CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

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Edmund G. Brown, Jr.
Governor

ORDER NO. R9-2011-0019
NPDES NO. CA0107395

WASTE DISCHARGE REQUIREMENTS FOR THE ENCINA WASTEWATER AUTHORITY ENCINA WATER POLLUTION CONTROL FACILITY AND SATELLITE WASTEWATER TREATMENT PLANTS DISCHARGE TO THE PACIFIC OCEAN VIA THE ENCINA OCEAN OUTFALL

The following Discharger is subject to waste discharge requirements as set forth in this Order:

Table 1. Discharger Information

Discharger	Encina Wastewater Authority	
Name of Facility	Encina Ocean Outfall	
Facility Address	Encina Water Pollution Control Facility	6200 Avenida Encinas Carlsbad, CA 92011-1095 San Diego County
	Meadowlark Water Reclamation Plant	7941 Corintia Street Carlsbad, CA 92009 San Diego County
	Shadowridge Water Reclamation Plant	2525 Lupine Hills Road Vista, CA 92081 San Diego County
	Carlsbad Water Reclamation Facility	6220 Avenida Encinas Carlsbad, CA 92011 San Diego County
The U.S. Environmental Protection Agency (USEPA) and the California Regional Water Quality Control Board, San Diego Region have classified this discharge as a major discharge.		

Discharges by the Encina Wastewater Authority from the Facilities listed in Table 1 at the discharge point identified in Table 2 are subject to waste discharge requirements as set forth in this Order:

Table 2. Discharge Location

Discharge Point No.	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	POTW effluent and waste brine	33° 06' 33.59" N	117° 20' 52.77" W	Pacific Ocean

Table 3. Administrative Information

This Order was adopted by the California Regional Water Quality Control Board, San Diego Region on:	**April 13, 2011**
This Order shall become effective on:	**June 2, 2011**
This Order shall expire on:	**June 1, 2016**
The Discharger shall file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations, not later than 180 days in advance of the Order expiration date as application for issuance of new waste discharge requirements.	

I, David W. Gibson, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Diego Region, on **April 13, 2011**.

David W. Gibson
Executive Officer

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I. FACILITY INFORMATION

The following Discharger is subject to waste discharge requirements as set forth in this Order:

Table 4.Facility Information

Discharger	Encina Wastewater Authority	
Name of Facility	Encina Ocean Outfall	
Facility Address	Encina Water Pollution Control Facility	6200 Avenida Encinas Carlsbad, CA 92011-1095 San Diego County
	Meadowlark Water Reclamation Plant	7941 Corintia Street Carlsbad, CA 92009 San Diego County
	Shadowridge Water Reclamation Plant	2525 Lupine Hills Road Vista, CA 92081 San Diego County
	Carlsbad Water Reclamation Facility	6220 Avenida Encinas Carlsbad, CA 92011 San Diego County
Facility Contact, Title, and Phone	Kevin M. Hardy, General Manager, (760) 438-3941	
Mailing Address	6200 Avenida Encinas, Carlsbad, CA 92011-1095	
Type of Facility	Publicly Owned Treatment Works (POTW)	
Facility Flow Rate	• Encina Water Pollution Control Facility- 40.5 million gallons per day (MGD) • Meadowlark Water Reclamation Plant – 5 MGD • Carlsbad Water Reclamation Facility – 4 MGD • Encina Ocean Outfall – 43.3 MGD	

II. FINDINGS

The California Regional Water Quality Control Board, San Diego Region (hereinafter San Diego Water Board), finds:

A. Background. The Encina Wastewater Authority (EWA), hereinafter also Discharger) is currently discharging pursuant to Order No. R9-2005-0219 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0107395. The Discharger submitted a Report of Waste Discharge, dated July 1, 2010, and applied for a NPDES permit renewal to discharge up to 43.3 MGD of treated wastewater and brine from the Encina Water Pollution Control Facility (EWPCF), Meadowlark Water Reclamation Plant (VMWRP), Shadowridge Water Reclamation Plant (BSWRP), and the Carlsbad Water Reclamation Facility (CWRF) to the Pacific Ocean through the Encina Ocean Outfall (EOO). The EWPCF, BSWRP, VMWRP, CWRF, and land outfalls for VMWRP and BSWRP are collectively referred to as the Facilities. The application was deemed complete on August 2, 2010.

B. Facility Description. The Discharger is a joint powers authority established pursuant to California Government Code, Section 6500 et seq. to provide regional treatment and disposal of wastewater in portions of the north coastal area of San Diego County. The following member

agencies comprise the EWA: Buena Sanitation District, City of Carlsbad, City of Encinitas, Leucadia Wastewater District, Vallecitos Water District, and the City of Vista. The Discharger provides municipal wastewater treatment services to a population of approximately 351,600 within the boundaries of the EWA service area and primarily treat residential and commercial wastewater. There are four non-categorical and 22 categorical significant industrial users utilizing the Facilities. Each EWA member agency owns, operates, and maintains its own wastewater collection system. EWA does not own or operate any portion of these collection systems.

The Discharger owns and operates the EWPCF and the EOO, (hereinafter also Discharge Point No. 001). The EWPCF has secondary treatment facilities capable of treating up to 40.5 MGD. All wastewater generated within the service areas of EWA member agencies is treated at EWPCF, with the exception of those flows generated in the Vallecitos Water District and treated at VMWRP. Treated effluent from EWPCF, VMWRP, and CWRF, if not recycled and distributed, is discharged to the Pacific Ocean through the EOO.

The Vallecitos Water District independently owns and operates the VMWRP and land outfall regulated under Waste Discharge Requirements (WDR) R9-2007-0018 as well as this Order. The VMWRP is connected to the EOO via the land outfall. Discharges from VMWRP to the Pacific Ocean via the land outfall and EOO are regulated under this Order. The VMWRP has secondary and tertiary treatment facilities capable of producing up to 5.0 MGD of tertiary effluent for water recycling. Any effluent produced at VMWRP which does not meet California Code of Regulations (CCR) Title 22 water recycling requirements, or any excess tertiary effluent is conveyed through the Meadowlark land outfall to EOO for final disposal to the Pacific Ocean. All waste solids produced and collected at VMWRP are transferred to the EWPCF for treatment.

The Buena Sanitation District independently owns and operates the BSWRP. While the BSWRP is not currently in operation and the Discharger has indicated that it will not be operated during the term of Order No. R9-2011-0019, it has been and can continue to be used as a temporary storage facility for raw wastewater flows originating in the City of Vista's wastewater collection system. Additionally, a land outfall line connecting the BSWRP to the EOO remains operational. Consequently, a potential to discharge exists, the operational status of the facility notwithstanding, and the San Diego Water Board has determined that the BSWRP shall remain subject to the requirements of this Order. Specifically, a discharge from BSWRP, if such a discharge were to occur, is subject to the secondary treatment standards and water quality-based effluent limitations (WQBELs) of this Order, and is also subject to all standard provisions contained in Attachment D of this Order.

The City of Carlsbad independently owns the CWRF, which is operated by EWA. Up to 4 MGD of secondary effluent from the EWPCF is used as influent to the CWRF. Tertiary treatment facilities produce reclaimed wastewater for reuse in the City of Carlsbad's Carlsbad Municipal Water District Service Area. The San Diego Water Board Order No. 2001-352 (Master Reclamation Permit Requirements) established waste discharge requirements for reuse of effluent produced at CWRF. Waste brine produced at CWRF (up to 0.2 MGD) is discharged to the Pacific Ocean through the EOO without passing through the EWPCF. Effluent that is not recycled, such as effluent not meeting Title 22 water recycling requirements or excess tertiary effluent, is discharged to the EWPCF secondary aeration basin.

The Leucadia Wastewater District (LWD), a member agency of EWA, independently owns and operates the Gafner Water Reclamation Plant (GWRP). A portion of secondary effluent from EWPCF that would otherwise be discharged to the Pacific Ocean is pumped to GWRP for tertiary treatment and subsequent water recycling purposes. By correspondence dated March

25, 2004, LWD and EWA notified the San Diego Water Board that LWD is exclusively responsible for the operation and maintenance of the Encina Effluent Pump Station (EEPS), Gafner Plant Supply Line (GPSL, formerly the LWD land outfall), and GWRP as established by a Memorandum of Agreement between LWD and EWA. The San Diego Water Board, therefore, acknowledges that the EEPS, GPSL and GWRP are not facilities subject to the requirements of this Order.

Effluent from the EWPCF is discharged to the Pacific Ocean through the EOO where it comingles with any effluent discharged from the VMWRP, the BSWRP, and the CWRF. The design capacity of the EOO is 75 MGD. However, discharges through the outfall are limited to a dry-weather (May through October) calendar-monthly average flow of 43.3 MGD, and a wet-weather (November through April) calendar-monthly average flow of 52.6 MGD. The satellite wastewater treatment plants (CWRF, BSWRP, and VMWRP) are subject to the requirements and provisions of this Order for all discharges through the EOO, and EWA is legally responsible under this Order to ensure their compliance.

Attachment B provides a map of the area around the EOO and the Facilities which possess the capacity to discharge to the Pacific Ocean through the EOO. Attachment C provides flow schematic of the Facilities which possess the capacity to discharge to the Pacific Ocean through the EOO.

C. Legal Authorities. This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the United States Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code (CWC) (commencing with section 13370). It shall serve as a NPDES permit for point source discharges from the Facilities to surface waters. This Order also serves as WDRs pursuant to article 4, chapter 4, division 7 of the CWC (commencing with section 13260).

D. Background and Rationale for Requirements. The San Diego Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for Order requirements, is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments A through E, G, and H are also incorporated into this Order.

E. California Environmental Quality Act (CEQA). Under CWC section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100-21177.

F. Technology-Based Effluent Limitations. Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations (40 CFR 122.44), require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. 40 CFR Part 133 establishes the minimum weekly and monthly average level of effluent quality attainable by secondary treatment for carbonaceous biochemical oxygen demand ($CBOD_5$), TSS, and the instantaneous minimum and maximums for pH. Technology-based effluent limitations contained in Table A of the 2005 *Water Quality Control Plan for Ocean Waters of California, California Ocean Plan* (hereinafter Ocean Plan), which include grease and oil, suspended solids, settleable solids, turbidity, and pH, are also applicable to discharges from the Facilities. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at

40 CFR Part 133. A detailed discussion of the technology-based effluent limitations (TBELs) development is included in the Fact Sheet (Attachment F).

G. Water Quality-Based Effluent Limitations. Section 301(b) of the CWA and 40 CFR 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

40 CFR 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBELs must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in 40 CFR 122.44(d)(1)(vi).

H. Water Quality Control Plans. The San Diego Water Board adopted a *Water Quality Control Plan for the San Diego Region* (hereinafter Basin Plan) on September 8, 1994 that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for the Pacific Ocean and other receiving waters addressed through the plan. Subsequent revisions to the Basin Plan have also been adopted by the San Diego Water Board and approved by the State Water Resources Control Board (State Water Board). Beneficial uses applicable to the Pacific Ocean specified in the Basin Plan are as follows:

Table 5. Basin Plan Beneficial Uses of the Pacific Ocean

Discharge Point No.	Receiving Water Name	Beneficial Use(s)
001	Pacific Ocean	Industrial service supply; navigation; contact water recreation; non-contact water recreation; commercial and sport fishing; preservation of biological habitats of special significance; wildlife habitat; rare, threatened, or endangered species; marine habitat; aquaculture; migration of aquatic organisms; spawning, reproduction, and/or early development; and shellfish harvesting.

Requirements of this Order implement the Basin Plan.

I. California Ocean Plan. The State Water Board adopted the *Water Quality Control Plan for Ocean Waters of California, California Ocean Plan* (Ocean Plan) in 1972 and amended it in 1978, 1983, 1988, 1990, 1997, 2000, and 2005. The State Water Board adopted the latest amendment on April 21, 2005 and it became effective on February 14, 2006. The Ocean Plan is applicable, in its entirety, to point source discharges to the ocean. The Ocean Plan identifies beneficial uses of ocean waters of the State to be protected as summarized below:

Table 6. Ocean Plan Beneficial Uses of the Pacific Ocean

Discharge Point No.	Receiving Water Name	Beneficial Use
001	Pacific Ocean	Industrial water supply; water contact and non-contact recreation, including aesthetic enjoyment; navigation; commercial and sport fishing; mariculture; preservation and enhancement of designated Areas of Special Biological Significance (ASBS); rare and endangered species; marine habitat; fish spawning and shellfish harvesting.

In order to protect the beneficial uses, the Ocean Plan establishes water quality objectives and a program of implementation. Requirements of this Order implement the Ocean Plan.

J. Alaska Rule. On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes. (40 CFR 131.21; 65 Fed. Reg. 24641 (April 27, 2000).) Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000 may be used for CWA purposes, whether or not approved by USEPA.

K. Stringency of Requirements for Individual Pollutants. This Order contains both TBELs and WQBELs for individual pollutants. The TBELs consist of restrictions on $CBOD_5$, total suspended solids (TSS), pH, oil and grease, settleable solids, and turbidity. Restrictions on these pollutants are discussed in section IV.B of the Fact Sheet (Attachment F). This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. These limitations are not more stringent than required by the CWA.

WQBELs have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. The scientific procedures for calculating the individual WQBELs are based on the Ocean Plan, which was approved by USEPA on February 14, 2006. All beneficial uses and water quality objectives contained in the Basin Plan were approved under State law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to 40 CFR 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

L. Antidegredation Policy. 40 CFR 131.12 requires that the State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The San Diego Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. As discussed in detail in the Fact Sheet (Attachment F), the permitted

discharge is consistent with the antidegradation provision of 40 CFR 131.12 and State Water Board Resolution No. 68-16.

M. Anti-Backsliding Requirements. Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at 40 CFR 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. Some effluent limitations in this Order are less stringent that those in the previous Order. As discussed in detail in the Fact Sheet (Attachment F), this relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.

N. Endangered Species Act. This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2097) or the Federal Endangered Species Act (16 USCA sections 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the State. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

O. Monitoring and Reporting. 40 CFR 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. CWC sections 13267 and 13383 authorizes the San Diego Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP) establishes monitoring and reporting requirements to implement federal and State requirements. This MRP is provided in Attachment E.

P. Standard and Special Provisions. Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR 122.42, are provided in Attachment D. The San Diego Water Board has also included in this Order special provisions applicable to the Discharger. A rationale for the special provisions contained in this Order is provided in the attached Fact Sheet (Attachment F).

Q. Provisions and Requirements Implementing State Law. Some of the provisions/requirements in subsections VI.C of this Order are included to implement State law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.

R. Executive Officer Delegation of Authority. The San Diego Water Board by prior resolution has delegated all matters that may legally be delegated to its Executive Officer to act on its behalf pursuant to CWC section 13223. Therefore, the Executive Officer is authorized to act on the San Diego Water Board's behalf on any matter within this Order unless such delegation is unlawful under CWC section 13223 or this Order explicitly states otherwise.

S. Notification of Interested Parties. The San Diego Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet (Attachment F).

T. Consideration of Public Comment. The San Diego Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet (Attachment F).

THEREFORE, IT IS HEREBY ORDERED, that Order No. R9-2005-0219 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the CWC (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal CWA and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

III. DISCHARGE PROHIBITIONS

A. The discharge of waste from the EWPCF, VMWRP, and BSWRP not treated by a secondary treatment process and not in compliance with the effluent limitations specified in Tables 7 through 9 and Table 11 of section IV.A of this Order, and/or to a location other than the EOO (Discharge Point No. 001), unless specifically regulated by this Order or separate WDRs, is prohibited.

B. The discharge of waste from CWRF not in compliance with the effluent limitations specified in section IV.A, Tables 10 and 11 of this Order, and/or to a location other than the EOO (Discharge Point No. 001) or EWPCF, unless specifically regulated by this Order or separate waste discharge requirements, is prohibited.

C. The bypassing of untreated wastes containing concentrations of pollutants in excess of those in Tables A or B of the Ocean Plan is prohibited, except under upset conditions, as described in Attachment D of this Order, Standard Provision I.G and I.H.

D. Discharge from the Facilities through the EOO at Discharge Point No. 001 during dry-weather months (May to October) in excess of calendar-monthly average flow rate of 43.3 MGD is prohibited. Discharge from the Facilities through the EOO at Discharge Point No. 001 during wet-weather months (November to April) in excess of calendar-monthly average flow rate of 52.6 MGD is prohibited.

E. Discharge from the EWPCF in excess of daily average flow rate of 40.5 MGD is prohibited.

F. Discharge from the VMWRP in excess of daily average flow rate of 5 MGD is prohibited.

G. Discharge from the CWRF in excess of daily average flow rate of 4 MGD is prohibited.

H. Discharge from the BSWRP is prohibited until written notification is provided by the San Diego Water Board.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations and Performance Goals – Discharge Point No. 001

1. Final Effluent Limitations

a. The Discharger shall maintain compliance with the following effluent limitations at Monitoring Locations M-001 (for EWPCF), M-002 (for VMWRP), M-003 (for BSWRP), and M-005 (CWRF). Compliance shall be monitored at the same locations as described in the attached MRP (Attachment E).

