APPENDIX "C"

MEASURES OF EFFECTIVENESS

BY

FACILITY TYPE

MEASURES OF EFFECTIVENESS BY FACILITY TYPE

TYPE OF FACILITY	MEASURE OF EFFECTIVENESS
Freeways	
Basic Freeway Segments	Density (pc/mi/ln)
Weaving Areas	Density (pc/mi/ln)
Ramp Junctions	Flow Rates (pcph)
Multi-Lane Highways	Density (pc/mi/ln) Free-Flow Speed (mph)
Two-Lane Highways	Time Delay (percent)
Signalized Intersections	Average Control Delay (sec/veh)
Unsignalized Intersections	Average Control Delay (sec/veh)
Arterials	Average Travel Speed (mph)
Transit	Load Factor (pers/seat, veh/hr, people/hr)
Pedestrians	Space (sq. ft./ped)

Measures of effectiveness for level of service definitions located in table 1-2. Chapter 1, of the 1997 Highway Capacity Manual, Special Report 209. Transportation Research Board, National Research Council.

Transition between LOS "C" and LOS "D" Criteria
(Reference 1997 Highway Capacity Manual)

Basic Freeway Sections

LOS	Maximum Density (pc/mi/ln)	Minimum Speed (mph)	Maximum Service Flow Rate (pcphpl)	Maximum Volume/Capacity Ratio
	Free-Flow Speed = 70 mph			
A	10.0	70.0	700	0.29
B	16.0	70.0	1120	0.47
C	24.0	68.0	1632	0.68
D	32.0	64.0	2048	0.85
E	45.0	53.0	2400	1.00
F	var	var	var	var

Weaving Areas

LOS	MAXIMUM DENSITY (pc/mi/ln)	
	Freeway Weaving Area	Multi-lane and C - D Weaving Areas
A	10	12
B	20	24
C	28	32
D	35	36
E	<= 43	<= 40
F	> 43	>40

Ramp-Freeway Junction Areas of Influence

LOS	Maximum Density (Primary Measure) (pc/mi/ln)	Minimum Speed (Secondary Measure) (MPH)
A	10	58
B	20	56
C	28	52
D	35	46
E	> 35	42
F	[a]	[a]

[a] Demand flows exceed limits of table 5-1.

Signalized Intersections

LOS	Control Delay Per Vehicle (sec)
A	10
B	20
C	35
D	55
E	80
F	> 80

Dotted line represents the transition between LOS "C" and LOS "D"

Gray Davis
Governor

Maria Contreras-Sweet
Secretary, Business. Transportation and Housing Agency

Jeff Morales
Director, California Department of Transportation

Kim Nystrom
Program Manager. Traffic Operations

For additional copies of these guidelines, please contact Tom Persons @ email:
Thomas Persons@dot.ca.gov

City of Huntington Beach

2000 MAIN STREET CALIFORNIA 92648

DEPARTMENT OF PLANNING

Phone 536-5271
Fax 374-1540
374-1648

June 23, 2003

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

SUBJECT: Notice of Preparation (NOP) of Supplemental EIR for the Newport Trunk Sewer and Force Mains, Bitter Point Pump Station to Coast Trunk (Contract No. 5-58)

Dear Ms. Anderson:

Thank you for the opportunity to comment on the preparation of the Supplemental EIR. In addition to the issues that will be addressed in the environmental document the City of Huntington Beach recommends that the scope and the content of the SEIR address the following:

1. The potential construction traffic impacts of each alternative should be evaluated in detail to clearly define the potential adverse impacts of the construction and provide additional information from which to identify the 'preferred' project. Analyses should include an evaluation of construction duration, cost implications, impacts to alternative routes, lane restrictions/closures required, construction phasing alternatives, and emergency accessibility/response routes during construction. Roadways that should be included in the evaluation of alternative route impacts within Huntington Beach are: Brookhurst Street, Magnolia Street, Hamilton Avenue, and Adams Avenue. Analyses should include an assessment of peak hour and daily traffic operations.

