the day. However, the District's fence lines at both plants are bordered partially by busy streets. Traffic noise from these streets and from Interstate-405 and the Pacific Coast Highway generally exceeds these thresholds. Noise monitoring around the perimeter of the plant primarily measures traffic and street noise. However, the District has committed in Mitigation Measure 6.4-2 to maintaining low fence-line noise levels and maintaining compliance with local noise ordinances. In addition, a new mitigation measure will be added to the Draft PEIR:

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

SHBNA-17 The comments asks if Scenario 2 can be reasonably obtained since air emissions permits may be difficult to obtain. Section 6.5 discusses the District's air quality management program. The District holds air emissions permits for power generation equipment, flares, treatment basins and scrubbers. As indicated in Table 6.5-1 greater than 80 percent of regulated emissions result from combustion equipment. As indicated in Mitigation Measure 6.5-4a the District would purchase energy from off-site locations if emissions permits were denied. The level of wastewater treatment would not be affected.

SHBNA-18 The comment requests clarification on how Impact 6.5-2 is considered less than significant after mitigation if new technologies have not yet been developed. As described in Mitigation Measure 6.5-2b, the District will comply with air emissions regulations through process modifications (including purchasing power from off-site as noted in Mitigation Measure 6.5-4a) or new technologies if new feasible technologies have been developed.

SHBNA-19 The comment asks what increases in power generating capacity are planned in the Strategic Plan. Section 6.10 describes the energy generation capabilities of both plants. Table 6.10-1 summarizes the energy requirements at both plants to the year 2020. Under Scenario 2, the energy requirements at the plant would increase from

13,889 kW to 17,189 kW. The current facilities are permitted to produce 18,000 kW. Therefore, no new energy generating equipment or new emissions permits would be anticipated under Scenario 2. Section 6.5, page 6.5-14 describes the current and projected emissions from the increased energy consumption. Current daily criteria pollutant emission limits for combustion sources are listed in Table 6.5-3. These limits would not change under Scenario 2, as the District would not need to exceed the 18,000 kW capacity.

SHBNA-20 The comment states that the plant smells and there is a need for odor control. Please see Attachment A and response to comment SHBNA-2.

SHBNA-21 The comment states that the odor complaint line is difficult to use and has not been accurately reported. The District is prepared to discuss any problems concerning the odor complaint line. The complaint line is a vital link to assessing the effectiveness of the odor control program. Since nuisance odors are generally difficult to quantify or identify as effectively as a person's sense of smell, communication with the surrounding community is paramount to managing the program. The District will continue to publicize the odor complaint telephone line and will review ways of making it easier to use and more efficient. See response to comment SHBNA-2.

SHBNA-22 The comment expresses the opinion that the Draft PEIR is not in conformity with local and regional management plans. The District disagrees with this comment. Regional management plans prepared by SCAG and other regional agencies outline management goals for the region with regard to environmental issues such as air quality, traffic, water quality, open space preservation, and growth. Estimated impacts to regional resources are identified and mitigation measures are developed. Subregional projects may then be compared to the regional analysis to determine consistency with mitigation measures and assumptions. Chapter 11 of the Draft PEIR discusses the District's relationship with regional management plans. Impact 6.5-6 provides a discussion on air quality consistency analysis. Please see also response to comment SCAG-1.

With respect to the Huntington Beach General Plan, the District remains consistent with the Plan's policies and goals. Non-conformity with a policy or goal of the City relevant to the environment would constitute a significant impact. The Huntington Beach Objective identified in the comment (HM1.5: "Ensure that the City's hazardous waste management concerns are adequately addressed in regional hazardous waste management plans") refers to the City's responsibility to prepare or review regional hazardous waste management plans. The Draft PEIR discusses hazardous materials and waste management in Section 6.9. As noted on page 6.9-6, the Huntington Beach Fire Department plays an active role in emergency response training for employees at both treatment plants.

SHBNA-23 The comment expresses support for Scenario 2. Comment noted.

SHBNA-24 The comment reiterates comments SHBNA-1 through 5. See responses to comments SHBNA-1 through 5.

3.5 INDIVIDUALS

Herberg, Jim
From: Ghirelli, Robert
Sent: Wednesday, June 30, 1999 8:38 AM
To: Herberg, Jim; Tuchman, Michelle; Ludwin, David; Anderson, Blake; Ooten, Robert; Streed, Gary; McIntyre, Donald
Cc: Mowbray, Sam; Moore, Michael
Subject: RE: Plan Would Boost Discharge to Ocean.

With respect to the second paragraph of Mr. Schultz' letter, here are the facts:

The Sanitation District discharge of treated wastewater to the Pacific Ocean consistently meets all water quality standards established by the U.S. EPA and State of California. Compliance with permit conditions and receiving water criteria is achieved 82 - 100% of the time for water quality parameters, sediment conditions, and indicators of the health of fish and animals living along our coast. Although some measurements occasionally exceed the respective limits, the exceedances are well within the range of natural variability and do not represent significant concerns for the coastal environment and public health.

Robert P. Ghirelli, D.Env.
Director of Technical Services
Orange County Sanitation District
(P) 714-593-7400
(F) 714-962-6957
e-mail: rghirelli@ocsd.com

—Original Message—
From: Herberg, Jim
Sent: Wednesday, June 30, 1999 7:28 AM
To: Tuchman, Michelle; Ludwin, David; Ghirelli, Robert; Anderson, Blake; Ooten, Robert; Streed, Gary; McIntyre, Donald
Subject: FW: Plan Would Boost Discharge to Ocean.
Importance: High

Here's an e-mail I just received from Don Schultz. It appears he is writing to the Register.
--Jim

—Original Message—
From: DON SCHULZ [SMTP:SurfDaddy@compuserve.com]
Sent: Tuesday, June 29, 1999 9:40 PM
To: Orange County Register
Subject: Plan Would Boost Discharge to Ocean.

In the above referenced article dated friday, June 18, 1999 Mr. Jim Herberg, engineering supervisor at Orange County Sanitation Districts is quoted as saying "We're not going to degrade the ocean environment." There are many of us in the environmental stakeholder community who would disagree with the position of the Sanitation District that 20,000 metric tons of suspended solids dumped into the ocean each year (400,000 metric tons by the year 2020) "does no harm to the marine environment."

There are bacterialogical ,toxic, and carcinogenic materials contained in the discharged polluted effluent that are at concentrations far in excess of current California Ocean Plan concentration levels. **DS1-1**

The plan put forward by the Sanitation District to increase the suspended solid discharge concentration by 17% (3,000 metric tons) because "800,000 more people are expected to move into **DS1-2**

north and central county" is misleading. The real reason for this increase is that the Sanitation Board has failed to implement a policy that would have collected sufficient funds from builder connection fees necessary to upgrade the Sanitation Department facilities to accommodate this anticipated population growth.

DS1-2
(Cont'd)

D.P. Schulz P.E.
member, CSDOC policy advisory committee

U DON SCHULZ, 1

DS1-1 The comment disagrees that 20,000 metric tons of total suspended solids per year does not harm the environment. The comment claims that Ocean Plan standards are violated. The District disagrees with this statement. Pollutant standards are promulgated in the State Water Resources Control Board's Ocean Plan as a measure to protect the beneficial uses of the marine environment. As discussed on page 3-7 and in Chapter 5 of the Draft PEIR, a violation of Ocean Plan standards would constitute a significant impact. The minimum level of treatment assessed in the Strategic Plan would ensure full compliance with the California Ocean Plan. The District's NPDES permit based on Ocean Plan 301(h) waiver standards allows for the discharge of 20,000 metric tons of TSS annually from the existing outfall.

DS1-2 The comment suggests that insufficient funds from connection fees have forced the District to avoid upgrading the facility to meet future demand. The District disagrees with this statement. The Strategic Plan provides extensive analysis for meeting future demands while complying with regional planning frameworks. Chapter 11 discusses the District's evaluation of future demand in relation to impacts of growth. The Strategic Plan provides the necessary measures of conservation and reclamation to minimize impacts to the land-side environment including air resources and traffic management plans. The District's NPDES permit establishes discharge limits based on California Ocean Plan 301(h) waiver standards. The District has the responsibility to minimize land-side impacts while complying with state and federal treatment level thresholds.

V

Herberg, Jim

From: Tuchman, Michelle
Sent: Tuesday, July 13, 1999 5:48 PM
To: 'Edward LaBahn'
Subject: RE: REQUEST FOR DOCUMENTS.

I sincerely apologize for not returning your previous e-mail in a timely manner. However, I hope the following helps...

Michelle Tuchman
Director of Communications
Orange County Sanitation District
714.592-7120 714.962.0356 (fax)
mtuchman@ocsd.com <mailto:mtuchman@ocsd.com>

-----Original Message-----
From: Edward LaBahn [mailto:ealabahn@worldnet.att.net]
Sent: Tuesday, July 13, 1999 11:36 AM
To: MTuchman@ocsd.com
Subject: REQUEST FOR DOCUMENTS.

MICHELLE:

This follows my previous message of 6/22/99 re OCSD's recent Draft Program EIR for the Strategic Plan. I would be grateful for answers to the questions I raised in my message. Principal of these consist of:

- Availability of Executive Summary of Strategic Plan Report? The Executive Summary of the Draft EIR is based on our Strategic Plan. Therefore, the Ex. Summary of the Draft EIR should meet your information needs. **EL-1**
- Availability of Executive Summary of Draft Program EIR on Strategic Plan? Available now. Where may I send a copy? **EL-2**
- Will answers be forthcoming to questions included in numbered paragraphs 3 through 6 of my 6/22/99 message? **EL-3**
-
- 3. The article mentions that an additional population of 800K is expected to move into the district by the year 2020. Has the district identified where this additional population will reside? (Where are you going to put them? What happens to the quality of life of present populations? Hopefully, the EIR addresses these questions.) How does this projection match similar projections being made by north and central county water supply planning agencies? **EL-4**

  Answer: In doing the Strategic Plan, we worked closely with the Center for Demographic Research at Cal State Fullerton. We also received land-use projections from the cities in our service area. According to the Center for Demographic Research, 800,000 more people will live in Orange County by the year 2020. While one would assume that most of the growth would be in south county, the area "above the El Toro Y," which is our service area, will also see a fair share of growth.
- 4. Some of the quotations of district representatives mentioned in the article seem dubious or, at best, unclear. For example, Jim Herberg is quoted as saying "We're not going to **EL-5**

EL-5 (Cont'd)

degrade the ocean environment." I'm not sure how he would define "degrade", but one of the definitions in my copy of Webster's New World Dictionary is "--to lower or corrupt in quality--". Increases in solids content while maintaining present volumes of flow certainly would produce that result! Answer: Protecting the ocean environment is of utmost importance to the Sanitation District. We spend about $1.8 million a year on our Marine Monitoring Program to test the waters and marine environment around our outfall and the coastal waters up and down our service area. We currently have 13 consecutive years of data with which we can trend any changes. What we have found over the years is that our outfall has become an artificial reef and that many types of fish and plant life live on and around the outfall. All of our testing, projections and modeling indicate an increase in microscopic suspended solids will not have an adverse effect on the ocean or the marine environment.

- 5. The article also mentions the district's desire to avoid having to build an additional ocean outfall. Since the article mentions "--the amount of water discharged would remain about the same--", the former does not appear to be a problem. Has anyone seriously considered an increase in the district's secondary treatment capacity to compensate for future reductions in secondary effluent going to the outfall due to increased emphasis on tertiary treatment? Answer: Your question about the capacity of secondary treatment was a major discussion point during the strategic planning process. I believe this is discussed in the Ex. Summary of the Draft EIR. Jim Herberg, 593-7310, of our Engineering Department can explain this far better than I. EL-6
- 6. What happens after the year 2020? Is future growth expected? If so, how will it be handled? It would appear that increased secondary treatment capacity eventually will have to be considered--if so, why not plan for it now? Answer: While the Draft EIR includes up to 2020, we will be updating the Strategic Plan several times before that date -- our history has been to update our long-range plans every 5-7 years -- and it's anticipated that new technology will come on line before 2020. For example, microfiltration, which is used in other applications, may be used in wastewater treatment by that time. In fact, we're doing some testing right now. EL-7
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- Has 8/16/99 been retained as the final date by which time all comments must be received on the Draft Program EIR? Yes EL-8

If copies of the two Executive Summaries noted above are available for public review, would it possible to send them to me through the mail? (My mailing address is shown below).

I will be out of state during the week beginning 7/18/99.

Thanks and best wishes!

Edward A. LaBahn

93 Monarch Bay

Dana Point, CA 92629-3409

-

V EDWARD LABAHN

EL-1 The comment inquires as to the availability of the Executive Summary of the Strategic Plan. The Executive Summary of the Strategic Plan is not yet completed.

EL-2 The comment asks about the availability of the Executive Summary of the Draft PEIR. The Executive Summary of the Draft PEIR was made available to the public on June 29, 1999.

EL-3 The question inquires as to whether the e-mailed comments will be answered. The Final PEIR will include these comments.

EL-4 The comment requests information on population growth in Orange County. Chapter 11 of the Draft PEIR summarizes the secondary effects of projected population growth. SCAG regional plans including the RCPG and RTP available to the public provide additional detail on a regional scale.

EL-5 The comment requests clarification on the term "degrade." The term "degrade" is defined in the California Ocean Plan (1997) as follows:

> Degradation shall be determined by comparison of the waste field and reference site(s) for characteristic species diversity, population density, contamination, growth anomalies, debility, or supplanting of normal species by undesirable plant and animal species. Degradation occurs if there are significant differences in any of three major biotic groups, namely, demersal fish, benthic invertebrates, or attached algae. Other groups may be evaluated where benthic species are not affected, or are not the only ones affected."

As summarized on pp. 5.2-16 to 5.2-17 and discussed in the Biota section, beginning on p. 5.2-63, the proposed treatment scenarios would not result in degradation of the benthic invertebrate or demersal fish communities near the outfall.

EL-6 The comment inquires as to whether a new 120-inch outfall is necessary. The Draft PEIR discusses the need for an additional 120-inch diameter outfall on page 3-38. The preferred alternative described in the Draft PEIR would not include building a new outfall at this time.

EL-7 The comment asks what is expected beyond 2020. The Strategic Plan identifies an ultimate buildout flow projection of 472 million gallons per day (MGD). This projection utilizes current consumption and conservation rates discussed on page 3-3 of the Draft PEIR. The District updates its future planning documents every 5 to 7 years.

EL-8 The comment inquires if the public comment period will be extended. The comment period will not be extended beyond August 16, 1999.

Date: 8/16/99 9:46 AM
Sender: "Anderson Angie" <AANDERSON@OCSD.COM>
To: "Kris Lindstrom (E-mail)" <kplinc@redshift.com>; lm; tcb
Priority: Normal
Subject: FW: OCSD PEIR Technical Questions.

Jim received this email from Don Schulz on Thursday, August 12--unfortunately Jim's been on vacation and was unaware of the message.
Please review and be prepared to briefly discuss in conference call at 1:00
p.m. today with Jim and myself.
Thanks,
Angie

> -----Original Message-----
> From: Herberg, Jim
> Sent: Monday, August 16, 1999 9:26 AM
> To: Anderson, Angie
> Subject: FW: OCSD PEIR Technical Questions.
>
>
>
> -----Original Message-----
> From: Donald P. Schulz [SMTP:SurfDaddy@compuserve.com]
> Sent: Thursday, August 12, 1999 3:40 PM
> To: Jim Herberg
> Subject: OCSD PEIR Technical Questions.
>
> Jim,
> I have a few questions regarding the above referenced and very informative report that perhaps you could clarify for me when you have the time.
> 1. Appendix E-2 "Projected OCSD Effluent Quality...." has two Effluent Indicator Bacteria Level Charts for the year 2020 Scenario Comparisons with different numerical values. Which one is correct? **DS2-1**
> 2. The second Effluent Indicator Bacteria Level Chart indicates that the fecal coliform level concentration is greater than the total coliform concentration level ? **DS2-2**
> 3. The chart "OCSD Suspended Solids Loads 1977-1998" shows an annual rate of approx 17,000 metric tons being fairly constant since 1985. The chart "OCSD Historic Flows" however, shows an increase of approx.18 % in average Effluent Flow to Ocean since1991. This implies that the 301 (h) waiver end of term limit of 20,000 metric tons (TSS) could be met even if no further improvements were made in the present suspended solid removal efficiency,(83%). Does this mean that OCSD plans to make no further investments in advanced primary or additional secondary treatment facilities to further improve this efficiency,and at least restrict the TSS discharge load to the ocean at its present value? **DS2-3**
> 4. As you know, in addition to meeting the NPDES permit discharge concentration levels, OCSD is required to meet California Ocean Plan discharge concentration levels (outside of the plume area).For some toxic and carcinogenic pollutants, however, present Method Detection Levels (MDL) and statewide Minimum Levels (ML), are high in magnitude **DS2-4**

> relative to water quality objectives. By increasing the ratio
> of primary to secondary discharge to the ocean, wouldn't
> it seem likely that there would be a corresponding increase
> in the concentration of these pollutants outside of the plume
> area, and therefor a "reasonable potential" to exceed state
> water quality objectives? Why wasn't this problem addressed
> in the PEIR? Why does OCSD make a practice of reporting
> compliance to California Ocean Plan water quality objectives
> when their minimum detection limits are in fact, well in excess
> of Ocean Plan objectives? What plans (if any), does OCSD
> have to improve their compliance reporting so that the public
> has a clear and accurate statement as to which discharge
> pollutant concentrations are in compliance to Ocean Plan
> objectives, which ones are not in compliance to Ocean
> Plan objectives, and which ones are indeterminant because
> of the limits of their technology?

DS2-4 (Cont'd)

> 5. How many acre-ft. of temporary peak wet weather storage
> would be required to reduce the probability of an emergency
> discharge to the near shore via the 78" discharge pipe to a
> "rare and infrequent" (1% or 2% a year) event? Could the local
> wetland property at Bolsa Chica or the Hellman Ranch in Seal
> Beach be used for this purpose? Has the District investigated
> other districts, (such as Humbolt County and South San Diego)
> regarding the projects that are being considered in their areas
> to deal with this problem? Why isn't this discussed in the PEIR?

DS2-5

>
> Your response to these questions is sincerely appreciated.
> Don Schulz
>
>
>
>
>
>

W DON SCHULZ, 2

DS2-1 The comment asks which of the two effluent bacteria graphs in Appendix E-2 is correct. The comment is noted. The first Effluent Indicator Bacterial Levels graphic in Appendix E-2 is correct. The graphic shows that total coliform is always greater than fecal coliform. The second graphic was included in error and will be removed from the Final PEIR. This discrepancy was also found in Table 5-26 and in the Microbial Indicators table in Appendix E-2. Both these tables show fecal coliform levels greater than total coliform levels due to transcription errors. These table have been changed and are included in Chapter 4, Text Revisions in the Final PEIR.

DS2-2 The comment notes that the second Effluent Indicator Bacterial Levels graphic shows that fecal coliform levels are greater than total coliform levels. Comment noted. See response to comment DS2-1.

DS2-3 The comment asks if the District is planning to increase secondary treatment capacity under Scenario 2. The comment inquires that since the District maintained total suspended solids (TSS) levels at 17,000 metric tons per year while flows increased from 1991 to the present, will further facilities be required to meet the new elevated limits. Tables 3-2 and 3-3 of the Draft PEIR provide detailed information on treatment facility requirements under the preferred alternative by the year 2020. Figures 3-7, 3-8, 3-10, and 3-11 provide overviews of the staged development planned for Scenarios 2 and 4. As indicated in the text of the Draft PEIR on page 3-12, Scenario 2 will require fewer new secondary facilities than the other treatment scenarios. No new secondary treatment facilities are expected at Treatment Plant No. 2 by the year 2020 under Scenario 2. Reclamation Plant No. 1 would require the construction of 5 trickling filter clarifiers only. The Strategic Plan establishes Treatment Scenario 2 as requiring the least amount of facilities to meet GWR requirements and NPDES permit limits including the TSS limit of 20,000 metric tons per year. The 17,000 metric tons per year TSS limit adhered to in previous years would not be met under Scenario 2.

