

**CALIFORNIA COASTAL COMMISSION**

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STAFF REPORT AND RECOMMENDATION

ON CONSISTENCY DETERMINATION

Consistency Determination No.	<b>CD-121-96</b>
Staff:	JRR-SF
File Date:	9/25/96
45th Day:	11/9/96
60th Day:	11/24/96
Commission Meeting:	11/15/96

**FEDERAL AGENCY: INTERNATIONAL BOUNDARY AND WATER COMMISSION**

**DEVELOPMENT**

**LOCATION:**

City of San Diego, South Bay International Wastewater Treatment Plant (Exhibit 1, 2, 3)

**DEVELOPMENT**

**DESCRIPTION:**

Interim operations of treatment plant with discharges into the emergency connector to the Point Loma Treatment Plant, Tijuana River (if necessary), and out the ocean outfall after its completion.

**SUBSTANTIVE FILE DOCUMENTS:**

1. Draft Supplemental Environmental Impact Statement for International Boundary and Water Commission International Wastewater Treatment Plant Interim Operation

2. Response to April 20, 1995, Coastal Commission Memo on South Bay Ocean Outfall Modifications, May 19, 1995, IBWC and Corps of Engineers.
3. Supplemental Environmental Assessment for the South Bay Ocean Outfall Modifications, San Diego County, California, March 1995.
4. Consistency Determination CD-2-94 (IBWC), International Wastewater Treatment Plant and Ocean Outfall (IWTP).
5. Consistency Determination CD-31-95 (IBWC) and Negative Determination ND-1-95 (IBWC), modifications to IWTP.
6. Consistency and Negative Determinations ND-120-96, CD-121-96 and CD-122 (IBWC), modifications to IWTP.
7. IWTP Final Environmental Impact Statement, IBWC, 1994.
8. South Bay Tunnel and Ocean Outfall, Draft Environmental Impact Report, City of San Diego, 1995.
9. Coastal Development Permit 6-88-277 (City of San Diego), South Bay Land Outfall.
10. Certified Tijuana River Valley Land Use Plan and City of San Diego LCP Implementing Ordinances.
11. Tijuana River National Estuarine Sanctuary Management Plan.
12. International Wastewater Treatment Plant -- Biological Assessment, December 1993.
13. Hydrogeological Assessment of the Tijuana River Valley, State Water Resources Control Board, February 1992.
14. Coastal Development Permit 6-91-217 and Consistency Certification CC-62-91, (City of San Diego, Point Loma Outfall Extension).
15. No Effects Determination NE-94-95 (City of San Diego, secondary treatment waiver).
16. Consistency Certification CC-88-92 (City of Morro Bay, secondary treatment waiver).

## **EXECUTIVE SUMMARY**

The International Boundary and Water Commission (IBWC) submitted a consistency determination from the for phased interim operation of the International Wastewater Treatment Plant (IWTP). The Commission concurred with a consistency determination for the construction and operation of the IWTP, including provision of secondary treatment with ocean discharge of effluent. IBWC plans to complete upgrading the treatment to secondary by the year 2001. IBWC will construct the plant in phases: the first two phases will provide advanced primary treatment, the third phase will provide a South Bay ocean outfall, and the final phase will provide secondary treatment. IBWC will complete the first phase in January 1997, the second phase in September 1997, the third phase in 1998, and the final phase in 2001.

Currently, IBWC proposes a phased interim operation of the plant that allows the plant to treat dry-weather sewage flows in the Tijuana River after completion of the advanced primary component. Until IBWC completes the South Bay ocean outfall, it will discharge the treated effluent into the existing emergency connector, which connects to the City of San Diego's treatment plant and ocean outfall at Point Loma. After completion, IBWC will discharge primary treated sewage into the South Bay ocean outfall.

The project will have adverse affects on water quality, habitat, and recreational resources of the coastal zone. During peak flow conditions prior to the construction of proposed detention basins, the emergency connector may be at capacity and IBWC may discharge treated sewage into the Tijuana River. Additionally, the project allows the discharge of advanced primary treated sewage into the ocean and may have adverse effects on marine resources. However, the project will result in a net benefit to coastal resources because it will remove dry-weather flows of raw sewage from the Tijuana River and will improve habitat in the river, its estuary, and nearshore waters. Additionally, after the completion of the ocean outfall, the project will reduce the volume of raw sewage discharged into the surf zone at Mexico's treatment plant. Finally, the project will improve recreational resources by reducing beach closures, odors, and mosquitoes. Therefore, the project is consistent with the water quality, habitat, and recreation policies of the California Coastal Management Program (CCMP).

## **STAFF SUMMARY AND RECOMMENDATION:**

### **I. Project Description.**

The International Boundary and Water Commission (IBWC) proposes a phased interim operation of the South Bay International Wastewater Treatment Plant (IWTP). The Coastal Commission previously authorized the construction and operation of a secondary

treatment located on the international border with Mexico. The purpose of the plant is to treat raw sewage flowing down Tijuana River and reduce the volume of raw sewage discharged into the surf zone at Mexico's treatment plant. The plant has the capacity to treat a maximum of 25 million gallons per day (mgd). IBWC will complete the first component of the plant in early 1997, allowing the plant to operate at an advance primary treatment level. The next phase of the facility is the construction of the ocean outfall. IBWC expects completion of that component in 1998. Finally, IBWC expects completion of the secondary treatment phase in the year 2001.

In its current consistency determination, IBWC proposes a phased interim operation of the treatment plant. IBWC will operate the plant when the advanced primary treatment component is operational. This interim operation will begin in early 1997 and will last until 2001, when IBWC plans to complete the secondary treatment plant. For phase I, IBWC will discharge the treated effluent into the emergency connector, which transports Tijuana River sewage to the treatment plant at Point Loma. During peak periods, IBWC may discharge primary treated sewage into the Tijuana River. For phase II, IBWC proposes to construct lined detention basins that allow storage and delayed discharge of treated sewage. IBWC will discharge stored effluent into the emergency connector during non-peak periods. The storage basins will increase the capacity of the system and reduce the need to discharge into the Tijuana River. Phase III will consist of discharge of up to 25 mgd (million gallons per day) of sewage flows, treated to advanced primary levels, through the South Bay ocean outfall through the year 2001. The outfall terminus is located immediately east of the 3 nautical mile boundary between State and Federal waters, west of Imperial Beach.

## **II. Status of Local Coastal Program.**

The standard of review for federal consistency determinations is the policies of Chapter 3 of the Coastal Act, and not the Local Coastal Program (LCP) of the affected area. If the Commission certified the LCP and incorporated it into the CCMP, the LCP can provide guidance in applying Chapter 3 policies in light of local circumstances. If the Commission has not incorporated the LCP into the CCMP, it cannot guide the Commission's decision, but it can provide background information. The Commission has fully incorporated the San Diego LCP into the CCMP.

## **III. Federal Agency's Consistency Determination.**

The IBWC has determined the project to be consistent to the maximum extent practicable with the California Coastal Management Program.

## **IV. Staff Recommendation:**

The staff recommends that the Commission adopt the following resolution:

**Concurrence.**

The Commission hereby **concurs** with the consistency determination made by the IBWC for the proposed project, finding that the project is consistent to the maximum extent practicable with the California Coastal Management Program.