2. Pipeline construction within the public roadways (including pedestrian and bicycle facilities) will require the preparation of traffic control plans. These plans need to be coordinated with the Department of Public Works and signed by a registered Civil Engineer. Any work within State right-of-way will require a Caltrans encroachment permit.

3. The Orange County Sanitation District should coordinate with the Department of Public Works in the development of an acceptable truck haul route for any import or export of material. A discussion and exhibit should be included in the SEIR to identify the approximate number of truck trips and the proposed truck haul routes. It should specify the hours during which transport activities can occur and methods to mitigate construction-related impacts to adjacent residents. Furthermore, the plan should take into consideration any street improvement construction occurring in the vicinity.

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Maria Contreras-Sweet
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Director, California Department of Transportation

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Program Manager. Traffic Operations

For additional copies of these guidelines, please contact Tom Persons @ email:
Thomas Persons@dot.ca.gov

City of Huntington Beach

2000 MAIN STREET CALIFORNIA 92648

DEPARTMENT OF PLANNING

Phone 536-5271
Fax 374-1540
374-1648

June 23, 2003

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

SUBJECT: Notice of Preparation (NOP) of Supplemental EIR for the Newport Trunk Sewer and Force Mains, Bitter Point Pump Station to Coast Trunk (Contract No. 5-58)

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4. The SEIR should address in detail potential noise and air quality impacts from this project and how these impacts will be mitigated. This analysis should be completed for each of the alternatives.

Should you have any questions regarding the City's comments please contact Rosemary Medel at (714) 536-5271.

Sincerely,

Howard Zelefsky, Director of Planning

Cc: Scott Hess, Planning Manager
Mary Beth Broeren, Principal Planner

CITY OF NEWPORT BEACH

RECEIVE
03 JUN 27 11:20
ENGINEERING

June 23, 2003

Mr. Jim Herberg, Engineering Manager
Orange County Sanitation District
10844 Ellis Avenue
Fountain Valley, CA 92708
Attn: Angie Anderson

VIA FAX: 714-962-0356

Responses to NOP
Newport Trunk Sewer and Force Main Project

Dear Mr. Herberg:

Thank you for the opportunity to respond to this Notice of Preparation. The City of Newport Beach offers the following comments, which we hope will assist the District in preparing an adequate SEIR.

Land Use

The NOP indicates that there may be land use impacts on Banning Ranch and the active oilfield. For any of the alternatives that include construction along Coast Highway, there is also the potential for impacts on the existing commercial land uses along the Highway, as well as the existing residential uses on either side of the Highway. Access to the area will be disrupted, and there will be noise, traffic and air quality impacts. Section 15131 of the CEQA Guidelines provides that economic and social impacts should be considered in EIRs. The SEIR for the subject project should examine potential impacts to residents and businesses along Coast Highway, and propose mitigation measures that protect access and minimize business interruption.

The commercial uses along Coast Highway already struggle, and are highly dependent on seasonal business. If construction occurs during the summer season and/or has a long duration, there could be significant loss of business. This could result in physical

deterioration of the area or even business failures. The land use implications of this should be analyzed in the SEIR.

Public Services and Utilities

The NOP notes that underground utilities could be affected during excavation. The SEIR's analysis of this issue should include all existing utility lines of the City, especially sewer, water and oil lines.

Access for truck pick-up of oil from, and maintenance and repair to, the City's oilfield needs to be maintained on a daily basis. Laying two 42" mains as proposed in alternatives 2A and 2B may require that the City's 14 front oil wells, and the back three wells, have to shut off during construction. This would have significant fiscal impacts on the City. The City's experience with the current OCSD project of replacing a smaller line than that proposed in the subject Project has demonstrated that it is difficult for the City to access its wells. Therefore, it is critical that access to the oilfields be carefully analyzed, and mitigation measures to maintain uninterrupted operation be incorporated into the SEIR.