DS2-4 The comment suggests that some detection limits are higher than Ocean Plan Standards. With regard to the receiving waters, sediment samples for the ocean monitoring program (1985 to 1997) are analyzed for the EPA priority list of pollutants using EPA/301(h) protocols. For Phase II of the ocean monitoring program (starting July 1998), the District began evaluating sediment quality using performance-based methods and a list of analytes that are similar to those used by the National Status and Trends program. These changes were specified in the District's Guidance and Rationale Document for Phase II Ocean Monitoring Program to provide a consistent basis with which to evaluate analytical accuracy and improved analytical sensitivity. Prior to the start of the 1997-1998 ocean

monitoring program, the District completed an agreement with EPA, Region IX, and the Regional Water Quality Control Board, Santa Ana Region, that authorized the District to analyze sediment samples for a modified National Status and Trends analyte list and use performance-based methods in lieu of the full EPA priority pollutant list with EPA/301(h) methods that have been used during past years. These changes were made to facilitate the transition between Phases I and II of the ocean monitoring program. Further details of these changes are discussed in the District's 1998 Annual Report for Marine Monitoring.

DS2-5 The comment asks how much storage capacity would be necessary to temporarily store peak wet weather flow and eliminate the need for the 78-inch diameter outfall. The comment also suggests using wetlands for storage. The Strategic Plan estimates (based on the hydraulic modeling) that the amount of equalization storage necessary to eliminate the need for the 78-inch outfall would be greater than 85 million gallons.

The peak flow discussed throughout the Draft PEIR pertains to sanitary sewer peak flows. These flows are bolstered during rain events due primarily to inflow and infiltration (I/I). The District would not consider discharging raw sewage into a designated wetland for equalization storage.

3.6 PUBLIC HEARING

X DON SCHULZ

PH-DS-1 The speaker indicates that about three or four years ago, there was a proposal to disinfect effluent discharged to the SAR or 78-inch outfall. The proposal was turned down by the RWQCB. How can the RWQCB accept discharging untreated effluent? The speaker acknowledges mirco-filtration possibilities.

See response to comment SURF-5.

PH-DS-2 The speaker expresses support for GWR. Comment noted.

PH-DS-3 The speaker suggests re-evaluating alternatives and the environmentally superior alternative designation. The Draft PEIR discusses the alternative evaluation process in detail in Chapter 9. The process of choosing an alternative took over four years and involved detailed engineering analysis, demographic flow projections, storm water modeling, and meetings with the Planning Advisory Committee, staff engineers, and consultants. The District has identified Scenario 2 as the environmentally superior alternative.

PH-DS-4 The speaker expresses concerns with use of the 78-inch diameter outfall which may have detrimental effects on the surf zone. See response to comment RWQCB-1.

PH-DS-5 The speaker recommends asking the RWQCB to define a rare and infrequent event or emergency discharge as well as soliciting the input of the Coastal Commission, the County Health Department and environmental groups like Surfrider. See response to comment RWQCB-1.

Y VICTOR LEIPZIG

PH-VL-1 The speaker supports the GWR System. Comment noted

PH-VL-2 The speaker supports the goal of not installing a new outfall. Comment noted.

PH-VL-3 The speaker supports the reduction of inflow and infiltration. Comment noted.

PH-VL-4 The speaker supports the Scenario 2 treatment alternative and is encouraged by enhanced primary treatment. Comment noted.

PH-VL-5 The speaker encourages the District to avoid using the 78-inch outfall and to attempt to communicate better the weaknesses of the model to reduce the inflammatory appearance. Comment noted. See response to comment RWQCB-1.

PH-VL-6 The speaker asks the District to clarify the contribution of storm water pollution and to encourage the Orange County Board of Supervisors to upgrade storm collection facilities for the benefit of the regional reputation. See response to comment FWS-17.

Z JOHN ELY

PH-JE-1 The speaker expresses concerns about impacts to air quality and visual aesthetics of the Huntington Beach Plant. See response to comment SHBNA-1 through 24.

PH-JE-2 The speaker expresses concerns about odors in Huntington Beach area from existing facilities and from new facilities especially on the northern portion of the District's Plant No. 2 property. See response to comment SHBNA-1 through 24.

PH-JE-3 The speaker indicates that the odor complaint line is difficult to use. See response to comment SHBNA-2.

PH-JE-4 The speaker requests information on the source of odors and the health effects. See Attachment A.

CHAPTER 4

EIR TEXT REVISIONS AND STAFF-INITIATED TEXT CHANGES

4.1 INTRODUCTION

The following corrections/clarifications have been made to the Draft PEIR text. These corrections include: minor corrections made by the Draft PEIR authors to improve writing clarity, grammar and consistency; corrections or clarifications requested by a specific commentor; or staff-initiated text changes to update information presented in the Draft PEIR. The text revisions are organized by chapter and sections. ~~Deleted text~~ presented in this section indicates text that has been deleted from the EIR. Text that has been added to this Final PEIR is presented as single underlined. Tables added to the Final PEIR may not be underlined in order to enhance readability.

Section 4.3 provides a comprehensive list of the new, revised, and rejected mitigation measures and impacts.

4.2 TEXT REVISIONS

CHAPTER 2, EXISTING CONDITIONS

In response to Comment HB-10, the following text has been added to Chapter 2 of the Draft PEIR.

> Treatment Plant No. 2 requires an average daily demand of approximately 9.1 mgd of in-plant water for domestic service water, process water, and irrigation applications. Treatment Plant No. 2 also maintains separate piping networks for plant water and potable water. Potable water is used for irrigation along Brookhurst Street, while other landscaping within the plant uses reclaimed water from the GAP project. Reclaimed water is supplied through interplant connector lines from Orange County Water District. Approximately 5 percent of the water use at Plant No. 2 is potable water supplied from the City of Huntington Beach. The remaining water is plant water or reclaimed water.

CHAPTER 3, PROJECT DESCRIPTION

In response to Comment HB-6, the following text on page 3-23 has been revised:

3.7.4 INTERPLANT/JOINT WORKS

A new secondary effluent pump station is proposed to pump water from the secondary treatment facilities at Plant No. 2 through a pipeline back up to Plant No. 1 for delivery to the Orange County Water District and various proposed reclamation projects by 2008. The pumping capacity for this pipeline will increase to 25 mgd by 2015. The new pump station

will allow secondary effluent from Treatment Plant No. 2 to contribute to the GWR System's overall needs, alleviating some of the demand on Reclamation Plant No. 1 and reducing the need for new secondary facilities. The secondary effluent will be pumped through an existing 66-inch diameter underground pipeline along the 30-foot-wide strip of land adjacent to the Santa Ana River between Reclamation Plant No.1 and Treatment Plant No. 2. The corridor was purchased by the Sanitation Districts in the early 1950s. Presently, this interplant corridor contains six pipe lines carrying either liquids (untreated effluent diverted from Plant No 1 to Plant No. 2 for treatment, Plant No. 1 effluent for ocean disposal), digester gas, and communication lines. The existing pipeline will be re-lined to convey secondary water to Reclamation Plant 1 as discussed on page 3-43.

In response to District-identified comments, Table 3-20 has been revised:

TABLE 3-20
SUMMARY OF REHABILITATION PROJECTS

Project Name	Contract /Project Number	Type of Rehab.	City	Affected City Streets	Scheduled Completion Date	Estimated Cost
Santa Ana River Trunk System						
Santa Ana Rehabilitation Contract No. 1-17	N/A	Full	Costa Mesa, Santa Ana	Moore Ave, Alton Ave.	2005	$7,393,000
Greenville Sullivan MH Rehabilitation Contract No. 1-20		Full	Santa Ana	Greenville St., Edinger, Sullivan	2014	$872,850
Raitt Street MH Rehabilitation Contract No. 1-21		Full	Santa Ana	Raitt St.	2014	$753,825
Lower Main-Broadway MH Rehabilitation Contract No. 1-22		Full	Santa Ana	Main St.	2018	$952,200
Euclid Trunk Sewer System						
Euclid Trunk MH Rehabilitation	2-34R	Full	Fountain Valley, Santa Ana, Garden Grove, Anaheim, Fullerton	Euclid, SR 91, I-405	2000	$1,256,000
Newhope Placentia Trunk Sewer System						
Upper Newhope-Placentia MH Rehabilitation	2-54	Full	Garden Grove	9th St.	2009	$1,745,700
Lower Newhope-Placentia MH Rehabilitation	2-55	Full	Fountain Valley, Santa Ana	Newhope St.	2011	$2,221,800
Santa Ana Trunk Sewer System						
South Anaheim MH Rehabilitation	2-57	Full	Garden Grove, Anaheim	Trask Ave., Fairview St., Garden Grove Blvd.	2012	$1,269,600
SARI Manhole MH Rehabilitation	2-56	Partial	Santa Ana, Orange	Santa Ana River	2012	$662,400
Bushard Trunk Sewer System						
Magnolia Trunk Rehabilitation	3-35R	Full	Fullerton, Fountain Valley, Westminster, Garden Grove, Stanton, Anaheim	Magnolia St., Edinger, Bushard St., SR 91, 22, I-5, I-405	2001	$7,306,264

TABLE 3-20 (Continued)
SUMMARY OF REHABILITATION PROJECTS

Project Name	Contract /Project Number	Type of Rehab.	City	Affected City Streets	Scheduled Completion Date	Estimated Cost
Seal Beach Interceptor Sewer Rehabilitation	3-11R	Full	Seal Beach	Seal Beach Blvd.	2001	$367,000
Knott Trunk Sewer System						
Knott Interceptor MH Rehabilitation	3-50	Partial	Fountain Valley, Westminister, Garden Grove, Stanton, Cypress, Anaheim, Buena Park	Knott Ave., Golden West St., Bolsa Ave., Newland St., Bushard St., Talbert Ave., Lampson, Hoover St., Slater Ave., Magnolia St.	2012	$1,035,000
West Side Relief Alamitos MH Rehabilitation	3-49	Full	Los Alamitos, Cypress, Seal Beach	Beach Blvd., Cerritos Ave., Bloomfield St., I-405	2012	$662,000
Newport Beach Trunk Sewer System						
Big Canyon Sewer Rehabilitation	5-43	Full	Newport Beach	Big Canyon Drive	2009	$2,182,000
Balboa Trunk Sewer Rehabilitation	5-47	Pipe Rehab.	Newport Beach	Newport Blvd., Balboa Blvd.	2008	3,967,500
Gisler-Redhill Trunk Sewer System						
Lower Gisler-Redhill MH Rehabilitation	7-42	Full	Costa Mesa	Gisler Ave.	2009	$753,825
Upper Gisler-Redhill MH Rehabilitation	7-43	Partial	Tustin, Irvine	Redhill Ave.	2009	$165,600
Baker-Main Trunk Sewer System						
Sunflower Interceptor MH Rehabilitation	7-21	Full	Costa Mesa, Santa Ana	Sunflower Ave.	2000	$356,000
Coast Trunk Sewer System						
Coast Trunk Rehabilitation	11-26	Pipe Rehab.	Huntington Beach	W/O Brookhurst, 1st Street, Lake Street, Pacific Coast Highway	2009	$1,984,000

Source: CIP List taken from OCSD's Strategic Plan, Vol. 3 (Collection System), Figure 9-4.

CHAPTER 4, REGIONAL SETTING

In response to Comment RWQCB-8, the following bullet item has been added to the end of the list on page 4-6:

- Marsh: May be saltwater or freshwater. Supports significant biological diversity. Fresh water marshes are characterized by the presence of tule, cattail, rushes, sedges and pond weeds. Saltwater marshes are characterized by salt grass, pickle weed, and other salt tolerant plants.

In response to Comment MWD-3, text on page 4-18 has been revised as follow:

> The Santa Ana River and Santiago Creek supply a small percentage of the surface water used in the northern Orange County, but are major sources of groundwater replenishment to the Orange County Groundwater Basin. They are also important contributors to the coastal plain's water supply and valuable providers of important wildlife habitat.

In response to Comment MWD-4, text on page 4-18 (6th paragraph, line 5) has been revised as follow:

> By the late 1800s, the primary water percolating into the groundwater supply was precipitation and runoff from winter storms.

In response to Comment MWD-5, text on page 4-19 (first paragraph) has been revised as follows:

> In spite of water management programs, a significant cumulative loss of freshwater storage occurred due to overpumping of the groundwater. Overpumping led to saline intrusion along the coast and further depleted the freshwater storage until an artificial recharge barrier involving recharge of reclaimed wastewater to prevent saline intrusion was implemented in the early 1970s.

In response to Comment MWD-6, text on page 4-20 (first, second, and third paragraphs) has been replaced with the following.

> Orange County has historically met its growing regional water demands that exceeded the natural surface water and groundwater supplies through imported water deliveries and wastewater reclamation. These growing water demands include increasing residential, commercial, and industrial needs, as well as irrigation demands, groundwater replenishment programs, and seawater intrusion barrier injection systems. Currently, more than 50% of the water demands are met through imported water deliveries. The Orange County region is within the service area of the Metropolitan Water District of Southern California (Metropolitan), the major imported water wholesaler for southern California. Metropolitan consists of 27 cities and water districts (Member Agencies) that provide drinking water to more than 16 million people in parts of Los Angeles, Orange, San Diego, Riverside, San Bernardino, and Ventura Counties. Metropolitan was incorporated by the California State Legislature in 1928 to build the Colorado River Aqueduct, a facility it still owns and operates. In addition, Metropolitan imports water from northern California through the State Water Project (SWP), a facility owned and operated by the California State Department of Water Resources (DWR).

> Five of these Member Agencies serve Orange County: the City of Anaheim, the City of Santa Ana, the City of Fullerton, the Municipal Water District of Orange County (MWDOC), and the Coastal Municipal Water District. In 1949, OCWD began purchasing Colorado River water for groundwater recharge to maintain an adequate amount of groundwater to meet increasing demands and to prevent further seawater intrusion of the groundwater basin (OCWD, 1983).
>
> By the 1950s, it became clear that the Coastal Plain of Southern California and other parts of the State would need additional sources of imported water in order to meet growing water demands. At that time, Metropolitan's Colorado River Aqueduct was the only source of imported water supply to Orange County area. In 1960, the voters of California approved bond measures for the construction of the SWP. The SWP is a series of reservoirs, aqueducts, power plants and pumping plants for water storage and delivery. The SWP transports water from the Sacramento/San Joaquin Delta to 29 urban and agricultural water suppliers in northern California, the San Francisco Bay Area, the San Joaquin Valley, and southern California. The SWP was designed and constructed by DWR, with initial delivery of northern California water to southern California in 1973.

In response to Comment MWD-7, text on page 4-20 (end of fourth paragraph) has been revised as follows:

> Even with extensive water conservation efforts, the sheer size of Orange County's population increase is projected to result in a need for more than 150,000 acre-feet per year (AFY) in additional new water demand.

In response to Comment MWD-8, text on page 4-20 (first sentence of the fifth paragraph) has been replaced by the following:

> The GAP and the GWR System would help offset the need for imported water supplies to meet these additional demands in water supply within the County.

In response to Comment HB-12, text on page 4-26 (third paragraph) has been revised as follows:

> The County of Orange was approved by the California legislature on June 4, 1889. At that time only three cities in the County had been founded: Anaheim (1878), Santa Ana (1886), and Orange (1888). Fullerton (1904), Huntington Beach (1909), Seal Beach (1915), Brea (1917), La Habra (1925), Placentia (1926), and Tustin (1927) were added in the early 1900s.

CHAPTER 5, OCEAN DISCHARGE SETTING, IMPACTS AND MITIGATION

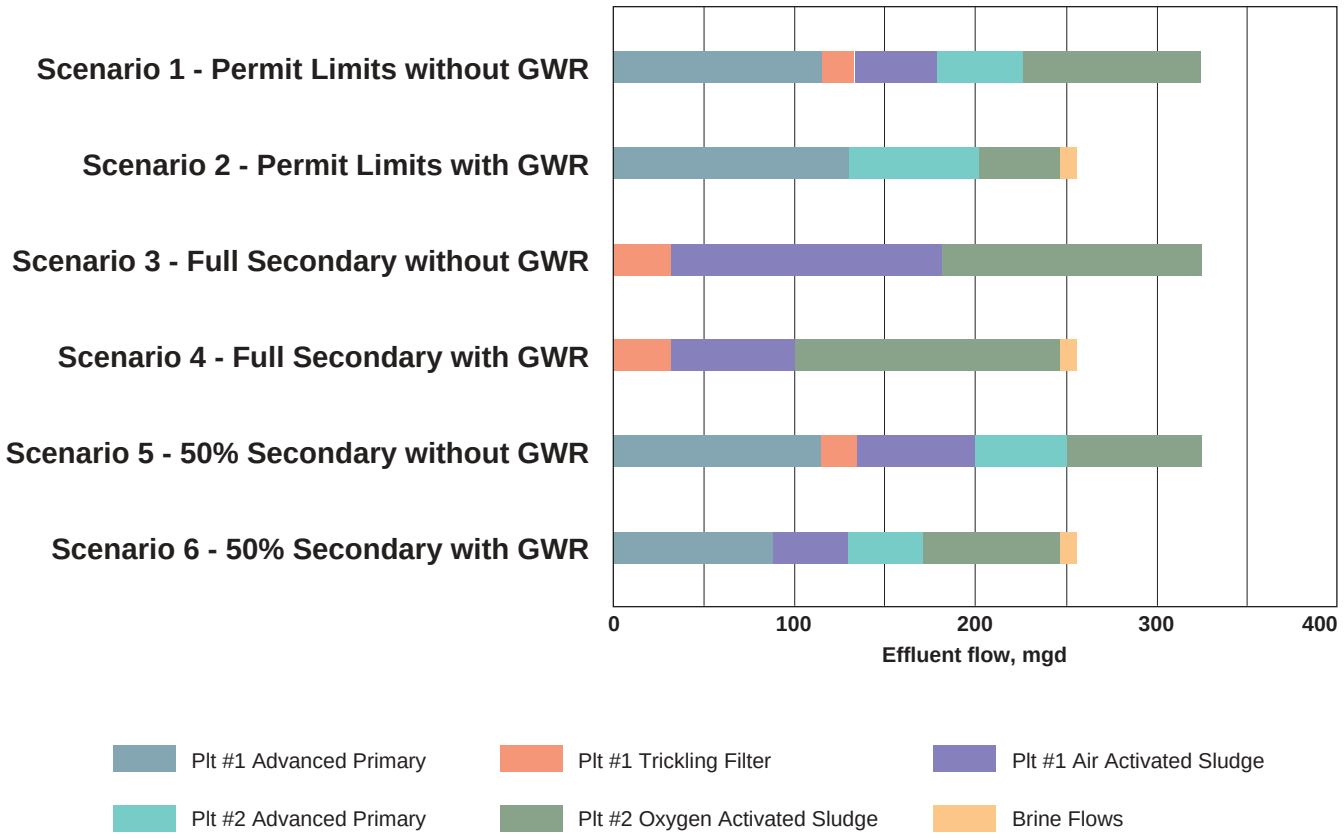
In response to Comment RWQCB-6, Table 5-3 has been revised.

In response to Comment RWQCB-7, Figure 5-7 has been revised.