**VI. Findings and Declarations:**

The Commission finds and declares as follows:

**A. Water Quality.** Section 30230 of the Coastal Act provides that:

*Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.*

Section 30231 of the Coastal Act provides that:

*The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.*

Section 30240(b) of the Coastal Act provides that:

*Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.*

Section 30220 of the Coastal Act provides that:

*Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses.*

1. **Background.** The discharge of sewage into the Tijuana River degrades the quality of coastal waters, including the river, its estuary, and nearshore areas. The sewage problem has existed since the 1930s and has resulted in adverse effects to water quality, habitat, and recreational resources. The draft supplemental environmental impact study (DSEIS) describes the historic problem as follows:

*The Tijuana River valley and nearshore coastal waters of the United States have been contaminated with raw sewage since the 1930s. The contamination has been the results of Tijuana's rapid and constant population growth coupled with a lack of corresponding sewerage infrastructure. While Tijuana has grown into a city of approximately one million residents, only about two-thirds of the city is currently sewered.*

*Due to the physiographic setting and proximity of the city of Tijuana to the United States ..., sewage that is not collected for treatment in Mexico flows into the United States via the Tijuana River or through north draining canyons and gullies. Untreated sewage is also discharged to nearshore ocean waters in Mexico, 5.6 miles (9 km) south of the international border, which may affect the quality of ocean waters in the U.S. These untreated sewage flows have caused chronic quarantines of public beaches along the south San Diego Coastline (Border Field State Park, City of Imperial Beach, Silver Strand State Beach, and City of Coronado) and substantially and adversely affected the residents of the Tijuana River valley and the environmental quality of the Tijuana River estuary, a National Estuarine Research Reserve. The contamination adversely impacts the quality of life for residents of the river valley, agricultural production, coastal recreational opportunities, and sensitive habitat and wildlife. (DSEIS, p. 1.)*

In February 1994, the Commission concurred with consistency determination CD-2-94 submitted by the IBWC for construction of a 25 million gallon-per-day (mgd) secondary wastewater treatment plant on a 75-acre site on the west bank of the Tijuana River at the International Border in California, 3.5 miles inland from the Pacific Ocean (Exhibits 1 and 2). That project includes wastewater collection and distribution facilities, an 11-foot-diameter tunneled ocean outfall (extending from the terminus of the existing South Bay Land Outfall (constructed under coastal development permit 6-88-277) to a point 3.5 miles offshore in 93 feet of water), and discharge of 25 mgd of secondary treated wastewater

through the outfalls into the Pacific Ocean. The purpose of the plant is to collect and treat dry-weather flows of raw sewage in the Tijuana River, thereby reducing water quality, habitat, and recreational impacts from discharge of sewage into the River. During storm events, the volume of water is too great to allow full collection and treatment. Although the plant will continue to operate during wet weather, there will still be raw sewage in the river during some peak flows.

In its consistency determination, IBWC proposed to construct a plant capable of treating the sewage to secondary treatment level. The IBWC phased the construction of the plant, to allow it to complete the advance primary capabilities several years before the scheduled completion of the secondary treatment component. IBWC will complete the advance primary portion of the plant in early 1997, but IBWC will not complete the secondary treatment component until the year 2001. Finally, the IBWC will complete the other major component of the project, the ocean outfall, in 1998. Because of public concerns over health and environmental hazards from the untreated sewage in the river, IBWC proposes to begin operating the plant after completion of the advance primary component. IBWC proposes this phased interim operation of the plant between 1997 and the year 2001 to address public concerns and to commence treatment of flows as quickly as possible.

**2. Tijuana River Discharges.** According to IBWC, in 1996 a daily average of 1.1 mgd of untreated sewage flowed down the Tijuana River. Without any treatment on the part of IBWC raw sewage will continue to be a problem. Additionally, because of industrial and population growth in the City of Tijuana, IBWC expects this discharge to increase over time. In 1998, IBWC expects that the average discharge into the river will increase to 2.6 mgd, and by 2001 the average river discharge will equal 5.6 mgd. Like wise the seasonal peak discharge into the river will increase. In 1996, the peak discharge into the river equals 3.5 mgd, which will increase to 5.6 mgd in 1998 and 9.5 mgd in 2001. (Figure 1 below summarizes the discharges.)

**a. Habitat Effects.** The flow of raw sewage down the Tijuana River is adversely affecting several different habitat types including riverine, estuarine, and nearshore coastal environments. Additionally, these habitat areas support federal and state listed endangered species including American peregrine, salt marsh bird's beak, light-footed clapper rail, California least tern, California brown pelican, Western snowy plover, Belding's savannah sparrow, mountain plover, and least Bell's vireo. Finally, the area supports other environmentally sensitive habitat including riparian wetlands, saltmarsh, and kelp beds. The existing sewage flows into the Tijuana River adversely affect all of these habitat types.

The raw sewage that flows down the Tijuana River has a negative effect on the habitat of the river because it has a relatively high concentration of nutrients, most notably inorganic nitrogen and phosphorus. Although initially beneficial to plant species, the increased

nutrient loading "ultimately may negatively affect the vigor of the plants decreasing their resistance to other environmental factors (i.e., disease, water, stress)." (DSEIS, p. 258.) Additionally, the nutrient loading may cause excess eutrication in areas where river water ponds. In addition to nutrient loading, untreated sewage has a high biological oxygen demand (BOD). BOD is a phrase used to describe the potential loss of dissolved oxygen from bacterial decomposition of elevated organic material in the sewage. In areas of ponding and slow water movement, the high BOD may have detrimental effects on fish and insect organisms in the water. Finally, the raw sewage adversely affects riverine habitat because it could contain high levels of pesticides and heavy metals.

At its mouth, the Tijuana River flows into an estuary. Similar to the effects on the river, the sewage adversely affects the estuary by increasing nutrient loads, decreasing the dissolved oxygen, and increasing the deposition of toxic elements. Depending on tidal circulation and prism, the effects on the estuary may be more significant than the effects to the river. In the estuary, the river flows slow down considerably allowing the nutrients and heavy metals to settle and concentrate. Additionally, the slower moving water is more susceptible to anaerobic conditions from high BOD of the sewage. In addition to the effects described above, the sewage flows in the estuary may decrease the salinity of the area because of the freshwater (non-salt) inflows. This increase in freshwater has an adverse effect on saltmarsh vegetation degrading the habitat for several endangered species, including the Belding's savannah sparrow and the light-footed clapper rail.

In addition to its effect on the Tijuana River and estuary, the raw sewage may also adversely affect the marine environment. The quality of the marine environment offshore of the Tijuana River is adversely affected by the discharge of raw sewage because it contains nutrients and heavy metal contaminates. The increase in nutrients may affect benthic habitat by changing community dominantes. Additionally, benthic organisms may absorb the heavy metals and other contaminates and introduce them into the food web. Some of these contaminates may accumulate in the tissues of higher level organisms.

**b. Recreational Effects.** One of the most noticeable effects from the raw sewage flows in the Tijuana River is the impact on recreational resources. The human health hazard associated with sewage requires health officials to close beach areas when the concentration of bacteria and virus in the water warrant such an action. Health officials monitor marine waters for coliform bacteria, which they use as an indication of health risk associated with sewage discharge. The DSEIS describes this monitoring as follows:

*The San Diego County Department of Health Services has data regarding violations of the bacteriological standards on South County beaches. From 1980 to present, approximately two miles of beach (from the international border to the south end of Seacoast Drive) have been under almost continuous quarantine due violations of total coliform standards.*



.... *The results of coliform monitoring during January, February, and March of 1990 show that the highest concentrations of coliform bacteria were located between the U.S./Mexico boundary and 0.75 mile (1.2 km) north of Imperial Beach, with the highest of these located at the mouth of the Tijuana River. Total coliforms exceeded 1,000 minimum probable number (MPN)/100 ml in 60 percent of the samples. The State Ocean Plan requires that no more than 20 percent of the samples exceed this value in a 30-day period. (DSEIS, pp. 140-141.)*

The health risk associated with discharge of sewage into the Tijuana River is considerable and requires health officials to regularly close beaches to public use. There were 187 days of beach closures in 1993, 36 days in 1994, and 67 days in 1995 (DSEIS, p. 298) for beaches south of Silver Strand State Beach. In addition to impacts to beach areas, raw sewage in the Tijuana River degrades the quality of recreational activities in the inland portions of Border Field State Park, because the sewage causes noxious odors and increased mosquito breeding.