Growth Inducing Impacts

To the extent that the Project increases capacity, the SEIR needs to analyze growth inducing impacts.

The City of Newport Beach stands ready to assist the District in analyzing impacts in these issue areas. Please call Assistant City Manager Sharon Wood (644-3222) regarding land use issues or Utilities Director Eldon Davidson (718-3400) regarding oilfield issues.

Sincerely,

Homer L. Bludau
City Manager

Cc: Dave Kiff, Assistant City Manager
Sharon Wood, Assistant City Manager
Steve Badum, Public Works Director
Eldon Davidson, Utilities Director
Patricia Temple, Planning Director

Corporate Office
6000 W. Pacific Coast Highway
Newport Beach, Ca. 92663
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June 25, 2003

To: Jim Herberg
C/O Angie Anderson
Orange County Sanitation District
10844 Ellis Avenue
Fountain Valley, CA 92708

Re: Sewer line relocation

Dear Sir or Madam:

We would like to offer the following comments:

1. We believe Alternative 1 would have a serious negative financial impact on the businesses located on West Coast Highway. Past experience with the road widening in this same area and sewer replacement through Mariner's Mile convinces us that disruptions to traffic flow, noise, etc. will result in dramatically reduced revenues. Given the current economic climate the prospect is of grave concern.

2. We believe Alternative 1 would have a negative affect on the residents and employees of businesses in the area especially in terms of traffic congestion, noise, air quality, and access to homes, work places, and beaches.

3. It is difficult to imagine that the cost of digging up and replacing West Coast Highway (Alternative 1) could be justified.

4. We are concerned that Alternative 1 would have a negative impact on businesses outside the construction area, particularly Mariner's Mile and Balboa. The difficulty of passing through West Newport to reach businesses on the other side of the construction area, and traffic backed up into both Mariner's Mile and Balboa blocking access to those areas, would be discouraging to both residents and visitors.

5. Choosing Alternative 2, the route that follows the existing sewer line, would avoid the harmful disruption to our community that would be caused by the Alternative 1 route.

Sincerely,

David Jalali
President

C: File.

County of Orange
Planning & Development Services Department

300 N. FLOWER ST.
SANTA ANA, CALIFORNIA

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

NCL 03-063

June 27, 2003

Jim Herberg
c/o Angie Anderson
Orange County Sanitation District
10844 Ellis Avenue
Fountain Valley, CA 92708

SUBJECT: NOP of a DSEIR for the Newport Trunk Sewer and Force Mains, Bitter Point Pump Station to Coast Trunk (Contract No. 5-58)

Dear Mr. Herberg:

The above referenced item is a Notice of Preparation (NOP) of a Draft Supplemental Environmental Impact Report (DSEIR) for the Orange County Sanitation District (District). The DSEIR supplements the District's Strategic Plan Program Environmental Impact Report (PEIR) certified in October 1999. The proposed project would replace the existing Newport Trunk Sewer and force mains from the Bitter Point Pump Station in Newport Beach to the District's Treatment Plant No. 2 located in the City of Huntington Beach.

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

FLOOD

1. The proposed project alignments should be shown to not in any way impact the hydraulics of the Santa Ana River (SAR), Talbert Marsh Channel Outlet, or Greenville-Banning Channel.

2. Micro-tunneling or horizontal directional drilling is proposed to install the siphons beneath the SAR (E01), Talbert Marsh Channel Outlet (D02), and Greenville-Banning Channel D03). Such work should be accomplished only after a County permit has been received for the proposed work.

3. The District should obtain permits from the County's Public Property Permits Section for work within the Orange County Flood Control District's (OCFCD) rights-of-way. Information regarding permit application can be obtained from Doug Witherspoon at (714) 834-2366.

4. How water quality impacts from potential leaks associated with damages to the wastewater conduits are being handled should be addressed in the DSEIR. Operational features to be installed to minimize and monitor future system leaks should be discussed in the SEIR.