TABLE 5-3
MEAN METAL CONCENTRATIONS (μg/g) IN SEDIMENTS BY DEPTH DURING 1985-1995, WITH COMPARISONS TO REFERENCE VALUES FROM THE 1990 SCCWRP REFERENCE SURVEY
(Bold numbers represent comparable data)

Depth	N	Arsenic	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc
30 m	**66**	4.2	0.22	**0.17**	**15.3**	**8.1**	**7.6**	0.04	**7.0**	0.28	**0.12**	0.23	**34.0**
40 m	72	4.0	0.26	0.25	17.6	11.2	9.1	0.05	7.5	0.25	0.31	0.22	38.4
50 m	9	3.8	0.26	0.56	20.1	16.3	9.0	0.06	8.1	0.26	0.50	0.24	45.0
60 m	**1,447**	3.1	0.26	**0.42**	**19.1**	**13.8**	**7.7**	0.04	**8.0**	0.26	**0.41**	0.18	**43.2**
90 m	27	3.2	0.31	0.25	19.3	12.6	7.9	0.04	9.0	0.30	0.26	0.19	44.8
100 m	**45**	3.8	0.32	**0.45**	**21.8**	**14.5**	**8.7**	0.06	**9.9**	0.28	**0.32**	0.23	**49.1**
200 m	**38**	4.4	0.44	**0.42**	**27.0**	**20.6**	**11.9**	0.07	**13.0**	0.50	**0.32**	0.28	**58.0**
300 m	36	5.0	0.49	0.35	30.8	20.1	12.2	0.07	14.0	0.68	0.25	0.27	64.0
Canyon[1]	164	9.1	0.66	0.60	32.0	26.3	24.5	0.10	18.8	0.64	0.30	0.35	100
SCCWRP 1990 Reference Site Survey[2]													
30 m	6	nm	nm	0.26	17.0	5.3	4.4	nm	8.0	nm	0.10	nm	29.1
60 m	7	nm	nm	0.24	25.6	9.2	6.9	nm	11.4	nm	0.25	nm	45.1
150 m	7	nm	nm	0.37	31.0	13.9	8.2	nm	13.9	nm	0.50	nm	55.1

SOURCE: County Sanitation Districts of Orange County, California.
nm = not measured
1 depths range from approximately 30-300 m.
2 Source: SCCWRP (1992)



SOURCE: Lindstrom, 1999

Figure 5-7
Breakdown of Primary and Secondary Treatment Process for Each Scenario

In response to comment FWS-3, the following mitigation measures have been revised:

Mitigation Measure 5-3 a: 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.

Mitigation Measure 5-5: 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

In response to comment FWS-3, the following mitigation measure has been added:

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

In response to comment FWS-4, the following mitigation measure has been revised:

Mitigation Measure 5-9a: Pathogen reduction in the wet weather discharge would partially mitigate the impact 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.

In response to comment DS2-1, Table 5-26 has been revised and is as included below.

In response to comment DS2-1, the data tables in Appendix E concerning microbial indicators have been revised to reflect typographical errors of coliform concentrations corrected in Table 5-26.

TABLE 5-26
PROJECTED EFFLUENT QUALITY
OCSD STRATEGIC PLAN 2020 EIR ALTERNATIVES
120-INCH OUTFALL QUALITY ANNUAL AVERAGE CONDITIONS

Effluent Parameter mg/l unless otherwise indicated	Scenario 1 Current NPDES conditions w/o GWR	Scenario 2 (Preferred) Current NPDES conditions w/ GWR (includes brine from GWR)	Scenario 3 Full Secondary w/o GWR	Scenario 4 Full Secondary w/GWR. (includes brine from GWR)	Scenario 5 (No Project) 50:50 Blend w/o GWR	Scenario 6 (No Project) 50:50 Blend w/ GWR. (includes brine from GWR)
Annual Average Flow discharge to 120 inch outfall, MGD	324.1	243.6 16.0 brine 259.6	324.1	243.6 16.0 brine 259.6	324.1	243.6 16.0 brine 259.6
BOD	76	111	21	21	76	75
TSS	45	57	23	24	44	43
Ammonia- Nitrogen	21	26	19	23	20	23
COD	161	233	50	50	160	161
Oil & Grease	18	24	7	7	17	18
Toxicity	tbd	tbd	tbd	tbd	tbd	tbd
pH, units	7.6	7.56	7.63	7.65	7.60	7.58

Effluent Parameter mg/l unless otherwise indicated	Scenario 1 Current NPDES conditions w/o GWR	Scenario 2 (Preferred) Current NPDES conditions w/ GWR (includes brine from GWR)	Scenario 3 Full Secondary w/o GWR	Scenario 4 Full Secondary w/GWR. (includes brine from GWR)	Scenario 5 (No Project) 50:50 Blend w/o GWR	Scenario 6 (No Project) 50:50 Blend w/ GWR. (includes brine from GWR)
Metals, ug/l						
Cadmium	1.4	2.1	0.5	0.7	1.4	1.3
Chromium	5	7	3	4	4.5	4.4
Copper	33.5	49	16.5	23.1	32.9	37.1
Lead	2.4	3.6	1.9	2.7	2.3	3.2
Nickel	21	32	21	30	20.6	30.8
Silver	2.2	3.3	1.3	1.9	2.2	2.7
Zinc	47	78	39	57	47	69
Pesticides (total all combined) Total Identifiable Chlorinated HCs , ug/l	0.02	0.02	0.01	0.01	0.02	0.02
PCBs,ug/l	<dl	<dl	<dl	<dl	<dl	<dl
PAHs, ug/l	<1 ug/l	<1 ug/l	<1 ug/l	<1 ug/l	<1 ug/l	<1 ug/l
Other Organic compounds (ug/l) benzoic acid (81) phthalates (<10) 4-methylphenol (10)	100 ug/l	100 ug/l	100 ug/l	100 ug/l	100 ug/l	100 ug/l
DO (%suppression at trapping depth after 24 hours 180/100:1 dilutions	1.4/2.5	2.6/4.6	0.5/0.9	0.5/0.9	1.4/2.5	1.4/2.5
Salinity, ppt TDS, mg/l	1.2 1200	1.7 1728	1.2 1200	1.7 1728	1.2 1200	1.7 1728

Effluent Parameter mg/l unless otherwise indicated	Scenario 1 Current NPDES conditions w/o GWR	Scenario 2 (Preferred) Current NPDES conditions w/ GWR (includes brine from GWR)	Scenario 3 Full Secondary w/o GWR	Scenario 4 Full Secondary w/GWR. (includes brine from GWR)	Scenario 5 (No Project) 50:50 Blend w/o GWR	Scenario 6 (No Project) 50:50 Blend w/ GWR. (includes brine from GWR)
Viruses and indicator bacteria						
Total coliform MPN/100 ml	1.3E+07	1.8E+07	3.5E+06	4.2E+06	1.3E+07	1.1E+07
Fecal coliform MPN/100 ml	4.0E+06	6.4E+06	1.4E+06	1.5E+06	3.9E+06	3.9E+06
Virus, PFU/10 ml	0.16	0.23	0.03	0.03	0.16	0.15
Particle size	n/a	n/a	n/a	n/a	n/a	n/a
Organic Carbon	n/a	n/a	n/a	n/a	n/a	n/a
Nutrients Nitrogen (total) Phosphates	30 n/a	35 n/a	30 n/a	34 n/a	30 n/a	34 n/a

Abbreviations

MGD – millions of gallons per day
mg/l – milligrams per liter (parts per million)
ug/l – micrograms per liter (parts per billion)
GWR – Groundwater Replenishment (System)
NPDES – National Pollution Discharge Elimination System permit
BOD – 5-day biochemical oxygen demand
TSS – total suspended solids

COD –chemical oxygen demand
DO – dissolved oxygen
PCB – polychlorinated biphenyls
PAH – polyaromatic hydrocarbons
HC - hydrocarbons
MPN – most probable number
PFU – plaque forming units (a measure of numerical abundance used in microbiology lab analysis for viruses)

tbd – to be determined
n/a – not available
<dl – less than detection limit

SOURCE: K.P. Lindstrom, Inc., 1999

CHAPTER 6.0, TREATMENT SYSTEM SETTING, IMPACTS AND MITIGATION

SECTION 6.1, LAND USE

In response to District-identified comments, the following mitigation measures have been revised:

Mitigation Measure 6.1-1a: 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.

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

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

SECTION 6.2, TRAFFIC

In response to District-identified comments, the following mitigation measures have been revised:

Mitigation Measure 6.2-1: 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.

Table 6.2-1 has been revised to reflect District-identified errors. The total vehicle miles traveled for employee trips per day was shown as 20, 975 under each scenario in the Draft PEIR. The corrected 10,975 has been included in the PEIR as shown here.

TABLE 6.2-1
VEHICLES MILES TRAVELED PER DAY

	Chemical Deliveries	Employee Trip	Biosolids Hauling	Grit and Screenings	Total
2000					
P1	639	5,600	3,616	11	9,866
P2	929	5,600	6,247	14	12,790
Total	1,568	11,200	9,863	25	22,656
2020 – Scenario 2					
P1	1,040	5,487	7,014	14	13,555
P2	1,040	5,488	7,978	19	14,525
Total	2,080	10,975	14,992	33	28,080

2020 – Scenario 4					
P1	1,363	5,487	8,986	14	15,850
P2	1,300	5,488	9,468	19	16,275
Total	2,663	10,975	18,455	33	32,126

NA = data not available

In response to HB-2, Table 6.2-2 has been added to page 6.2-6 as follows:

The number of biosolids trucks is expected to nearly double by 2020. However, most of the additional trips will originate from Reclamation Plant No. 1. Employee commutes will continue to be the primary source of traffic. By the year 2020, the District anticipates that truck traffic will increase by approximately 31 trips per day. Employee commutes are anticipated to increase by approximately 22 trips per day.

TABLE 6.2-2
VEHICLE TRIPS PER DAY

	Chemical Deliveries	Employee Trips	Biosolids Hauling	Grit and Screenings	Total
1998					
P1	2	209	10	0.11	222
P2	4	209	17	0.16	231
TOTAL	6	418	27	0.27	453
2020 – Scenario 2					
P1	5	220	33	0.16	249
P2	5	220	19	0.22	253
TOTAL	10	440	52	0.38	502
2020 – Scenario 4					
P1	6	220	41	0.16	257
P2	6	220	24	0.22	259
TOTAL	12	440	65	0.38	516

The Huntington Beach General Plan identifies current levels of service (LOS) for key intersections. One intersection used by haul trucks (Brookhurst and Adams) is identified within the General Plan as currently having a LOS rating of D during evening peak hours indicating that congestion occurs. The General Plan also includes projected LOS ratings at intersections anticipated after the General Plan has been implemented. (The General Plan was last amended in 1995.) One intersection used by haul trucks (Brookhurst and Hamilton) is identified as having a LOS rating of D during peak hours. The City of Fountain Valley General Plan states that on-ramps to the Interstate-405 currently operate at LOS D or better during peak hours.

SECTION 6.3, BIOLOGICAL RESOURCES

In response to Comment FWS-8, the following impact has been added to page 6.3-3 of the Draft PEIR:

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.

In response to Comment FWS-8, the statement "No mitigation measures are required" is replaced with the following mitigation measure on Page 6.3-4 of the Draft PEIR:

Mitigation Measure 6.3-1: 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.

SECTION 6.4, NOISE

In response to District-identified comments, the following mitigation measures have been revised:

Mitigation Measure 6.4-1a: 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.

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

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

Mitigation Measure 6.4-1f: 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.

In response to Comment FWS-7, the following mitigation measure has been added to page 6.4-9 of the Draft PEIR:

Mitigation Measure 6.4-1g: 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.

In response to Comment FWS-9, the following mitigation measure has been added to page 6.4-9 of the Draft PEIR:

Mitigation Measure 6.4-1h: 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.

In response to Comment SHBNA-16, the following mitigation measure has been added to page 6.4-10:

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

In response to District-identified comments, the following mitigation measure has been revised:

Mitigation Measure 6.4-3: 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.

SECTION 6.5, AIR QUALITY

In response to District-identified comments, the following mitigation measure has been rejected and will not be adopted in the findings:

Mitigation Measure 6.5-1f: Trucks should be washed off prior to leaving the construction site.

In response to District-identified comments, the following mitigation measures have been revised:

Measure 6.5-1c: 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.

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

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

In response to Comment SHBNA-2, the following mitigation measures have been added to page 6.5-20:

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

Mitigation Measure 6.5-5d: 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.

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

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

Table 6.5-10 has been revised to reflect District-identified errors (on following page). The total vehicle miles traveled for employee trips per day was shown as 20, 975 under each scenario in the Draft PEIR. The corrected 10,975 has been included in the PEIR as shown here. The subsequent air emissions tables (Table 6.5-11 on following page) have been revised to reflect the revised employee vehicle miles traveled.

SECTION 6.6, GEOLOGY

In response to District-identified comments, the following mitigation measure has been revised:

> **Mitigation Measure 6.6-2b:** 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.

TABLE 6.5-10
ESTIMATED VEHICLE MILES TRAVELED PER DAY

VMT/day	Scenario 2		Scenario 4	
	2000	2020	2000	2020
Chemical Trucks	1,568	2,080	1,568	2,663
Grit and Screenings	25	33	25	33
Biosolids Trucks	8,285	14,992	9,863	18,455
Employee Commute	11,200	10,975	11,200	10,975
TOTAL	21,078	28,080	22,656	32,126

TABLE 6.5-11
ESTIMATED EMISSIONS FROM MOBILE SOURCES

	Particulate Matter (PM_{10})lbs/day			
	Scenario 2		Scenario 4	
	1998	2020	1998	2020
Chemical Trucks	0.95	0.78	0.95	1.00
Grit and Screenings	0.02	0.01	0.02	0.01
Biosolids Trucks	5.02	5.61	5.97	6.91
Employee Commute	0.12	0.12	0.12	0.12
TOTAL	6.11	6.53	7.06	8.04

Carbon Monoxide (CO) lbs/day

	Scenario 2		Scenario 4	
	1998	**2020**	**1998**	**2020**
Chemical Trucks	33.09	26.44	33.09	33.84
Grit and Screenings	0.53	0.42	0.53	0.42
Biosolids Trucks	174.82	190.54	208.12	234.55
Employee Commute	94.48	44.00	94.48	44.00
TOTAL	302.92	261.39	336.22	312.81

TABLE 6.5-11 (continued)
ESTIMATED EMISSIONS FROM MOBILE SOURCES

Nitrogen Oxides (NO_x) lbs/day

	Scenario 2		Scenario 4	
	1998	**2020**	**1998**	**2020**
Chemical Trucks	15.37	17.73	15.37	22.7
Grit and Screenings	0.25	0.28	0.25	0.28
Biosolids Trucks	81.21	127.80	96.67	157.31
Employee Commute	11.35	5.56	11.35	5.56
TOTAL	108.17	151.37	123.64	185.86

Reactive Organic Compounds (ROC)* lbs/day

	Scenario 2		Scenario 4	
	1998	**2020**	**1998**	**2020**
Chemical Trucks	4.18	3.57	4.18	4.58
Grit and Screenings	0.07	0.06	0.07	0.06
Biosolids Trucks	22.08	25.76	26.29	31.71
Employee Commute	5.67	1.69	5.67	1.69
TOTAL	32.00	31.08	36.21	38.03

* Although SCAQMD permits are generally concerned with VOCs, *CEQA Air Quality Handbook* thresholds are measured by ROC.

Sulfur Oxides (SO_x) lbs/day

	Scenario 2		Scenario 4	
	1998	2020	1998	2020
Chemical Trucks	0.17	0.23	0.17	0.29
Grit and Screenings	0.00	0.00	0.00	0.00
Biosolids Trucks	0.91	1.65	1.09	2.03
Employee Commute	1.23	1.21	1.23	1.21
TOTAL	2.32	3.09	2.50	3.54

SOURCE: Environmental Science Associates
Emissions factors from EMFAC7EP, CEQA Air Quality Handbook, 1993

In response to District-identified comments, the following mitigation measures have been revised:

Mitigation Measure 6.7-1e: 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.

In response to District-identified comments, the following impact has been reduced from significant to less than significant. This is the case since the District collects and treats storm water runoff on the treatment plant sites (See discussion in Findings of Fact):

Impact 6.7-4: Construction and long-term operation of the proposed improvements to both treatment plants would increase the area of impervious surface and result in an incremental increase in surface runoff in these areas. Less than Significant.

CHAPTER 7, COLLECTION SYSTEM SETTING, IMPACTS AND MITIGATION

SECTION 7.1, LAND USE

In response to Comment TUST-7, Mitigation Measure 7.1-1b has been revised as follows:

Mitigation Measure 7.1-1b: 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.

SECTION 7.2, TRAFFIC

In response to TUST-9 and TUST-10, Table 7.2-1 has been revised:

In response to Comment TUST-11, the text on page 7.2-1 and Mitigation Measure 7.2-1g has been revised as follows:

> Impacts to circulation routes will be short-term, related to the construction activities involved in installing the proposed relief facilities. Upon completion of each project, the affected roadways and trails will be restored to conditions agreed to between the District and local jurisdictions prior to construction.
>
> **Mitigation Measure 7.2-1g:** Public roadways will be restored to a condition mutually agreed to between the District and local jurisdictions prior to construction.

In response to Comment ANA-1, text on page 7.2-8 has been revised as follows:

> Removed pavement and excavated soil will be hauled off to be recycled with the minimum amount of disposal when practical and cost effective.

In response to District-identified errors, the following table has been revised:

TABLE 7.2-1
SUMMARY OF TRAFFIC ELEMENTS FOR PIPELINE REPLACEMENT PROJECTS

Trunk Sewer System	Project No.	Street	City	Com-pletion Date	Cross Streets		# of lanes (a)	Street Type	Traffic Signs	Bike Lane	Turning Lane	Street Impact	Cultural Impact Probability
SANTA ANA RIVER TRUNK SEWER SYSTEM													
Santa Ana River Interceptor Relief – A	20	La Palma	Anaheim, Placentia	2005	Kellog Dr.	Fee Ana St.	3	arterial	signal			Various lane closures	Very high
		La Palma	Anaheim	2005	Fee Ana St.	Hawk Cir.	3	arterial	signal				
		La Palma			Hawk Cir.	W/O Tustin Av.	3	arterial	signal				
		La Palma & Grove St.			W/O Tustin Av.	Grove St.	1	arterial	signal				
Santa Ana River Interceptor Relief - B	25	Savi Ranch Parkway	Anaheim / Yorba Linda	2010	W/O Auto Plaza Cir.	W/O Mirage St.	1	collector	signal			Various lane closures; bus impact	Very high
		La Palma & Weir Cyn			W/O Mirage St.	W/O Weir Cyn Rd.	1	collector	signal				
		La Palma			N/O Tippets Ln.	W/O Agnes Av.	2	collector	signal				
		La Palma			W/O Agnes Av.	W/O Chrisden St.	2	collector	signal				
		La Palma			W/O Chrisden St.	Imperial Hwy.	3	arterial	signal				
		La Palma			Imperial Hwy.	E/O Brasher St.	3	arterial	signal				
		La Palma			E/O Brasher St.	Kellog Dr.	3	arterial	signal				

TABLE 7.2-1 (continued)
SUMMARY OF TRAFFIC ELEMENTS FOR PIPELINE REPLACEMENT PROJECTS

Trunk Sewer System	Project No.	Street	City	Com-pletion Date	Cross Streets		# of lanes (a)	Street Type	Traffic Signs	Bike Lane	Turning Lane	Street Impact	Cultural Impact Probability
SANTA ANA RIVER TRUNK SEWER SYSTEM (con't)													
Taft Branch Improvements	2	Meats Av.	Orange	2002	Santiago Rd.	W/O 55 Fwy, E/O Tustin St.	1,2	collector	signal			Various localized lane closures; bus impact	Moderate
		Taft and Tustin Av.			S/O Meats Av.	E/O Glassel St.	3,2		signal		yes		
Carbon Canyon Dam Trunk Improvements	4	Rose Drive	Brea, Yorba Linda, Placentia	2002	N/O Blake Rd.	Imperial Hwy.	2	arterial	signal			Various localized lane closures	Moderate
		Rose Drive			Imperial Hwy.	S/O Wayburn Av.	2	collector	signal		yes		
		Rose Drive			S/O Wayburn Av.	Orange Dr.	2	collector	signal		yes		
		Rose Drive			Orange Dr.	S/O Yorba Linda Blvd.	2	collector	signal		yes		
		Rose Drive			S/O Yorba Linda Blvd.	Palm Dr,	nd	nd	nd	nd	nd	nd	nd
		Rose Drive			Palm Dr.	Carbon Creek, E/O Warren	nd	nd	nd	nd	nd	nd	nd
Atwood Subtrunk Improvements	8	Orangethorpe Av.	Anaheim, Placentia	2002	Via Breve	Kellog Dr.	2	arterial	signal		yes	Various localized lane closures; bus impact	Moderate
	21	Orangethorpe Av.			Fee Ana St.	Richfield Rd.	2	arterial	signal		yes		