**3. Commission Analysis: Project Benefits.** As described above, the IBWC proposes a phased interim operation of the IWTP. For phase I, the plant will begin treating sewage in the Tijuana River when IBWC completes the primary treatment unit. The IBWC will discharge the effluent into the emergency connector that ties into the Point Loma Treatment Plant. If the amount of sewage treated by the plant exceeds the capacity of the emergency connector, IBWC will discharge into the river until phase II is completed. For that phase, IBWC will construct storage ponds in order to delay discharges until non-peak periods. This modification will increase the capacity of the interim operations. In 1998, IBWC proposes to complete the ocean outfall and begin discharging through it.

The obvious benefit of the proposed project is that it will remove most of the sewage discharges into the Tijuana River. This improvement will benefit water quality, habitat, and recreational resources of the coastal zone. Unfortunately, the project will not totally eliminate sewage discharges into the river, for two reasons. First, the plant and its associated facilities are most effective in collecting and treating sewage flows during dry weather conditions. During rainy weather, the plant will still operate, but the amount of water and sewage in the river will be far greater than the capacity of the collection facility and raw sewage will continue to flow down the Tijuana River.

The second source of river discharge is the limit on the capacity of the interim operation. The intent of the interim operation of the treatment plant is to eliminate all dry-weather discharges into the Tijuana River. However, there is a risk that project may result in discharges of treated sewage into the Tijuana River. In 1997, IBWC expects to treat a daily average of 1.7 mgd of raw sewage from the Tijuana River, which it will discharge

into the emergency connector. The emergency connector has a capacity of 13 mgd. As urban and industrial growth in Tijuana increase, IBWC expects to treat more sewage. The increased flows of both raw and treated sewage will exceed the capacity of the emergency connector during peak periods. At that point, IBWC will discharge treated sewage into the river. If IBWC does not construct the detention basin and the ocean outfall is not operational, it expects to avoid discharges into the river during average flow conditions until 1998. However, on high flow days, IBWC expects to discharge treated sewage into the river at a rate of 2.6 mgd in 1997.

**FIGURE 1. FLOWS OF SEWAGE INTO THE TIJUANA RIVER**

	1997	1998	1999	2000	2001
<b>Average Flow Day (mgd)</b>					
No project (Raw Sewage)	1.7	2.6	3.4	4.5	5.6
Operate Plant	0	0.6	1.4	2.5	3.6
Plant with Detention Basins	NA	0	0	0	0
Plant with Ocean Outfall	NA	NA	0	0	0
<b>High Flow Day (mgd)</b>					
No project	4.6	5.6	6.7	8.2	9.5
Operate Plant	2.6	3.6	4.7	6.2	7.3
Plant with Detention Basins	NA	0	0	0.7	2
Plant with Ocean Outfall	NA	NA	0	0	0

The phase II of the project involves the construction of a detention basin to store treated sewage and discharge it during non-peak periods. With the detention basin, the IBWC will not discharge treated sewage into the Tijuana River under average flow conditions. Even on high flow days, the treatment plant with storage basin will not discharge into the river until the year 2000. By the year 1998, IBWC expects to complete phase III, the ocean outfall, which will allow the plant to operate at full capacity without any discharge into the river under either average or high flow conditions.

To summarize, IBWC proposes a phased approach to interim operation of the treatment plant between 1997, when IBWC completes the construction of the primary treatment, and 2001, when it completes the secondary component. The purpose of this phased approach is to remove untreated sewage from the river without discharging treated waste back into the river. As currently designed, each phase will begin before the volume of sewage treated by the plant requires discharge into the river. There is only one period of time when achieving IBWC's goal appears to be problematic. On high flow days, in early and mid 1997 (prior to the construction of the detention basin), IBWC may discharge treated sewage into the river at a rate of 2.6 mgd.

Despite the continued impact, the volumes of discharges into the river will be significantly less than the existing flows. For the next year, during average flow conditions, IBWC is not expecting any discharge into the river. However, if peak flow conditions require such discharges, it will last only a short period of time, and the total volume will be much less than what would have flowed down the river if the plant were not operating. Once IBWC constructs the storage basin (expected completion date is September 1997), it does not expect to have any discharges into the river before the completion of the ocean outfall. After completion of the ocean outfall, as discussed below, the IBWC will not use the emergency connector and the plant can operate at its capacity, 25 mgd, without discharges to the river.

The Commission recognizes that the flow volumes presented in the DSEIS represent IBWC's estimates and actual conditions may be different from projections. However, IBWC agreed to consult with Commission should actual conditions differ significantly from estimates. The Commission may require additional consistency review if changed conditions result in coastal zone effects not considered in this analysis.

#### **4. Ocean Discharges.**

**a. Regulatory Framework.** Treated municipal wastewater is discharged to the Pacific Ocean under NPDES permits issued by the EPA and/or the applicable RWQCB (Regional Water Quality Control Board). These two agencies administer the federal Clean Water Act. In California, the applicable water quality standards are embodied in the California Ocean Plan.

As enacted in 1972, the Clean Water Act required secondary treatment for all wastewater treatment nationwide. In normal circumstances when a discharger is proposing less than secondary ocean discharges, the discharger applies for an NPDES permit to modify the Clean Water Act's secondary treatment requirements. If a secondary treatment waiver is ultimately proposed, IBWC must establish, to the satisfaction of the EPA, that discharges will meet the requirements specified in Section 301(h) of the Clean Water Act (See Exhibit 6). To grant a 301(h) waiver, EPA must determine that the waiver will not result in any increase in the discharge of toxic pollutants or otherwise impair the integrity of receiving waters. Further, if a waiver is granted, the discharger must implement a monitoring program for effluent quality, must assure compliance with pre-treatment requirements for toxic control, must assure compliance with water quality standards, and must measure impacts in indigenous marine biota. However in this instance, for the interim period until the year 2001 an alternative regulatory approach is being implemented, as described on page 16.

Section 307(f) of the federal CZMA specifically incorporates the Clean Water Act into the California Coastal Management Program (CCMP). Commission consistency certification

review is normally required for 301(h) applications, because EPA NPDES permits are listed in California's program as federal licenses or permits for activities affecting land or water uses in the coastal zone. In this case, as stated above a Section 301(h) application has not been made at this time. Nevertheless the Commission retains federal consistency review for these discharges because they are proposed by a federal agency, because they will be within (and therefore affect) State waters, and because the IBWC committed during original federal consistency review of the IWTP/Ocean Outfall (CD-2-94) that an interim discharge plan would be brought back before the Commission for consistency review for any less-than-secondary discharges.

In reviewing the discharges, the Commission relies on the Clean Water Act and its implementing regulations, the California Ocean Plan, the Coastal Act, and Water Code section 13142.5, incorporated into the Coastal Act by Section 30412(a). These provide both specific numerical standards for pollutants, as well as general standards for protection of marine biological productivity, which are described and summarized in the following three sections.