Table 7. EPWCF Effluent Limitations at M-001

Parameter	Units	Effluent Limitations					
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	6-Month Median
Carbonaceous Biochemical Oxygen Demand (5-day @ 20°C)[1]	mg/L	25	40	--	--	--	--
	lbs/day	8,400	14,000	--	--	--	--
Total Suspended Solids[1]	mg/L	30	45	--	--	--	--
	lbs/day	10,000	15,000	--	--	--	--
Oil and Grease	mg/L	25	40	--	--	75	--
	lbs/day	8,400	14,000	--	--	25,000	--
Settleable Solids	ml/L	1.0	1.5	--	--	3.0	--
Turbidity	NTU	75	100	--	--	225	--
pH	standard units	--	--	--	6.0	9.0	--

[1] The average monthly percent removal of $CBOD_5$ and TSS shall not be less than 85 percent.

Table 8. VMWRP Effluent Limitations at M-002

Parameter	Units	Effluent Limitations					
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	6-Month Median
Carbonaceous Biochemical Oxygen Demand (5-day @ 20°C)[1]	mg/L	25	40	--	--	--	--
	lbs/day	1,000	1,700	--	--	--	--
Total Suspended Solids[1]	mg/L	30	45	--	--	--	--
	lbs/day	1,300	1,900	--	--	--	--
Oil and Grease	mg/L	25	40	--	--	75	--
	lbs/day	1,000	1,700	--	--	3,100	--
Settleable Solids	ml/L	1.0	1.5	--	--	3.0	--
Turbidity	NTU	75	100	--	--	225	--
pH	standard units	--	--	--	6.0	9.0	--

[1] The average monthly percent removal of $CBOD_5$ and TSS shall not be less than 85 percent.

Table 9. BSWRP Effluent Limitations at M-003

Parameter	Units	Effluent Limitations					
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	6-Month Median
Carbonaceous Biochemical Oxygen Demand (5-day @ 20°C)[1]	mg/L	25	40	--	--	--	--
Total Suspended Solids[1]	mg/L	30	45	--	--	--	--
Oil and Grease	mg/L	25	40	--	--	75	--
Settleable Solids	ml/L	1.0	1.5	--	--	3.0	--
Turbidity	NTU	75	100	--	--	225	--
pH	standard units	--	--	--	6.0	9.0	--

[1] The average monthly percent removal of $CBOD_5$ and TSS shall not be less than 85 percent.

Table 10. CWRF Effluent Limitations at M-005

Parameter	Units	Effluent Limitations					
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	6-Month Median
Total Suspended Solids	mg/L	60	--	--	--	--	--
	lbs/day	2,000	--	--	--	--	--
Oil and Grease	mg/L	25	40	--	--	75	--
	lbs/day	830	1,300	--	--	2,500	--
Settleable Solids	ml/L	1.0	1.5	--	--	3.0	--
Turbidity	NTU	75	100	--	--	225	--
pH	standard units	--	--	--	6.0	9.0	--

b. The Discharger shall maintain compliance with the following effluent limitations at Discharge Point No. 001, with compliance measured at Monitoring Location M-004 as described in the attached MRP (Attachment E).

Table 11. Effluent Limitations at Discharge Point No. 001 (M-004)

Parameter	Units	Effluent Limitations					
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	6-Month Median
BASED ON OBJECTIVES FOR PROTECTION OF MARINE AQUATIC LIFE							
Chlorine, Total Residual[1]	µg/L	--	--	1,200	8,700	--	290
	lbs/day	--	--	420	3,100	--	100
Chronic Toxicity[2]	TUc	--	--	145	--	--	--

[1] The water quality objectives for total chlorine residual applicable to intermittent discharges not exceeding two hours, shall be determined through the use of the following equation:

log y =0.43 (log x) + 1.8,

where y =the water quality objective (in µg/l) to apply when chlorine is being discharged;

x =the duration of uninterrupted chlorine discharge in minutes.

Actual effluent limitations for total chlorine, when discharging intermittently, shall then be determined according to Implementation Procedures for Table B from the Ocean Plan, using a minimum probable initial dilution factor of 144 and a flow rate of 43.3 MGD.

[2] Chronic toxicity expressed as Chronic Toxicity Units (TUc) = 100/NOEL, where NOEL (No Observed Effect Level) is expressed as the maximum percent effluent or receiving water that causes no observable effect on a test organism.

2. Performance Goals

a. Constituents that do not have reasonable potential to cause or contribute to an exceedance of water quality objectives, or for which reasonable potential to cause or contribute to an exceedance of water quality objectives cannot be determined, are referred to as performance goal constituents and are assigned the performance goals listed in the following table. Performance goal constituents shall be monitored at M-004,

but the results will be used for informational purposes only, not compliance determination.

Table 12. Performance Goals

Parameter	Unit	Performance Goals[1]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
OBJECTIVES FOR PROTECTION OF MARINE AQUATIC LIFE					
Arsenic, Total Recoverable	µg/L	7.3E+02	4.2E+03	1.1E+04	--
	lbs/day	2.6E+02	1.5E+03	4.0E+03	--
Cadmium, Total Recoverable	µg/L	1.5E+02	5.8E+02	1.5E+03	--
	lbs/day	5.2E+01	2.1E+02	5.2E+02	--
Chromium VI, Total Recoverable[2]	µg/L	2.9E+02	1.2E+03	2.9E+03	--
	lbs/day	1.0E+02	4.2E+02	1.0E+03	--
Copper, Total Recoverable	µg/L	1.5E+02	1.5E+03	4.1E+03	--
	lbs/day	5.3E+01	5.2E+02	1.5E+03	--
Lead, Total Recoverable	µg/L	2.9E+02	1.2E+03	2.9E+03	--
	lbs/day	1.0E+02	4.2E+02	1.0E+03	--
Mercury, Total Recoverable	µg/L	5.08E+00	2.2E+01	5.7E+01	--
	lbs/day	1.83E+00	8.1E+00	2.1E+01	--
Nickel, Total Recoverable	µg/L	7.3E+02	2.9E+03	7.3E+03	--
	lbs/day	2.6E+02	1.0E+03	2.6E+03	--
Selenium, Total Recoverable	µg/L	2.2E+03	8.7E+03	2.2E+04	--
	lbs/day	7.9E+02	3.1E+03	7.9E+03	--
Silver, Total Recoverable	µg/L	7.8E+01	3.8E+02	9.9E+02	--
	lbs/day	2.8E+01	1.4E+02	3.6E+02	--
Zinc, Total Recoverable	µg/L	1.7E+03	1.0E+04	2.8E+04	--
	lbs/day	6.3E+02	3.8E+03	1.0E+04	--
Cyanide, Total Recoverable[13]	µg/L	1.5E+02	5.8E+02	1.5E+03	--
	lbs/day	5.2E+01	2.1E+02	5.2E+02	--
Ammonia (expressed as nitrogen)	µg/L	8.7E+04	3.5E+05	8.7E+05	--
	lbs/day	3.1E+04	1.3E+05	3.1E+05	--
Acute Toxicity	TUa	--	4.6E+00	--	--
Phenolic Compounds (non-chlorinated)[3]	µg/L	4.4E+03	1.7E+04	4.4E+04	--
	lbs/day	1.6E+03	6.3E+03	1.6E+04	--
Chlorinated Phenolics[4]	µg/L	1.5E+02	5.8E+02	1.5E+03	--
	lbs/day	5.2E+01	2.1E+02	5.2E+02	--

Parameter	Unit	Performance Goals[1]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
Endosulfan[5]	µg/L	1.3E+00	2.6E+00	3.9E+00	--
	lbs/day	4.7E-01	9.4E-01	1.4E+00	--
Endrin	µg/L	2.9E-01	5.8E-01	8.7E-01	--
	lbs/day	1.0E-01	2.1E-01	3.1E-01	--
HCH[6]	µg/L	5.8E-01	1.2E+00	1.7E+00	--
	lbs/day	2.1E-01	4.2E-01	6.3E-01	--
Radioactivity	pCi/L	Not to exceed limits specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, Section 30253 of the California Code of Regulations, Reference to Section 30253 is prospective, including future changes to any incorporated provisions of federal law, as the changes take effect.			
OBJECTIVES FOR PROTECTION OF HUMAN HEALTH – NONCARCINOGENS					
Acrolein	µg/L	--	--	--	3.2E+04
	lbs/day	--	--	--	1.2E+04
Antimony	µg/L	--	--	--	1.7E+05
	lbs/day	--	--	--	6.3E+04
Bis(2-chloroethoxy) Methane	µg/L	--	--	--	6.4E+02
	lbs/day	--	--	--	2.3E+02
Bis(2-chloroisopropyl) Ether	µg/L	--	--	--	1.7E+05
	lbs/day	--	--	--	6.3E+04
Chlorobenzene	µg/L	--	--	--	8.3E+04
	lbs/day	--	--	--	3.0E+04
Chromium (III), Total Recoverable	µg/L	--	--	--	2.8E+07
	lbs/day	--	--	--	9.9E+06
Di-n-butyl Phthalate	µg/L	--	--	--	5.1E+05
	lbs/day	--	--	--	1.8E+05
Dichlorobenzenes[7]	µg/L	--	--	--	7.4E+05
	lbs/day	--	--	--	2.7E+05
Diethyl Phthalate	µg/L	--	--	--	4.8E+06
	lbs/day	--	--	--	1.7E+06
Dimethyl Phthalate	µg/L	--	--	--	1.2E+08
	lbs/day	--	--	--	4.3E+07
4,6-dinitro-2-methylphenol	µg/L	--	--	--	3.2E+04
	lbs/day	--	--	--	1.2E+04

Parameter	Unit	Performance Goals[1]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
2,4-dinitrophenol	µg/L	--	--	--	5.8E+02
	lbs/day	--	--	--	2.1E+02
Ethylbenzene	µg/L	--	--	--	5.9E+05
	lbs/day	--	--	--	2.1E+05
Fluoranthene	µg/L	--	--	--	2.2E+03
	lbs/day	--	--	--	7.9E+02
Hexachlorocyclopentadiene	µg/L	--	--	--	8.4E+03
	lbs/day	--	--	--	3.0E+03
Nitrobenzene	µg/L	--	--	--	7.1E+02
	lbs/day	--	--	--	2.6E+02
Thallium, Total Recoverable	µg/L	--	--	--	2.9E+02
	lbs/day	--	--	--	1.0E+02
Toluene	µg/L	--	--	--	1.2E+07
	lbs/day	--	--	--	4.5E+06
Tributyltin	µg/L	--	--	--	2.0E-01
	lbs/day	--	--	--	7.3E-02
1,1,1-trichloroethane	µg/L	--	--	--	7.8E+07
	lbs/day	--	--	--	2.8E+07
OBJECTIVES FOR PROTECTION OF HUMAN HEALTH – CARCINOGENS					
Acrylonitrile	µg/L	--	--	--	1.5E+01
	lbs/day	--	--	--	5.2E+00
Aldrin	µg/L	--	--	--	3.2E-03
	lbs/day	--	--	--	1.2E-03
Benzene	µg/L	--	--	--	8.6E+02
	lbs/day	--	--	--	3.1E+02
Benzidine	µg/L	--	--	--	1.0E-02
	lbs/day	--	--	--	3.6E-03
Beryllium	µg/L	--	--	--	4.8E+00
	lbs/day	--	--	--	1.7E+00
Bis(2-chloroethyl) Ether	µg/L	--	--	--	6.5E+00
	lbs/day	--	--	--	2.4E+00

Parameter	Unit	Performance Goals[1]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
Bis(2-ethlyhexyl) Phthalate	µg/L	--	--	--	5.1E+02
	lbs/day	--	--	--	1.8E+02
Carbon Tetrachloride	µg/L	--	--	--	1.3E+02
	lbs/day	--	--	--	4.7E+01
Chlordane	µg/L	--	--	--	3.3E-03
	lbs/day	--	--	--	1.2E-03
Chlorodibromomethane	µg/L	--	--	--	1.2E+03
	lbs/day	--	--	--	4.5E+02
Chloroform	µg/L	--	--	--	1.9E+04
	lbs/day	--	--	--	6.8E+03
DDT[8]	µg/L	--	--	--	2.5E-02
	lbs/day	--	--	--	8.9E-03
1,4-dichlorobenzene	µg/L	--	--	--	2.6E+03
	lbs/day	--	--	--	9.4E+02
3,3'-dichlorobenzidine	µg/L	--	--	--	1.2E+00
	lbs/day	--	--	--	4.2E-01
1,2-dichloroethane	µg/L	--	--	--	4.1E+03
	lbs/day	--	--	--	1.5E+03
1,1-dichloroethylene	µg/L	--	--	--	1.3E+02
	lbs/day	--	--	--	4.7E+01
Dichlorobromomethane	µg/L	--	--	--	9.0E+02
	lbs/day	--	--	--	3.2E+02
Dichloromethane	µg/L	--	--	--	6.5E+04
	lbs/day	--	--	--	2.4E+04
1,3-dichloropropene	µg/L	--	--	--	1.3E+03
	lbs/day	--	--	--	4.7E+02
Dieldrin	µg/L	--	--	--	5.8E-03
	lbs/day	--	--	--	2.1E-03
2,4-dinitrotoluene	µg/L	--	--	--	3.8E+02
	lbs/day	--	--	--	1.4E+02
1,2-diphenylhydrazine	µg/L	--	--	--	2.3E+01
	lbs/day	--	--	--	8.4E+00

Parameter	Unit	Performance Goals[1]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
Halomethanes[9]	µg/L	--	--	--	1.9E+04
	lbs/day	--	--	--	6.8E+03
Heptachlor	µg/L	--	--	--	7.3E-03
	lbs/day	--	--	--	2.6E-03
Heptachlor Epoxide	µg/L	--	--	--	2.9E-03
	lbs/day	--	--	--	1.0E-03
Hexachlorobenzene	µg/L	--	--	--	3.0E-02
	lbs/day	--	--	--	1.1E-02
Hexachlorobutadiene	µg/L	--	--	--	2.0E+03
	lbs/day	--	--	--	7.3E+02
Hexachloroethane	µg/L	--	--	--	3.6E+02
	lbs/day	--	--	--	1.3E+02
Isophorone	µg/L	--	--	--	1.1E+05
	lbs/day	--	--	--	3.8E+04
N-nitrosodimethylamine	µg/L	--	--	--	1.1E+03
	lbs/day	--	--	--	3.8E+02
N-nitrosodi-N-propylamine	µg/L	--	--	--	5.5E+01
	lbs/day	--	--	--	2.0E+01
N-nitrosodiphenylamine	µg/L	--	--	--	3.6E+02
	lbs/day	--	--	--	1.3E+02
PAHs[10]	µg/L	--	--	--	1.3E+00
	lbs/day	--	--	--	4.6E-01
PCBs[11]	µg/L	--	--	--	2.8E-03
	lbs/day	--	--	--	9.9E-04
TCDD equivalents[12]	µg/L	--	--	--	5.7E-07
	lbs/day	--	--	--	2.0E-07
1,1,2,2-tetrachloroethane	µg/L	--	--	--	3.3E+02
	lbs/day	--	--	--	1.2E+02
Tetrachloroethylene	µg/L	--	--	--	2.9E+02
	lbs/day	--	--	--	1.0E+02
Toxaphene	µg/L	--	--	--	3.0E-02
	lbs/day	--	--	--	1.1E-02

Parameter	Unit	Performance Goals[1]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
Trichloroethylene	µg/L	--	--	--	3.9E+03
	lbs/day	--	--	--	1.4E+03
1,1,2-trichloroethane	µg/L	--	--	--	1.4E+03
	lbs/day	--	--	--	4.9E+02
2,4,6-trichlorophenol	µg/L	--	--	--	4.2E+01
	lbs/day	--	--	--	1.5E+01
Vinyl Chloride	µg/L	--	--	--	5.2E+03
	lbs/day	--	--	--	1.9E+03

[1] Scientific "E" notation is used to express certain values. In scientific "E" notation, the number following the "E" indicates that position of the decimal point in the value. Negative numbers after the "E" indicate that the value is less than 1, and positive numbers after the "E" indicate that the value is greater than 1. In this notation a value of 6.1E-02 represents 6.1×10^{-2} or 0.061, 6.1E+02 represents 6.1×10^{2} or 610, and 6.1E+00 represents 6.1×10^{0} or 6.1.

[2] Dischargers may, at their option, apply this performance goal as a total chromium performance goal.

[3] Non-chlorinated phenolic compounds represent the sum of 2,4-dimethylphenol, 4,6-Dinitro-2-methylphenol, 2,4-dinitrophenol, 2-methylphenol, 4-methylphenol, 2-nitrophenol, 4-nitrophenol, and phenol.

[4] Chlorinated phenolic compounds represent the sum of 4-chloro-3-methylphenol, 2-chlorophenol, pentachlorophenol, 2,4,5-trichlorophenol, and 2,4,6-trichlorophenol.

[5] Endosulfan represents the sum of alpha-endosulfan, beta-endosulfan, and endosulfan sulfate.

[6] HCH (hexachlorocyclohexane) represents the sum of the alpha, beta, gamma (Lindane), and delta isomers of hexachlorocyclohexane.

[7] Dichlorobenzenes represent the sum of 1,2- and 1,3-dichlorobenzene.

[8] DDT represents the sum of 4,4'DDT; 2,4'DDT; 4,4'DDE; 2,4'DDE; 4,4'DDD; and 2,4'DDD.

[9] Halomethanes represent the sum of bromoform, bromomethane (methyl bromide), and chloromethane (methyl chloride).