TABLE 7.2-1 (continued)
SUMMARY OF TRAFFIC ELEMENTS FOR PIPELINE REPLACEMENT PROJECTS

Trunk Sewer System	Project No.	Street	City	Com-pletion Date	Cross Streets		# of lanes (a)	Street Type	Traffic Signs	Bike Lane	Turning Lane	Street Impact	Cultural Impact Probability
SANTA ANA RIVER TRUNK SEWER SYSTEM (con't)													
Lower SARI Interceptor Improvements	27	Along Grove St. to SCRRA	Anaheim, Orange, County of Orange	2015	S/O La Palma Av.	South side of SAR, E/O Kraemer Blvd.	--	--	signal				Very high
		Along Santa Ana River (SAR)	County of Orange		Kraemer Blvd.	Taft Av.	nd	nd	nd	nd	nd	nd	nd
		Along SAR			Taft Av.	S/O Yale Av.	nd	nd	nd	nd	nd	nd	nd
EUCLID TRUNK SEWER SYSTEM													
Fullerton Purchase Improvements	10	Maple Av.	Fullerton	2004	Sandalwood Av.	S/O Bastanchury Rd. to Golf Course site	2	arterial	signal			Localized lane closures	Moderate
Euclid Relief Improvements - A	14	Euclid	Fountain Valley	2004	Edinger Av.	Slater Av.	2	arterial	signal			Localized lane closures; bus impact	Low
Euclid Relief Improvements - B	29	Euclid	Fountain Valley	2020	Slater Av.	OCSD Plant 1	2	arterial	signal		yes	Localized lane closures; bus impact	Low
NEWHOPE-PLACENTIA TRUNK SEWER SYSTEM													
Newhope-Placentia Trunk Replacement	18-A	State College Blvd.	Anaheim	2007	La Palma Av.	Cerritos Av.	3,2	arterial	signal			Bus impact	Moderate
		State College Blvd.	Anaheim, Orange		Cerritos Av.	Orangewood Av.	4,3	arterial	signal				

TABLE 7.2-1 (continued)
SUMMARY OF TRAFFIC ELEMENTS FOR PIPELINE REPLACEMENT PROJECTS

Trunk Sewer System	Project No.	Street	City	Com-pletion Date	Cross Streets		# of lanes (a)	Street Type	Traffic Signs	Bike Lane	Turning Lane	Street Impact	Cultural Impact Probability
NEWHOPE-PLACENTIA TRUNK SEWER SYSTEM (con't)													
Cypress Avenue Trunk Replacement	18-B	Yorba Linda Blvd.	Anaheim	2009	Associated Rd.	Almira Av.	3	arterial	signal			Various localized lane closures; bus impact	Moderate
		Yorba Linda and State College Blvd	Fullerton		Almira Av.	N/O Gymnasium Campus Dr.	3	arterial	signal				
		State College			N/O Gymnasium Campus Dr.	N/O Kimberly Av.	2	arterial	signal				
		State College	Fullerton , Anaheim		N/O Kimberly Av.	La Palma Av.	2	arterial	signal				
KNOTT TRUNK SEWER SYSTEM													
Hoover Feeder Improvements	16	Trask Av.	West-minster	2020	W/O Beach Blvd.	Hoover St.	2	collector	Signal			Localized lane closures	Moderate
West Side Relief Interceptor Improvements	23	Seal Beach Blvd.	Los Alamitos	2010	Farquher Av.	N/O Bradbury Rd.	3	arterial	signal	yes		Bus impact	High
		Seal Beach Blvd.	Seal Beach		N/O Bradbury Rd.	S/O Lampson Av.	3	arterial	signal		yes		
		Old Ranch Pkwy.	Seal Beach		S/O Lampson Av.	S/O Silver Fox Rd.	2	arterial	signal		yes		
Goldenwest Replacement/Heil Interceptor	N/A	Goldenwest	Huntingto n Beach	2001	Heil	Ford	nd	nd	nd	nd	nd	nd	nd
		Heil Ave			Springdale Av.	Goldenwest	nd	nd	nd	nd	nd	nd	nd

TABLE 7.2-1 (continued)
SUMMARY OF TRAFFIC ELEMENTS FOR PIPELINE REPLACEMENT PROJECTS

Trunk Sewer System	Project No.	Street	City	Com-pletion Date	Cross Streets		# of lanes (a)	Street Type	Traffic Signs	Bike Lane	Turning Lane	Street Impact	Cultural Impact Probability
KNOTT TRUNK SEWER SYSTEM (con't)													
Warner Avenue Relief Sewer	17/28	Los Patos Av. / Warner Av.	Hunting-ton Beach	2001	Marine View Place	Bolsa Chica St.	1	re-sidential	stop signs			Various localized lane closures	Very high
		Warner Av.	Huntingto n Beach		Graham St.	Kern Dr.	3	arterial	signal	yes	yes		
		Warner Av.			Kern Dr.	W/O Spingdale St.	3	arterial	signal	yes	yes		
		Warner Av.			W/O Springdale St.	Springdale St.	nd	nd	nd	nd	nd	nd	nd
Edinger/Bolsa Chica Trunk Improvements	30	Edinger Av.	Hunting-ton Beach	2020	E/O Bolsa Chica St.	Hummingbird Ln.	2	arterial	signal		yes	Various localized lane closures	Low
		Edinger Av.			Graham St.	Clubhouse Ln.	2	arterial	signal	yes			
BAKER-MAIN TRUNK SEWER SYSTEM													
Campus Drive Subtrunk Improvements	31	Campus Drive	Irvine/ Newport Beach	2010	Von Karman	MacArthur.	3,2	arterial	signal			Various localized lane closures; bus impact	Low
	24	Campus Drive	Irvine, Newport Beach	2010	MacArthur	W/O MacArthur	3,2	arterial	signal			Various localized lane closures; bus impact	Low

TABLE 7.2-1 (continued)
SUMMARY OF TRAFFIC ELEMENTS FOR PIPELINE REPLACEMENT PROJECTS

Trunk Sewer System	Project No.	Street	City	Com-pletion Date	Cross Streets		# of lanes (a)	Street Type	Traffic Signs	Bike Lane	Turning Lane	Street Impact	Cultural Impact Probability
BAKER-MAIN TRUNK SEWER SYSTEM (con't)													
Abandon Airbase Trunk and Watson Conversion Sewer	N/A	Watson	Costa Mesa	2005	Gisler/Watson	Dublin/Watson	nd	nd	nd	nd	nd	nd	nd
		California-through School			N/O Gisler, W/O Iowa St.	Suburbia	nd	nd	nd	nd	nd	nd	nd
Arlington Parallel and Abandonment Sewer (Abandon Air Base Trunk)	N/A	Arlington	Costa Mesa	2003	Monterey	E/O Costa Mesa Jr. High School, along Orange County Fairground	nd	nd	nd	nd	nd	nd	nd
		Monterey			Mission	Arlington	nd	nd	nd	nd	nd	nd	nd
		Parallel Sewer between Fairview and Monterey through Costa Mesa High School			Monterey	Fairview	nd	nd	nd	nd	nd	nd	nd
Fairview Relief Sewer	3	Fairview Street	Costa Mesa	2000	Village Way	Wilson St.	4,3	arterial	signal	yes	yes	Localized lane closures; bus impact	Low

TABLE 7.2-1 (continued)
SUMMARY OF TRAFFIC ELEMENTS FOR PIPELINE REPLACEMENT PROJECTS

Trunk Sewer System	Project No.	Street	City	Com-pletion Date	Cross Streets		# of lanes (a)	Street Type	Traffic Signs	Bike Lane	Turning Lane	Street Impact	Cultural Impact Probability
BAKER-MAIN TRUNK SEWER SYSTEM (con't)													
College Pump Station Force Parallel Sewer	N/A	College	Costa Mesa	2004	College Ave / Gisler Av.	College to Watson	nd	nd	nd	nd	nd	nd	nd
					Watson / college	Baker / College	nd	nd	nd	nd	nd	nd	nd
GISLER-REDHILL BLVD. TRUNK SEWER SYSTEM													
Gisler-Redhill Blvd./North Trunk Improvements	6	Prospect Av.	Tustin, County of Orange	2002	S/O Chapman Av.	Irvine Blvd.	1	re-sidential	stop signs		yes	Potential street closures	Moderate
		Prospect Av.	Tustin		S/O Irvine Blvd.	E. Main St.	nd	nd	nd	nd	nd		nd
		E. Main St.	Tustin		W/O Prospect	El Camino Real	1	arterial	signal				
		El Camino Real	Tustin		E. Mains St.	El Camino Way	1	arterial	signal				
		El Camino Real	Tustin		El Camino Real	W/O I-5	nd	nd	nd	nd	nd	nd	nd
Armstrong Subtrunk Sewer	N/A	Armstrong	Irvine, Tustin	2002	Barranca	Alton Pkwy	1	Light indust	Signal				Moderate
		Alton Pkwy			Armstrong	Armstrong S/O Alton Pkwy	1	Light indust	Signal				
		Armstrong			Alton Pkwy	MacArthur Blvd	1	Light indust	Stop signs				

TABLE 7.2-1 (continued)
SUMMARY OF TRAFFIC ELEMENTS FOR PIPELINE REPLACEMENT PROJECTS

Trunk Sewer System	Project No.	Street	City	Com-pletion Date	Cross Streets		# of lanes (a)	Street Type	Traffic Signs	Bike Lane	Turning Lane	Street Impact	Cultural Impact Probability
GISLER-REDHILL BLVD. TRUNK SEWER SYSTEM (con't)													
Armstrong Subtrunk Sewer (con't)		MacAuthur Blvd.			Armstrong	Main St.	1	Light indust	Stop signs				
Gisler-Redhill Blvd. System Improvements – A	9	Arroyo Av.	County of Orange	2002	Arroyo Way	S/O Skyline Dr.	1	re-sidential	stop signs			Potential street closures	Very High
		Skyline	County of Orange		E/O Arroyo Av.	Redhill Blvd.	1	re-sidential	stop signs				
		Redhill Blvd.	County of Orange		S/O Skyline Dr.	Gwen Ave.	nd	nd	nd	nd	nd	nd	nd
		Redhill Blvd.	Tustin		Irvine Blvd.	N/O San Juan St.	nd	nd	nd	nd	nd	nd	nd
		Redhill Blvd.	Tustin		N/O San Juan St.	Mitchell Av.	nd	nd	nd	nd	nd	nd	nd
Gisler-Redhill Blvd. System Improvements – B	13, 22, 32	Redhill Blvd.	Tustin	2005	Mitchell Av.	Edinger Av.	3	arterial	signal	yes	yes	Localized lane closures; bus impact	Very high
		Redhill Blvd.	Tustin		Edinger Av.	N/O Industrial Dr.	3	arterial	signal	yes			
		Redhill Blvd.	Tustin		N/O Industrial Dr.	Valencia Av.	3	arterial	signal	yes			

TABLE 7.2-1 (continued)
SUMMARY OF TRAFFIC ELEMENTS FOR PIPELINE REPLACEMENT PROJECTS

Trunk Sewer System	Project No.	Street	City	Com-pletion Date	Cross Streets		# of lanes (a)	Street Type	Traffic Signs	Bike Lane	Turning Lane	Street Impact	Cultural Impact Probability
GISLER-REDHILL BLVD. TRUNK SEWER SYSTEM (con't)													
Gisler-Redhill Blvd. System Improvements – B (con't)		Redhill Blvd.	Tustin, Santa Ana		Warner Av.	Carnegie Av.	nd	nd	nd	nd	nd	nd	nd
		Redhill Blvd.	Tustin, Santa Ana, Irvine		Carnegie Av.	Deere Av.	3	arterial	signal	yes			
Tustin Trunk Improvements	12, 19, 11	Newport Av.	County of Orange	2004	Crawford Cyn Rd.	Foothill Rd.	nd	nd	nd	nd	nd	nd	nd
		Newport Av.			N/O La Loma.	Castlegate Ln.	1,2	arterial	signal	yes	yes		
		Newport Av.			Castlegate Ln.	Skyline Dr.	1,2	arterial	signal	yes	yes		
		Newport Av.			Skyline Dr.	Old Irvine Bl. / Irvine	nd	nd	nd	nd	nd	nd	nd
		Newport Av.			Newport Av.	Redhill Blvd.	4	arterial	signal				
		Cowan Heights Dr.			Shady Ridge Dr.	Skyline Dr.	1	re-sidential	stop signs				Moderate
		Cowan Heights Dr.			Skyline Dr.	W/O Newport Blvd.	nd	nd	nd	nd	nd	nd	nd
		Newport Av.			Crawford Canyon Rd.	Castelgate Ln.	nd	nd	nd	nd	nd	nd	nd
		Newport Av.			Castlegate Ln.	Skyline Dr.	1,2	arterial	signal	yes	yes		
					Skyline Dr.	Redhill Blvd. Av.	1,2	arterial	signal	yes	yes		

TABLE 7.2-1 (continued)
SUMMARY OF TRAFFIC ELEMENTS FOR PIPELINE REPLACEMENT PROJECTS

Trunk Sewer System	Project No.	Street	City	Com-pletion Date	Cross Streets		# of lanes (a)	Street Type	Traffic Signs	Bike Lane	Turning Lane	Street Impact	Cultural Impact Probability
GISLER-REDHILL BLVD. TRUNK SEWER SYSTEM (con't)													
Orange Trunk Improvements	5	Hewes	County of Orange	2003	S/O Fairhaven Av.	17th St.	2	re-sidential	stop signs			Various localized lane closures and street closure	Moderate
		17th St.	Tustin, County of Orange		Hewes	W/O Esplanade	1	re-sidential	stop signs				
		Holt	Tustin, County of Orange		S/O Bigelow	Newport Blvd.	2	arterial	signal				
Orange Park Acres Trunk Replacement	7	Santiago Canyon Road	Orange	2000	Randall	Jamestown	2	arterial	signal	yes		Localized lane closure	Moderate
West Trunk Improvements	26	N/A	Santa Ana, Tustin	2010	E/O 1st St.	W/O end of 1st St.	1	collector	stop signs				Moderate
					W/O end of 1st St.	N/O I-5	nd	nd	nd	nd	nd	nd	nd
JOINT/INTERPLANT													
Bushard Trunk Improvement	N/A	Bushard	Fountain Valley	2004	Ellis Av.	Garfield Av.	2	arterial	signal	yes	yes		Low
			Huntington Beach		Garfield Av.	Brookhurst St.	2	arterial	signal	yes	yes		

TABLE 7.2-1 (continued)
SUMMARY OF TRAFFIC ELEMENTS FOR PIPELINE REPLACEMENT PROJECTS

Trunk Sewer System	Project No.	Street	City	Com-pletion Date	Cross Streets		# of lanes (a)	Street Type	Traffic Signs	Bike Lane	Turning Lane	Street Impact	Cultural Impact Probability
JOINT/INTERPLANT (con't)													
Interplant Connector	N/A	SAR	Fountain Valley, Huntington Beach		OCSD	OCSD	nd	nd	nd	nd	nd	nd	nd
					Plant No. 2	Plant No. 1	nd	nd	nd	nd	nd	nd	nd

Legend:
N/O – North of; S/O – South of; W/O – West of; E/O – East of
(a) Number of lanes per direction
nd – not determined

In response to Comment SCRRA-1, the following text on page 7.2-11 has been revised as follows:

Lower Santa Ana River Interceptor Improvements

This project is located along the Santa Ana River and is not anticipated to impact area roadways. However, this project would affect the railroad right-of-ways owned by OCTA[1], on Orange-Olive Road, at Riverdale Avenue.

In response to Comment SCRRA-1, the following text after the first paragraph on page 7.2-12 (Newhope-Placentia) has been revised as follows:

This project would affect the railroad right-of-ways owned by OCTA, on State College, north of Katella Avenue.

In response to Comment HB-15, the following text on page 7.2-13 has been revised as follows:

The second segment of the Edinger/Bolsa Chica Trunk Improvement Project is bound by Clubhouse Lane on the east and Graham Street on the west.

In response to Comment SCRRA-1, the following text on page 7.2-15 has been revised as follows:

Gisler-Redhill System Improvements – B

Construction along this segment of roadway could impact OCTA Bus Routes 71 and 463. In addition, Projects 13 and 22 would impact OCTA railroad rights-of-way on Redhill Avenue at Edinger Avenue.

In response to comment SCRRA-1, the mitigation measure below has been added.

Mitigation Measure 7.2-1k: 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

[1] The Southern California Regional Rail Authority (SCRRA), a five County Joint Powers Authority, provides engineering services to its five member agencies, of which OCTA is one of the member agencies.

Construction at Railway Property, SCRRA Form No. 37" and General Safety Regulations for Construction / Maintenance Activity on Railway Property".

In response to Comment TUST-9, text on page 7.2-16 has been revised as follows:

This project is located along Hewes Street, Vanderlip Avenue and Holt Avenue within the County of Orange and the City of Tustin.

In response to Comment HB-16, the following text on page 7.2-17 (last paragraph) has been revised as follows:

This project is located along Bushard Street between Ellis Avenue to the north and Brookhurst Street at the OCSD Treatment Plant to the south.

In response to Comment CO-4, the following text has been added to page 7.2-18:

Regional Bikeways

Table 7.2-2 identifies designated trials and bikeways which could be impacted by construction projects identified in the DEIR.

In response to Comment CO-4, the following mitigation measures have been added to page 7.2-19:

Mitigation Measure 7.2-1l: 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.

Mitigation Measure 7.2-1m: 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.

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

Significance After Mitigation: Less than Significant.

TABLE 7.2-2
TRAILS AND BIKEWAYS POTENTIALLY IMPACTED BY CONSTRUCTION PROJECTS

Project Number	Project Name	Potentially Impacted Trails
17/18	Warner Avenue Relief Sewer	Wintersburg Channel Bikeway
16	Hoover Feeder Improvements	Huntington-Westminster Rail Bikeway
14	Euclid Relief Improvements	Mile Square Bikeway
10	Fullerton Purchase Improvements	Fullerton Trail and Rolling Hills Bikeway
27, 20, 25 and interplant connector	Santa Ana River	Santa Ana River Bikeway
4	Carbon Canyon Dam Trunk Improvements	El Cajon Trail, El Cajon Bikeway
2	Taft Branch Improvements	Tustin Branch Trail
11	Gisler-Redhill System Improvements	Tustin Branch Trail
5	Orange Trunk Improvements	Tustin Branch Trail
12	Tustin Trunk Improvements	Skyline Trail
7	Orange Park Acres Trunk Replacement	Santiago Creek Trail and Santiago Creek Bikeway

Source: County of Orange

SECTION 7.3, AIR QUALITY

In response to comment SB-4, the following text found on page 7.5-8 of the DEIR has been revised as follows:

The mitigation measures identified below are intended to comply with Rule 403 of the South Coast Air Quality Management District, and would reduce emissions associated with construction activities to a less-than-significant level.

SECTION 7.5, AIR QUALITY

In response to District-identified comments, the following mitigation measure has been revised:

Mitigation Measure 7.5-1a: 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.

In response to Comment SB-4, the following text has been revised on page 7.5-8:

> The mitigation measures identified below are intended to comply with Rule 403 of the South Coast Air Quality Management District, and would reduce emissions associated with construction activities to a less-than-significant level.

SECTION 7.7, HYDROLOGY AND WATER RESOURCES

In response to Comment CO-5, the following text has been added to page 7.7-1:

> Several flood control channels could potentially be impacted by proposed construction projects including the East Richfield Storm Drain, El Modena/Irvine Channel, Santa Ana-Santa Fe Channel, East Garden Grove-Wintersburg Channel, and the Carbon Creek Channel.

SECTION 7.8, PUBLIC SERVICES AND UTILITIES

In response to Comment MWD-9, the following note has been included in Table 7.8-1:

> Note: All the communities shown on this table are within Metropolitan Water District's service area. MWD is a wholesale water agency for the region and is not a direct supplier of water to the consumer.

In response to Comment HB-8, Mitigation Measure 7.8-3b (page 7.8-5) has been revised as follows:

Mitigation Measure 7.8-3b: 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.