SANTA ANA RIVER

5. The alignments considered for the new sewer lines may cross or otherwise impact the marsh on the east side of the SAR. Given that this marsh is currently owned by the U.S. Army Corps of Engineers (COE), and is to be turned over by the COE to the U.S. Fish and Wildlife Service (FWS), it is requested that the OCSD solicit comments from the COE, FWS, and the California Department of Fish and Game as part of the planning and review process.

6. The Talbert Marsh on the west side of the SAR may also be impacted by the proposed project. It is requested that the NOP and future documents be sent to both the owners and operators of the Talbert Marsh as well.

7. The crossing of the SAR via drilling, micro tunneling, or aerial crossing needs to be reviewed and approved by the COE. This review, which will be conducted by the COE's Engineering Branch, is a completely separate process in addition to a required 404 Permit review by the COE's Regulatory Branch.

WATER QUALITY

It is recommended that the following issues be addressed in the DSEIR:

8. Discussion of project alternatives which require piping under the Santa Ana River should include analysis of any potential effects on sediment removal and on-going maintenance projects within the Santa Ana River channel.

9. Discussion of project alternatives that would result in excavation or impacts to marshlands should include an analysis of any potential impacts to marsh habitat and plans for marsh habitat restoration.

10. The City of Newport Beach and CalTrans are evaluating the feasibility of diverting urban runoff from the Seashore Drive area to the sanitary sewer. The selection of project alternative 1 could provide an opportunity for mutual benefit to both projects.

OPEN SPACE/RECREATION

Bikeways:

11. Subject project would impact three Class I (paved off-road) bikeways: the Huntington Coast Bikeway, the Santa Ana River Bikeway, and the Greenville-Banning Bikeway. The first two are regional bikeways and the third is a local bikeway. The State of California may require a permit for construction activities that impact the Huntington Coast Bikeway. The County will require County Property Permits for encroachment over the Santa Ana River and Greenville-Banning Bikeways. Typical County permit conditions include, but are not limited to, the following:

    A. The bikeway shall remain open at all times. (Brief closures by flagmen, to allow for the movement of construction vehicles and equipment, are acceptable.)

    B. A plan shall be submitted that provides for uninterrupted use of the bikeway during construction. Utilizing a paved detour and/or placing metal plates over part of the trench may accomplish this. The plan shall include a diagram and text describing the proposed reroutes, and safety measures such as signage, barriers, flagmen, etc.

    C. After construction, the bikeway shall be restored to its original condition.

Riding and Hiking Trails:

12. The proposed project would impact the Santa Ana River Trail, a regional riding and hiking trail. In subject location, the Santa Ana River Trail is on the same side of the river as the Santa Ana River Bikeway (i.e., the west levee). The bikeway is paved; the parallel trail is unpaved (it is surfaced with decomposed granite). County Property Permit conditions listed above under bikeways would be the same for the riding and hiking trail, except any detour of the trail would be unpaved.

Terminology:

13. To avoid confusion between on-road bikeways, off-road bikeways, and riding & hiking trails, it is recommended using the following terminology in the text of the DSEIR:

    A. Class I Bikeway: paved off-road bikeway, used mainly by bicyclists and pedestrians.

    B. Class II Bikeway: on-road bikeway with striped lanes, used by bicyclists.

    C. Riding and Hiking Trail: natural surface or decomposed granite (DG) trail, used by equestrians, mountain bicyclists, and hikers.

CULTURAL/HISTORICAL

14. The language in the proposed DSEIR should be updated to use the County's current standard conditions for cultural resources.

15. In the case of archaeological and/or paleontological materials recovered from the site during grading/or and construction, these materials should be donated to a suitable repository "within Orange County." Prior to donation, the certified paleontologist should prepare the fossil collection "to the point of identification."