[10] PAHs (polynuclear aromatic hydrocarbons) represent the sum of acenapthalene; anthracene; 1,2-benzanthracene; 3,4-benzofluoranthene; benzo[k]fluoranthene; 1,12-benzoperylene; benzo[a]pyrene; chrysene; dibenzo[a,h]anthracene; fluorene; indeno[1,2,3-cd]pyrene; phenanthrene; and pyrene.

[11] PCBs (polychlorinated biphenyls) represent the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Arolclor-1254, and Arcolor-1260.

[12] TCDD equivalents represent the sum of concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors, as shown by the table below. USEPA Method 8280 may be used to analyze TCDD equivalents.

Isomer Group	Toxicity Equivalence Factor
2,3,7,8 – tetra CDD	1.0
2,3,7,8 – penta CDD	0.5
2,3,7,8 – hexa CDD	0.1
2,3,7,8 – hepta CDD	0.01
octa CDD	0.001
2,3,7,8 – tetra CDF	0.1
1,2,3,7,8 – penta CDF	0.05
2,3,4,7,8 – penta CDF	0.5
2,3,7,8 – hexa CDFs	0.1
2,3,7,8 – hepta CDFs	0.01
Octa CDF	0.001

[13] If the Discharger can demonstrate to the satisfaction of the San Diego Water Board (subject to USEPA approval) that an analytical method is available to reliably distinguish between strongly and weakly complexed cyanide, performance goals may be evaluated with the combined measurement of free cyanide, simple alkali metals cyanides, and weakly complexed organometallic cyanide complexes. In order for the analytical method to be acceptable, the recovery of free cyanide from metal complexes must be comparable to that achieved by the approved method in 40 CFR Part 136, as revised May 14, 1999.

3. Interim Effluent Limitations – Not Applicable

B. Land Discharge Specifications – Not Applicable

C. Reclamation Specifications – Not Applicable

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

Receiving water limitations are based on water quality objectives contained in the Basin Plan and Ocean Plan and are a required part of this Order. The discharge shall not cause the following in the Pacific Ocean.

1. Bacterial Characteristics

a. Within a zone bounded by the shoreline and a distance of three nautical miles from the shoreline, including all kelp beds, the following bacterial objectives shall be maintained throughout the water column. The zone of initial dilution for the ocean outfall is excluded.

30-day Geometric Mean – The following standards are based on the geometric mean of the five most recent samples from each site:

i. Total coliform density shall not exceed 1,000 per 100 ml;

ii. Fecal coliform density shall not exceed 200 per 100 ml; and

iii. Enterococcus density shall not exceed 35 per 100 ml.

Single Sample Maximum:

i. Total coliform density shall not exceed 10,000 per 100 ml;

ii. Fecal coliform density shall not exceed 400 per 100 ml;

iii. Enterococcus density shall not exceed 104 per 100 ml; and

iv. Total coliform density shall not exceed 1,000 per 100 ml when the fecal coliform/total coliform ratio exceeds 0.1.

b. The Initial Dilution Zone for any wastewater outfall shall be excluded from designation as kelp beds for purposes of bacterial standards. Adventitious assemblages of kelp plants

on waste discharge structures (e.g., outfall pipes and diffusers) do not constitute kelp beds for purposes of bacterial standards.

c. At all areas where shellfish may be harvested for human consumption, as determined by the San Diego Water Board, the median total coliform density shall not exceed 70 per 100 ml throughout the water column, and not more than 10 percent of the samples shall exceed 230 per 100 ml.

2. Physical Characteristics

a. Floating particulates and grease and oils shall not be visible.

b. The discharge of waste shall not cause aesthetically undesirable discoloration of the ocean surface.

c. Natural light shall not be significantly reduced at any point outside the initial dilution zone as a result of the discharge of waste.

d. The rate of deposition of inert solids and the characteristics of inert solids in the ocean sediments shall not be changed such that benthic communities are degraded.

3. Chemical Characteristics

a. The dissolved oxygen concentration shall not at any time be depressed more than 10 percent from that which occurs naturally, as the result of the discharge of oxygen demanding waste materials.

b. The pH shall not be changed at any time more than 0.2 units from that which occurs naturally.

c. The dissolved sulfide concentration of waters in and near sediments shall not be significantly increased above that present under natural conditions.

d. The concentration of substances set forth in Chapter II, Table B of the Ocean Plan, shall not be increased in marine sediments to levels that would degrade indigenous biota.

e. The concentration of organic materials in marine sediments shall not be increased to levels that would degrade marine life.

f. Nutrient materials shall not cause objectionable aquatic growths or degrade indigenous biota.

g. Numerical water quality objectives established in Chapter II, Table B of the California Ocean Plan shall not be exceeded outside of the zone of initial dilution as a result of the discharges from the Facilities.

4. Biological Characteristics

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

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

c. The concentration 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.

5. Radioactivity

a. Discharge of radioactive waste shall not degrade marine life.

B. Groundwater Limitations – Not Applicable

VI. PROVISIONS

A. Standard Provisions

1. **Federal Standard Provisions.** The Discharger shall comply with all Standard Provisions included in Attachment D of this Order.

2. **San Diego Water Board Standard Provisions.** The Discharger shall comply with the following provisions:

a. Compliance with Ocean Plan Discharge Prohibitions, summarized in Attachment G, is required as a condition of this Order.

b. Compliance with the Discharge Prohibitions contained in Chapter 4 of the Basin Plan, summarized in Attachment G, is required as a condition of this Order.

c. The Discharger shall comply with all requirements and conditions of this Order. Any permit non-compliance constitutes a violation of the CWA and/or the CWC and is grounds for enforcement action, permit termination, revocation and reissuance, or modification, or for denial of an application for permit renewal, modification, or reissuance.

d. The Discharger shall comply with all applicable federal, State, and local laws and regulations that pertain to sewage sludge handling, treatment, use and disposal, including CWA section 405 and USEPA regulations at 40 CFR Part 257.

e. The Facilities shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to Title 23, Division 3, Chapter 26 of the California Code of Regulations (CCR).

f. All proposed new treatment facilities and expansions of existing treatment facilities shall be completely constructed and operable prior to initiation of the discharge from the new or expanded facilities. The Discharger shall submit a certification report for each new treatment facility, expansion of an existing treatment facility, and re-ratings, the certification report shall be prepared by the design engineer. For re-ratings, the certification report shall be prepared by the engineer who evaluated the treatment facility capacity. The certification report shall:

i. Identify the design capacity of the treatment facility, including the daily and 30-day design capacity,

ii. Certify the adequacy of each component of the treatment facility, and

iii. Contain a requirement-by-requirement analysis, based on acceptable engineering practices, of the process and physical design of the facility to ensure compliance with this Order.

iv. Contain the signature and engineering license number of the engineer preparing the certification report affixed to the report. If reasonable, the certification report shall be submitted prior to beginning construction. The Discharger shall not initiate a discharge from an existing treatment facility at a daily flow rate in excess of its previously approved design capacity until:

(a) The certification report is received by the Executive Officer,

(b) The Executive Officer has received written notification of completion of construction (new treatment facilities and expansions only),

(c) An inspection of the facility has been made by staff of the San Diego Water Board or their designated representatives (new treatment facilities and expansions only), and

(d) The Executive Officer has provided the Discharger with written authorization to discharge at a daily flow rate in excess of its previously approved design capacity.

g. All waste treatment, containment, and disposal facilities shall be protected against 100-year peak stream flows as defined by the San Diego County flood control agency.

h. All waste treatment, containment, and disposal facilities shall be protected against erosion, overland runoff, and other impacts resulting from a 100-year, 24-hour storm event.

i. This Order expires on June 1, 2016, after which, the terms and conditions of this permit are automatically continued pending issuance of a new permit, provided that all requirements of USEPA's NPDES regulations at 40 CFR 122.6 and the State's regulations at CCR Title 23, section 2235.4 regarding the continuation of expired permits and waste discharge requirements are met.

j. The Discharger's wastewater treatment facilities shall be operated and maintained in accordance with the operations and maintenance manual prepared by the Discharger pursuant to the Clean Water Grant Program.

k. A copy of this Order shall be posted at a prominent location at or near the treatment and disposal facilities and shall be available to operating personnel at all times.

l. The Discharger shall comply with any interim limitations established by addendum, enforcement action, or revised waste discharge requirements that have been or may be adopted by the San Diego Water Board.

m. The Discharger shall comply with effluent standards and prohibitions for toxic pollutants established pursuant to section 307(a) of the CWA within the time frame set forth by the regulations that establish those standards and prohibitions, even if this Order has not been modified to incorporate the requirements. If an applicable effluent standard or prohibition, including any schedule of compliance, is promulgated pursuant to section 307(d) of the CWA for a toxic pollutant, and that standard or prohibition is more stringent than a limitation contained in this Order, the Executive Officer may institute proceedings to modify or revoke and reissue the Order to conform to the effluent standard or prohibition.

B. Monitoring and Reporting Program (MRP) Requirements

The Discharger shall comply with the MRP, and future revisions thereto, in Attachment E of this Order.

C. Special Provisions

1. Reopener Provisions

a. This Order may be reopened for modification to include an effluent limitation if monitoring establishes that the discharge causes, has the reasonable potential to cause, or contributes to an excursion above an Ocean Plan Table B water quality objective.

b. This Order may be reopened for modification of the receiving waters monitoring requirements, as the Executive Officer determines. The modification(s) can include, but is (are) not limited to, recommendations from Southern California Coastal Water Research Project (SCCWRP) or creation of a Regional Monitoring Program.

c. This Order may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following;

i. Violation of any terms or conditions of this Order.

ii. Obtaining this Order by misrepresentation or failure to disclose fully all relevant fact.

iii. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

The filing of a request by the Discharger for modifications, revocation and reissuance, or termination of this Order does not stay any condition of this Order. Notification by the Discharger of planned operational or facility changes, or anticipated noncompliance with this Order does not stay any condition of this Order.

d. If any applicable toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under section 307 (a) of the CWA for a toxic pollutant and that standard or prohibition is more stringent than any limitation on the pollutant in this Order, the San Diego Water Board may institute proceedings under these regulations to modify or revoke and reissue the Order to conform to the toxic effluent standard or prohibition.

e. This Order may be re-opened and modified, to incorporate in accordance with the provisions set forth in 40 CFR Parts 122 and 124, to include requirements for the implementation of the watershed management approach.

f. This Order may be reopened and modified, in accordance with the provisions set forth in 40 CFR Parts 122 and 124, to include new Minimum Levels (MLs).

g. This Order may be re-opened and modified to revise effluent limitations as a result of future Basin Plan Amendments, or the adoption of a total maximum daily load (TMDL) for the receiving water.

h. This Order may be re-opened upon submission by the Discharger of adequate information, as determined by this San Diego Water Board, to provide for dilution credits or a mixing zone, as may be appropriate.

i. This Order may be re-opened and modified to revise the toxicity language once that language becomes standardized.

j. This Order may also be re-opened and modified, revoked and, reissued or terminated in accordance with the provisions of 40 CFR 122.44, 122.62 to 122.64, 125.62, and 125.62. Causes for taking such actions include, but are not limited to, failure to comply with any condition of this Order and permit, and endangerment to human health or the environment resulting from the permitted activity.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. Spill Prevention and Response Plans

i. For purposes of this section, a spill is a discharge of treated or untreated wastewater that occurs at or downstream of the EWPCF, VMWRP, or BSWRP headworks, or influent intake location(s) at the CWRF, in violation of Discharge Prohibitions III.A or III.B of this Order, or a discharge of other materials related to the Facilities. This section does not include sanitary sewer overflows from the sewage collection system that are reportable under separate waste discharge requirements.

ii. The Discharger shall maintain a Spill Prevention Plan (SPP) for the Facilities in an up-to-date condition and shall amend the SPP whenever there is a change (e.g., in the design, construction, operation, or maintenance of the sewerage system or sewerage facilities) which materially affects the potential for spills. The Discharger shall review and amend the SPP as appropriate after each spill from the Facilities. The SPP and any amendments thereto shall be subject to the approval of the Executive Officer and shall be modified as directed by the Executive Officer. The Discharger shall submit the SPP and any amendments thereto to the Executive Officer upon request of the Executive Officer. The Discharger shall ensure that the up-to-date SPP is readily available to the sewerage system personnel at all times and that the sewerage system personnel are familiar with it.

iii. The Discharger shall maintain a Spill Response Plan (SRP) for the Facilities in an up-to-date condition and shall amend the SRP, as necessary. The Discharger shall review and amend the SRP as appropriate after each spill from the Facilities. The SRP and any amendments thereto shall be subject to the approval of the Executive

Officer and shall be modified as directed by the Executive Officer. The Discharger shall submit the SRP and any amendments thereto to the Executive Officer upon request of the Executive Officer. The Discharger shall ensure that the up-to-date SRP is readily available to the sewerage system personnel at all times and that the sewerage system personnel are familiar with it.

b. Spill Reporting Requirements

The Discharger shall report spills as defined in Section VI.C.2.a.i above in accordance with the following procedures:

i. If a spill results in a discharge of treated or untreated wastewater that is equal to or exceeds 1,000 gallons, and/or results in a discharge to a drainage channel and/or surface water; or results in a discharge to a storm drain that was not fully captured and returned to the sanitary sewer system, the Discharger shall:

(a) Report the spill to the San Diego Water Board by telephone, by voice mail, or by FAX within 24 hours from the time the Discharger becomes aware of the spill. The Discharger shall inform the San Diego Water Board of the date of the spill, spill location and its final destination, time the spill began and ended, estimated total spill volume, and type of spill material.

(b) Submit a written report, as well as any additional pertinent information, to the San Diego Water Board no later than 5 days from the time the Discharger becomes aware of the spill.

(c) The San Diego Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours.

ii. If a spill results in a discharge of treated or untreated wastewater under 1,000 gallons and the discharge does not reach a drainage channel, surface waters, or storm drain, the Discharger is not required to notify the San Diego Water Board within 24 hours, or provide a 5-day written report.

iii. For spills of material other than treated or untreated wastewater that cause, may cause, or are caused by significant operational failure, or endangers or may endanger human health or the environment, the Discharger shall notify the San Diego Water Board by telephone, by voice mail, or by FAX within 24 hours from the time the Discharger becomes aware of the spill. The Discharger shall inform the San Diego Water Board of the date of the spill, spill location and its final destination, time the spill began and ended, estimated total spill volume, and type of spill material.

iv. For all spills, the Discharger shall include a detailed summary of spills in the monthly self-monitoring report for the month in which the spill occurred.

v. The spill reporting requirements contained in this Order do not relieve the Discharger of responsibilities to report to other agencies, such as the California Emergency Management Agency (EMA) and the County of San Diego Department of Environmental Health Services.

c. Toxicity Reduction Requirements

If the effluent limitation for chronic toxicity, or the performance goal for acute toxicity is exceeded in any one test, then within 15 days of the exceedance, the Discharger shall begin conducting six additional tests, bi-weekly, over a 12 week period.

If the toxicity performance goal/effluent limitation is exceeded in any of these six additional tests, then the Discharger shall notify the Executive Officer. If the Executive Officer determines that the discharge consistently exceeds a performance goal/toxicity effluent limitation, then the Discharger shall initiate a TRE/TIE in accordance with the TRE workplan, *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants* (USEPA 833-B-99-002, 1999), and USEPA TIE guidance documents (Phase I, EPA/600/6-91/005F, 1992; Phase II, EPA/600/R-92/080, 1993; and Phase III, EPA/600/R-92/081, 1993). Once the source of toxicity is identified, the Discharger shall take all reasonable steps to reduce the toxicity to meet the chronic toxicity effluent limitation and/or the acute toxicity performance goal identified in section IV.A.2 of this Order.

Within 30 days of completion of the TRE/TIE, the Discharger shall submit the results of the TRE/TIE, including a summary of the findings, data generated, a list of corrective actions necessary to achieve consistent compliance with all the toxicity limitations/performance goals of this Order and prevent recurrence of exceedances of those limitations/performance goals, and a time schedule for implementation of such corrective actions. The corrective actions and time schedule shall be modified at the direction of the Executive Officer.

If no toxicity is detected in any of these additional six tests, then the Discharger may return to the testing frequency specified in the MRP.

d. Toxicity Reduction Evaluation (TRE)

The Discharger shall develop a TRE workplan in accordance with TRE procedures established by USEPA in the following guidance manuals.

i. *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations* (EPA/600/2-88/070).

ii. *Toxicity Identification Evaluation, Phase I* (EPA/600/6-91/005F).

iii. *Methods for Aquatic Toxicity Identification Evaluations, Phase II* (EPA/600/R-92/080).

iv. *Methods for Aquatic Toxicity Identification Evaluations, Phase III* (EPA/600/R-92/081).

The Discharger shall submit the TRE workplan to the San Diego Water Board within 180 days of the adoption of this Order. The TRE workplan shall be subject to the approval of the San Diego Water Board and shall be modified as directed by the San Diego Water Board.