In response to Comment MWD-10, Mitigation Measure 7.8-3d (page 7.8-5) has been revised as follows:

> **Mitigation Measure 7.8-3d:** 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.

In response to Comment DOC-1, the following mitigation measures have been added to page 7.8-5:

> **Mitigation Measure 7.8-3e:** Prior to construction project design, 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.
>
> **Mitigation Measure 7.8-3f:** 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.

SECTION 7.9, AESTHETICS

In response to Comment ANA-8, Mitigation Measure 7.9-1a has been revised as follows:

> **Mitigation Measure 7.9-1a:** The District shall ensure that its contractors restore disturbed areas along the pipeline 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.

SECTION 7.11, CUMULATIVE IMPACTS

In response to Comment ANA-4, Mitigation Measure 7.11-1b has been revised as follows:

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

CHAPTER 8, RESIDUAL SOLIDS/BIOSOLIDS MANAGEMENT SETTING, IMPACTS AND MITIGATIONS

In response to a District-identified error, Table 8-1 has been revised to reflect updated biosolids production quantities.

TABLE 8-1
1997 AND 2020 BIOSOLIDS VOLUMES BY TREATMENT SCENARIO

	Biosolids (1,000 Wet Tons per Year)			Annual Truck Loads /a/			Land Requirements for Beneficial Use
	Plant 1	Plant 2	Total	Plant 1	Plant 2	Total	(acres) /b/
1996/97	66	114	180	2,640	4,560	7,200	3,800
Projected to 2020							
Scenario 1	191	134	330	7,640	7,760	15,400	6,900
Scenario 2	214	127	341	8,560	5,080	13,640	7,200
Scenario 3	238	154	392	9,520	6,160	15,680	8,200
Scenario 4	267	154	421	10,680	6,160	16,840	8,000

/a/ Truck trips were estimated assuming 25 tons per truck.

/b/ Based on corn oats rotation and 10 dry tons per acre and 20% TSS.

SOURCE: OCSD, Strategic Plan, Vol. 8 Sec. 3

In response to a District-identified error, Table 8-3 has been revised to reflect updated biosolids production quantities.

TABLE 8-3
1997 AND 2020 DAILY TRUCK TRIPS ASSOCIATED WITH BIOSOLIDS

	Daily Truck Loads [a]		
	Plant 1	Plant 2	Total
Existing 1997	10	17	28
Projected 2020:			
Scenario 1	29	21	50
Scenario 2	33	19	52
Scenario 3	36	24	60
Scenario 4	41	24	65

[a] Daily truck loads were estimated assuming a 5-day-per-week hauling schedule at 25 tons per truck.

In response to a District-identified comments, Mitigation Measure 8-3b has been revised:

> **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.

CHAPTER 10, CROSS MEDIA ENVIRONMENTAL TRADEOFFS

Table 10-4 has been revised to reflect District-identified errors. Mobile air emissions have been revised to reflect the revised employee vehicle miles traveled.

TABLE 10-4
ESTIMATED CRITERIA POLLUTANT EMISSIONS
FROM MOBILE SOURCES (lbs/day)

	Scenario 2		Scenario 4	
	1998	**2020**	**1998**	**2020**
CO	302.92	261.39	336.22	312.81
ROC*	32.00	31.08	36.21	38.03
NO_x	108.17	151.37	123.64	185.86
SO_x	2.32	3.09	2.50	3.54
PM_{10}	6.11	6.53	7.06	8.04

*Reactive Organic Compounds

SOURCE: Environmental Science Associates

4.3 NEW, REVISED, AND REJECTED MITIGATION MEASURES AND IMPACTS

NEW IMPACTS

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.

REVISED IMPACTS

Impact 6.7-4: Construction and long-term operation of the proposed improvements to both treatment plants would increase the area of impervious surface and result in an incremental increase in surface runoff in these areas. Less than Significant.

NEW MITIGATION MEASURES

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

Mitigation Measure 6.3-1: 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.

Mitigation Measure 6.4-1g: 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.

Mitigation Measure 6.4-1h: 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.

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

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

Mitigation Measure 6.5-5d: 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.

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

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

Mitigation Measure 7.2-1k: 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".

Mitigation Measure 7.2-1l: 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.

Mitigation Measure 7.2-1m: 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.

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

Mitigation Measure 7.8-3e: 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.

Mitigation Measure 7.8-3f: 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.

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

REVISED MITIGATION MEASURES

Global: All conditional tense mitigation measures have been changed from "should" to "shall."

Mitigation Measure 5-3a: 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.

Mitigation Measure 5-5: 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

Mitigation Measure 5-9a: 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.

Mitigation Measure 6.1-1a: 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.

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

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

Mitigation Measure 6.2-1: 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.

Mitigation Measure 6.4-1a: 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.

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

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

Mitigation Measure 6.4-1f: 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.

Mitigation Measure 6.4-3: 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.

Measure 6.5-1c: 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.

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

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

Mitigation Measure 6.6-2b: 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.

Mitigation Measure 6.7-1e: 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.

Mitigation Measure 7.1-1b: 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.

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

Mitigation Measure 7.5-1a: 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.

Mitigation Measure 7.8-3b: 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.

Mitigation Measure 7.8-3d: 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.

Mitigation Measure 7.9-1a: 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 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.

REJECTED MITIGATION MEASURES

Mitigation Measure 6.5-1f: Trucks should be washed off prior to leaving the construction site.

ATTACHMENT A

ODOR CONTROL

AIR QUALITY CONTROL FACILITIES IMPROVEMENTS

The Strategic Plan incorporates air quality as an important part of the planning for improvements to the existing wastewater treatment operations and any future facility additions. Wastewater treatment processes, solids handling and onsite power production all contribute to the overall facility air emission profile for the District's facilities. Mobile sources, particularly solids hauling vehicles are other sources which are considered in purchasing new equipment or contracting for services.

The air emissions from the wastewater treatment operations at the two treatment plant sites in Fountain Valley and Huntington Beach include odors (particularly hydrogen sulfide and other complex organics and chemical odors such as from the use of bleach), volatile organic compounds (VOCs), air toxics and criteria pollutants (oxides of nitrogen, carbon monoxide, particulates, sulfur oxides, etc.).

Both Reclamation Plant No. 1 and Treatment Plant No. 2 (Plants No. 1 and No. 2 hereafter) are equipped with fully integrated odor control facilities for the preliminary (bar screens and grit chambers), primary and solids handling and storage processes and onsite electrical generation equipment.

OCSD has developed and implemented a comprehensive odor control philosophy that consists of minimizing the formation of odorous gases where possible (by adding chemicals upstream in the collection system and through design features) and containing, collecting, and treating the odorous gases when they do occur. Chemical pretreatment facilities reduce the formation and evolution of hydrogen sulfide (H_2S) gas and other compounds associated with wastewater. OCSD contains odors by covering tanks, sumps and wet wells that may produce odorous compounds, and by enclosing wastewater treatment equipment and processes that might contribute to the overall odor emissions. After containment, these odorous gases can be treated using odor control scrubbers.

ODOR CONTROL MANAGEMENT PRACTICES

OCSD has carried out an ongoing odor control program since 1981 which was intensified in response to a comprehensive odor control study of both treatment plants in 1985 (Malcom Pirnie, 1985). In response to the recommendations of these evaluations of odor problems, over $20 million in capital expenditures were made to cover all of the primary clarifiers at both treatment plants. Odor reduction at Plant Nos. 1 and 2 and in the collection system has been on-going and continues to be a high priority.

OCSD employs three types of odor reduction activities in the existing odor control program. First, caustic soda (NaOH) is injected at strategic locations within the collection system to inhibit slime (biological) growth on the sewer main walls. Second, hydrogen peroxide (H_20_2) is injected at the headworks to chemically oxidize sulfate compounds prior to the initial treatment process. Third, collection/treatment facilities for odor control are provided at the treatment plants.

The collection/treatment facilities for odor control at the treatment plants include:

- Pretreatment chemical addition within the collection system
- Process enclosures (buildings, covers and/or domes)
- Odor conveyance network (foul air ductwork)
- Odor treatment facilities (odor scrubbers)
- Odor control scrubber support equipment (chemical handling)
- Odor control treatment (absorption/oxidation)

COLLECTION SYSTEM CONTROLS

OCSD's collection system chemical addition program focuses on maintaining aqueous H_2S levels less than or below 1 or 2 ppm (depending on the sewer main) throughout the trunk sewer systems. The key components of the program include regular testing for aqueous H_2S levels in the sewage flow and conducting periodic dosing activities using NaOH at selected locations.

The technical basis for the use of NaOH to control sulfides and odors in the collection system is a report that investigated H_2S issues in the Miller-Holder Trunk Sewer System and identified caustic soda as the preferred mitigation option from a variety of other chemical mitigation options (Malcom Pirnie 1985). Another report focused specifically on the effectiveness of caustic soda (RMG/Keith 1989). Trunk sewer assessment research, including a recent H_2S Study, and other activities such as siphon vent improvements, odor identification, and periodic gas flap inspections are ongoing (CDM 1999).

Based on a comprehensive odor characterization study completed in 1998, OCSD's program is centered on addressing the H_2S levels in the Miller-Holder, Knott, Seal Beach/Westside systems, Districts 5 and 6, Magnolia, and Euclid trunk sewer systems.

OCSD has established twenty H_2S sampling sites in the collection system. These sampling sites were selected based on observed problems with H_2S odors, knowledge of the system, and low traffic flows to facilitate access. Of these sites, OCSD actively samples and tests at twelve locations on a weekly basis with eight additional locations being sampled on a monthly basis. The data is evaluated and tracked to see when chemical addition may be needed based on the test results and the levels approach the established H_2S target concentration at which time action is taken. Normally, the production of H_2S slows during the winter as a result of cooler sewage temperatures and increased flushing by rain-related inflow/infiltration flows, thus chemical addition is more of a summer and fall activity (June through November).

Neutralization of H_2S is accomplished using a liquid dosing solution of 50 percent NaOH (caustic soda) dosed as a slug of between 3,500-4,000 gallons at a rage of 70-90 gallons per minute during

the morning (at peak flow periods) at any of six active sites (ten sites were originally designated). The District maintains an on-going annual contract with a competitively-selected supplier to prepare and deliver the 50 percent NaOH solution to the appropriate site for dosing under the supervision of District staff.

A summary of total NaOH used in the collection system during the past five fiscal years is shown below:

Fiscal Year	NaOH Used, gaf
1992/1993	439,200
1993/1994	465,600
1994/1995	886,800
1995/1996	568,600
1996/1997	184,000 (six months)
1997/1998	236,400

DATA PROVIDED FROM OCSD COLLECTION FACILITIES RECORDS

In FY 94/95, OCSD expanded the dosing program to trunk sewers in Revenue Areas 5 and 11 which accounts for the increased usage. The volume of annual NaOH usage decreased in FY 95/96 due to a variety of budgetary constraints that impacted staff availability.

Over the years, OCSD staff has investigated neutralizing chemicals, other that NaOH, with varying degrees of success. These chemicals include a proprietary liquid bioproduct, ferric chloride ($FeCl_3$) at a 40 percent solution, and ferrous chloride (Fe_2Cl_3) at a 30 percent solution. To date, slug dosing of caustic soda has been the most effective means of controlling H_2S levels to below 2 ppm. There are problems associated with the continuous dosing of other chemicals such as ferric chloride due to the space for chemical storage tanks and security issues associated with the hazardous nature of the chemicals.

OCSD staff continues to consider alternative neutralizing chemicals. For example, staff has been evaluating the effectiveness of using a 60 percent solution of calcium nitrate ($Ca(NO3)_2$), also known as bioxide, in the gravity sewers to reduce H_2S. To improve coordination between staff and increase the effectiveness of pilot programs, an internal "clearing house" has been established to screen potential chemical and biological products that are claimed to reduce H_2S either directly or indirectly.

OCSD currently owns and operates 21 raw sewage pumping stations throughout Orange County and one small privately-owned facility in Revenue Area 2 all of which can generate odors from the release of H_2S as flows enter the wet wells causing a nuisance to surrounding neighbors (although current complaint levels are negligible).

OCSD has studied various options for controlling potential odors generated at the Bay Bridge, Main Street, Seal Beach, Slater Avenue and Westside Pump Stations (Carollo, 1993). The 1993 report recommended regenerative carbon adsorption as the preferred method of controlling odors at the specific pump stations evaluated assuming an atmospheric H_2S concentration of 20 ppm.

Specific implementation of onsite odor control measures has not to date been implemented because there have been a negligible number of complaints.

Incoming trunklines to the treatment plants are also dosed with chemicals. At Plant No. 1, H_20_2 is added to the Sunflower Trunk Sewer from Revenue Area 7 and Air Base Trunk Sewer (from Revenue Area 6) at a rate of 250 gpd per trunk for eventual mixing with other influent trunk sewers at the headworks.

At Plant No. 2, H_20_2 is added to the five influent pipelines prior to the headworks with seasonal dosages ranging from 400-800 gallons per day.

TREATMENT PLANT CONTROLS

OCSD has implemented many projects to control and reduce odors at the treatment plants.

These projects include:

- Location of headworks and solid processing areas in enclosed buildings, with the air vented and scrubbed.
- Design of covered aerated grit chambers, with the air vented and scrubbed.
- Installation of geodesic domes over the circular primary clarifiers. Each rectangular primary clarifier is covered, which allows foul (odorous) air to be collected and scrubbed.
- Construction and installation of foul air treatment chemical scrubbers. The foul air contacts the recirculating scrubbing liquid, which reduces the H_2S before the air is exhausted to the atmosphere.
- Installation of primary clarifler launder valves. OCSD installed launder valves to control the effluent launder level of the primary basins to reduce turbulence, thereby reducing generation of H_2S.

Of key operational importance to the Strategic Plan was the operational condition of the odor control scrubbers at each of the treatment plants. The Strategic Plan evaluated existing installed capacity and future scrubber needs and recommended adding some capacity as facilities are added at Reclamation Plant No. 1. The Strategic Plan recommended staff continue to determine odorous parts of both plants and develop methods to eliminate the odor. Under the Preferred Alternative, Scenario 2, no new scrubbers are proposed at Plant No. 2. However, the $5.3 million odor control process rehabilitation and enhancement project (J-71) will rehabilitate existing odor control facilities and will install enhancements to improve odor removal in both plants

The preliminary and primary treatment facilities within Plant No. 1 have 40 percent redundancy of odor control scrubber capacity. In addition, the solids processing facilities are equipped with extensive odor control facilities. The low emissions of H_2S (less than 0.3 ppmv, using 1993 plant data) from the solids processing facilities, and the high SCAQMD scrubber outlet limitations (2.0 ppmv- SCAQMD Permit) has allowed OCSD to suspend full-time operations of the odor control

scrubbers associated with the solids processing areas at Treatment Plant No. 2. Reduced H_2S generation to the scrubbers was due to the significant increase in non-chloride chemical addition to the digesters. However, in 1998, the dewatering building scrubbers were reactivated using sodium hypochlorite with water due to odor complaints.

A summary of the number of scrubbers, their capacity and size, operational status and South Coast Air Quality Management District Permit number for each of the treatment plants is shown below:

EXISTING ODOR CONTROL SCRUBBERS AT PLANT NO. 1

Description	No. of Scrubbers	Capacity/Size (cubic feet per minute/diameter and height)	Operational Status (O/R/S)	*SCAQMD* Permit No.
Preliminary Facilities				
Headworks No.2	4	24,000/9'x32'	3/1/0	R-D72255
Headworks	2	13,000/6'x34'	2/0/0	R-D72255
Primary Facilities				
Primary Basins 1-5	3	40,000/10'x33'	3/1/0	D90165
Primary Clarifier Basins 6-15	1	30,000/10'x23'		
Solids Processing Facilities				
Dewatering Buildings[1]	3	30,000/10'x38'	1/2/0	D69509
Total	13	---	9/4/0	---

O = Operational
R = Redundant - Backup unit in the event the on-line system fails.
S = Standby status - OCSD will need to install new equipment and replace components before system can function for odor control.

1 Odor Scrubber Permit modified in 1993 to allow discontinued use due to low emissions from dewatering processes, Units are currently used for ventilation only: Therefore, caustic tanks and muriatic acid system have been removed and the caustic system pumps and chlorine piping are currently nonfunctional.

EXISTING ODOR CONTROL SCRUBBERS AT PLANT NO. 2

Description	No. of Scrubbers	Capacity/ Size (cubic feet per minute/diameter and height)	Operational Status (O/R/S)	*SCAQMD* Permit No.
Preliminary and Primary Facilities				
Headworks Band PCBs A-G (South Complex)	4	40,000/10'x33'	2/2/0	R-D38747(4)
Headworks C and PCBs H-Q (North Complex)	8	40,000/10'x33'	5/3/0	R-D38749(8)
Influent Trunklines, H & I	2	10,000/6'x27'	2/0/0	R-D38749
Solids Processing Facilities				
DAF Thickeners F & G	2	30,000/ -	0/0/2[1]	R-D39253
Dewatering Buildings C & D	2	2@35,000/10'x36'	0/0/2[1]	R-D38750
Dewatering Buildings J & K	2	2 @ 23,000/-	0/0/2[1]	R-D38750
Solids Storage Building E	1	1 @ 20,000/8'x20'	0/0/1	R-D38745
Solids Storage Building	1	1@30,000/10'x36'	0.0/1	R-D38745
Total	22	---	9/5/8	---

O = Operational
R = Redundant - Backup unit in the event the on-line system fails.
S = Standby status - OCSD will need to install new equipment and replace components before system can function for odor control.

1 Odor Scrubber Permit modified in 1993 to allow discontinued use due to low emissions from dewatering processes. Units are currently used for ventilation only: Therefore, caustic tanks and muriatic acid system have been removed and other components may not be functional.

As at Plant No. 1, low emissions of H_2S (less than 0.3 ppmv, using 1993 plant data) from the solids processing facilities and high SCAQMD scrubber outlet limitations (2.0 ppmv- SCAQMD Permit) have allowed OCSD to suspend full-time operations of the odor control scrubbers associated with the solids processing areas. The low emissions were due to the significant increase in chemical ferric chloride addition which reduced the H_2S emission.

The solids scrubbers are presently used as ventilators only without chemicals being used. If odors become a problem in the future, bleach/water or caustic/water should be added to control odors.

The SCAQMD regulates air emissions to reduce air quality impacts resulting from operation of OCSD's treatment facilities. OCSD currently has permits covering the operation of the foul air scrubbers. In compliance with the permits, OCSD monitors the foul air scrubber discharge H_2S concentration, as well as the pH and differential pressure across each scrubber to demonstrate compliance with SCAQMD permit limitations for H_2S in the scrubber discharge and at the plant boundaries.

Also, OCSD has historically conducted odor circuits during each shift that measured the H_2S level at designated locations throughout each plant and at the perimeters. In 1996, the odor circuits at both plants were scaled back due to the effectiveness of the odor control program. Presently, these odor circuits are now conducted either after OCSD receives an odor complaint or

when deemed necessary as a result of process upsets or equipment failures. At Plant No. 1, ten H_2S measurements are made during an odor circuit while there are typically nineteen H_2S measurements points at Plant No. 2. circuit. At both plants, the date, time, shift, influent flow rate, H_20_2 feed rate, $FeCl_3$ feed rate, wind velocity and wind direction are recorded during an odor circuit to document conditions conducive to odor generation. This combined with other chemical feed and H_2S concentrations have provided valuable information for use in odor management and control. The treatment plants' odor control team are currently reviewing the odor circuit documentation forms and will be making changes to improve the information collected.

Any H_2S excursion or odor complaint related to the treatment plant is handled promptly with an incident reporting process documenting the cause of the excursion or complaint, and what actions were taken to rectify the problem.

ODOR COMPLAINTS

Odor complaints received at each plant have been logged since 1981 and complaints have been significantly reduced over the past 11 years (See Chart 1 in Appendix 4 of this Attachment). The three most recent years are summarized by month in Chart 2 (See Appendix 4 of this Attachment). From July 1996 until June 1997, zero odor complaints were received at Plant No. 1 and six complaints were received at Plant No. 2. However, in late summer of 1997, Plant No. 1 experienced an excess of 20 odor complaints. Investigations determined that the odor source was the dewatering facilities. Due to these odor complaints, the standby odor facilities were reactivated and are currently using bleach (NaOCl) with water. At Plant No. 2, odor complaints have been received and actions taken to abate odors. Most recently, attention has been focused on non-conventional sources such as storm drains, local urban storm channels which can generate hydrogen sulfides, and primary scrubbers.