**(i). Clean Water Act.** Implementation of the Clean Water Act in California, for the most part, has been delegated to the applicable RWQCB for issuance of NPDES permits. (Under an MOA between EPA and the State of California, NPDES permits for secondary treatment waivers are issued jointly by EPA and the applicable RWQCB.) The Clean Water Act divides pollutants into three categories for purposes of regulation, as follows: (1) conventional pollutants, consisting of total suspended solids (TSS or SS); biochemical oxygen demand (BOD, a measure of the amount of oxygen consumed during degradation of waste); pH; fecal coliform bacteria; and oil and grease; (2) toxic pollutants, including heavy metals and organic chemicals; and (3) non-conventional pollutants (a "catch-all" category for other substances needing regulation (e.g., nitrogen and phosphorus, chlorine, fluoride)).

Guidelines adopted under Section 403 of the Clean Water Act specify that beyond an initial mixing zone, commonly referred to as the zone of initial dilution (ZID), the applicable water quality standards must be met. The zone of initial dilution is the boundary of the area where the discharge plume achieves natural buoyancy and first begins to spread horizontally. Discharged sewage is mostly freshwater, so it creates a buoyant plume that moves upward toward the sea surface, entraining ambient seawater in the process. The wastewater/seawater plume rises through the water column until its density is equivalent to that of the surrounding water, at which point it spreads out horizontally.

**(ii). California Ocean Plan.** The California Ocean Plan regulatory scheme is summarized in Exhibit 4. The Ocean Plan was originally adopted by the

SWRCB and approved by the EPA in June 1972, and is revised every three years. Among the California Ocean Plan requirements are the following water quality objectives:

*Bacteriological Standards, for body-contact and shellfish harvesting;*

*Physical Characteristics, including floatables, visible oil and grease, discoloration of the surface, the reduction of light penetration, and the rate of deposition of solid and inert materials on the bottom;*

*Chemical Characteristics, including dissolved oxygen, pH, dissolved sulfide in and near sediments, concentration of substances in the sediments, organic materials in the sediments, and nutrient levels; and*

*Biological Characteristics, that marine communities not be degraded, and that the taste, odor and color of fish or shellfish used for human consumption not be altered.*

Water quality objectives of Chapter II of the Ocean Plan include:

*E. Biological Characteristics*

*1. Marine communities, including vertebrate, invertebrate, and plant species, shall not be degraded.*

*2. The natural taste, odor, and color of fish, shellfish, or other marine resources used for human consumption shall not be altered.*

*3. The concentrations of organic materials in fish, shellfish or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health.*

*General requirements for management of waste discharge to the ocean that are incorporated into the Ocean Plan include:*

*A. Waste management systems that discharge to the ocean must be designed and operated in a manner that will maintain the indigenous marine life and a healthy and diverse marine community.*

*B. Waste discharged to the ocean must be essentially free of:*

*1. Material that is floatable or will become floatable upon discharge.*

*2. Settleable material or substances that may form sediments which will degrade benthic communities or other aquatic life.*

*3. Substances which will accumulate to toxic levels in marine waters, sediments or biota.*

*4. Substances that significantly decrease the natural light to benthic communities and other marine life.*

*5. Materials that result in aesthetically undesirable discoloration of the ocean surface.*

*C. Waste effluents shall be discharged in a manner which provides sufficient initial dilution to minimize the concentrations of substances not removed in the treatment.*

*D. Location of waste discharges must be determined after a detailed assessment of the oceanographic characteristics and current patterns to assure that: ...*

*2. Natural water quality conditions are not altered in areas designated as being of special biological significance.*

*3. Maximum protection is provided to the marine environment.*

In addition, the Ocean Plan contains "Table A" effluent limitations for major wastewater constituents and properties, "Table B" limitations that provide maximum concentrations for toxic materials that may not be exceeded upon completion of initial dilution, and additional standards defining "Conservative Estimates of Chronic Toxicity."

**(iii). Coastal Act Policies.** In addition to the marine resources and water quality protection policies of the Coastal Act (Sections 30230 and 30231, cited above), Section 30412 addresses the Commission's relationship with the SWRCB (State Water Resources Control Board) and RWQCBs; Section 30412 provides:

*(a) In addition to the provisions set forth in Section 13142.5 of the Water Code, the provisions of this section shall apply to the commission and the State Water Resources Control Board and the California regional water quality control boards.*

*(b) The State Water Resources Control Board and the California regional water quality control boards are the state agencies with primary responsibility for the coordination and control of water quality. The State Water Resources Control Board has primary responsibility for the administration of water rights pursuant to applicable law. The commission shall assure that proposed development and local coastal programs shall not frustrate the provisions of this section. Neither the commission nor any regional commission shall, except as provided in subdivision (c), modify, adopt conditions, or take any action in conflict with any determination by the State Water Resources Control Board or any California regional water quality control board in matters relating to water quality or the administration of water rights.*

*Except as provided in this section, nothing herein shall be interpreted in any way either as prohibiting or limiting the commission, regional commission, local government, or port governing body from exercising the regulatory controls over development pursuant to this division in a manner necessary to carry out the provisions of this division.*

Section 13142.5 of the Water Code states:

*In addition to any other policies established pursuant to this division, the policies of the state with respect to water quality as it relates to the coastal marine environment are that:*

*(a) Waste water discharges shall be treated to protect present and future beneficial uses, and, where feasible, to restore past beneficial uses of the receiving waters. Highest priority shall be given to improving or eliminating discharges that adversely affect any of the following:*

- (1) Wetlands, estuaries, and other biologically sensitive sites.*
- (2) Areas important for water contact sports.*
- (3) Areas that produce shellfish for human consumption.*
- (4) Ocean areas subject to massive waste discharge.*

*Ocean chemistry and mixing processes, marine life conditions, other present or proposed outfalls in the vicinity, and relevant aspects of areawide waste treatment management plans and programs, but not of convenience to the discharger, shall for the purposes of this section, be considered in determining the effects of such discharges....*

**b. RWQCB Action**

The IBWC's consistency determination includes its application for a RWQCB-issued NPDES permit for secondary treatment, accompanied by a "Cease and Desist Order" for interim discharges until secondary treatment can be achieved. That permit is scheduled for action and adoption at the RWQCB's November 14, 1996, meeting, which is one day before the Commission's scheduled November 15, 1996, meeting for this consistency determination. The RWQCB held a public hearing in October, receiving substantial public testimony. The RWQCB's staff recommendation for the November 14 RWQCB meeting will not be available until November 6, 1996, which is after the time for publication of this staff recommendation. Discussions with RWQCB staff indicate that few concerns were expressed by the public over Phase III ocean discharges, and that most of the concerns that were raised were over Phase I discharges. The RWQCB staff's written responses to public comments will be available on November 6, 1996.

**c. Commission Analysis: Ocean Discharges.**

The primary issues before the Commission for these interim phase III ocean discharges are: (1) whether they would improve water quality, compared to the existing situation and compared to phase I and II interim discharges; and (2) whether they would be consistent with the Ocean Plan and Coastal Act water quality and marine resource protection policies. Because the Ocean Plan contains similar broad policy requirements to those contained in the Coastal Act water quality and marine resource protection policies, compliance with the Ocean Plan is likely to assure compliance with the Coastal Act. For example, the Ocean Plan policy that "Marine communities, including vertebrate, invertebrate, and plant species, shall not be degraded," as well as the other Ocean Plan general policies summarized above, contain policy direction similar to the Coastal Act marine resource protection policies, such as the Section 30230 requirement that "Marine resources shall be maintained, enhanced, and where feasible, restored."