3. Best Management Practices and Pollution Prevention – Not Applicable

4. Construction, Operation and Maintenance Specifications – Not Applicable

5. Special Provisions for Wastewater Facilities (POTWs Only)

a. Encina Ocean Outfall Capacity

No later than 180 days prior to this Order's expiration date, the Discharger shall submit a written report to the Executive Officer regarding capacity of the EOO that addresses the following items:

i. Most current report on the EOO capacity conducted within 1 year of the expiration date of this Order;

ii. The Discharger's best estimate of when the average daily flow will equal or exceed the EOO capacity;

iii. The Discharger's intended schedule for studies, design, and other steps needed to provide additional capacity for the EOO and/or to control the flow rate before the flow rate is equal to the current outfall capacity;

iv. A certified statement signed by a California Licensed Engineer that states that the capacity of the EOO is at least 43.3 MGD;

v. Report on the physical condition of the EOO; and

vi. The report must be signed and agreed upon by each of the parties discharging through the EOO.

b. Treatment Plant Capacity

The Discharger shall submit a written report to the Executive Officer within 90 days after the monthly average influent flow rate equals or exceeds 75 percent of the secondary treatment design capacity of the wastewater treatment and/or disposal facilities. The Discharger's senior administrative officer shall sign a letter in accordance with Standard Provision V.B. (Attachment D of this Order) which transmits that report and certifies that that policy-making body is adequately informed of the influent flow rate relative to the facility's design capacity. The report shall include the following:

i. Average influent daily flow for the calendar month, the date on which the maximum daily flow occurred, and the rate of that maximum flow.

ii. The Discharger's best estimate of when the average daily influent flow for a calendar month will equal or exceed the design capacity of the facilities.

iii. The Discharger's intended schedule for studies, design, and other steps needed to provide additional treatment for the wastewater from the collection system before the waste flow exceeds the capacity of present units.

c. Pretreatment Program

i. The Discharger shall be responsible for the performance of all pretreatment requirements contained in 40 CFR Part 403, including any subsequent revisions in

40 CFR Part 403. Where 40 CFR Part 403 or subsequent revisions place mandatory actions upon the Discharger but do not specify a timetable for completion, the Discharger shall complete the mandatory actions within 6 months of the issuance date of this Order, or the effective date of the revisions to 40 CFR Part 403, whichever comes later. For violations of pretreatment requirements, the Discharger shall be subject to enforcement actions, penalties, fines, and other remedies imposed by the USEPA and/or the San Diego Water Board, as provided in the CWA and/or the CWC.

ii. The Discharger shall implement and enforce its approved pretreatment program, and all subsequent revisions, which are hereby made enforceable conditions of this Order. The Discharger shall enforce the requirements promulgated pursuant to Sections 307(b), 307 (c), 307 (d), and 402 (b) of the CWA with timely, appropriate, and effective enforcement actions. The Discharger shall cause industrial users subject to federal categorical standards to achieve compliance no later than the date specified in those requirements, or in the case of a new industrial user, upon commencement of the discharge.

iii. The Discharger shall perform the pretreatment functions required by 40 CFR 403, including, but not limited to:

(a) Implement the necessary legal authorities as required by 40 CFR 403.8 (f) (1);

(b) Enforce the pretreatment requirements under 40 CFR 403.5 and 403.6;

(c) Implement the programmatic functions as required by 40 CFR 403.8 (f) (2); and

(d) Provide the requisite funding and personnel to implement the pretreatment program, as required by 40 CFR 403.8 (f) (3).

iv. By March 1 of each year, the Discharger shall submit an annual report to the San Diego Water Board; USEPA Region 9; the State Water Board, Division of Public Water Quality, Regulations Unit; and the San Diego County Department of Health Services, Hazardous Materials Division, describing its pretreatment activities over the previous calendar year. In the event the Discharger is not in compliance with any condition or requirement of this Order, or any pretreatment compliance inspection/audit requirements, the Discharger shall include the reasons for noncompliance and state how and when it will comply with such conditions and requirements. The annual report shall contain, but not be limited to, the following information:

(a) A summary of analytical results from representative flow-proportioned 24-hour composite sampling of the Discharger's influent and effluent for those pollutants known or suspected to be discharged by industrial users that the USEPA has identified under Section 307 (d) of the CWA. This will include an annual full priority pollutant scan. Wastewater sampling and analysis shall be performed in accordance with the minimum frequency of analysis required by the Monitoring and Reporting program of this Order (Attachment E of this Order). The Discharger shall also provide influent and effluent monitoring data for non-priority pollutants, which the Discharger believes may be causing or contributing to interference or pass through. The Discharger is not required to sample and analyze for asbestos. Sludge sampling and analysis is addressed in Attachment

E of this Order. Wastewater sampling and analysis shall be performed in accordance with 40 CFR Part 136.

(b) A discussion of upset, interference, or pass through, if any, at the Facilities, which the Discharger knows or suspects were caused by industrial users. The discussion shall include the reasons why the incidents occurred, any corrective actions taken, and, if known, the name and address of the responsible industrial user(s). The discussion shall also include a review of the applicable local pollutant limitations to determine whether any additional limitations or changes to existing limitations, are necessary to prevent pass-through, interference, or non-compliance with effluent limitations and/or sludge disposal requirements.

(c) The Discharger shall characterize the compliance status of each significant industrial user (SIU) by providing a list or table for the following:

(1) Name of SIU and category, if subject to categorical standards;

(2) Type of wastewater treatment or control processes in place;

(3) Number of samples taken by SIU during the year;

(4) Number of samples and inspections by Discharger during the year;

(5) For an SIU subject to discharge requirements for total toxic organics (TTO), whether all required certifications were provided;

(6) A list of pretreatment standards (categorical or local) violated during the year, or any other violations;

(7) Industries in significant non-compliance as defined at 40 CFR 403.12 (f)(2)(vii), at any time during the year;

(8) A summary of enforcement actions or any other actions taken against SIUs during the year. Describe the type of action, final compliance date, and the amount of fines and/or penalties collected, if any. Describe any proposed actions for bringing SIUs into compliance; and

(9) The name(s) of any SIU(s) required to submit a baseline monitoring report and any SIUs currently discharging under a baseline monitoring report.

(d) A brief description of any programs the Discharger implements to reduce pollutants from industrial users not classified as SIUs.

(e) A brief description of any significant changes in operating the pretreatment program which differ from the previous year, including, but not limited to, changes in the program's administrative structure, local limits, monitoring program, legal authority, enforcement policy, funding, and staffing levels;

(f) A summary of the annual pretreatment program budget, including the cost of pretreatment program functions and equipment purchases;

(g) A summary of activities to involve and inform the public of the pretreatment program, including a copy of the newspaper notice, if any, required by 40 CFR 403.8 (f) (2) (vii);

(h) A description of any changes in sludge disposal methods; and

(i) A discussion of any concerns not described elsewhere in the annual report.

v. The Discharger shall submit a semiannual SIU compliance status report to the San Diego Water Board, the State Water Board, and the USEPA. The reports shall cover the periods of January 1 through June 30, and July 1 through December 31 and shall be submitted no later than September 1 and March 1, respectively. The report shall identify:

(a) The names and addresses of all SIUs which violated any discharge or reporting requirements during the semi-annual reporting period;

(b) A description of the violations, including whether the discharge violations were for categorical standards or local limits;

(c) A description of the enforcement actions or other actions taken to remedy the non-compliance; and

(d) The status of enforcement actions or other actions taken in response to SIU noncompliance identified in previous reports.

vi. The Discharger shall continue with its implementation of a Non-Industrial Source Control Program, consisting of a public education program designed to minimize the entrance of non-industrial toxic pollutants and pesticides into the sanitary sewer system. The Program shall be reviewed periodically and addressed in the annual report.

d. Sludge (Biosolids) Disposal Requirements

i. The handling, treatment, use, management, and disposal of sludge and solids derived from wastewater treatment must comply with applicable provisions of CWA section 405 and USEPA regulations at 40 CFR Parts 257, 258, 501, and 503, including all monitoring, record keeping, and reporting requirements.

ii. Sludge and wastewater solids must be disposed of in a municipal solid waste landfill, reused by land application, disposed of in a sludge-only landfill, or used in an application approved by the Executive Officer in accordance with 40 CFR Parts 258 and 503 and Title 23, Chapter 15 of the CCR. If the Discharger desires to dispose of solids and/or sludge in a different manner, a request for permit modification must be submitted to the USEPA and to this San Diego Water Board at least 180 days prior to beginning the alternative means of disposal.

iii. Sludge that is disposed of in a municipal solid waste landfill must meet the requirements of 40 CFR Part 258 pertaining to providing information to the public. In the annual self-monitoring report, the Discharger shall include the amount of sludge placed in the landfill as well as the landfill to which it was sent.

iv. All requirements of 40 CFR Part 503 and 23 CCR Chapter 15 are enforceable whether or not the requirements of those regulations are stated in an NPDES permit or any other permit issued to the Discharger.

v. The Discharger shall take all reasonable steps to prevent and minimize any sludge use or disposal in violation of this Order that has a likelihood of adversely affecting human health or the environment.

vi. Solids and sludge treatment, storage, and disposal or reuse shall not create a nuisance, such as objectionable odors or flies, and shall not result in groundwater contamination.

vii. The solids and sludge treatment and storage site shall have adequate facilities to divert surface water runoff from adjacent areas to protect the boundaries of the site from erosion, and to prevent drainage from the treatment and storage site. Adequate protection is defined as protection, at the minimum, from a 100-year storm and protection from the highest possible tidal stage that may occur.

viii. The discharge of sewage sludge and solids shall not cause waste material to be in position where it is, or can be, conveyed from the treatment and storage sites and deposited in waters of the State.

ix. The Discharger shall submit an annual report to the USEPA and the San Diego Water Board containing monitoring results and pathogen and vector attraction reduction requirements, as specified by 40 CFR Part 503. The Discharger shall also report the quantity of sludge removed from the Facilities and the disposal method. This self-monitoring report shall be postmarked by February 19 of each year and report for the period of the previous calendar year.

e. Collection System

On May 2, 2006, the State Water Board adopted State Water Board Order No. 2006-0003, a Statewide General WDR for Sanitary Sewer Systems. EWA's member agencies shall be subject to all applicable requirements of Order No. 2006-0003 and any future revisions thereto. Order No. 2006-0003 requires that all public agencies that currently own or operate sanitary sewer systems apply for coverage under the General WDR.

Regardless of the coverage obtained under Order No. 2006-0003, EWA's member agencies' collection system is part of the treatment system that is subject to this Order. As such, pursuant to federal regulations, EWA's member agencies must properly operate and maintain their respective collection system [40 CFR 122.41(e)], report any non-compliance [40 CFR 122.41(l)(6) and (7)], and mitigate any discharge from the collection system in violation of this Order [40 CFR 122.41(d)].

6. Other Special Provisions – Not Applicable

7. Compliance Schedules – Not Applicable

VII. COMPLIANCE DETERMINATION

Compliance with the effluent limitations contained in section IV of this Order will be determined as specified below:

A. Compliance with Average Monthly Effluent Limitation (AMEL)

If the average of daily discharges over a calendar month exceeds the AMEL for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of noncompliance in a 31-day month). The average of daily discharges over the calendar month that exceeds the AMEL for a parameter will be considered out of compliance for the month only. If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the Discharger will be considered out of compliance for that calendar month. For any one calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month.

B. Compliance with Average Weekly Effluent Limitation (AWEL)

If the average of daily discharges over a calendar week (Sunday through Saturday) exceeds the AWEL for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for each day of that week for that parameter, resulting in 7 days of noncompliance. The average of daily discharges over the calendar week that exceeds the AWEL for a parameter will be considered out of compliance for that week only. If only a single sample is taken during the calendar week and the analytical result for that sample exceeds the AWEL, the Discharger will be considered out of compliance for that calendar week. For any one calendar week during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar week.

C. Compliance with Maximum Daily Effluent Limitation (MDEL)

The MDEL shall apply to flow weighted 24-hour composite samples, or grab, as specified in the MRP (Attachment E). If a daily discharge exceeds the MDEL for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for that parameter for that one day only within the reporting period. For any one day during which no sample is taken, no compliance determination can be made for that day.

D. Compliance with Instantaneous Minimum Effluent Limitation

The instantaneous minimum effluent concentration limitation shall apply to grab sample determinations. If the analytical result of a single grab sample is lower than the instantaneous minimum effluent limitation for a parameter, a violation will be flagged and the Discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both are lower than the instantaneous minimum effluent limitation would result in two instances of noncompliance with the instantaneous minimum effluent limitation.)

E. Compliance with Instantaneous Maximum Effluent Limitation

The instantaneous maximum effluent concentration limitation shall apply to grab sample determinations. If the analytical result of a single grab sample is higher than the instantaneous maximum effluent limitation for a parameter, a violation will be flagged and the Discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both exceed the instantaneous maximum effluent limitation would result in two instances of noncompliance with the instantaneous maximum effluent limitation).

F. Compliance with 6-Month Median Effluent Limitation

If the median of daily discharges over any 180-day period exceeds the 6-month median effluent limitation for a given parameter, an alleged violation will be flagged and the Discharger will be considered out of compliance for each day of that 180-day period for that parameter. The next assessment of compliance will occur after the next sample is taken. If only a single sample is taken during a given 180-day period and the analytical result for that sample exceeds the 6-month median, the Discharger will be considered out of compliance for the 180-day period. For any 180-day period during which no sample is taken, no compliance determination can be made for the 6-month median limitation.

G. Mass and Concentration Limitations

Compliance with mass and concentration effluent limitations for the same parameter shall be determined separately with their respective limitations. When the concentration of a constituent in an effluent sample is determined to be "Not Detected" (ND) or "Detectable but not quantifiable" (DNQ), the corresponding mass emission rate (MER) determined from that sample concentration shall also be reported as "ND" or "DNQ".

H. Percent Removal

Compliance with percent removal requirements for monthly average percent removal of biochemical oxygen demand and total suspended solids shall be determined separately for each wastewater treatment facility discharging through an outfall. For each wastewater treatment facility, the monthly average percent removal is the average of the calculated daily discharge percent removals only for days on which the constituent concentration is monitored in both the influent and effluent of the wastewater treatment facility at location specified in the MRP (Attachment E) within a calendar month.

The percent removal for each day shall be calculated according to the following equation:

$$\text{Daily discharge percent removal} = \frac{\textit{Influent concentration} - \textit{Effluent concentration}}{\textit{Influent concentration}} \times 100\%$$

I. Ocean Plan Provisions for Table B Constituents

1. Sampling Reporting Protocols

a. The Discharger must report with each sample result the reported Minimum Level (ML) and the laboratory's current Method Detection Limit (MDL).

b. The Discharger must also report results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

i. Sample results greater than or equal to the reported ML must be reported "as measured" by the laboratory (i.e., the measured chemical concentration in the sample).

ii. Sample results less than the reported ML, but greater than or equal to the laboratory's MDL, must be reported as "Detected, but Not Quantified", or DNQ. The laboratory must write the estimated chemical concentration of the sample next to DNQ as well as the words "Estimated Concentration" (may be shorted to Est. Conc.").

iii. Sample results less than the laboratory's MDL must be reported as "Not Detected", or ND.

2. Compliance Determination

Sufficient sampling and analysis shall be required to determine compliance with the effluent limitation.

a. Compliance with Single-constituent Effluent Limitations

The Discharger shall be deemed out of compliance with an effluent limitation or discharge specification if the concentration of the constituent in the monitoring sample is greater than the effluent limitation or discharge specification and greater than or equal to the ML.

Compliance with Effluent Limitations Expressed as a Sum of Several Constituents

The Discharger is out of compliance with an effluent limitation that applies to the sum of a group of chemicals (e.g., PCBs) if the sum of the individual pollutant concentrations is greater than the effluent limitation. Individual pollutants of the group will be considered to have a concentration of zero if the constituent is reported as ND or DNQ.

c. Multiple Sample Data Reduction.

The concentration of the pollutant in the effluent may be estimated from the result of a single sample analysis or by a measure of central tendency (arithmetic mean, geometric mean, median, etc.) of multiple sample analyses when all sample results are quantifiable (i.e., greater than or equal to the reported ML). When one or more sample results are reported as ND or DNQ, the central tendency concentration of the pollutant shall be the median (middle) value of the multiple samples. If, in an even number of samples, one or both of the middle values is ND or DNQ, the median will be the lower of the two middle values.

d. Mass Emission Rate

The mass emission rate (MER), in pounds per day, shall be obtained from the following calculation for any calendar day:

Mass Emission Rate (lbs/day) = 8.34 x Q x C

In which Q and C are the flow rate in million gallons per day and the constituent concentration in mg/L, respectively, and 8.34 is a conversion factor (lbs/gallon of water). If a composite sample is taken, then C is the concentration measured in the composite sample and Q is the average flow rate occurring during the period over which the samples are composited.

e. Bacterial Standards and Analysis

i. The geometric mean used for determining compliance with bacterial standards is calculated with the following equation:

Geometric Mean = $(C_1 \times C_2 \times \ldots \times C_n)^{1/n}$

Where n is the number of days samples were collected during the period and C is the concentration of bacteria (CFU/100 mL) found on each day of sampling.

ii. For all bacterial analyses, sample dilutions should be performed so the range of values extends from 2 to 16,000 CFU (colony-forming units). The detection methods used for each analysis shall be reported with the results of the analysis. Detection methods used for coliforms (total and fecal) shall be those listed in 40 CFR Part 136 or any improved method determined by the San Diego Water Board (and approved by USEPA) to be appropriate. Detection methods used for enterococcus shall be those presented in USEPA publication USEPA 600/4-85/076, *Test Methods for Escherichia coli and Enterococci in Water by Membrane Filter Procedure*, listed under 40 CFR Part 136, and any other method approved by the San Diego Water Board.

f. Single Operational Upset

A single operational upset (SOU) that leads to simultaneous violations or more than one pollutant parameter shall be treated as a single violation and limits the Discharger's liability in accordance with the following conditions:

i. A SOU is broadly defined as a single unusual event that temporarily disrupts the usually satisfactory operation of a system in such a way that it results in violation of multiple pollutant parameters.

ii. A Discharger may assert SOU to limit liability only for those violations which the Discharger submitted notice of the upset as required in Section I.H of Attachment D.

iii. For purposes outside of CWC section 13385(h) and (i), determination of compliance and civil liability (including any more specific definition of SOU), the requirements for Dischargers to assert the SOU limitation of liability, and the manner of counting violations, shall be in accordance with the USEPA Memorandum "Issuance of Guidance Interpreting Single Operational Upset" (September 27, 1989).

iv. For purposes of CWC section 13385(h) and (i), determination of compliance and civil liability (including any more specific definition of SOU), the requirements for Dischargers to assert the SOU limitation of liability, and the manner of counting violations shall be in accordance with CWC section 13385(f)(2).