In controlling odors, the relationship between the three odor reduction actions, injection of NaOH in the collection system, addition of H_20_2 in the incoming trunks, and use of odor scrubbers for process air treatment, allows for optimization of the overall system.

The Strategic Plan indicated that the remaining optimization opportunities include:

- Evaluating seasonal fluctuation in wastewater/odor characteristics and adjusting the chemical injection rates accordingly.

- Continue the collection system and H_20_2 injection evaluation program, with emphasis on chemical dosage feedback instrumentation technology to optimize chemical injection. (Optimizes dosage of collection system additives.)

Other recent odor management activities and programs are summarized in Appendices 1,2,3 and 4.

FUTURE AIR QUALITY CONTROL FACILITIES

The Strategic Plan considers three air treatment technologies for use in meeting air quality needs for the preferred scenario. These are 1) traditional packed tower scrubbers, and two new technologies biofiltration and activated carbon. No single technology has yet been selected, but will be considered in the future as new facilities are constructed along with any newer technologies that may be available. This section will discuss the design criteria used for each technology and possible application options.

TRADITIONAL PACKED TOWER SCRUBBERS

OCSD currently uses traditional packed tower scrubbers for achieving very high (90%) removal of odorous (mainly H2S) gases from the treated air stream by absorption into a liquid medium (bleach). However, these scrubbers have limited success in removing VOCs. Over the years, OCSD has performed numerous studies and testing programs to optimize scrubber performance.

BIOFILTRATION

Biofiltration is a biological treatment process that is effective in removing odorous and volatile organic compounds emissions from wastewater treatment processes. The primary components of a biofilter include the biofilter media, an air distribution system, and a means for controlling moisture content in the media. Support media that can be used includes granular activated carbon (GAC), yard waste, compost and peat. Typically, yard waste, compost, and peat are widely used.

In 1997, OCSD, the University of Southern California and Huntingdon Engineering completed an extensive study on the merits and potential applications of biofiltration at wastewater treatment facilities which showed that the best media that maximized mass reduction and minimized the retention time was GAC. Using the GAC media, a 17-second retention time provided an 84 percent reduction in VOC. The yard waste media provided a 67 percent reduction in VOC with a 70-second retention time.

The ability of biofilters to control VOCs at greater than 70 percent efficiency levels would allow OCSD to reduce the overall plant VOC emission and perhaps reduce specific air toxic and subsequent Health Risk Assessment implications. Reduction in VOCs could generate emission removal credits that could be used for future facility development. The same would be true if biofilters were installed for odor control and provided incidental control of VOC emissions.

The ability of biofilters to efficiently control toxics, such as benzene, toluene, xylenes and even tetrachloroethene, would allow OCSD to reduce its air toxic health risk to its surrounding community. This is particularly significant for the OCSD facilities subject to mandatory toxic risks assessment and public notification requirements, as under California's Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588).

The potential drawbacks or limitations of biofiltration include:

- Biofilter sensitivity to inlet concentrations and loadings
- Requirement for good environmental control
- Requirement for 5 to 10 times the land as traditional scrubber technology
- Technology and wastewater treatment plant application fairly recent development
- Degree of redundancy uncertain
- Permit application process may be extensive due to new technology

ACTIVATED CARBON

Activated carbon derived from coal or coconut shells is used for controlling both VOCs and odor-causing compounds for many years in removing organic compounds from air streams. Typically, a chemical scrubber followed by activated carbon is effective at removing H2S (packed scrubber) and VOCs (carbon).

Activated carbon has VOC removal rates similar to biofiltration. The frequency of regeneration of the activated carbon by thermal processing depends on the VOC loading and the H2S removal efficiency of the chemical scrubber preceding the carbon. Since each plant currently has chemical scrubbers and excess odor control capacity, retrofit of the existing chemical scrubbers with activated carbon may be an efficient retrofit alternative to reduce VOCs.

Currently, OCSD does not use activated carbon because of the following reasons:

- Activated carbon can produce its own unique odor, and
- The cost associated with hauling carbon regeneration, and ultimate disposal in a hazardous waste site.

CONTROL OF EMISSIONS FROM CENTRAL GENERATION FACILITIES

Other Control Technologies are under consideration for reducing power generating equipment emissions. The options for obtaining NOX compliance includes:

- Implement engine efficiency measures
- Modify CENGEN operations
- Modify engine fuel mixing systems
- Evaluate post-combustion add-on control technology

SPECIFIC ODOR CONTROL FACILITY NEEDS

The Strategic Plan identified odor control requirements for both treatment plants. Maximizing use of existing capacity was shown to provide for much of the future need. The capacity needs are summarized below:

PLANT NO. I ODOR CONTROL REQUIREMENTS FOR PREFERRED SCENARIO

Process Area	Total Installed Capacity (cfm)	Operating Capacity (cfm)	Standby Capacity (cfm)
Preliminary Treatment			
Total 1998 Needs	122,000	98,000	24,000
Total 2020 Needs	146,000	96,000	50,000
Additional Needs (1998-2020)	24,000	48,000	<24,000>
Primary Treatment			
Total 1998 Needs	160,000	120,000	40,000
Total 2020 Needs	230,000	160,000	70,000
Additional Needs (1998-2020)	70,000	40,000	30,000
Solids Processing			
Total 1998 Needs	111,000	37,000	74,000
Total 2020 Needs	120,000	70,000	50,000
Additional Needs (1998-2020)	9,000	40,000	<10,000>
Total Required Additional Facilities	**134,000**	**168,000**	<34,000>

< > Capacity removed from Standby and placed In-service

PLANT NO. 1 ADDITIONAL ODOR CONTROL FACILITY SUMMARY YEAR 2020

Process	Odor Control Facilities (cfm)
Headworks	24,000
Primary Clarifiers	80,000
Solids Processing	30,000

Plant No. 1 will need a total additional odor control scrubber capacity of 134,000 cfm which can be met using existing installed capacity for Scenario 2 (Ocean Plan, w/GWR System).

Plant No. 2 has approximately 100 percent standby odor control facilities in place currently (1998). Since the plant modifications anticipated will be minor in nature regarding liquid and solid process trains (for preferred scenario), adequate odor control is available for the year 2020 configuration.

VOC IMPACT YEAR 2020

For the preferred scenario, Plant No. 1 will require additional wastewater treatment capacity to accommodate increased flows. With the increased flow an increase in the VOC loading and subsequent emission from the treatment plant is anticipated. Table A-1 summarizes the VOC emission (liquid trains) for the present and year 2020 build-out configuration.

TABLE A-1
PLANT NO. I VOC EMISSIONS SUMMARY (YEAR 1997 AND YEAR 2020)

Process Area	VOC Emissions (1997) (#/yr)	VOC Emissions (2020) (#/yr)	Increase VOCs due to Expansion (1997-2020) (#/yr)	Percent of Total Expansion
Headworks	4,272	9,984	5,712	22
Primary Clarifiers Basins	12,549	29,328	16,779	65
Trickling Filters	570	1,102	532	2
Aeration Basins	1,560	4~160	2,600	10
Secondary Clarifiers	960	1,280	320	1
Total (liquid phase)	19,911	45,854	25,943	--

#/yr = Pounds per year emitted

1 From Table 11-24 of Strategic Plan For Scenario 2 (Ocean Plan, w/GWR System) (CDM, 1999)

As illustrated in Table A-1, approximately 90 percent of the increase in VOC loading is associated with the Headworks and Primary Ciarifler Basin expansion and would require expansion of facilities (and opportunities for use of new technology) for reducing emissions of odorous compounds, VOCs and associated air toxics.

The Strategic Plan indicates the following expansion needs for secondary treatment:

> "Since odors are typically not associated with secondary treatment processes, air quality treatment enhancements to the trickling filters, aeration basins, and secondary ciariflers would only impact the VOC and associated air toxics. Aeration basins, which are presently covered and represent approximately 10 percent of the total VOC emissions and a substantial percentage of the liquid phase air toxic emission, would represent an enhancement opportunity if Air Toxic Health Assessment issues become a plant-wide problem. Trickling filters and secondary ciariflers represent a small incremental increase (<5 percent) in the overall liquid phase VOC emissions, have relatively low air toxic contributions, and would not be considered for further control."

VOC TREATMENT ANALYSIS

As noted in previous sections, VOC reduction technology is available and has the added benefit of H2S odor reduction. The following narratives outline three options available and potential reduction of the overall plant VOC emissions:

OPTION A: NEW PRELIMINARY AND PRIMARY ODOR CONTROL CAPABLE OF VOC REDUCTION

Using the required additional facilities, approximately 134,000 cfm of additional odor treatment could be planned. Installation of biofiltration or activated carbon treatment trains to fulfill the new facility requirement would reduce the VOCs. For this option, in year 2020, 25 percent of the VOCs produced in preliminary treatment (24,000 cfm/96,000 cfm) and 50 percent VOCs produced in primary treatment (80,000 cfm/160,000 cfm) could be impacted by using VOC technology for all new odor treatment, assuming all standby is assigned to existing odor scrubbers.

Table A-2 provides a summary of these potential reductions, assuming that biofilters reduce VOCs by 80 percent.

TABLE A-2
POTENTIAL VOC REDUCTION AT PLANT NO. 1 OPTION A
REDUCTION BY PROCESS

Process	VOC Emissions (2020)[1] (#/yr)	Addition of VOC to New Facilities[2] (#/yr)	% Reduction	(2020) w/VOC Control (#/ yr)
Headworks	9,984	1,998	20	7,986
Primary Clarifier Basins	29,328	11,731	40	17,597
Trickling Filters	1,102	-	0	1,102
Aeration Basins	4,160	-	0	4,160
Secondary Clarifiers	1,280	-	0	1,280
Total (liquid phase)	45,854	13,729	30	32,125

1 VOC without Reduction, for Scenario 2 (Ocean Plan, w/GWR System) 2 VOC = [New odor capacities in cfm)/(total operating capacity - cfm) * total process (VOC Emission - #/yr) · [0.80 (VOC Reduction)]

2 With the installation of VOC controls to the new facilities only, a 30 percent VOC (liquid phase) reduction could be achieved.

OPTION B: NEW/EXISTING PRIMARY ODOR CONTROL CAPABLE OF VOC REDUCTION

Using the required total facilities for primary treatment, a total of 160,000 cfm is required in operation. Of that, approximately 80,000 cfm of additional odor treatment is planned. Installation of biofiltration or activated carbon treatment technology for the new primary facilities and retrofit 56,000 cfm of existing odor assets with VOC control would allow the facility to place VOC reduction assets where the majority of the VOC are emitted (i.e., primary ciarifler basins). Table A-3 summarizes the VOC reduction, assuming 100 percent of the primary treatment air flow is directed to VOC-enhanced facilities that remove 80 percent of the VOCs.

With the installation of VOC controls (new and retrofit) to the entire primary treatment processes, a plant-wide 50 percent VOC (liquid phase) reduction could be achieved. It should be noted that Option B - Year 2020 would essentially generate a similar amount of VOC as is presently (1997) being emitted.

TABLE A-3
POTENTIAL VOC REDUCTION AT PLANT NO. 1 OPTION B

Process	VOC Emissions (2020)[1]	Reduction by Addition of VOC to New Facilities (#/yr)	% Reduction	VOC Emissions (2020) w/VOC Control (#/yr)
Headworks	9,984	0	0	9,984
Primary Clarifier Basins	29,328	23,462[2]	80	5,866
Trickling Filters	1,102	-	0	1,102
Aeration Basins	4,160	-	0	4,160
Secondary Clarifiers	1,280	-	0	1,280
Total (liquid phase)	45,854	23,462	51	22,392

1 VOC without Reduction, for Scenario 2 (Ocean Plan w/GWR System)
2 VOC = [80 percent Reduction of entire Primary Clarifier Basin Air Flow]

OPTION C: NEW PRELIMINARY AND PRIMARY ODOR CONTROL CAPABLE OF VOC REDUCTION - DIVERSION OF PRIMARY CLARIFIER BASIN AIR TO AERATION BASINS

Similar to Option A, Option C uses Option A as a baseline and adds diverting approximately 30,000 cfm of primary clarifier basin air to the existing aeration basins, thereby reducing the total VOC emissions by the odor scrubber. Using Option A, 25 percent of the preliminary treatment VOCs and 50 percent of the primary treatment VOCs could be impacted by installation of VOC technology, assuming all standby is assigned to existing odor scrubbers. Diverting 30,000 cfm to

the aeration basins, the total primary treatment VOC-controlled percentage would increase to 70 percent.

With the incorporation of VOC controls to the new facilities only and diverting air to the aeration basins, a 40 percent plant-wide VOC (liquid phase) reduction could be achieved.

AIR QUALITY

Options A, B, C would all result in a net reduction of VOC emissions. OCSD has a computer simulation model to estimate ground-level concentrations and associated health risk using plant-specific information. Use of the model to identify the optimal locations for the new odor and/or VOC control modifications should be completed as part of an Air Quality Master Plan (AQMP). If the new facilities are positioned greater than 100 meters from an existing permit unit, a cumulative health risk impact analysis would not be required. It is recommended, that OCSD update its computer database to incorporate the new year 2020 facilities. The resulting data can then be used to provide a "recommended" area for preliminary and detailed design of the facilities as the new facilities are phased into the operating scheme.

STRATEGIC PLAN LIQUID PHASE RECOMMENDATIONS

Continued assessment and implementation of air quality projects is recommended in the Strategic Plan for all alternatives. According to the Strategic Plan “OCSD's proactive approach has provided ‘leading-edge’ implementation of air quality enhancements.”

The results of the Biofilter demonstration projects (1993-1995) have provided performance reliability, operation and maintenance costs, and actual facility footprints requirements for this processes. This information should be assessed and design criteria established prior to deeming biofiltration and/or activated carbon technology as an acceptable control technology.

Plant No. 1 liquid phase expansion will provide opportunities for air quality enhancement programs. Expansion of the primary clarifier basins present the most concentrated area for VOC/air toxic reduction. The following plan of action is recommended:

- Review and update VOC/air toxics data on a yearly basis.
- Continue projects regarding biofiltration and activated carbon.
- Review potential retrofit program (activated carbon/biofiltration) on part of the existing primary ciarifler basin odor control facilities.
- Review the merits of modifying the SCAQMD permit to construct/operate for the odor scrubber associated with Primary Ciarifler Nos. 16 through 29 (currently in design).

Based on the current year 2020 evaluation, the existing odor control facilities at Plant No. 2 is adequate for expansion requirements through the year 2020. In the event of outside regulatory pressures (i.e., new rules and regulations, modifications to source test methods), review of the existing configurations should be completed.

In addition to the ongoing programs, it is recommended to complete an Air Quality Management Plan (AQMP). The AQMP should include the following:

- plant pretreatment program
- odor control process optimization
- updated facility information (baseline data)
- emission estimation
- CENGEN operations
- new control technologies
- summary of the ongoing air quality projects within OCSD
- regulatory updated
- air quality modeling and HRA discussions
- recommended actions and design criteria the near-term (<five year) expansion projects

The AQMP should project to year 2020, detail near-term design considerations and be updated every five years to incorporate new and updated facility and regulatory information.

REFERENCES

Biofiltration for Odor & VOC Control - Final Project Report, County Sanitation Districts of Orange County, University of Southern California, Huntingdon Environmental Engineering, Inc, May 1997.

APPENDIX 1

THE ODOR READINESS PLAN FOR SUMMER 99-00

Actions completed:

To prepare for this summer several actions items were completed:

Identify Odor Sources at Both Plants I and 2: The Odor Control Team has identified all odor sources at both plants 1 and 2 and categorized them according to the severity of the odor (see Appendix 2).

Identify Corrective Actions to Eliminate Odors: The Odor Control team has proposed solutions to eliminate the odors through corrective process operating procedures, re-engineering and better maintenance practices (see Appendix 2).

Facilities Modifications for Odor Control: Carollo Engineers provided recommendations for modifications m the Dewatering Buildings, Solids Handling Facilities foul air ducts and plant's distribution boxes, termination channel, and DAFT units to control odor at both plants 1 and 2. Funds for design and construction of these recommendations are included in the 19992000 CIP.

Odor Control at the Wastehauler Station: Carollo Engineers provided recommendations for modification to the wastehauler station to control odors. Funds for design and construction of these recommendations are included in the 1999-2000 ClP.

Management of Manholes and Storm Drains: Air Quality and Special Project (AQ&$P) and O&M staff has identified all storm drain and manholes inside both plants. All structures were sealed and a Management Plan was prepared. The plan proposed shared responsibilities in the maintenance of the structures (see Appendix 3).

P1-33 Launder Valve: AQ&SP staff continued to work with O&M staff to identity the problems at P1-33. To date maintenance has cleaned the air ducts and removed sixty-six of the eighty-six adjustable aluminum louvers to allow adequate air flows to the scrubbers. AQ&SP staff will determine if adequate air removal is taking place, balance the system if necessary and develop procedures for scrubber operation. During the next fiscal year, maintenance will remove the rest of the louvers as access to the basin become available.

Covering of the Distribution Boxes: Maintenance has provided temporary covers for the distribution boxes at both plants 1 and 2.

Summer Specific Process Operational Changes

Operating Scrubber 9 and 10: Staff will operate the fans of scrubbers 9 and 10 during the summer months to collect foul air from the trunklines and treat it at the ,Headworks scrubbers at plant 1.

Increase in Chemical Usage: Chemical usage such as hydrogen peroxide, caustic and bleach will increase due to process demand. Operation staff will follow the same best Management Practices prepared by the Odor Control Team (see Appendix 4).

Plant 1 River Siphon Air Vents: The foul air manholes structures for the Baker-Gisler and Santa Aha River siphons are filling up with water due to either infiltration and/or condensate accumulation. As a result, foul air in these trunklines are not being captured at the plants scrubbers which has created odor problems to the neighbors across the river from plant 1. GSA has pressure grouted the downstream manholes and vitrified clay pipe (VCP) pipe joints. The condensate problem at the Santa Ana Trunk was gone but water was found in the Baker-Gisler trunk. At the Baker-Gisler manhole located in the plant staff will monitor the water level in the structure, provide automatic sump pump and eventually will install a permanent sump pump. At the Baker-Gisler manhole on the other side of the river, a permanent sump pump will also be installed.

Future Studies:

Identification of Operating Procedures, Which Contribute to Odors: The Odor Control Team will identify operating procedures that are creating odor and will propose ways to mitigate the problems.

Listing of Maintenance Items that Contribute to Odors: The Odor Control Team will identify maintenance items, which are the causes of odors such as old caustic pumps, bad dampers in the foul air duct etc. The tem will then propose solution to mitigate the problems.

Identification of Air Ducts Drainage System: Obstructed air ducts will prevent treatment of foul air streams. The ducts can collect moisture and accumu71ate water, which need to be drained. The Odor Control Teams will identify the drainage system which consisted of sump pumps, drain lines etc. The system will be identified on the plant maps, and a management program will be

Process Changes: Field operation will monitor and optimize the processes by increasing/decreasing hydrogen peroxide dosages for pretreatment increasing/decreasing chemical treatment of the foul air scrubbers as required by process demands.

Optimization of Bleach Usage: The Odor Control Team staff will evaluate options to optimize bleach feed to the north scrubber complex and will perform field test in fiscal year 99-00 of available monitoring equipment.

Evaluation of the Foul Air System at P1-33: This project will determine if adequate air removal is taking place, balance the system if necessary and develop procedure for the scrubbers operation. The work will be accomplished in Fiscal year 99-00.

Trickling Filter Odor Assessment at Plant 1: This project is scheduled for fiscal year 99-00 and will assess the odors at the trickling filter at plant 1 and propose ways to mitigate the odors.