From a procedural perspective, the Commission is also concerned over the absence of a secondary treatment (Section 301(h)) waiver application at this time, which would normally contain a technical analysis of the discharge's compliance with the standards of Section 301(h), and would also be accompanied by a more extensive monitoring plan than is usually required for secondary discharges. The Commission staff has therefore requested whether the monitoring that has been proposed for this interim period is the equivalent of what would be required if IBWC had applied for a secondary treatment waiver.

In responding to these concerns, IBWC has stressed its ultimate intent to upgrade the IWTP to provide secondary treatment; nevertheless at this time it is unable to assure whether or if this will occur. However, IBWC states that a secondary treatment (Section



301(h)) waiver application will be processed for discharges beyond the year 2001, in the event secondary treatment is not ultimately funded. If this occurs, the Commission will have the ability to review such application under the federal consistency provisions of the CZMA.

The IBWC is also in the process of preparing an analysis as to how less than secondary discharges will comply with the standards of Section 301(h); however this analysis is not available at this time, in part due to lack of data (because the IWTP has not begun operating). EPA has indicated informally it believes these standards could be complied with for these discharges. Furthermore, in response to Commission staff concerns, IBWC, EPA, and the RWQCB have all stated that the monitoring plan accompanying Phase III discharges, in addition to monitoring for compliance with the Ocean Plan, contains at least the equivalent level of monitoring compared to what would be required if IBWC were to have applied for a secondary treatment waiver. The monitoring reports being required by the RWQCB provide for monthly influent, effluent, sludge analysis, and receiving water reports, quarterly fish trawl reports, semiannual sediment, infauna, trawl fish bioaccumulation and rig fishing reports, annual pretreatment reports and sludge analysis, and annual overall reports which specify the compliance record and include corrective actions taken, or which may be needed, to bring the discharge into compliance with the Ocean Plan.

Phase III discharges through the ocean outfall will replace Phase I and II discharges once the ocean outfall is ready for use, which means that Phase III discharges will either: (1) replace discharges of similarly-treated effluent through the City of San Diego's Point Loma outfall, which will have the same effect on marine resources; or (2) replace flows that are beyond the capacity of the City to accept. This latter scenario could result in some combination of treated flows being discharged into the Tijuana River and/or raw sewage remaining untreated and entering the marine environment in Mexico (and subsequently transported north by ocean currents where it will affect U.S. coastal waters). Such flows could adversely affect marine resources and environmentally sensitive habitat in nearshore waters and in the Tijuana estuarine refuge, recreational beaches and parks in Imperial Beach, and other coastal resources. Because the proposed Phase III interim plan will eliminate these flows, by discharging advanced primary treated effluent out the ocean outfall, where it will be transported approximately 3 nautical miles offshore and be diluted to at least 100:1, the Phase III interim plan will lessen adverse effects of sewage flows on coastal zone resources.

In reviewing the discharges under the Clean Water Act and California Ocean Plan, one of the anomalies presented by this case that separates it from other U.S. dischargers is the fact that flows from Mexico are not as easily regulated as flows within the U.S. For example, pretreatment standards under the Clean Water Act normally trigger pretreatment programs that are imposed on industries in the U.S. In this case, because the industries affecting the

discharges are in Mexico, the U.S. has entered into a treaty with Mexico which includes an agreement by Mexico for pretreatment "in accordance with laws in force in that country." The RWQCB notes that, while IBWC is negotiating with Mexico to initiate a pretreatment program, "... a program similar to one implemented in the United States may not be appropriate in Mexico." Nevertheless, the modeling performed leads EPA and the RWQCB to express confidence that the discharges should be able to comply with the Ocean Plan, outside the zone of initial dilution (ZID). (The applicant has performed computer modeling of the proposed discharges, using an initial dilution factor of 100, with discharges occurring at 93.25 ft. below mean sea level.) If the discharges differ from what the model predicts, the monitoring program is sufficient to document non-compliance, which would trigger the RWQCB to require remedial actions to achieve compliance. Compliance measures could include further U.S./Mexico negotiations, if appropriate.

Given the above considerations, based on the available evidence in the modeling submitted, and accompanied by extensive monitoring, the Commission believes that the Phase III discharges should be able to comply with the Ocean Plan and Coastal Act standards. If not, compliance remedies are available that will assure the discharges meet these standards. Thus, based on the information presented, the Commission finds that less than secondary discharges by IBWC from the ocean outfall, on an **interim** basis, will improve water quality and coastal resource protection compared to the existing situation and to Phase I and II discharges, will meet all applicable water quality standards, and will protect marine resources and environmentally sensitive habitat. The Commission therefore concludes that the discharges will be consistent with the applicable water quality, marine resources, and environmentally sensitive habitat provisions (Sections 30230, 30231, 30240, 30412, and the California Ocean Plan) of the Coastal Act and CCMP. This conclusion is based on the IBWC's commitment to continue to monitor the effects of the discharges, as described above, and to submit a future consistency determination for any further project modifications, including any planned discharges of less than secondary effluent beyond the year 2001.

#### **d. Previous Commission Reviews of Less-than-Secondary Discharges.**

A request for ocean discharge of less than secondary-treated effluent is normally accompanied by an application for an NPDES (National Pollutant Discharge and Elimination System) permit for a secondary treatment waiver under Section 301(h) of the Clean Water Act. This law provides for secondary treatment waivers under certain circumstances (See Exhibit 6).

In this particular situation the IBWC's proposal for interim discharges of less than secondary treated effluent has not triggered a secondary treatment waiver application. Instead, as described above, the IBWC has applied for a RWQCB NPDES permit for secondary treatment discharges, accompanied by a "Cease and Desist Order" for interim

discharges until secondary treatment can be achieved. The IBWC, EPA, and the RWQCB fully acknowledge that in the event secondary treatment is not funded and proposed for any period beyond the year 2001, an application for a secondary treatment waiver will need to be processed, which the Commission will have an opportunity to review. Nevertheless, because of its relevance, a brief overview of the secondary treatment waiver program and the Commission's role in these reviews is attached as Exhibit 5.

**5. Conclusion.** In conclusion, the Commission finds that the project will improve water quality, habitat, and recreational resources of the coastal zone. Despite residual impacts from potential river discharges and less than secondary discharges in the ocean, the project is designed to mitigate an existing hazard. The project will eliminate dry weather flows of raw sewage into the Tijuana River, by treating and discharging the sewage through ocean outfalls. The project will, therefore, improve water quality in the Tijuana River, Tijuana River estuary, and nearshore coastal waters, the project will improve habitat conditions in all of these ecosystems, and the project will improve recreational conditions on the beaches and parks of the area. Therefore, the Commission finds that the proposed project is consistent with the water quality, habitat, and recreation policies of the CCMP.