J. Chronic Toxicity

Chronic toxicity is used to measure the acceptability of waters for supporting a healthy marine biota until approved methods are developed to evaluate biological response. Compliance with the chronic toxicity effluent limit established in section IV.A.1.b of this Order for Discharge Point No. 001 shall be determined using critical life stage toxicity tests in accordance with procedures prescribed by the Ocean Plan (2005) and restated in the MRP (Attachment E). Chronic toxicity shall be expressed as Toxic Units Chronic (TUc), where:
TUc = 100 / NOEL

where NOEL is the No Observed Effect Level and is expressed as the maximum percent of effluent that causes no observable effect on a test organism, as determined by the result of a critical life stage toxicity test.

ATTACHMENT A – DEFINITIONS

Acute Toxicity

a. Acute Toxicity (TUa)
Expressed in Toxic Units Acute (TUa)

$$TUa = \frac{100}{96\text{-hr } LC_{50}}$$

b. Lethal Concentration 50% (LC_{50})

LC_{50} (percent waste giving 50% survival of test organisms) shall be determined by static or continuous flow bioassay techniques using standard marine test species as specified in Ocean Plan Appendix III. If specific identifiable substances in wastewater can be demonstrated by the discharger as being rapidly rendered harmless upon discharge to the marine environment, but not as a result of dilution, the LC_{50} may be determined after the test samples are adjusted to remove the influence of those substances.

When it is not possible to measure the 96-hour LC_{50} due to greater than 50 percent survival of the test species in 100 percent waste, the toxicity concentration shall be calculated by the expression:

$$TUa = \frac{\log (100 - S)}{1.7}$$

where:

S = percentage survival in 100% waste. If S > 99, TUa shall be reported as zero.

Anti-Backsliding

Provisions in the Clean Water Act (CWA) and USEPA regulations [CWA 303 (d) (4); CWA 402 (c); Code of Federal Regulations (CFR) 122.44 (1)] that require a reissued permit to be as stringent as the previous permit with some exceptions.

Antidegradation.

Policies which ensure protection of water quality for a particular body where the water quality exceeds levels necessary to protect fish and wildlife propagation and recreation on and in the water. This also includes special protection of waters designated as outstanding natural resource waters. Antidegradation plans are adopted by the State to minimize adverse effects on water.

Applicable Standards and Limitations

All State, interstate, and federal standards and limitations to which a discharge, a sewage sludge use or disposal practice, or a related activity is subject under the CWA, including effluent limitations, water quality standards, standards of performance, toxic effluent standards or prohibitions, best management practices, pretreatment standards, and standards for sewage sludge use or disposal under sections 301, 302, 303, 304, 306, 307, 308, 403, and 405 of CWA.

Areas of Special Biological Significance (ASBS)

Those areas designated by the State Water Board as ocean areas requiring protection of species or biological communities to the extent that alteration of natural water quality is undesirable. All Areas of Special Biological Significance are also classified as a subset of STATE WATER QUALITY PROTECTION AREAS.

Average Monthly Effluent Limitation (AMEL)
The highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Effluent Limitation (AWEL)
The highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Beneficial Uses of waters of the State may be protected against quality degradation include, but are not limited to, domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves.

Best Management Practices (BMPs)
Schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Best Professional Judgment (BPJ)
The method used by permit writers to develop technology-based NPDES permit conditions on a case-by-case basis using all reasonably available and relevant data.

Bioaccumulative Pollutants
Those substances taken up by an organism from its surrounding medium through gill membranes, epithelial tissue, or from food and subsequently concentrated and retained in the body of the organism.

Bioassay
A test used to evaluate the relative potency of a chemical or a mixture of chemicals by comparing its effect on a living organism with the effect of a standard preparation on the same type of organism.

Biochemical Oxygen Demand (BOD)
A measurement of the amount of oxygen utilized by the decomposition of organic material, over a specified time period (usually 5 days) in a wastewater sample; it is used as a measurement of the readily decomposable organic content of a wastewater.

Biosolids
Sewage sludge that is used or disposed through land application, surface disposal, incineration, or disposal in a municipal solid waste landfill. Sewage sludge is defined as solid, semi-solid, or liquid untreated residue generated during the treatment of domestic sewage in a treatment facility.

Carbonaceous Biochemical Oxygen Demand (CBOD)
The measurement of oxygen required for carbonaceous oxidation of a nonspecific mixture of organic compounds. Interference caused by nitrifying bacteria in the standard 5-day BOD test is eliminated by suppressing the nitrification reaction.

Certifying Official
All applications, including notices of intent (NOIs), must be signed as follows:

For a corporation: By a responsible corporate officer, which means: (i) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

For a partnership or sole proprietorship: By a general partner or the proprietor, respectively; or

For a municipality, state, federal, or other public agency: By either a principal executive officer or ranking elected official. A principal executive officer of a federal agency includes (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

Chemical Oxygen Demand (COD)
A measure of the oxygen-consuming capacity of inorganic and organic matter present in wastewater. COD is expressed as the amount of oxygen consumed in mg/L. Results do not necessarily correlate to the biochemical oxygen demand (BOD) because the chemical oxidant may react with substances that bacteria do not stabilize.

Chlordane
Shall mean the sum of chlordane-alpha, chlordane-gamma, chlordene-alpha, chlordene-gamma, nonachlor-alpha, nonachlor-gamma, and oxychlordane.

Chronic Toxicity
This parameter shall be used to measure the acceptability of waters for supporting a healthy marine biota until improved methods are developed to evaluate biological response.

a. Chronic Toxicity (TUc)

Expressed as Toxic Units Chronic (TUc)

$$TUc = \frac{100}{NOEL}$$

b. No Observed Effect Level (NOEL)

The NOEL is expressed as the maximum percent effluent or receiving water that causes no observable effect on a test organism, as determined by the result of a critical life stage toxicity test listed in Ocean Plan Appendix III.

Composite Sample
Sample composed of two or more discrete samples of at least 100 milliliters collected at periodic intervals during the operating hours of a facility over a 24-hour period. The aggregate sample will

reflect the average water quality covering the compositing or sample period. For volatile pollutants, aliquots must be combined in the laboratory immediately before analysis. The composite must be flow proportional; either the time interval between each aliquot or the volume of each aliquot must be proportional to either stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot. Aliquots may be collected manually or automatically.

Conventional Pollutants
Pollutants typical of municipal sewage, and for which municipal secondary treatment plants are typically designed; defined at 40 CFR 401.16 as BOD, Total Suspended Solids (TSS), fecal coliform bacteria, oil and grease, and pH.

Daily Discharge
Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

Daily Maximum Limit
The maximum allowable daily discharge of pollutant. Where daily maximum limitations are expressed in units of mass, the daily discharge is the total mass discharged over the course of the 24-hour period. Where daily maximum limitations are expressed in terms of a concentration, the daily discharge is the arithmetic average measurement of the pollutant concentration derived from all measurements taken that 24-hour period.

DDT
Shall mean the sum of 4,4'DDT, 2,4'DDT, 4,4'DDE, 2,4'DDE, 4,4'DDD, and 2,4'DDD.

Degrade (Degradation)
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.

Detected, but Not Quantified (DNQ)
Sample results that are less than the reported Minimum Level, but greater than or equal to the laboratory's Method Detection Limit (MDL).

Dilution Credit
The amount of dilution granted to a discharge in the calculation of a water quality-based effluent limitation, based on the allowance of a specified mixing zone. It is calculated from the dilution ratio or determined through conducting a mixing zone study or modeling of the discharge and receiving water.

Dilution Ratio T
The critical low flow of the upstream receiving water divided by the flow of the effluent discharged.

Dichlorobenzenes
Shall mean the sum of 1,2- and 1,3-dichlorobenzene.

Discharge when used without qualification means the discharge of a pollutant. Discharge of a pollutant means:

1. Any addition of any pollutant or combination of pollutants to waters of the United States from any point source, or

2. Any addition of any pollutant or combination of pollutants to the waters of the contiguous zone or the ocean from any point source other than a vessel or other floating craft that is being used as a means of transportation.

This definition includes additions of pollutants into waters of the United States from: surface runoff which is collected or channelled by man; discharges through pipes, sewers, or other conveyances owned by a state, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. This term does not include an addition of pollutants by any indirect Discharger.

Discharge Monitoring Report (DMR) means the USEPA uniform form, including any subsequent additions, revisions, or modifications for the reporting of self-monitoring results by permittees. DMRs must be used by approved states as well as by USEPA. The USEPA will supply DMRs to any approved state upon request. The USEPA national forms may be modified to substitute the state agency name, address, logo, and other similar information, as appropriate, in place of USEPA's.

Downstream Ocean Waters
Waters downstream with respect to ocean currents.

Dredged Material
Any material excavated or dredged from the navigable waters of the United States, including material otherwise referred to as "spoil".

Effluent Limitation
Any restriction imposed by an Order on quantities, discharge rates, and concentrations of pollutants that are discharged from point sources into waters of the United States, the waters of the contiguous zone, or the ocean.

Enclosed Bays
Indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. This definition includes but is not limited to: Humboldt Bay, Bodega Harbor, Tomales Bay, Drakes Estero, San Francisco Bay, Morro Bay, Los Angeles Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay.

Endosulfan
The sum of endosulfan-alpha and -beta and endosulfan sulfate.

Estuaries and Coastal Lagoons are waters at the mouths of streams that serve as mixing zones for fresh and ocean waters during a major portion of the year. Mouths of streams that are temporarily separated from the ocean by sandbars shall be considered as estuaries. Estuarine waters will generally be considered to extend from a bay or the open ocean to the upstream limit of tidal action but may be considered to extend seaward if significant mixing of fresh and salt water occurs in the open coastal waters. The waters described by this definition include but are not limited to the Sacramento-San Joaquin Delta as defined by section 12220 of the CWC, Suisun Bay, Carquinez Strait downstream to Carquinez Bridge, and appropriate areas of the Smith, Klamath, Mad, Eel, Noyo, and Russian Rivers.

Grab Sample
An individual sample of at least 100 milliliters collected at a randomly selected time over a period not exceeding 15 minutes. The sample is taken from a waste stream on a one-time basis without consideration of the flow rate of the waste stream and without consideration of time of day.

Halomethanes shall mean the sum of bromoform, bromomethane (methyl bromide) and chloromethane (methyl chloride).

HCH shall mean the sum of the alpha, beta, gamma (Lindane) and delta isomers of hexachlorocyclohexane.

Initial Dilution
The process that results in the rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge.

For a submerged buoyant discharge, characteristic of most municipal and industrial wastes that are released from the submarine outfalls, the momentum of the discharge and its initial buoyancy act together to produce turbulent mixing. Initial dilution in this case is completed when the diluting wastewater ceases to rise in the water column and first begins to spread horizontally.

For shallow water submerged discharges, surface discharges, and non-buoyant discharges, characteristic of cooling water wastes and some individual discharges, turbulent mixing results primarily from the momentum of discharge. Initial dilution, in these cases, is considered to be completed when the momentum induced velocity of the discharge ceases to produce significant mixing of the waste, or the diluting plume reaches a fixed distance from the discharge to be specified by the San Diego Water Board, whichever results in the lower estimate for initial dilution.

Instantaneous Maximum Effluent Limitation
The highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

Instantaneous Minimum Effluent Limitation
The lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

Kelp Beds
For purposes of the bacteriological standards of the Ocean Plan, are significant aggregations of marine algae of the genera Macrocystis and Nereocystis. Kelp beds include the total foliage canopy of Macrocystis and Nereocystis plants throughout the water column.

Mariculture
The culture of plants and animals in marine waters independent of any pollution source.

Material
(a) In common usage: (1) the substance or substances of which a thing is made or composed (2) substantial; (b) For purposes of the Ocean Plan relating to waste disposal, dredging and the disposal of dredged material and fill, MATERIAL means matter of any kind or description which is subject to regulation as waste, or any material dredged from the navigable waters of the United States. See also, DREDGED MATERIAL.

Maximum Daily Effluent Limitation (MDEL)
The highest allowable daily discharge of a pollutant.

Method Detection Limit (MDL)
The minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in Title 40 of the Code of Federal Regulations (CFR), Part 136, Attachment B.

Minimum Level (ML)
The concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

Natural Light
Reduction of natural light may be determined by the San Diego Water Board by measurement of light transmissivity or total irradiance, or both, according to the monitoring needs of the San Diego Water Board.

Not Detected (ND)
Those sample results less than the laboratory's MDL.

Nuisance
CWC section 13050, subdivision (m), defines nuisance as anything which meets all of the following requirements:

1. Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property.
2. Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.
3. Occurs during, or as a result of, the treatment or disposal of wastes.

Ocean Waters
The territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. If a discharge outside the territorial waters of the State could affect the quality of the waters of the State, the discharge may be regulated to assure no violation of the Ocean Plan will occur in ocean waters.

PAHs (polynuclear aromatic hydrocarbons)
The sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoranthene, 1,12-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[ah]anthracene, fluorene, indeno[1,2,3-cd]pyrene, phenanthrene, and pyrene.

PCBs (polychlorinated biphenyls)
The sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254, and Aroclor-1260.

Pollutant Minimization Program (PMP)
PMP means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of Ocean Plan Table B pollutants through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The San Diego Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to CWC section 13263.3(d), shall be considered to fulfill the PMP requirements.

Reported Minimum Level
The ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the San Diego Water Board either from Appendix II of the Ocean Plan in accordance with section III.C.5.a of the Ocean Plan or established in accordance with section III.C.5.b of the Ocean Plan. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the reported ML.

Sanitary Sewer Overflow (SSO)
Any overflow, spill, release, discharge or diversion of untreated or partially treated wastewater from a sanitary sewer system. SSOs include:

1. Overflows or releases of untreated or partially treated wastewater that reach waters of the United States;
2. Overflows or releases of untreated or partially treated wastewater that do not reach waters of the United States; and
3. Wastewater backups into buildings and on private property that are caused by blockages or flow conditions within the publicly/federally-owned portion of a sanitary sewer system.

SSO Categories

1. **Category 1** - All discharges of sewage resulting from a failure in the Discharger's sanitary sewer system that:

   a. Equal or exceed 1000 gallons, or

   b. Result in a discharge to a drainage channel and/or surface water; or

   c. Discharge to a storm drainpipe that was not fully captured and returned to the sanitary sewer system.

2. **Category 2** – All other discharges of sewage resulting from a failure in the Discharger's sanitary sewer system.

3. **Private Lateral Sewage Discharges** – Sewage discharges that are caused by blockages or other problems within a privately owned lateral.

SSO Reporting System
Online spill reporting system that is hosted, controlled, and maintained by the State Water Board. The web address for this site is http://ciwqs.waterboards.ca.gov. This online database is maintained on a secure site and is controlled by unique usernames and passwords.

Sanitary Sewer System
Any system of pipes, pump stations, sewer lines, or other conveyances, upstream of a wastewater treatment plant headworks used to collect and convey wastewater to the wastewater treatment facility. Temporary storage and conveyance facilities (such as vaults, temporary piping, construction trenches, wet wells, impoundments, tanks, etc.) are considered to be part of the sanitary sewer system, and discharges into these temporary storage facilities are not considered to be SSOs.

Satellite Collection System
The portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility that a sanitary sewer system is tributary to.

Secondary Treatment Standards
Technology-based requirements for direct discharging municipal sewage treatment facilities. Standards are based on a combination of physical and biological processes typical for the treatment of pollutants in municipal sewage. Standards are expressed as a minimum level of effluent quality in terms of: BOD_5, total suspended solids (TSS), and pH (except as provided for special considerations and treatment equivalent to secondary treatment).

Shellfish
Organisms identified by the State of California Department of Public Health as shellfish for public health purposes (i.e., mussels, clams, and oysters).

Significant Difference
Defined as a statistically significant difference in the means of two distributions of sampling results at the 95 percent confidence level.

Six-month Median Effluent Limitation
The highest allowable moving median of all daily discharges for any 180-day period.

State Water Quality Protection Areas (SWQPAs)
Non-terrestrial marine or estuarine areas designated to protect marine species or biological communities from an undesirable alteration in natural water quality. All AREAS OF SPECIAL BIOLOGICAL SIGNIFICANCE (ASBS) that were previously designated by the State Water Board in Resolution Nos. 74-28, 74-32, and 75-61 are now also classified as a subset of State Water Quality Protection Areas and require special protections afforded by the Ocean Plan.

Technology-Based Effluent Limit
A permit limit for a pollutant that is based on the capability of a treatment method to reduce the pollutant to a certain concentration.