APPENDIX 2

STORM DRAIN ODOR ABATEMENT PROGRAM

The purpose of the Districts Storm Drain Odor Abatement Program, is to reduce the odor and corrosion incidences and benefit process management at the Reclamation Plant No. 1 in Fountain Valley and the Wastewater Treatment Facility Plant No. 2 in Huntington Beach.

The goals of this Program are the following.

- Minimize Storm Drain Odors within the two plants.
- Extend the useful life of our Storm Drain Systems by reducing corrosion and stoppages.

The following objectives will allow us to meet these goals in a proactive manner.

1. Identifying odorous sewer and storm drain structures that require sealing and monitoring.
2. Sealing of all odorous structures at the wastewater treatment facility.
3. Identifying the location of existing gas flaps, conduct testing to determine were new gas flaps are required to be installed, maintain records of gas flap locations.
4. Storm drains preventive maintenance plan (CMMS) cleaning and repair.
5. Develop and Conduct training to staff on the proper sealing of odorous structures.

The following divisional responsibilities are proposed;

Air Quality and Special Projects: conduct initial assessment and identification of storm drains and manhole structures. Sealing of all odorous structures at Plant 1 & 2. Identifying the location of existing gas flaps, and conducts testing to determine were new gas flaps need to be installed. Maintain records of all odorous structures and gas flap locations. Conduct training to the necessary departments on methods of properly sealing manhole covers. Establish requirements for contractors to seal manhole covers when job is completed. Evaluation of new technology to control odors.

Maintenance: Develop preventive maintenance plan (CMMS) for cleaning (frequency every two years) and repair of the storm drain system at plant 1 & 2. The repair and installation of gas flaps (this program should include identification of pipe diameter, length, and video pipeline inspection)

Operations: Notify Maintenance of any broken seal or bad gas flaps. Conduct routine inspection and removal of surface gas flaps until structure gas flaps are installed during winter season to prevent stoppages. (Recommend every 3 months).

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APPENDIX 3

ODOR READINESS OPERATING AND BEST MANAGEMENT PRACTICES FOR SUMMER

1. Peroxide Dosage for the Plant Influent

Plant 1: The peroxide dosage for plant I based on past experience is 450 GPD to 500 GPD.

Perform wet sulfide test at the distribution boxes daily. All wet sulfide concentration must stay below 0.5-ppm. If the wet sulfide concentration climb above 0.5-ppm increase the peroxide dosage 50 GPD steps until the concentration come down to 0.5-ppm.

Plant 2:

Perform wet sulfide testing on all trunklines once a month and use the ratio of 1 part peroxide to one part sulfide. When the interplant trunk have l-ppm sulfide concentration in the water, the trunk needs to be dosed at 1:1 ratio.

Perform wet sulfide test at the distribution boxes. All sulfide concentration in the water must stay below 0.5-ppm. If the wet sulfide concentration is above 0.5-ppm, increase the dosage at the interplant 50 GPD steps until the concentration come down to 0.5-ppm.

2. Scrubber Operation:

Plant 1:

Scrubbers 9 and 10 must be operating to help resolve the odors outside the plant. Based on loading these scrubbers must be operating at pH 10 to 11 and make-up water above 15 GPM. If the outlet H2S concentration is above 5-ppm, the make-up water must be increase at 5 GPM increment until the concentration goes down. Headworks scrubbers: one scrubber is on Vapex and the pH will be set automatically. The other scrubbers pH must be set at pH **10 to11.** Make-up water must be at the minimum of 15 GPD. If the exhaust H2S concentration is above 0.5-ppm increase the make-up water at 5 GPM and the pH at 0.5 increment until the concentration goes back down. The hydrogen peroxide must be on at 20 GPD minimum dosage. This dosage can be increased as odors are detected.

Primary scrubbers: one scrubber is on the Vapex control and the pH is automatically set. The other scrubbers must have pH set at pH 10 to 11 and make-up water set at above 15 GPD. If the exhaust H2S concentration is above 0.5-ppm, increase the make-up water at 5 GPM and the pH at 0.5 increment until the concentration goes down.

Dewatering scrubbers: two dewatering scrubbers must be on-line at all times to maintain proper airflow through the air ducts. The source air scrubber must be on with bleach at 50 GPD minimum. The bleach dosage must be increased accordingly when odors are detected.

Plant 2: H & I scrubbers are operating on the Vapex and the pH will be automatically set. Make-up water must be set at a minimum of 15 GPM. If the exhaust H2S concentration is

above 10-ppm, increase the make-up water at 5 GPM increment until the concentration goes back.

S & T scrubbers are operating on the Vapex system and the pH will be automatically set by the Vapex. Make-up water must be set at the minimum of 15 GPM. Bleach dosage must be at 100 GPD at a minimum and increased when odors are detected. If the exhaust H2S is above 0.5-ppm, increase the make-up water.

Primary scrubbers operating on the Vapex system will have pH controlled by the Vapex. Make-up water must be set at the minimum of 15 GPM. If the exhaust H2S is above 0.5-ppm increase the make-up water at 5 GPM increment until the concentration goes back down. Scrubbers, which do not have Vapex system, must have the pH set at 10 to 11 pH and make-up water set at the minimum of 15 GPM. If the outlet concentration is above 0.5-ppm, increase the make-up water at 5 GPM and the pH at 0.5 increment until the concentration goes back down.

3. Best Management Practices

Must inspect the plant once a shift to insure the following sites are properly operated for odor control:

Plant 1: The doors of the following facilities should be kept closed: rag/grit bin room, headworks buildings, dewatering buildings, solids storage buildings.

Manhole should be inspected and sealed and storm drains in operating conditions. Dewatering conveyor belt should be kept clean when not in service.

Primary basin launders should be kept closed.

Digesters overflows boxes should be kept closed and gas relief inspected for leaks.

All spills should be cleaned immediately and the equipment located outside of buildings must be kept cleaned.

Plant-2:

The doors of the following facilities should remain closed: grit bin room, solids storage building, rag bin room, headworks facility, dewatering building, barscreen room. Manholes should be inspected and sealed and storm drains properly maintained. Primary launders should be closed and primary facility doors closed.

Digesters overflow boxes should be kept closed and gas reliefs inspected for leaks. When using the drying beds be aware for possible complaints.

The discharge of S & T should be analyzed for non-H2S odorous compounds and bleach dosage adjusted accordingly. A study will be initiated of the impact of bleach on non-H2S compounds and bleach dosages will be recommended.

All spills should be cleaned immediately and equipment outside of building must be kept clean.

4. Caustic Dumping in the Collection System

The trunklines will be caustic treated as soon as the 2-ppm of wet sulfide is seen in the wastewater. Once the fingerprinting of the collection system identify hot spots, appropriate treatment will be applied.

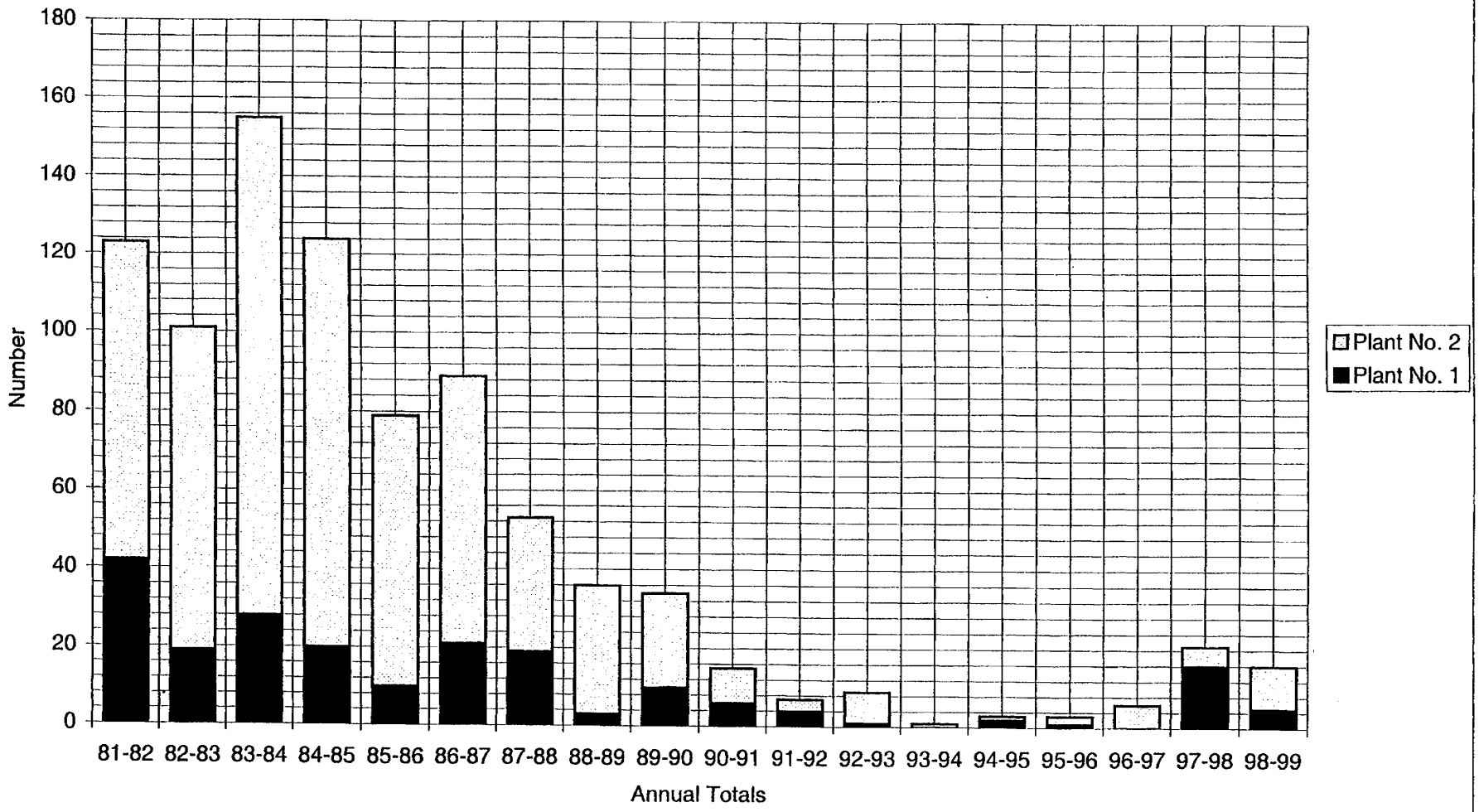
5. Reduce Hydraulic Loading to the Trickling Filters

Reduce loading to trickling filters from 30 MGD to 20 MGD.

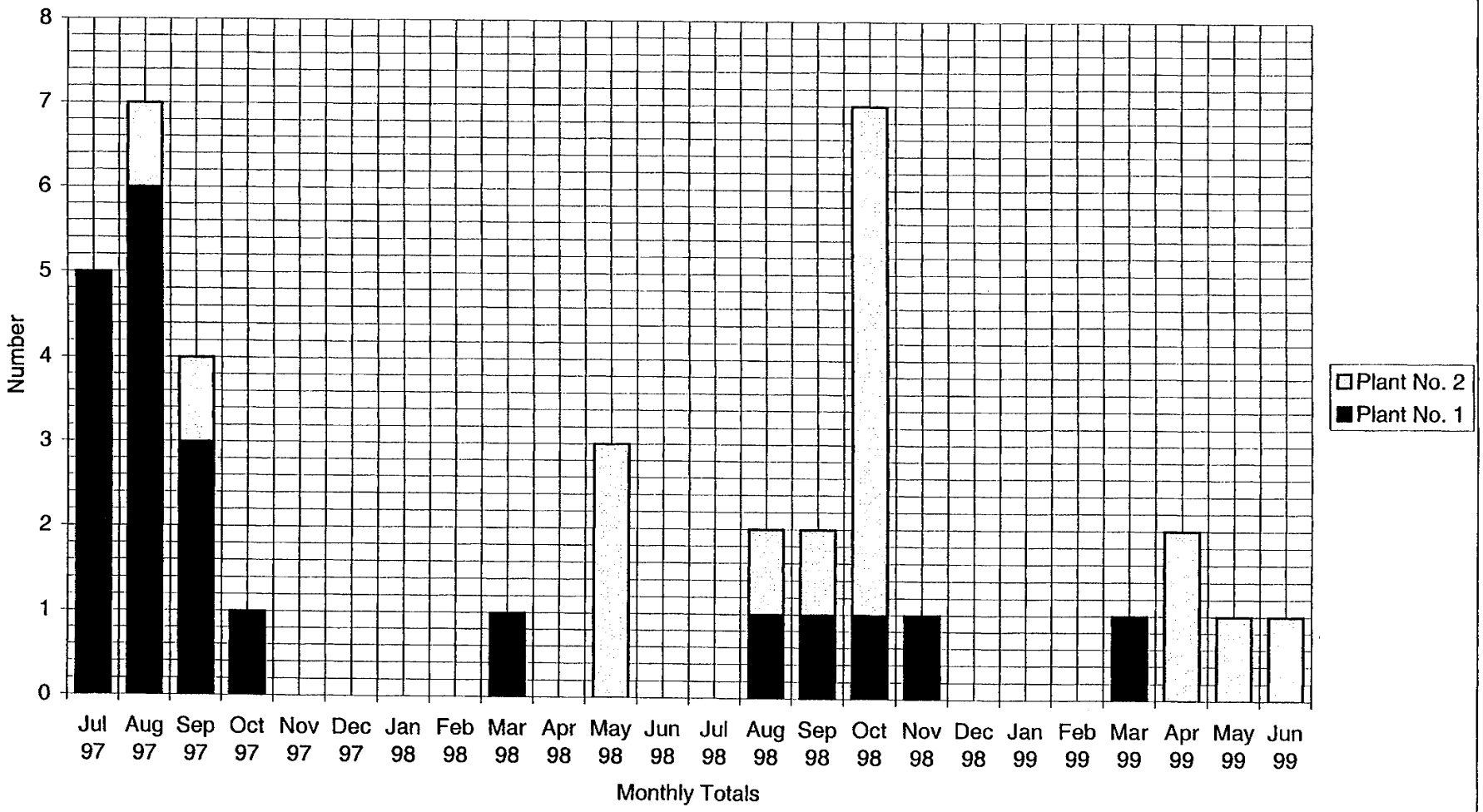
APPENDIX 4

SUMMARY OF ODOR SOURCES AND ABATEMENT PROGRAMS PROPOSED OR IN PLACE FOR PLANT NO. 1 AND PLANT NO. 2

Number of Odor Complaints Received
Annual Totals, FY81-82 to 98-99



Number of Monthly Odor Complaints
June 1997 through June 1999



PLANT NO. 1 ODOR SOURCES

Identifier	Source	Description	Odor Streams	Occurrences	Recommended Solution	Solution Type	Expected Completion Date	Status
1	Wastehauler Station	Foul air escapes when wastehaulers are dumping	Severe (main source of P1 odors on Ellis)	Frequent	Must collect foul air and provide treatment to the foul air at the wastehauler station site. Carollo was awarded the project to investigate and develop modifications and associated cost to be incorporated in the 99-2000 CIP budget. Installation of facility	Operations/ Engineering Engineering	April 1999 Year 2002	Task completed On-going
2	M&D Structure	Foul air escape through duct holes and seals	Significant	Frequent	Keep negative airflow in M&D Channel. Develop operation procedure to have all fans running at M&D facility. Keep necessary fan running and seal all ducts or covers. Inspect for seals and duct and issue W.O. for repair. Task completed. Seal all manholes and duct as per W.O.	Operations Maintenance		Task completed Task completed
3	Sunflower Pump Station	Foul air escape from leaks	Significant	Frequent	Increase foul air withdrawal by operating scrubber 9 or 10.	Operations		Task completed
4	Dewatering scrubbers	Non H_2S odorous compound in the exhaust of the scrubber	Objectionable	Frequent	Add bleach to the dewatering scrubbers.	Operations		Task completed
5	East Side Primary Distribution Box	Foul Air escapes from broken covers	Objectionable	Frequent	Fabricate and install temporary cover. Carollo Eng. completed design new cover and draw foul air to existing scrubber. Installation cost will be incorporated in the 99-2000 CIP project. Install permanent covers.	Maintenance Operations/ Engineering Engineering	 Year 2000 Year 2000	Task completedn Project included in 99-00 CIP On-going
6	Solids/Storage Dewatering Buildings Truckloading	Foul air escape from building and open conveyor belts Cake (organic odor)	Objectionable	Frequent Occasional	Insure proper air withdrawal. Keep building closed. Operate dewatering scrubbers with bleach as oxidant. Close doors of building M&D during operation. Balance fan system. Install cover to conveyor belt Carollo completed the redesign cover of the conveyor belt. Installation cost will be incorporated in the 99-2000 CIP budget. Operation must Insure any part of truck containing cake is covered. Tarp must be on all exposed truckbed extending outside building at truckloading. Maintain odors under scale. Redesign air capture system in the dewatering building and redesign the foul air treatment system. Cost will be incorporated in the 99-2000 CIP budget.	Operations Engineering Engineering/ Operations Operations/ Engineering	 Year 2000 Year 2002	Task completed On-going Project included in 99-00 CIP Project included in 99-00 CIP
7	Rag/Grit Bin	Odor problems when rag bins are left outside of the grit room	Objectionable	Occasional	Inform truck driver to remove grit bin if bin is left outside of building.	Operations		Task completed

PLANT NO. 1 ODOR SOURCES

Identifier	Source	Description	Odor Streams	Occurrences	Recommended Solution	Solution Type	Expected Completion Date	Status
8	Storm Drains	Foul air escape from street drain	Objectionable	Occasional	Maintain gas flap/rubber flap in good condition. Perform monthly inspection of flaps and fix as required. Identify and issue W.O. to maintenance. 1. Identify all storm drains at both plants. 2. Prioritize most odorous drains 3. Install/repair flaps on highest priority drains 4. Develop and implement O&M procedures to inspect and repair flaps	Operations Div. 880 Div. 880 Div. 880 Div. 880	.	On-going item Task completed Task completed Task completed Task completed
9	Sewer Drains	Foul air escaping from manhole cover	Objectionable	Occasional	Maintain good seal at sewer manhole. Perform monthly inspection of flaps and fix as required. Identify and issue W.O. to maintenance. 1. Identify all sewage drains at both plants. 2. Prioritize most odorous drains 3. Install/repair flaps on highest priority drains 4. Develop and implement O&M procedures to inspect and repair flaps	Operations Div. 880 Div. 880 Div. 880 Div. 880		On-going item Task completed Task completed Task completed Task completed
10	Primary basin P1-33	Foul air escaping from launder	Objectionable	Occasional	Maintain proper launder level. Increase H_2O_2 to splitter box #2 as needed. Insure proper air withdrawal. Increase foul air withdrawal by running primary scrubber fan to high as required. Evaluate foul air system - cleaning or removal of remaining foul air intake grates - air measurement and balancing - investigate water buildup in ducts - develop recommendation for number of scrubbers to operate and on which speed Design better seal for launder covers as needed.	Operations Operations Div. 880 Engineering	 Year 2000 Year 2002	Complete Complete On-going On-going
11	Trickling Filters	Foul air escaping out of trickling filter	Objectionable	Rare	When bed is exposed during low flow or loading conditions the odor is bad. Increase H_2O_2 treatment as needed. Provide Odor Study	Operation Div. 880	 Year 2000	On-going item On-going
12	Primary Basin Basin 1 & 2	Foul air escapes when weir covers and hatches are open and through dome leaks Effluent gates openings	Objectionable Objectionable	Rare Frequent	Must keep doors and latches closed. Develop and enforce procedure on keeping doors and hatches closed. Seal leaks. Perform regular inspection for leaks (every 6 months and fix leaks as required.) Cover gate openings. Cover gate openings with diamond plate covers. Maintain 2-3” free fall at weirs with May valves.	Operations Maintenance Maintenance		Task completed On-going item Task completed