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

WASTE MANAGEMENT

Waste Diversion

17. When structures such as buildings, roadways and sidewalks are demolished as part of the initial site preparation phase for a project, demolition wastes are generated. The proposed project will result in the generation of demolition wastes. Demolition-generated wastes consist of heavy, inert materials such as concrete, asphalt, rock and soils, wood, drywall, plaster, metals and brick. These materials create significant problems when disposed of in landfills; since demolition wastes do not decompose, they take up valuable landfill capacity. Additionally, since demolition wastes are heavy when compared with paper and plastic, it is more difficult for jurisdictions to reduce the tonnage of disposed waste. For this reason, demolition waste debris has been specifically targeted by the State of California for diversion from the waste stream. Projects that will generate demolition waste should emphasize deconstruction and diversion planning, rather than demolition. Deconstruction is the planned, organized dismantling of existing buildings and structures on a project site, which allows maximum use of the deconstructed materials for recycling and limits disposal at solid waste landfills. The project applicant should contact the recycling coordinator for the Orange County Sanitation District who can provide the names and locations of recycling facilities in the project area that will accept these wastes. We recommend that this project address a waste reduction plan for the demolition wastes generated from this project. This plan should be coordinated with the recycling coordinator for the Orange County Sanitation District.

Unacceptable Materials

18. Demolition-generated waste from the proposed project may contain contaminated soils, asbestos, lead-based paints, fluorescent lamps and ballasts, or other hazardous materials. Orange County solid waste landfills are not permitted to accept these waste materials. In addition, Orange County solid waste landfills are not permitted to accept waste contaminated with toxic or hazardous materials, or waste having the moisture content

greater than 50%. During the demolition phase of the proposed project, if contaminated soils, asbestos, lead-based paints, fluorescent lamps and ballasts, hazardous materials or liquids are discovered, then these materials must be transported to facilities that are permitted to accept them. If additional clarification is needed, please contact a County Materials Regulation Specialist at (714) 834-4000.

ENVIRONMENTAL HEALTH

19. During the implementation of the proposed project it is possible that previously unidentified Underground Storage Tanks (USTs) could be located and contaminated soil/groundwater encountered. The District should develop a plan to immediately notify the Orange County Environmental Health Division at (714) 667-3600 if any UST(s) or associated contamination is encountered during implementation of this project.

20. The District should review applicable environmental databases to determine if there are any active UST(s) or active Leaking Underground Storage Tank (LUST) cases in the path of the proposed project. If there are any such sites the County's Environmental Health Division should be contacted.

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

Sincerely,

Timothy Neely, Manager
Environmental Planning Services Division

ch

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, CORPS OF ENGINEERS
P.O BOX 532711
LOS ANGELES, CALIFORNIA 90053-2325

REPLY TO
ATTENTION OF:

September 15, 2003

Office of the Chief
Environmental Resources Branch

Orange County Sanitation District
10844 Ellis Avenue
Fountain Valley, California 92708
Attn: Angie Anderson

Dear Ms. Anderson,

This letter is in response to your Notice of Preparation for a Supplemental Environmental Impact Report for the Newport Trunk Sewer and Force Mains, Bitter Point Pump Station to Coast Trunk project. The NOP was reviewed by our Environmental, Engineering, and Regulatory staff. The Corps has several comments and concerns that were shared with your staff over the phone and during an August 14, 2003 meeting. These initial comments do not necessarily encompass all of the Corps' concerns and permitting requirements that would apply to your final array of alternatives. Therefore, please send a copy of the Draft EIR, when completed, to Ms. Hayley Lovan, Environmental Resources Branch, at the above address.

Biological Resources/Land Use Concerns

The "marshy area" referenced throughout the document and depicted on Figures 2-7 is actually the Santa Ana River Salt Marsh, a wetlands purchased and restored by the U.S. Army Corps of Engineers. Likewise, the "Greenville Banning Channel" is mislabeled on Figures 6 and 7; that area is actually the "panhandle" portion of the Santa Ana River Salt Marsh. The Greenville Banning Channel is located further to the north, as shown on Enclosure 1 of this letter. References to that channel in the NOP should be revised.