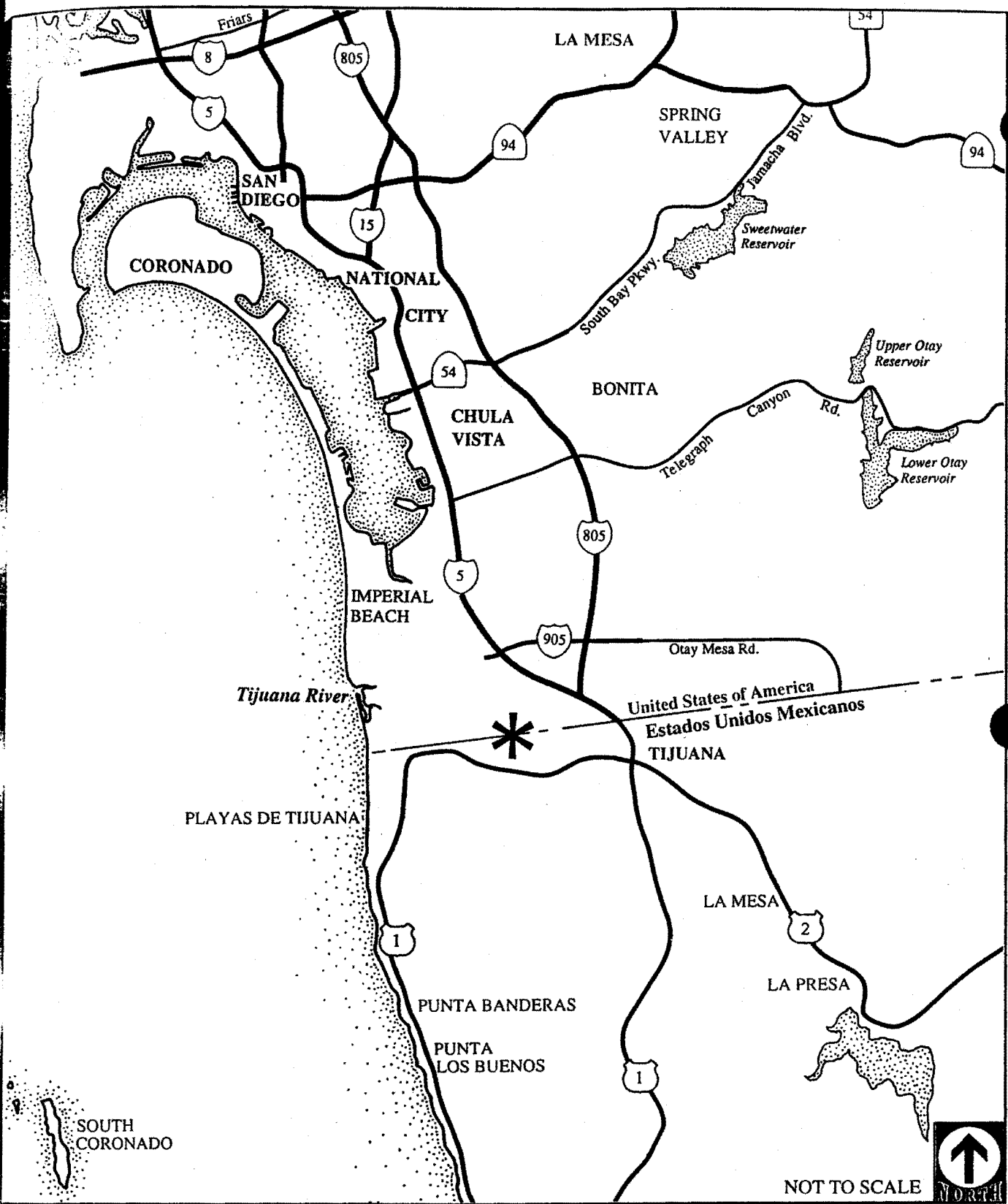


EXHIBIT NO.	1
APPLICATION NO.	
	CD-121-96

FIGURE 1-1

Regional Location of the Project

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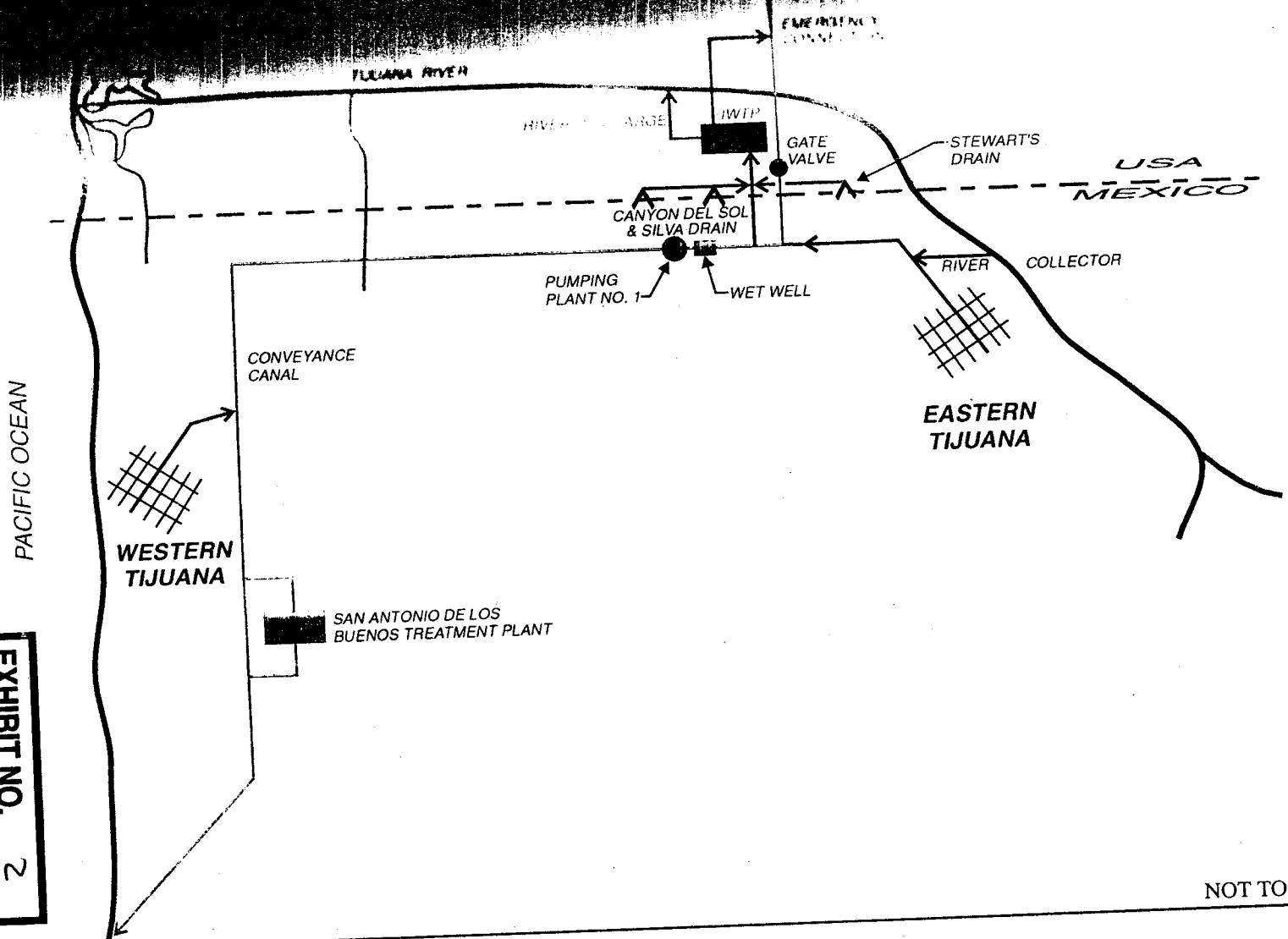
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**EXHIBIT NO. 2**  
APPLICATION NO.  
CD-12196