Toxic Pollutant
Pollutants or combinations of pollutants, including disease-causing agents, which after discharge and upon exposure, ingestion, inhalation, or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will, on the basis of information available to the Administrator of USEPA, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions, (including malfunctions in reproduction), or physical deformations, in such organisms or their offspring. Toxic pollutants also include those pollutants listed by the Administrator under CWA section 307(a)(1) or any pollutant listed under section 405 (d) which relates to sludge management.

Toxicity Reduction Evaluation (TRE)
A study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation using aquatic organism toxicity tests).

Untreated or Partially Treated Wastewater
Any volume of waste discharged from the sanitary sewer system upstream of a wastewater treatment plant headworks.

Waste
As used in the Ocean Plan, waste includes a Discharger's total discharge, of whatever origin (i.e., gross, not net, discharge).

Water Quality Control Plan
consists of a designation or establishment for the waters within a specified area of all of the following:

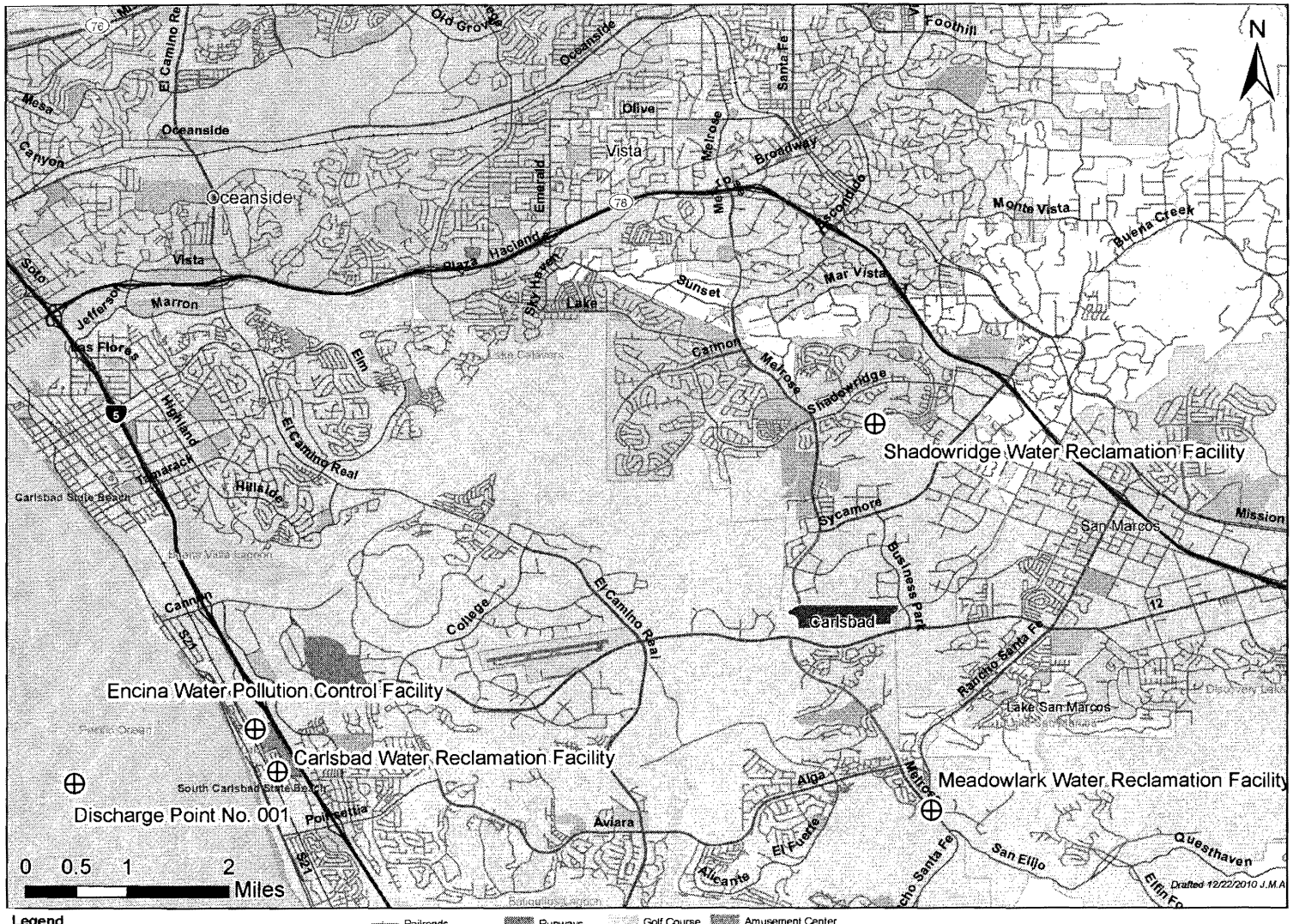
1. Beneficial uses to be protected.
2. Water quality objectives.
3. A program of implementation needed for achieving water quality objectives.

Water Quality Objectives means the limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area.

Water Reclamation
The treatment of wastewater to render it suitable for reuse, the transportation of treated wastewater to the place of use, and the actual use of treated wastewater for a direct beneficial use or controlled use that would not otherwise occur.

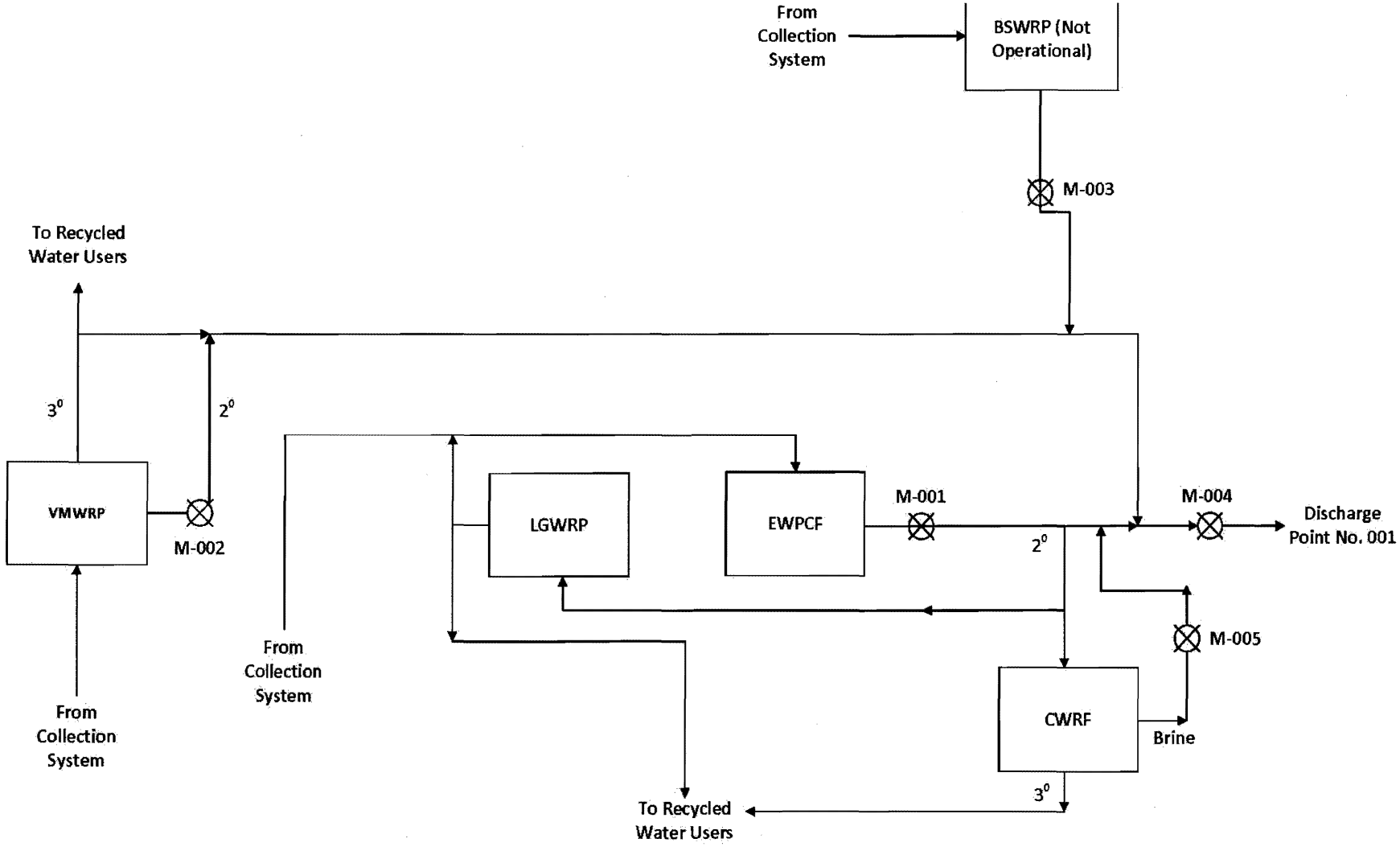
Whole Effluent Toxicity (WET)
The total toxic effect of an effluent measured directly with a toxicity test.

ATTACHMENT B – MAP

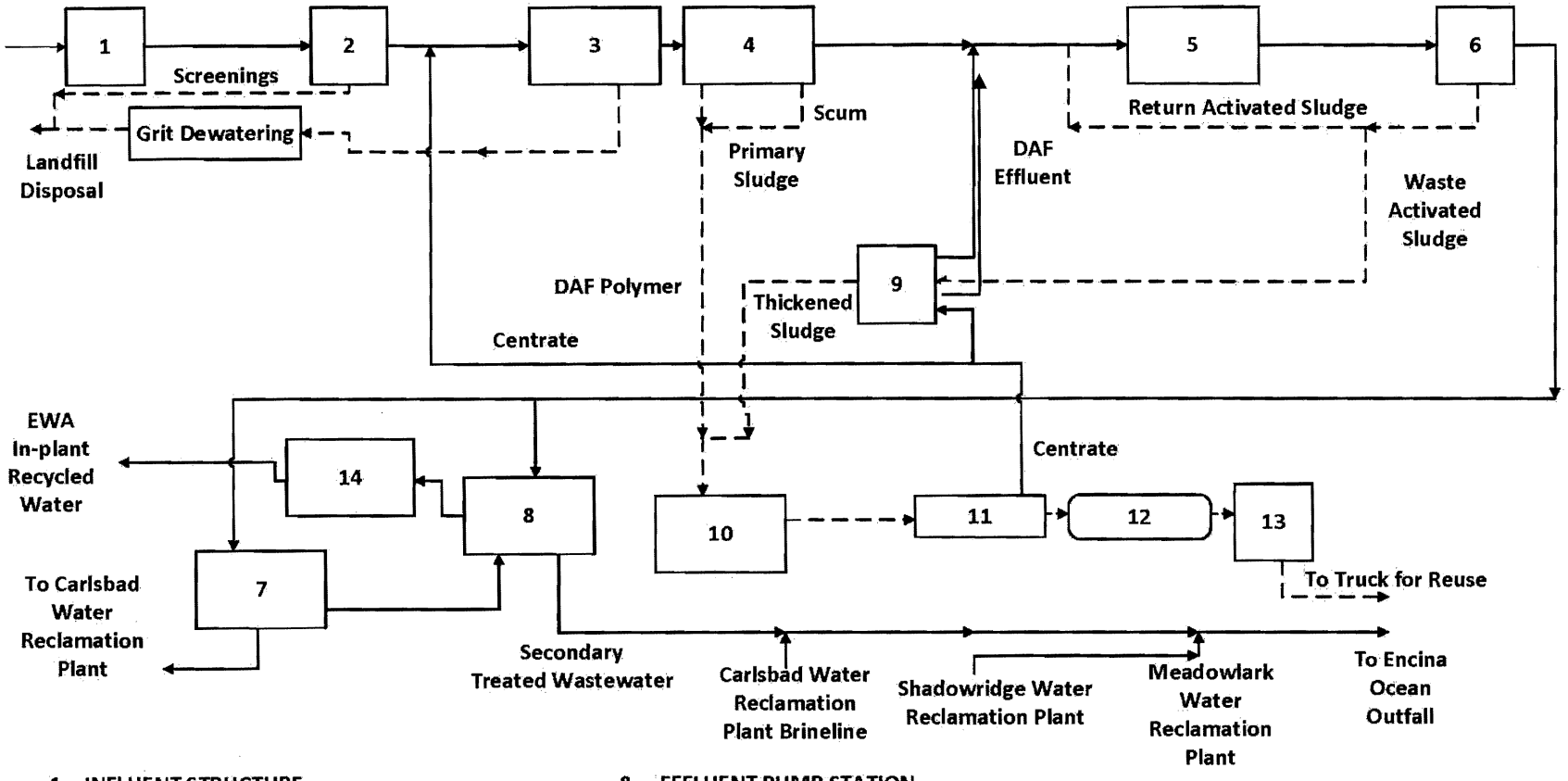


ATTACHMENT C – FLOW SCHEMATIC

Encina Ocean Outfall System Flow Schematic



ENCINA WATER POLLUTION CONTROL FACILITY PROCESS FLOW SCHEMATIC

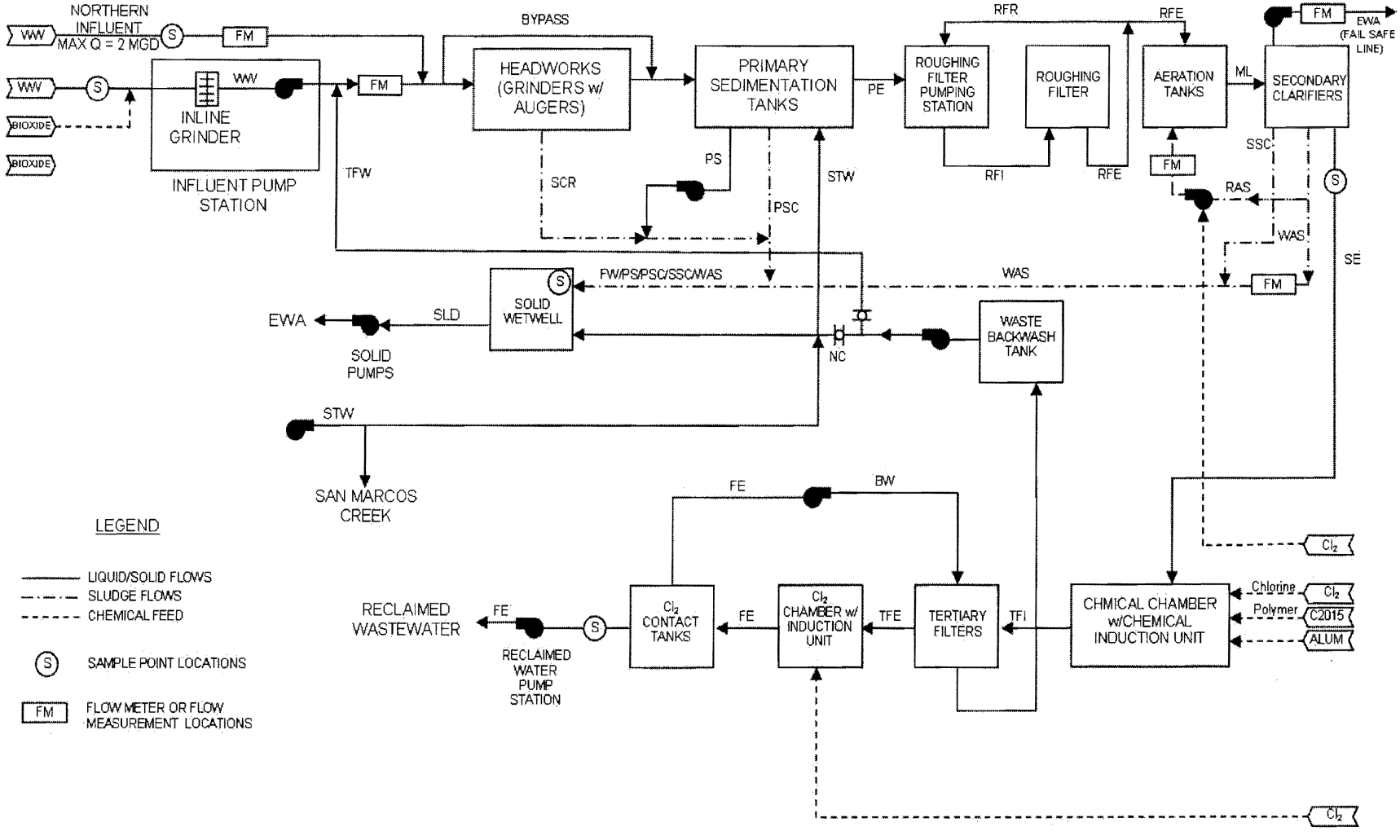


1. INFLUENT STRUCTURE
2. BAR SCREEN
3. GRIT REMOVAL
4. PRIMARY SEDIMENTATION
5. AERATION BASINS
6. SECONDARY CLARIFIERS
7. COMBINED PUMP STATION
8. EFFLUENT PUMP STATION
9. DISSOLVED AIR FLOTATION
10. DIGESTION
11. DEWATERING
12. HEAT DRYING
13. PELLET STORAGE
14. CHLORINE CONTACT TANK