The 92-acre Santa Ana River Salt Marsh provides habitat or potential habitat for numerous native species, including several State and Federally-listed Threatened and Endangered species. We have provided copies of biological surveys and recent environmental documents that discuss the ecological importance and value of the marsh to your environmental contractor. The Corps strongly encourages OCSD to pursue alternatives that would avoid any temporary or long-term impacts to the marsh. As described in the NOP, Alternatives 2A and 2B would likely result in significant adverse impacts to the marsh and therefore would be unacceptable to the Corps. The Corps would support implementation of an alignment along the Pacific Coast Highway, or other

options presented at the August 14 meeting that would have minimal impacts on the marsh (although Regulatory/404 and other issues would still need to be addressed, as discussed below).

Please understand that the federal government's acquisition and restoration of this wetland was part of the Corps' environmental requirement related to the construction of the Santa Ana River Mainstem flood control project. This area is of vital concern and has been set aside for environmental restoration and mitigation purposes. The Corps has expended considerable time and expense in development of this cornerstone feature of the flood control project.

Please be aware that a condemnation action was filed in Federal Court so that the proper real property rights would be acquired as part of this permanent wildlife restoration area. The importance placed upon these 92 acres cannot be diminished or jeopardized by the proposed sewer project. The "PCH" alternatives would provide the proper balance of the proposed sewer improvements while protecting this environmental centerpiece of the Santa Ana Flood control project.

Engineering/Flood Control Concerns

The County of Orange Public Facilities and Resources Department (PFRD) addressed some of the engineering and flood control concerns associated with crossing the marsh and the Santa Ana River. In addition, the Corps' Structural and Geotechnical engineers provided the following comments:

1. Both alternatives involve micro-tunneling and/or horizontal directional drilling, which have the potential to impact the Santa Ana River channel, depending on how far the pipe is from the channel. The further the pipeline is from the channel, the better.
2. There may be some impact to the Santa Ana River channel from the abandoned pipe that will be filled with a concrete slurry. Further analysis of the abandoned pipe will need to be completed during future design efforts.
3. For Alternative #1, the sewer line must be located sufficiently below the soft bottom of the Lower Santa Ana River.
4. For Alternative #2, the sewer line must be located sufficiently below the toe stone of the Lower Santa Ana River and the "Greenville Banning Channel" (i.e., the panhandle of the Santa Ana River Marsh).
5. Prior to construction, an engineering permit will be required from the Corps of Engineers. You may contact Mr. Bill Zeigler at (213) 452-3747 for more information.

Regulatory Requirements

For Alternative 1, Alignments 1a, 1b: A 404 permit application will need to be submitted if the proposed vent line crosses beneath the Santa Ana River and/or Talbert Marsh, or if the new connection from the Armstrong Petroleum Company affects the Santa Ana River Salt Marsh. If

crossing over the Santa Ana River, a 404 permit will be needed if equipment will be placed in the channel. Discharge and/or stockpiling of fill material within Talbert Marsh would require a 404 permit. Also, the micro-tunneling with receiving pits (page 7, paragraph 3 of the NOP) would be considered discharge of fill material within a wetland. You may contact Ms. Stephanie Hall at (213) 452-3410 for more information on the Regulatory process.

For Alternative 2: In addition to the concerns listed above, a 404 permit would be needed for construction activities within the Santa Ana River Marsh. A Wetland Delineation may need to be performed in this area to determine the extent of jurisdictional wetlands within the marsh. A 404 permit would also be necessary for crossing the Santa Ana River, if equipment is placed in the river to accomplish this task.

Thank you for your attention to this document. If you have any questions, please contact Ms. Hayley Lovan, Environmental Coordinator for the Santa Ana River Mainstem Project, at (213) 452-3863.

Sincerely,

Ruth Bajza Villalobos
Chief, Planning Division

Enclosure