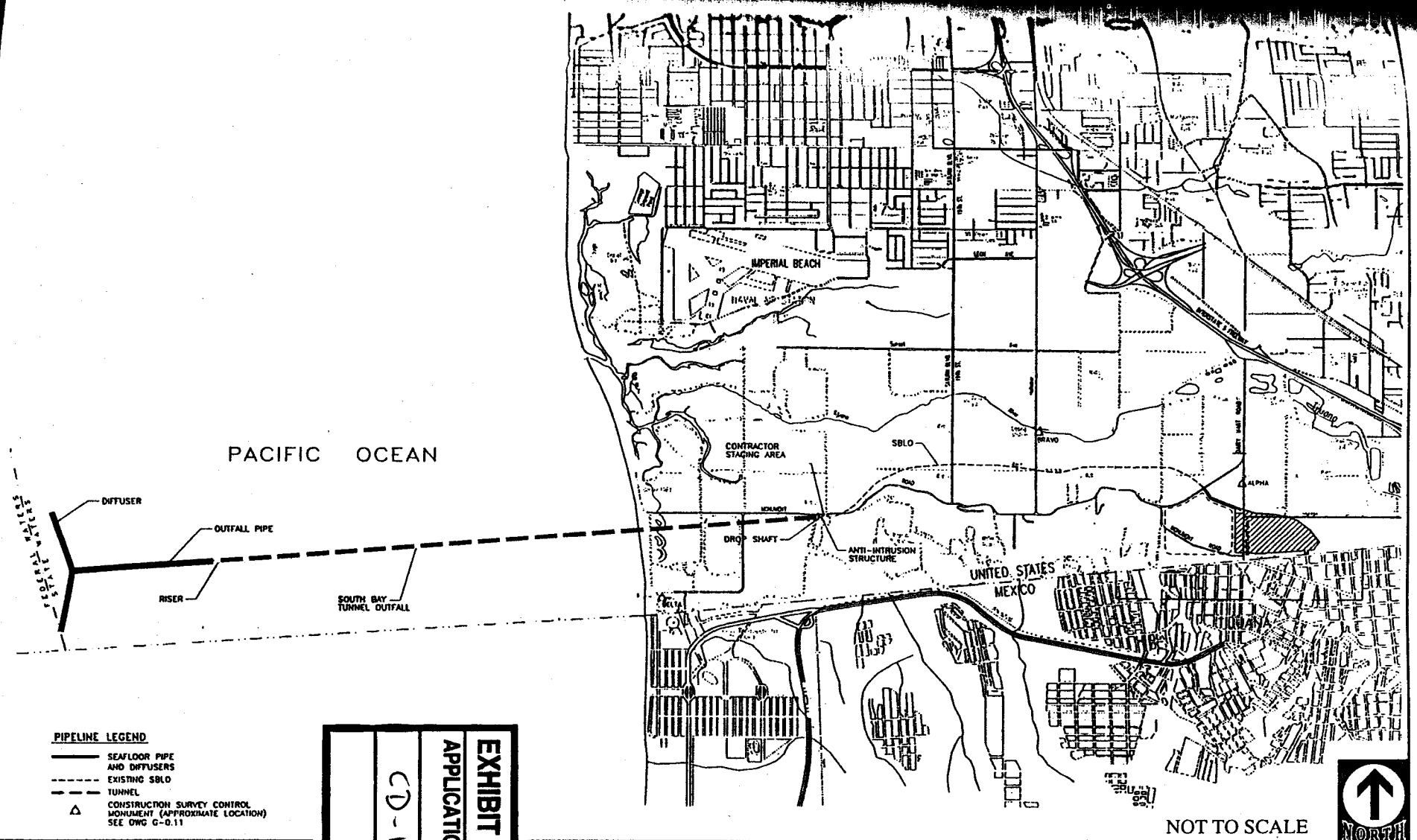
SOURCE: Boyle Engineering, 1996

**FIGURE 2-4**

**Alternative 2 - Operate IWTW**

**IWTW INTERIM OPERATION SEIS**

capacity of San Diego Bay, the outfall line will be 30.5 miles long. The outfall line will be 30.5 miles long. The outfall line will be 30.5 miles long.



Source: Engineering Science 1992

EXHIBIT NO. 3
APPLICATION NO. CD-121-96

FIGURE 1-10 South Bay Ocean Outfall

## **Box B.** **The California Ocean Plan**

The California Ocean Plan establishes beneficial uses of ocean waters, water quality objectives, and effluent limitations for waste discharges to the ocean. Regional Boards have the option to establish more stringent water quality objectives and effluent quality requirements than those contained in the Ocean Plan.

Beneficial uses to be protected include industrial water supply, recreation, esthetic enjoyment, navigation, and preservation and enhancement of fish, wildlife, and other marine resources or preserves.

Water quality objectives are intended to ensure protection of beneficial uses and prevention of nuisance. They include:

- **Bacteriological Standards**, for body-contact and shellfish harvesting;
- **Physical Characteristics**, including floatables, visible oil and grease, discoloration of the surface, the reduction of light penetration, and the rate of deposition of solid and inert materials on the bottom;
- **Chemical Characteristics**, including dissolved oxygen, pH, dissolved sulfide in and near sediments, concentration of substances in the sediments, organic materials in the sediments, and nutrient levels;
- **Biological Characteristics**, that marine communities not be degraded, and that the taste, odor and color of fish or shellfish used for human consumption not be altered.

Effluent quality requirements are also applied to waste discharges to the ocean and are contained in Tables A and B of the Ocean Plan. Table A limitations apply only to POTWs and to industrial dischargers for which effluent limitation guidelines have not been developed in the Clean Water Act. Table B applies to all dischargers.

Table A limits concentrations of grease and oil, suspended solids, settleable solids, turbidity, pH, and toxicity concentration.

Table B sets forth effluent limitations for:

Arsenic	Phenolic Compounds (non-chlorinated)
Cadmium	Chlorinated Phenolics
Chromium	Aldrin and Dieldrin
Copper	Chlordane and Related Compounds
Lead	DDT and derivatives
Mercury	Endrin
Nickel	HCH
Silver	PCB's
Zinc	Toxaphene
Cyanide	Radioactivity
Total Chlorine Residual	Toxicity Concentration
Ammonia	

**EXHIBIT NO.** 4

**APPLICATION NO.**

CD-121-96

EXHIBIT 5

Previous Commission Reviews of Secondary Treatment Waivers

As enacted in 1972, the Clean Water Act required secondary treatment for all wastewater treatment nationwide. Amendments to the Clean Water Act in 1977 provided for Section 301(h) (33 USC Section 1311(h)) waivers of the otherwise applicable requirements for secondary treatment for discharges from publicly owned treatment works into marine waters, because, according to NOAA:

secondary treatment levels had been developed solely for freshwater bodies and that flushing effects of coastal waters rapidly dispersed and carried primary treatment discharges into the open ocean. Consequently, many municipalities claimed that no significant environmental benefit was to be gained from the secondary treatment, especially in light of the substantial construction, operating and maintenance costs involved.

Section 301(h) (sometimes referred to as the ocean waiver provision) of the Clean Water Act gives the EPA Administrator (assuming the State, through the RWQCB (Regional Water Quality Control Board) concurs) the authority to grant permits for discharge of high quality, but less than full secondary-treated, wastewater effluent. Applicants are required to meet all other environmental protection regulations imposed by federal and state agencies and to prove that the marine environment will not be adversely affected.

In 1979, and 1983-5, the Commission reviewed a number of 301(h) waiver applications under the federal consistency provisions of the Coastal Zone Management Act, and EPA ultimately granted many of these waivers. During these reviews the Commission expressed concern over the need for treatment meeting the equivalent of secondary treatment with respect to removal of toxics. This concern was later incorporated into the Clean Water Act in 1987 amendments to the Act, which provide:

...in the case of any treatment works serving a population of 50,000 or more..., the applicant [must have] in effect a pre-treatment program which, in combination with the treatment of discharges from such works, removes the same amount of such a pollutant as would be removed if such works were to apply secondary treatment to discharges...