PLANT NO. 2 ODOR SOURCES

Identifier	Source	Description	Odor Streams	Occurrences	Recommended Solution	Solution Type	Expected Completion Date	Status
1	Foul air scrubbers	Scrubber discharge is odorous due to poor performance Foul air escapes thru leaks in air duct	Significant	Frequent	Provide proper treatment at scrubbers. Actively monitor and properly operate the scrubbers. As loadings to scrubber change, process adjustments should be made add bleach to scrubber. The design of the installation of the Vapex monitors is completed. Install Vapex monitor to scrubbers Fix all seal and leaks of H & I scrubbers.	Operations Engineering Maintenance	 Year 1999 	Task completed Design completed Task completed
2	Termination Channel	The channel is open and is a source of odor. Since it is close to the river trail it is objectionable to bikers	Significant	Frequent	Carollo completed the design of cover for channel and collection of foul air for treatment thru biofilter. Installation cost was incorporated in the 99-2000 CIP Budget. Installation of cover on channel	Engineering Engineering	 Year 2002	Preliminary Design completed On-going
3	Manholes on site	Foul air escapes from sewer manhole	Objectionable	Frequent	Maintain good seal at sewer manhole. Perform monthly inspection of flaps and fix as required. Identify and issue W.O. to maintenance. 1. Identify all sewer drains at both plants. 2. Prioritize most odorous drains 3. Install/repair flaps on highest priority drains 4. Develop and implement O&M procedures to inspect and repair flaps	 Div. 880 Div. 880 Div. 880 Div. 880		 Task completed Task completed Task completed Task completed
4	A.S. Influent splitter box	Foul air escapes thru open splitter boxes	Objectionable	Frequent	Provide cover for splitter box. Splitter box has temporary cover, which has eliminated the problem for now . Carollo has completed design of the permanent cover to the box and collection foul air for treatment thru scrubber or biofilter. Installation cost will be incorporated in the 99-2000 CIP Budget. Installation of permanent cover	Maintenance Engineering Engineering	 Year 2000 Year 2002	Task completed Project included in 99-00 CIP On-going
5	Junction Boxes	Foul air escapes thru covers	Objectionable	Frequent	Replace all covers and seal on gaps. Temporary covers were installed. Carollo has completed the design of the permanent covers to the boxes and collection of foul air for treatment thru scrubber or biofilter. Cost will be incorporated in the 99-2000 CIP Budget. Installation of permanent covers	Maintenance Engineering Engineering	 Year 2000 Year 2001 (for scrubbers) Year 2002 (for biofilters)	Task completed Project included in 99-00 CIP On-going
Identifier	Source	Description	Odor Streams	Occurrences	Recommended Solution	Solution Type	Expected Completion Date	Status

PLANT NO. 2 ODOR SOURCES

6	Distribution Boxes	Foul air escapes from open boxes	Objectionable	Frequent	Provide cover to box, collect and treat foul air. Provide design and installation of cover and foul air treatment system. Recently a temporary cover was installed over the weir section of "C,B" distribution box. This has significantly reduced the amount of odors out of these boxes. Distribution box A has too many cracks and must remain open. Carollo has completed the design of the permanent cover to all boxes and collection of foul air for treatment thru biofilter. Cost will be incorporated in the 99-2000 CIP Budget. Installation of permanent covers	Maintenance Engineering Engineering	 Year 2002	Task completed Project included in the 99-00 CIP On-going
7	Storm drains • Op Center • City Water Station • OOBS • Truck Wash Station	Foul air escaping from drain	Objectionable	Rare - Frequent	Maintain good seal at sewer manhole. Perform monthly inspection of flaps and fix as required. Identify and issue W.O. to maintenance. 1. Identify all storm drains at both plants 2. Prioritize most odorous drains 3. Install/repair flaps on highest priority drains 4. Develop and implement O&M procedures to inspect and repair flaps	Operations Div. 880 Div. 880 Div. 880 Div. 880		On-going Task completed Task completed Task completed Task completed
8	DAFTs	Foul air vented thru the stand-by scrubbers create odors	Objectionable	Occasional	Perform odor study during FY 99-00 to determine if control of odors from solids processing facilities is necessary.	Operation	Summer 2000	On-going
9	Grit bin room rag and grit bins Grit clarifiers barscreen room	Foul air escaping from drain	Objectionable	Rare	Must keep building doors closed. Enforce procedure to maintain doors closed at all times.	Operations		Task completed
10	Primary basin	Foul air escapes when weir covers and hatches are open and thru dome leaks	Objectionable	Rare	Must keep doors and hatches closed. Develop and enforce procedure on keeping doors and hatches closed at all time. Design better seal and launder covers for the basins. Scope will be included in J-71 project.	Operations Engineering	 Year 2002	Task completed Need to start project
11	Digester	Foul air escape from overflow boxes and gas leak from domes and pressure relief	Objectionable	Rare	Keep the overflow box closed at all time. Develop and enforce procedure of keeping overflow boxes closed. Fix leaks on domes gas system	Operations Maintenance		Task completed On-going
12	Dewatering/ Building	Foul air escaping from building openings	Objectionable	Rare	Develop and enforce procedure for keeping door closed. Initiate odor study during FY 99-00 to evaluate if scrubbers should be operated	Operations Operations/ Maintenance	 Summer 2000	Task completed Planning stage

ATTACHMENT B

MICROFILTRATION

As reported in the 1997 OCSD Annual Report, the purpose of the Districts' microfiltration research is to produce a water of equal or better quality than secondary effluent without using a conventional activated sludge (A.S.) plant. Microfiltration uses micron-level membrane filters to remove insoluble and high molecular weight soluble matter from wastewater. The potential benefits of microfiltration for wastewater treatment include improved effluent quality, reduced labor and operating costs, and delayed or reduced future capital investments.

From March through August 1996, the Districts tested a 10 gallons per minute microfiltration pilot plant manufactured by Zenon Environmental, Inc. The equipment was installed on top of the concrete A.S. sludge basins at Plant No. 1 and was used to treat primary effluent. During the test period, the following parameters were tested while monitoring the effluent (permeate) quality:

- hydraulic retention time
- concentration of bioreactor TSS
- effluent flow rate
- vacuum pressure
- air-flow requirements

Chemical, microbiological and physical data were collected to determine the effects of the operating parameters on the microfiltration unit's performance.

As Table B-1 and Table B-2 show, the results indicated that micofiltration can effectively remove BOD, TSS, and microbial contamination as well as or better than conventional A.S. treatment. The unit also consistency reduced coliform bacteria levels below the receiving water standards contained in the District's NPDES permit. This suggest that microfiltration may provide a cost-effective alternative to traditional disinfection technologies.

TABLE B-1
FISCAL YEAR 1996-97 MICROFILTRATION TEST:
CHEMICAL DATA RESULTS

	Primary Effluent (mg/L)	Product (Permeate)		A.S. Effluent		NPDES Limit[1] (mg/L)
		Average (mg/L)	Removal	Average (mg/L)	Removal	
Total BOD	123	6	95%	7	94%	100
Total Suspended Solids	46.3	<0.4	>99%	5.1	88%	60[1]

1 30-day average.
2 or 75% removal, whichever is less stringent

TABLE B-2
FISCAL YEAR 1996-97 MICROFILTRATION TEST:
MICROBIOLOGICAL DATA RESUTS

	Primary Effluent (MPN/100 ml)	Product (Permeate)		A.S. Effluent[1] (MPN/100 ml)	Water Quality Standard[2] (MPN/100 ml)
		Average (MPN/100 ml)	Ration of Products to Feed Value		
Total Coliform	8.2×10^7	66	1:1,200,000	2.4×10^6	1,000[3]
Fecal Coliform	4.2×10^7	32	1:1,300,000	$2.4 \times 10^?$	200
Bacteriophage	2.9×10^5	20	1:14,000	–	None

1 As measured March 26-28, 1997. The A.S. effluent is not routinely tested for microorganisms.
2 30-day geometric mean receiving water standard.
3 70 MPN/100 ml for chollfish harvesting areas.

As preparation for tertiary treatment, microfiltration potentially can treat primary effluent to produce a high quality permeate suitable for reverse osmosis without additional treatment. However, further testing of a larger pilot-scale unit that is representative of a full-scale design will be required to verify the operational conditions necessary to produce this high quality permeate consistently and economically.

Due to the design and operating characteristics of the pilot-scale unit tested, reliable operating and maintenance (O&M) costs as well as scale-up costs for a full-scale installation could not be determined during these tests. Testing of a larger unit is planned to provide data that can be used to develop the full-scale capital and O&M costs.

APPENDIX 1

ORANGE COUNTY WATER DISTRICT MEMORANDUM ON PATHOGEN REMOVAL BY MEMBRANE FILTRATION

DATE: Tuesday, September 21, 1999

TO: Jim Herberg

FROM: Greg Leslie

SUBJECT: Removal of pathogens by membrane filtration

Microporous membrane processes, such as Microfiltration (MF) or Ultrafiltration (UF), are pressure driven, liquid phase, membrane separation processes that can be used in any application requiring the separation of colloids and particles from solution. As with all membrane processes, separation can be achieved at ambient temperatures under sterile conditions, in either batch or continuous mode and without a change of phase. These properties make microporous membranes ideal separation processes for the sterilization of intravenous fluids and pharmaceuticals; the clarification of fruit juice, beer and wine; and the polishing of rinse water in the manufacture of microprocessors.

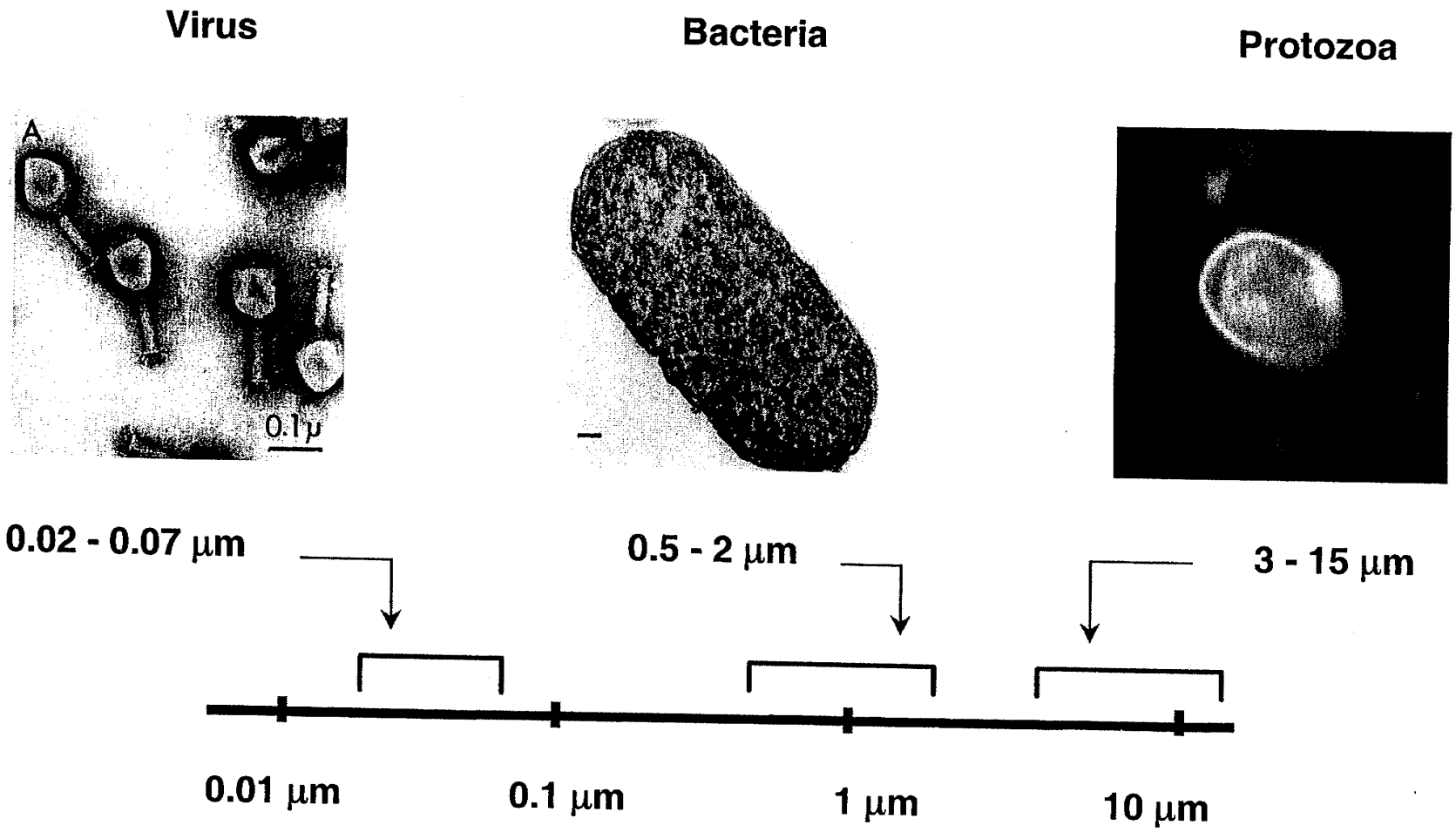
Microporous membranes are used in water and wastewater applications as alternatives to the conventional treatment process for the removal of suspended solids such as granular media filtration and clarification by flocculation and settling. Compared with treatment processes, microporous membranes occupy less space and do not generally require chemical pretreatment. Perhaps the most important factor, however, is that microporous membranes provide an absolute barrier to particles larger than the membrane nominal pore size. Thus, microporous membranes constantly produce a high quality effluent that is independent of plant influent water quality or loading rate.

The use of Microporous membranes in surface water treatment applications was driven by the need to comply with the disinfection requirements of the Surface Water Treatment Rule (SWTR), which includes a 99.9% (3 log) reduction/inactivation of Giardia and 99.99% (4 log) reduction/inactivation of viruses. The removal of protozoan cysts and oocysts by microporous membranes occurs exclusively by the so called surface sieving mechanism. The size of the size of the cysts and oocysts range from 3 to 15 μm where as the largest nominal pore size of microporous membranes used for water treatment is 0.2 μm (Figure 1). In this case the microporous membranes membrane presents an absolute barrier to the pathogens which is independent of pathogen concentration in the feed water and the level of fouling on the membrane surface. In contrast, the absolute removal of viruses which are typically 0.02 to 0.08 μm in size requires a

membrane with a nominal pore size less 0.02 μm. The removal of virus sized particles by microporous membranes with nominal pore size larger than 0.02 μm will vary as a function of the level of membrane fouling and the concentration of virus in the feed water. For example, a clean 0.2 membrane μm will reject the MS2 coliphage (a virus indicator) by a combination of surface collection and internal pore adsorption. This combination of rejection mechanisms will result in a 90% (1 log) removal of MS2 from feed water containing one million ($1x10^6$ or 6 logs) of the MS2. During operation, the MF membrane will foul and a cake will develop on the membrane surface. Under these conditions the coliphage are also retained by the surface cake collection mechanism, which increases the removal efficiency to 99% (2 logs) to 99.99% (4 logs).

In recent years MF has been used in wastewater treatment facilities to process secondary and primary effluent . In these cases the role of the microporous membrane was to remove suspended solids and bacteria prior to reuse for landscape irrigation or additional treatment using reverse osmosis. MF membranes are increasingly used in advanced water treatment process used to recycle secondary effluent. MF is an alternative to rapid mix flocculation followed by multimedia filtration for the production of reclaimed water for non-potable reuse. MF reduces the turbidity, suspended solids and coliform counts in the secondary effluent to less than 0.2 NTU, <1 mg/L and < 2 cfu/ml respectively. In these applications it is assumed that the degree of body contact with the finished water is high. In both cases the use of microporous membranes has been approved by the California Department of Health Services. It is anticipated that the use of microporous membranes to treat wastewater prior to discharge into receiving waters would be permitted by the Department of Health Services.

Figure 1. Relative size of microbial pathogens



ATTACHMENT C

MITIGATION MONITORING / REPORTING PROGRAM

ORANGE COUNTY SANITATION DISTRICT
MITIGATION MONITORING AND REPORTING PROGRAM
FOR THE
1999 STRATEGIC PLAN

The Mitigation Monitoring and Reporting Program (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 MMRP is organized in a table format, keyed to each significant impact and 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

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. 2. Establish methods of increasing treatment in order to be prepared to eliminate floatables if necessary.	Publish results with annual monitoring program report submitted to the RWQCB.	OCSD	Monthly, beginning when treatment level is changed.

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
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
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
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
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
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
1. Require traffic control plan for construction projects. 2. Notify affected cities of construction schedule. 3. Provide construction oversight.	Ensure that construction vehicle traffic complies with traffic control plan. Provide record of construction oversight.	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
	Include status of rideshare program in Operation and Maintenance Annual Report.	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
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.	Prepare a record of hauling schedule.	OCSD	At hauler's contract renewal

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
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
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. 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 6.4-1b: 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. 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 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
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
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
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
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
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
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
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
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
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
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.	Maintain record of construction oversight for administrative record.	OCSD	Prior to and during construction.

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

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

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

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

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. 2. Provide SCAQMD with mandated emissions reports to verify compliance.	Maintain record of air emission data. Include status and results of air emissions research in annual Operations and Maintenance Report.	OCSD	Annually.

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
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

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.	Maintain record of meetings with community groups.	OCSD	On-going

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
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
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
1. Implement BMPs. 2. Implement SWMP. 3. Periodically update SWMP. 4. Implement mitigation measures listed above. 5. Periodically inspect construction sites.	Maintain compliance with SWMP for administrative record. Maintain record of site inspections.	OCSD	As needed.

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. 2. Periodically inspect construction sites.	Maintain record of dewatering procedures for administrative record Maintain record of site inspections.	OCSD	During construction.

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
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.	Maintain training records, medical records, notification records, and safety record for administrative record.	OCSD	On going.

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 PM_{10} emissions, construction vehicle exhaust, and cumulative noise impacts during excavation and pile driving activities.

IMPLEMENTATION PROCEDURE	MONITORING AND REPORTING ACTIONS	MONITORING RESPONSIBILITY	MONITORING SCHEDULE
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
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 planed 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
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
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.	Maintain record of signage, business and fire department notifications, inspections, and construction schedule.	OCSD	Prior to and during construction

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
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.	Maintain traffic control plan, permits, and construction schedule and methods for administrative record. Maintain record of site inspections including post-construction inspections.	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
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.	Maintain traffic control plan, permits, and construction schedule and methods for administrative record. Maintain record of site inspections including post-construction inspections.	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
1. Include application for SCRRA encroachment permit in contract specifications 2. Contact SCRRA prior to project design.	Maintain encroachment permit application and permit for administrative record.	OCSD and SCRRA	Prior to and during construction

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
1. Include adherence with County of Orange RRHT and CBSP in contract specifications. 2. Contact County of Orange prior to designing detours.	Maintain construction design for administrative record.	OCSD and SCRRA	Prior to and during construction

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
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
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. 2. Conduct periodic construction site inspections.	Maintain record of construction methods for administrative record. Maintain record of site inspections for administrative record.	OCSD	Prior to and during construction

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
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
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
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.	Maintain compliance with SWMP and SPCC for administrative record. Including annual reports to the SWRCB. Maintain record of site inspections and sample analysis results.	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
1. Contract with qualified engineer to assess structural impacts to SAR levee prior to construction of interplant connector. 2. Periodically inspect construction site.	Maintain reports for administrative record. Maintain record of site inspections.	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
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.	Maintain record of notifications for administrative record. Maintain record of site inspections.	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
1. Include site safety measures in contract specifications. 2. Include waste disposal methods in construction specifications. 3. Periodically inspect construction sites.	Maintain specifications for administrative record. Maintain record of site inspections.	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. 2. Include underground utility surveys in construction specifications. 3. Coordinate with local authorities to minimize utility disruption. 4. Periodically inspect construction sites.	Maintain specifications for administrative record. Maintain record of site inspections.	OCSD	Prior to and during construction.

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. 2. Coordinate with Department of Conservation to expedite search.	Maintain specifications for administrative record. Maintain record of oil well discoveries and searches for the administrative record.	OCSD	Prior to and during construction.

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
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.	Maintain construction specifications for administrative record. Maintain record of site inspections.	OCSD	Prior to and during construction.

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
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.	Maintain construction specifications for administrative record. Maintain record of site inspections.	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
1. Coordinate with local authorities prior to final design. 2. Conduct coordination incentives with local jurisdictions.	Maintain record of communication and outreach with local authorities for administrative record.	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.

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