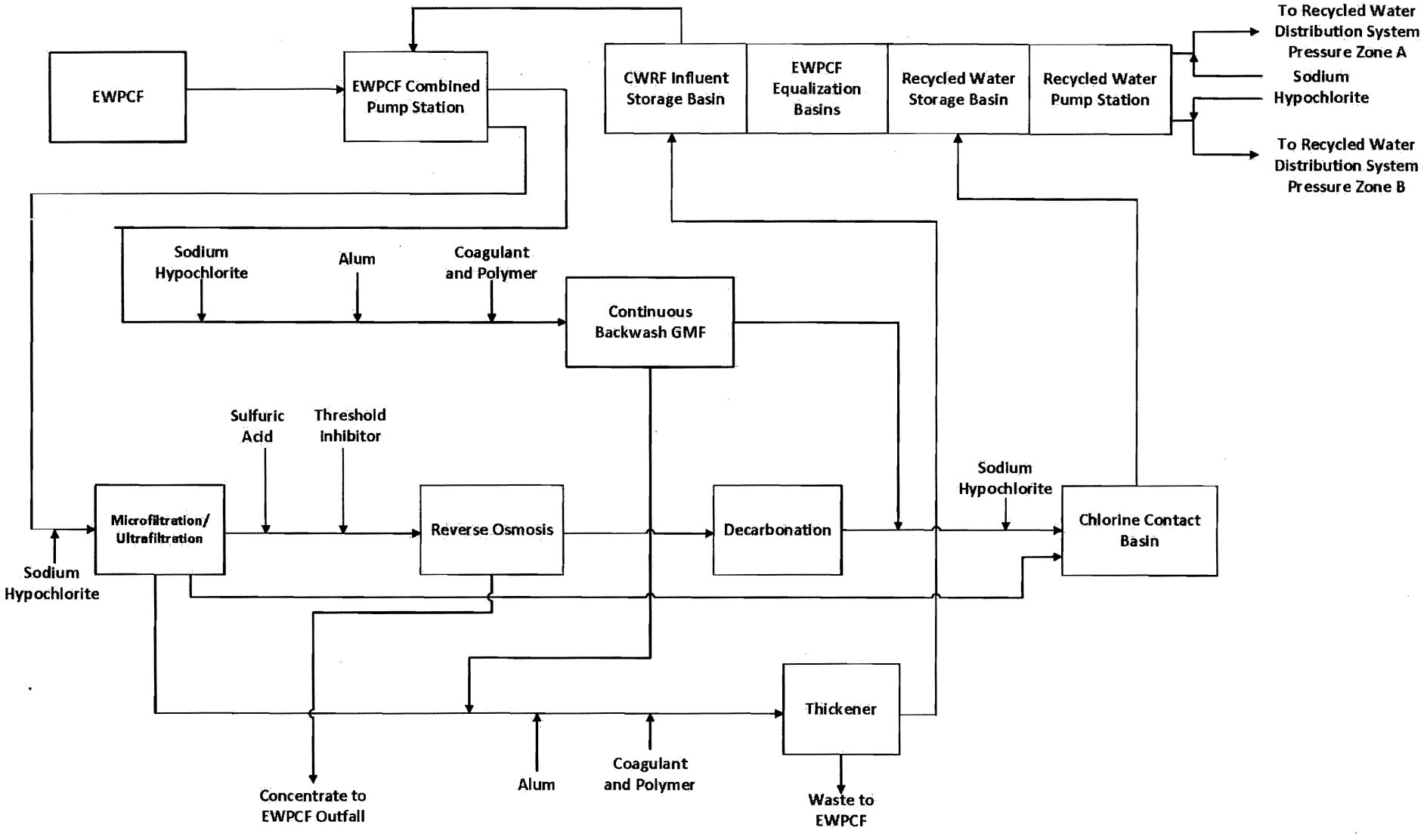
———Liquid Stream———

– – -Solid/Residuals Stream– – ·

Meadowlark Reclamation Plant Process Flow Schematic



Carlsbad Water Reclamation Facility Process Flow Schematic



ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code (CWC) and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. (40 CFR 122.41(a))

2. The Discharger shall comply with effluent standards or prohibitions established under section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 CFR 122.41(a)(1))

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. (40 CFR 122.41(c))

C. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. (40 CFR 122.41(d))

D. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order. (40 CFR 122.41(e))

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 CFR 122.41(g))

2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local law or regulations. (40 CFR 122.5(c))

F. Inspection and Entry

The Discharger shall allow the San Diego Water Board, State Water Board, United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (40 CFR 122.41(i); CWC, § 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (40 CFR 122.41(i)(1));

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (40 CFR 122.41(i)(2));

3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (40 CFR 122.41(i)(3)); and

4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the CWC, any substances or parameters at any location. (40 CFR 122.41(i)(4))

G. Bypass

1. Definitions

   a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 CFR 122.41(m)(1)(i))

   b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 CFR 122.41(m)(1)(ii))

2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 CFR 122.41(m)(2))

3. Prohibition of bypass. Bypass is prohibited, and the San Diego Water Board may take enforcement action against a Discharger for bypass, unless (40 CFR 122.41(m)(4)(i)):

   a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 CFR 122.41(m)(4)(i)(A));

   b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to

prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 CFR 122.41(m)(4)(i)(B)); and

c. The Discharger submitted notice to the San Diego Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 CFR 122.41(m)(4)(i)(C))

4. The San Diego Water Board may approve an anticipated bypass, after considering its adverse effects, if the San Diego Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 CFR 122.41(m)(4)(ii))

5. Notice

a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 CFR 122.41(m)(3)(i))

b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 CFR 122.41(m)(3)(ii))

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 CFR 122.41(n)(1))

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 CFR 122.41(n)(2))

2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 CFR 122.41(n)(3)):

a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 CFR 122.41(n)(3)(i));

b. The permitted facility was, at the time, being properly operated (40 CFR 122.41(n)(3)(ii));

c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 CFR 122.41(n)(3)(iii)); and

d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 CFR 122.41(n)(3)(iv))

3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 CFR 122.41(n)(4))

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition. (40 CFR 122.41(f))

B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit. (40 CFR 122.41(b))

C. Transfers

This Order is not transferable to any person except after notice to the San Diego Water Board. The San Diego Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the CWC. (40 CFR 122.41(l)(3); 122.61)

III. STANDARD PROVISIONS – MONITORING

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 CFR 122.41(j)(1))

B. Monitoring results must be conducted according to test procedures under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503 unless other test procedures have been specified in this Order. (40 CFR 122.41(j)(4); 122.44(i)(1)(iv))

IV. STANDARD PROVISIONS – RECORDS

A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the San Diego Water Board Executive Officer at any time. (40 CFR 122.41(j)(2))

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements (40 CFR 122.41(j)(3)(i));

2. The individual(s) who performed the sampling or measurements (40 CFR 122.41(j)(3)(ii));

3. The date(s) analyses were performed (40 CFR 122.41(j)(3)(iii));

4. The individual(s) who performed the analyses (40 CFR 122.41(j)(3)(iv));

5. The analytical techniques or methods used (40 CFR 122.41(j)(3)(v)); and

6. The results of such analyses. (40 CFR 122.41(j)(3)(vi))

C. Claims of confidentiality for the following information will be denied (40 CFR 122.7(b)):

1. The name and address of any permit applicant or Discharger (40 CFR 122.7(b)(1)); and

2. Permit applications and attachments, permits, and effluent data. (40 CFR 122.7(b)(2))

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the San Diego Water Board, State Water Board, or USEPA within a reasonable time, any information which the San Diego Water Board, State Water Board, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the San Diego Water Board, State Water Board, or USEPA copies of records required to be kept by this Order. (40 CFR 122.41(h); CWC, § 13267)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the San Diego Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 CFR 122.41(k))

2. All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA). (40 CFR 122.22(a)(3)).

3. All reports required by this Order and other information requested by the San Diego Water Board, State Water Board, or USEPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

   a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 CFR 122.22(b)(1));

   b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 CFR 122.22(b)(2)); and

c. The written authorization is submitted to the San Diego Water Board and State Water Board. (40 CFR 122.22(b)(3))

4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the San Diego Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 CFR 122.22(c))

5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." (40 CFR 122.22(d))

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 CFR 122.41(l)(4))

2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the San Diego Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (40 CFR 122.41(l)(4)(i))

3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the San Diego Water Board. (40 CFR 122.41(l)(4)(ii))

4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 CFR 122.41(l)(4)(iii))

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date. (40 CFR 122.41(l)(5))

E. Twenty Four-Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the

Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 CFR 122.41(l)(6)(i))

2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 CFR 122.41(l)(6)(ii)):

   a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 CFR 122.41(l)(6)(ii)(A))

   b. Any upset that exceeds any effluent limitation in this Order. (40 CFR 122.41(l)(6)(ii)(B))

3. The San Diego Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 CFR 122.41(l)(6)(iii))

F. Planned Changes

The Discharger shall give notice to the San Diego Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 CFR 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b) (40 CFR 122.41(l)(1)(i)); or

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 CFR 122.41(l)(1)(ii))

3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 CFR 122.41(l)(1)(iii))

G. Anticipated Noncompliance

The Discharger shall give advance notice to the San Diego Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with General Order requirements. (40 CFR 122.41(l)(2))

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. (40 CFR 122.41(l)(7))

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the San Diego Water Board, State Water Board, or USEPA, the Discharger shall promptly submit such facts or information. (40 CFR 122.41(l)(8))

VI. STANDARD PROVISIONS – ENFORCEMENT

A. The San Diego Water Board is authorized to enforce the terms of this permit under several provisions of the CWC, including, but not limited to, sections 13385, 13386, and 13387

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Publicly-Owned Treatment Works (POTWs)

All POTWs shall provide adequate notice to the San Diego Water Board of the following (40 CFR 122.42(b)):

1. Any new introduction of pollutants into the POTW from an indirect discharger that would be subject to sections 301 or 306 of the CWA if it were directly discharging those pollutants (40 CFR 122.42(b)(1)); and

2. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of adoption of the Order. (40 CFR 122.42(b)(2))

3. Adequate notice shall include information on the quality and quantity of effluent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW. (40 CFR 122.42(b)(3)).

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

Regulations at section 122.48, title 40 of the Code of Federal Regulations (40 CFR 122.48) require that all National Pollutant Discharge Elimination System (NPDES) permits specify monitoring and reporting requirements. CWC sections 13267 and 13383 also authorize the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements, which implement the federal and State regulations.

I. GENERAL MONITORING PROVISIONS

A. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitoring discharge. All samples shall be taken at the monitoring points specified below and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and the approval of the San Diego Water Board. Samples shall be collected at times representative of "worst case" conditions with respect to compliance with the requirement of Order No. R9-2011-0019.

B. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated and maintained to ensure that the accuracy of the measurement is consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than ±5 percent from true discharge rates throughout the range of expected discharge volumes.

C. Monitoring must be conducted according to United States Environmental Protection Agency (USEPA) test procedures approved at 40 CFR Part 136, *Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act* as amended, or unless other test procedures are specified in Order No. R9-2011-0019 and/or in this MRP and/or by the San Diego Water Board.

D. All analyses shall be performed in a laboratory certified to perform such analyses by the California Department of Public Health (DPH) or a laboratory approved by the San Diego Water Board.

E. Records of monitoring information shall include information required under Standard Provision, Attachment D, section IV.

F. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year, or more frequently, to ensure continued accuracy of the devices.

G. The Discharger shall have, and implement, an acceptable written quality assurance (QA) plan for laboratory analyses. Duplicate chemical analyses must be conducted on a minimum of 10 percent of the samples or at least one sample per month, whichever is greater. A similar frequency shall be maintained for analyzing spiked samples. When requested by USEPA or the San Diego Water Board, the Discharger will participate in the NPDES discharge monitoring

report QA performance study. The Discharger should have a success rate equal or greater than 80 percent.

H. Analysis for toxic pollutants, including chronic toxicity, with effluent limits or performance goals based on water quality objectives of the California Ocean Plan shall be conducted in accordance with procedures described in the California Ocean Plan and restated in this MRP.

I. This permit may be modified in accordance with the requirements set forth at 40 CFR Parts 122 and 124, to include appropriate conditions or limits to address demonstrated effluent toxicity based on newly available information, or to implement any USEPA approved, new, State water quality standards applicable to effluent toxicity.

II. MONITORING LOCATIONS

A. The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
--	INF-001	At a location where all influent flows to Encina Water Pollution Control Facility (EWPCF) are accounted for in monitoring events; upstream of any in-plant return flows; and where representative samples of influent can be collected.
--	INF-002	At a location where all influent flows to Meadowlark Water Reclamation Plant (VMWRP) are accounted for in monitoring events; upstream of any in-plant return flows; and where representative samples of influent can be collected.
--	INF-003	At a location where all influent flows to Shadowridge Water Reclamation Plant (BSWRP) are accounted for in monitoring events; upstream of any in-plant return flows; and where representative samples of influent can be collected.
--	M-001	Downstream of any in-plant return flows at EWPCF where representative samples of effluent treated solely at EWPCF can be collected, prior to commingling with other discharges contributing to the EOO.
--	M-002	Downstream of any in-plant return flows where representative samples of effluent treated solely at VMWRP can be collected, prior to commingling with other discharges contributing to the EOO.
--	M-003	Downstream of any in-plant return flows where representative samples of effluent treated solely at BSWRP can be collected, prior to commingling with other discharges contributing to the EOO.
001	M-004	At a location where representative samples of commingled effluent from EWPCF, VMWRP, Carlsbad Water Reclamation Facility (CWRF), and BSWRP can be collected.
--	M-005	At a location where representative samples of brine from CWRF can be collected, prior to commingling with other wastewaters.
SURF ZONE STATONS		
--	S1	Surf zone, 6,500 feet south of the outfall.
--	S2	Surf zone, 2,500 feet south of the outfall.
--	S3	Surf zone; at the outfall.
--	S4	Surf zone, 3,000 feet north of the outfall.
--	S5	Surf zone, 5,500 feet north of the outfall.

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
NEAR SHORE STATIONS		
--	K1	Downcoast of the outfall, at the contemporary offshore edge of the kelp bed (kelp station) Latitude 33° 06' 14.8", Longitude 117° 19' 37.3".
--	K2	Upcoast of the outfall, at the contemporary offshore edge of the kelp bed (kelp station). Latitude 33° 07' 22.5", Longitude 117° 20' 18.8".
--	N2a	Directly offshore from S2, at the 30 foot contour depth, MLLW.
--	N3	Directly offshore from S3, at the 30 foot depth contour, MLLW.
--	N4	Directly offshore from S4, at the 30 foot depth contour, MLLW.
OFFSHORE STATIONS		
--	Z1	At a distance of 150 feet downcoast from the diffuser midpoint, and at the 150-foot depth (MLLW) contour (ZID-boundary station).
--	Z2	At a distance of 150 feet upcoast from the diffuser midpoint, and at the 150-foot depth (MLLW) contour (ZID-boundary stations).
--	G1	At a distance of 1,000 feet downcoast from the outfall, and at the 150-foot depth (MLLW) contour (Gradient station).
--	G2	At a distance of 1,000 feet upcoast from the outfall, and at the 150-foot depth (MLLW) contour (Gradient station).
--	R1	Approximately 2.0 miles downcoast from the outfall, and at the 150-foot depth (MLLW) contour (Reference station).
TRAWL STATIONS		
--	T1	Begin trawl slightly upcoast of station R1, first trawl to be away from station heading upcoast along the 150-foot depth (MLLW) contour.
--	T2	Begin trawl slightly downcoast of station G1, first trawl to be away from station heading downcoast along the 150-foot depth (MLLW) contour.
--	T3	Begin trawl slightly upcoast of station G2, first trawl to be away from station heading upcoast along the 150-foot depth(MLLW) contour.
--	T4	Begin trawl slightly downcoast of historical station R2 (i.e., 2.3 miles upcoast from the outfall), first trawl to be away from station heading downcoast along the 150-foot depth (MLLW) contour.

B. The discharger has established near-shore kelp monitoring stations at latitudes and longitudes in Table E-1. The discharger shall continue to monitor the kelp beds at those specified station locations to ensure that the same area at each kelp bed is monitored repeatedly. If there is a justifiable reason to change the station locations (e.g., due to kelp loss), the Executive Officer shall be notified of the need to change the stations and the locations of the new stations.

C. It is recommended that stations be located using a land-based microwave positioning system, such as Mini-Ranger or trisponder, or a satellite positioning system such as Global Positioning System (GPS). The high levels of accuracy and precision afforded by this type of positioning system will ensure that stations are properly located with respect to the ZID. If an alternate navigation system (e.g. Loran C) is proposed, its accuracy should be compared to that of the systems recommended herein, and any compromises in accuracy should be justified. If a positioning system is used to locate receiving water monitoring stations for a specific reporting period, the discharger shall include a summary of the sampling location coordinates of each station in the required monitoring report.