EXHIBIT NO. 5
APPLICATION NO.
CD-121-96



Specifically on the waivers submitted in 1979 and 1983-85, the Commission consciously adopted a neutral position the waivers. Since a position of "neutrality" is not an action that is recognized under CZMA regulations, the Commission's concurrence in the waivers was presumed pursuant to 15 CFR Section 630.63(a).

The Commission is not limited to this position of neutrality, as Section 307(f) of the CZMA specifically incorporates the Clean Water Act, and state water quality standards adopted pursuant to it, such as those contained in the Ocean Plan, into the California Coastal Management Program (CCMP). Thus Commission consistency review is, as it always has been, available. The Commission's 1979 position of neutrality was taken based on a number of factors, including limited staff resources, a reservation of the right to comment through the SWRCB's process, and the fact that the 301(h) permits must come up for re-issuance every five years. Also, it should be noted that the Commission's position was not completely neutral; as stated above the Commission articulated an expectation that secondary equivalency would be achieved for toxic pollutants, although this "expectation" had no force of law to support it. Rather the Commission's position could be viewed as an articulation of the need for flexibility, as the Commission was focusing on the need to achieve the benefits that would normally be expected from a well-run secondary treatment program, and if equivalent or greater benefits to the marine environment could be achieved by some other method, the Commission did not believe the regulatory regime would be well served by an inflexible approach. The Commission also noted that extensive monitoring would be performed, which should enable an evaluation by the relevant agencies to determine whether the goal of secondary equivalence has been achieved.

Accompanying its position during these early reviews, the Commission stated in a letter to the SWRCB:

The essence of the [Commission's] resolution ... urges that '... the total discharge of toxic pollutants is not greater than that which would be discharged from a properly designed and operated secondary treatment plant ...' .... The resolution establishes a position that the treatment method or methods selected should result in at least the degree of removal that would be achieved with secondary treatment. The resolution is flexible enough to encourage alternative treatment methods such as reclamation and/or industrial pre-treatment rather than to require an inflexible treatment standard.

The Commission informed the dischargers of its position as they submitted consistency certifications on the following dates:

Ventura County Sanitation District	May 22, 1979
City of San Diego	July 24, 1979
Watsonville	September 14, 1979
County of Los Angeles	September 18, 1979
Monterey RWPCA	September 19, 1979
County of Orange	September 20, 1979

Exh. 5, p. 2

Goleta Sanitary District	December 6, 1979
San Francisco	December 6, 1979
Leucadia CWD	January 4, 1983
Ventura CSD	October 5, 1983
Aliso Water Management Agency	February 16, 1984
Goleta Sanitary District	February 24, 1984
City of Morro Bay	August 8, 1984
S.E. Regional Reclamation Authority	April 2, 1984
City of Santa Barbara	February 16, 1984
City of Avalon	February 20, 1985
City of Los Angeles	February 20, 1985

In a related matter, in March 1987 the Commission denied a permit to the City of Santa Cruz for treatment plant improvements for advanced primary treatment, in part because the Commission found that advanced primary was not the level of treatment called for in the LCP, which provided for the highest water quality standards available. The Commission found the secondary treatment waiver the City had applied for from EPA was not consistent with the LCP policy. The City subsequently withdrew its waiver and, like many of the above dischargers, elected to provide for full secondary treatment.

Section 301(h) waivers are only valid for 5 years, and three of the waivers initially granted are now up for renewal: Orange County, Morro Bay and Goleta.

In 1989, Orange County was the first applicant to apply to the Commission for a 301(h) waiver renewal (its original 301(h) waiver was granted by EPA/RWQCB in 1985). The Commission held a workshop on the issues raised, but deferred action pending completion of EPA's Technical Evaluation of Orange County's application.

Since that time, the Commission has concurred with Morro Bay's 301(h) waiver renewal, in CC-88-92; Morro Bay's was the first of the 301(h) waiver renewals to be brought before the Commission for a vote.

In addition, in NE-94-95, after a Commission public hearing, the Executive Director concurred with the City of San Diego's 301(h) waiver (this was not a renewal but an initial waiver).

The Commission staff expects that Goleta's 301(h) waiver renewal will be before the Commission shortly, and that Orange County's 301(h) waiver renewal is likely to be re-submitted to the Commission.

Exh. 5, p. 3

## EXHIBIT 6

### Secondary Treatment Waiver Standards Clean Water Act/Section 301(h).

Implementation of the Clean Water Act in California, for the most part, has been delegated to the applicable RWQCB for issuance of NPDES permits. Under an MOA between EPA and the State of California, NPDES permits for outfalls beyond 3 miles and for secondary treatment waivers are issued jointly by EPA and the applicable RWQCB. The Clean Water Act divides pollutants into three categories for purposes of regulation, as follows: (1) conventional pollutants, consisting of total suspended solids (TSS or SS); biochemical oxygen demand (BOD, a measure of the amount of oxygen consumed during degradation of waste); pH; fecal coliform bacteria; and oil and grease; (2) toxic pollutants, including heavy metals and organic chemicals; and (3) non-conventional pollutants (a "catch-all" category for other substances needing regulation (e.g., nitrogen and phosphorus, chlorine, fluoride)).

Guidelines adopted under Section 403 of the Clean Water Act specify that beyond an initial mixing zone, commonly referred to as the zone of initial dilution (ZID), the applicable water quality standards must be met. The zone of initial dilution is the boundary of the area where the discharge plume achieves natural buoyancy and first begins to spread horizontally. Discharged sewage is mostly freshwater, so it creates a buoyant plume that moves upward toward the sea surface, entraining ambient seawater in the process. The wastewater/seawater plume rises through the water column until its density is equivalent to that of the surrounding water, at which point it spreads out horizontally.

Section 301(h) of the Clean Water provides for secondary treatment waivers under certain circumstances. The following requirements must be met for EPA to grant a secondary treatment waiver:

- (1) the discharge of pollutants in accordance with such modified requirements [i.e., the secondary treatment waiver] will not interfere, alone or in combination with pollutants from other sources, with the attainment or maintenance of that water quality which assures protection of public water supplies and the protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife, and allows recreational activities in and on the water (301(h)(2)).

<b>EXHIBIT NO.</b> 6
<b>APPLICATION NO.</b>
CD-121-96

- (2) the applicant has established a system for monitoring the impact of such discharge on a representative sample aquatic biota, to the extent practicable (301(h)(3));
- (3) such modified requirements will not result in any additional requirements on any other point or nonpoint source ((301(h)(4));
- (4) all applicable pre-treatment requirements for sources introducing waste into such treatment works will be enforced (301(h)(5));
- (5) there will be no new or substantially increased discharges from the point source of the pollutant to which the modification applies above that volume of discharge specified in the permit (301(h)(8)); and
- (6) in the case of any treatment works serving a population of 50,000 or more, with respect to any toxic pollutant introduced into such works by an industrial discharger for which pollutant there is no applicable pretreatment requirement in effect, sources introducing waste into such works are in compliance with all applicable pretreatment requirements, the applicant will enforce such requirements, and the applicant has in effect a pre-treatment program which, in combination with the treatment of discharges from such works, removes the same amount of such a pollutant as would be removed if such works were to apply secondary treatment to discharges and if such works had no pretreatment program with respect to such pollutant (301(h)(6)).