D. Monitoring station locations may be modified with the approval of the Executive Officer.

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001, INF-002, and INF-003

1. The Discharger shall monitor the influent at INF-001, INF-002, and INF-003[1], as follows.

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	MGD	Recorder/Totalizer	Continuous	--
Carbonaceous Biochemical Oxygen Demand (5-day @ 20°C) ($CBOD_5$)	mg/L	24-hr Composite	1/Week	2
Biochemical Oxygen Demand (5-day @ 20°C) (BOD_5)	mg/L	24-hr Composite	1/Month	2
Total Suspended Solids (TSS)	mg/L	24-hr Composite	1/Week	2

1. Influent monitoring at INF-003 is only required if the BSWRP discharges to the EOO.
2. As required under 40 CFR Part 136.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location M-001, M-002, and M-003

1. The Discharger shall monitor the effluent at M-001, M-002, and M-003 as follows.

Table E-3. Effluent Monitoring at M-001, M-002, and M-003

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	MGD	Recorder/Totalizer	Continuous	--
Carbonaceous Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	24-hr Composite	3/Week[1,2]	3
Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	24-hr composite	1/Month[2]	3
Total Suspended Solids	mg/L	24-hr Composite	1/Day[2,4]	3
Settleable Solids	mL/L	Grab	1/Week	3
Oil and Grease	mg/L	Grab	1/Month[2,5]	3
Turbidity	NTU	Grab	1/Week[5]	3
pH	standard units	Grab	1/Day[4]	3

1. Applies 3 days per week, except 7 days per week for at least 1 week during July or August of each year.
2. The Discharger shall calculate and report the Mass Emission Rate (MER) of the constituent for each sample taken. The MER shall be calculated in accordance with section VII.I.2.d of this Order.
3. As required under 40 CFR Part 136.
4. Applies 5 days per week except 7 days per week for at least 1 week during July or August of each year.

5. The minimum frequency of monitoring for this constituent is automatically increased to twice the minimum frequency specified, if any analysis for this constituent yields a result higher than the effluent limit specified in this Order for this constituent. The increased minimum frequency of monitoring shall remain in effect until the results of a minimum of four consecutive analyses for this constituent are below all effluent limits specified in this Order for this constituent.

B. Monitoring Location M-004

1. The Discharger shall monitor the effluent from M-004 (Discharge Point No. 001) as follows.

Table E-4. Effluent Monitoring at M-004

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	MGD	Recorder/Totalizer	Continuous	--
Temperature	°F	Grab	1/Week	[1]
Dissolved Oxygen	mg/L	Grab	1/Week	[1]
TABLE B PARAMETERS FOR PROTECTION OF MARINE AQUATIC LIFE				
Arsenic, Total Recoverable	µg/L	24-hr Composite	1/Quarter[2,3]	[1]
Cadmium, Total Recoverable	µg/L	24-hr Composite	1/Quarter[2,3]	[1]
Chromium (VI), Total Recoverable[4]	µg/L	24-hr Composite	1/Quarter[2,3]	[1]
Copper, Total Recoverable	µg/L	24-hr Composite	1/Quarter[2,3]	[1]
Lead, Total Recoverable	µg/L	24-hr Composite	1/Quarter[2,3]	[1]
Mercury, Total Recoverable	µg/L	24-hr Composite	1/Quarter[2,3]	[1]
Nickel, Total Recoverable	µg/L	24-hr Composite	1/Quarter[2,3]	[1]
Selenium, Total Recoverable	µg/L	24-hr Composite	1/Quarter[2,3]	[1]
Silver, Total Recoverable	µg/L	24-hr Composite	1/Quarter[2,3]	[1]
Zinc, Total Recoverable	µg/L	24-hr Composite	1/Quarter[2,3]	[1]
Cyanide, Total Recoverable	µg/L	24-hr Composite	1/Quarter[2,3]	[1,5]
Chlorine, Total Residual	µg/L	Grab	1/Day[2,6]	[1]
Ammonia Nitrogen, Total (as N)	mg/L	24-hr Composite	1/Month[2,3]	[1]
Phenolic Compounds (nonchlorinated)[7]	µg/L	Grab	1/Quarter[2,3]	[1]
Phenolic Compounds (chlorinated)[8]	µg/L	Grab	1/Quarter[2,3]	[1]
Endosulfan[9]	µg/L	Grab	1/Quarter[2,3]	[1]
Endrin	µg/L	Grab	1/Quarter[2,3]	[1]
HCH[10]	µg/L	Grab	1/Quarter[2,3]	[1]
Radioactivity	pCi/L	24-hr Composite	1/Quarter[3]	[1]
TABLE B PARAMETERS FOR PROTECTION OF HUMAN HEALTH – NONCARCINOGENS				
Acrolein	µg/L	Grab	2/Year[2,3]	[1]
Antimony, Total Recoverable	µg/L	24-hr Composite	2/Year[2,3]	[1]
Bis (2-chloroethoxy) Methane	µg/L	Grab	2/Year[2,3]	[1]
Bis (2-chloroisopropyl) Ether	µg/L	Grab	2/Year[2,3]	[1]
Chlorobenzene	µg/L	Grab	2/Year[2,3]	[1]
Chromium (III), Total Recoverable	µg/L	24-hr Composite	2/Year[2,3]	[1]
Di-n-butyl Phthalate	µg/L	Grab	2/Year[2,3]	[1]
Dichlorobenzenes[11]	µg/L	Grab	2/Year[2,3]	[1]
Diethyl Phthalate	µg/L	Grab	2/Year[2,3]	[1]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Dimethyl Phthalate	µg/L	Grab	2/Year[2,3]	[1]
4,6-dinitro-2-methylphenol	µg/L	Grab	2/Year[2,3]	[1]
2,4-dinitrophenol	µg/L	Grab	2/Year[2,3]	[1]
Ethylbenzene	µg/L	Grab	2/Year[2,3]	[1]
Fluoranthene	µg/L	Grab	2/Year[2,3]	[1]
Hexachlorocyclopentadiene	µg/L	Grab	2/Year[2,3]	[1]
Nitrobenzene	µg/L	Grab	2/Year[2,3]	[1]
Thallium, Total Recoverable	µg/L	24-hr Composite	2/Year[2,3]	[1]
Toluene	µg/L	Grab	2/Year[2,3]	[1]
Tributyltin	µg/L	24-hr Composite	2/Year[2,3]	[1]
1,1,1-trichloroethane	µg/L	Grab	2/Year[2,3]	[1]
TABLE B PARAMETERS FOR PROTECTION OF HUMAN HEALTH – CARCINOGENS				
Acrylonitrile	µg/L	Grab	2/Year[2,3]	[1]
Aldrin	µg/L	Grab	2/Year[2,3]	[1]
Benzene	µg/L	Grab	2/Year[2,3]	[1]
Benzidine	µg/L	Grab	2/Year[2,3]	[1]
Beryllium, Total Recoverable	µg/L	24-hr composite	2/Year[2,3]	[1]
Bis (2-chloroethyl) Ether	µg/L	Grab	2/Year[2,3]	[1]
Bis (2-ethlyhexyl) Phthalate	µg/L	Grab	2/Year[2,3]	[1]
Carbon Tetrachloride	µg/L	Grab	2/Year[2,3]	[1]
Chlordane	µg/L	Grab	2/Year[2,3]	[1]
Chlorodibromomethane	µg/L	Grab	2/Year[2,3]	[1]
Chloroform	µg/L	Grab	2/Year[2,3]	[1]
DDT[12]	µg/L	Grab	2/Year[2,3]	[1]
1,4-dichlorobenzene	µg/L	Grab	2/Year[2,3]	[1]
3,3'-dichlorobenzidine	µg/L	Grab	2/Year[2,3]	[1]
1,2-dichloroethane	µg/L	Grab	2/Year[2,3]	[1]
1,1-dichloroethylene	µg/L	Grab	2/Year[2,3]	[1]
Dichlorobromomethane	µg/L	Grab	2/Year[2,3]	[1]
Dichloromethane	µg/L	Grab	2/Year[2,3]	[1]
1,3-dichloropropene	µg/L	Grab	2/Year[2,3]	[1]
Dieldrin	µg/L	Grab	2/Year[2,3]	[1]
2,4-dinitrotoluene	µg/L	Grab	2/Year[2,3]	[1]
1,2-diphenylhydrazine	µg/L	Grab	2/Year[2,3]	[1]
Halomethanes[13]	µg/L	Grab	2/Year[2,3]	[1]
Heptachlor	µg/L	Grab	2/Year[2,3]	[1]
Heptachlor Epoxide	µg/L	Grab	2/Year[2,3]	[1]
Hexachlorobenzene	µg/L	Grab	2/Year[2,3]	[1]
Hexachlorobutadiene	µg/L	Grab	2/Year[2,3]	[1]
Hexachloroethane	µg/L	Grab	2/Year[2,3]	[1]
Isophorone	µg/L	Grab	2/Year[2,3]	[1]
N-nitrosodimethylamine	µg/L	Grab	2/Year[2,3]	[1]
N-nitrosodi-N-propylamine	µg/L	Grab	2/Year[2,3]	[1]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
N-nitrosodiphenylamine	µg/L	Grab	2/Year[2,3]	[1]
PAHs[14]	µg/L	Grab	2/Year[2,3]	[1]
PCBs[15]	µg/L	Grab	2/Year[2,3]	[1]
TCDD equivalents[16]	µg/L	Grab	2/Year[2,3]	[1]
1,1,2,2-tetrachloroethane	µg/L	Grab	2/Year[2,3]	[1]
Tetrachloroethylene	µg/L	Grab	2/Year[2,3]	[1]
Toxaphene	µg/L	Grab	2/Year[2,3]	[1]
Trichloroethylene	µg/L	Grab	2/Year[2,3]	[1]
1,1,2-trichloroethane	µg/L	Grab	2/Year[2,3]	[1]
2,4,6-trichlorophenol	µg/L	Grab	2/Year[2,3]	[1]
Vinyl Chloride	µg/L	Grab	2/Year[2,3]	[1]

1. As required under 40 CFR Part 136.
2. The Discharger shall calculate and report the MER of the constituent for each sample taken. The MER shall be calculated in accordance with section VII.I.2.d of this Order.
3. The minimum frequency of monitoring for this constituent is automatically increased to twice the minimum frequency specified, if any analysis for this constituent yields a result higher than the applicable effluent limitation or performance goal specified in this Order. The increased minimum frequency of monitoring shall remain in effect until the results of a minimum of four consecutive analyses for this constituent are below all applicable effluent limitations or performance goals specified in this Order.
4. Dischargers may, at their option, apply this performance goal as a total chromium performance goal.
5. If a Discharger can demonstrate to the satisfaction of the San Diego Water Board (subject to USEPA approval) that an analytical method is available to reliably distinguish between strongly and weakly complexed cyanide, effluent limitations for cyanide may be met by the combined measurement of free cyanide, simple alkali metals cyanides, and weakly complexed organometallic cyanide complexes. In order for the analytical method to be acceptable, the recovery of free cyanide from metal complexes must be comparable to that achieved by the approved method in 40 CFR Part 136, as revised May 14, 1999.
6. Monitoring of total chlorine residual is not required on days when none of the treatment units that are subject to this Order use chlorine for disinfection. If only one sample is collected for total chlorine residual analysis on a particular day, that sample must be collected at the time when the concentration of total chlorine residual in the discharge would be expected to be greatest. The times of chlorine discharges on the days that samples are collected, and the time at which samples are collected, shall be reported.
7. Non-chlorinated phenolic compounds represent the sum of 2,4-dimethylphenol, 4,6-dinitro-2-methylphenol, 2,4-dinitrophenol, 2-methylphenol, 4-methylphenol, 2-nitrophenol, 4-nitrophenol, and phenol.
8. Chlorinated phenolic compounds represent the sum of 4-chloro-3-methylphenol, 2-chlorophenol, pentachlorophenol, 2,4,5-trichlorophenol, and 2,4,6-trichlorophenol.
9. Endosulfan represents the sum of alpha-endosulfan, beta-endosulfan, and endosulfan sulfate.
10. HCH (hexachlorocyclohexane) represents the sum of the alpha, beta, gamma (Lindane), and delta isomers of hexachlorocyclohexane.
11. Dichlorobenzenes represent the sum of 1,2- and 1,3-dichlorobenzene.
12. DDT represents the sum of 4,4'DDT; 2,4'DDT; 4,4'DDE; 2,4'DDE; 4,4'DDD; and 2,4'DDD.
13. Halomethanes represent the sum of bromoform, bromomethane (methyl bromide), and chloromethane (methyl chloride).
14. PAHs (polynuclear aromatic hydrocarbons) represent the sum of acenapthalene; anthracene; 1,2-benzanthracene; 4,5-benzofluoranthene; benzo[k]fluoranthene; 1,12-benzoperylene; benzo[a]pyrene; chrysene; dibenzo[a,h]anthracene; fluorene; indeno[1,2,3-cd]pyrene; phenanthrene; and pyrene.
15. PCBs (polychlorinated biphenyls) represent the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Arolclor-1254, and Arcolor-1260.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method

16. TCDD equivalents represent the sum of concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors, as shown by the table below. USEPA Method 8280 may be used to analyze TCDD equivalents.

Isomer Group	Toxicity Equivalence Factor
2,3,7,8 – tetra CDD	1.0
2,3,7,8 – penta CDD	0.5
2,3,7,8 – hexa CDD	0.1
2,3,7,8 – hepta CDD	0.01
octa CDD	0.001
2,3,7,8 – tetra CDF	0.1
1,2,3,7,8 – penta CDF	0.05
2,4,5,7,8 – penta CDF	0.5
2,3,7,8 – hexa CDFs	0.1
2,3,7,8 – hepta CDFs	0.01
Octa CDF	0.001

C. Monitoring Location M-005

1. The Discharger shall monitor the effluent from M-005 (Discharge Point No. 001) as follows.

Table E-5. Effluent Monitoring at M-005

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	MGD	Recorder/Totalizer	Continuous	--
Total Suspended Solids	mg/L	24-hr Composite	1/Day[1,2]	3
Settleable Solids	mL/L	Grab	1/Week	3
Oil and Grease	mg/L	Grab	1/Month[2,4]	3
Turbidity	NTU	Grab	1/Week[4]	3
Total Dissolved Solids	mg/L	24-hr Composite	1/Week	3
pH	standard units	Grab	1/Day[1]	3

1. Applies 5 days per week except 7 days per week for at least 1 week during July or August of each year.
2. The Discharger shall calculate and report the MER of the constituent for each sample taken. The MER shall be calculated in accordance with section VII.I.2.d of this Order.
3. As required under 40 CFR Part 136.
4. The minimum frequency of monitoring for this constituent is automatically increased to twice the minimum frequency specified, if any analysis for this constituent yields a result higher than the applicable effluent limitation or performance goal specified in this Order. The increased minimum frequency of monitoring shall remain in effect until the results of a minimum of four consecutive analyses for this constituent are below all applicable effluent limitations or performance goals specified in this Order.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

The Discharger shall conduct chronic toxicity testing on effluent samples collected at Effluent Monitoring Station M-004 in accordance with the following schedule and requirements:

Table E-6. Whole Effluent Toxicity Testing

Test	Unit	Sample Type	Minimum Test Frequency
Acute Toxicity	TU_a	24-hr Composite	semiannually
Screening period for chronic toxicity	TU_c	24-hr Composite	Every other year for 3 months, beginning with the calendar year 2011
Chronic Toxicity	TU_c	24-hr Composite	quarterly

Acute toxicity testing shall be performed using either a marine fish or invertebrate species in accordance with procedures established by the USEPA guidance manual, *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, 5th Edition, October 2002 (EPA-821-R-02-012).

Critical life stage toxicity tests shall be performed to measure chronic toxicity. Testing shall be performed using methods outlined in *Short-Term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to West Coast Marine Estuarine Organisms (*Chapman, G.A., D.L. Denton, and J.M. Lazorchak, 1995) or *Procedures Manual for Conducting Toxicity Tests Developed by the Marine Bioassay Project* (State Water Board, 1996).

A screening period for chronic toxicity shall be conducted every other year, beginning with the calendar year 2011. Each screening period shall consist of 3 consecutive months of WET tests, using a minimum of three test species with approved test protocols, from the following list (from the Ocean Plan). Repeat screening periods may be terminated after the first month if the most sensitive species is the same as the species previously found to be most sensitive. Other tests may be used, if they have been approved for such testing by the State Water Board. The test species shall include a fish, an invertebrate, and an aquatic plant. After the screening period, the most sensitive test species shall be used for the quarterly testing. Control and dilution water should be receiving water or lab water as appropriate. If the dilution water is different from the culture water, then culture water should be used in a second control. The sensitivity of the test organisms to a reference toxicant shall be determined concurrently with each bioassay test and reported with test results.

Table E-7. Approved Test for Chronic Toxicity

Species	Test	Tier [1]	Reference [2]
giant kelp, *Macrocystis pyrifera*	percent germination; germ tube length	1	a, c
red abalone, *Haliotis rufescens*	abnormal shell development	1	a, c
oyster, *Crassostrea gigas*; mussels, *Mytilus spp.*	abnormal shell development; percent survival	1	a, c
urchin, *Strongylocentrotus purpuratus*; sand dollar, *Dendraster excentricus*	percent normal development	1	a, c
urchin, *Strongylocentrotus purpuratus*; sand dollar, *Dendraster excentricus*	percent fertilization	1	a, c
shrimp, *Homesimysis costata*	percent survival; growth	1	a, c

Species	Test	Tier [1]	Reference [2]
shrimp, *Mysidopsis bahia*	percent survival; fecundity	2	b, d
topsmelt, *Atherinops affinis*	larval growth rate; percent survival	1	a, c
Silversides, *Menidia beryllina*	larval growth rate; percent survival	2	b, d

[1] First tier methods are preferred for compliance monitoring. If first tier organisms are not available, the Discharger can use a second tier test method following approval by the San Diego Water Board.

[2] Protocol References:

a. Chapman, G.A., D.L. Denton, and J.M. Lazorchak. 1995. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms. USEPA Report No. EPA/600/R-95/136.

b. Klemm, D.J., G.E. Morrison, T.J. Norberg-King, W.J. Peltier, and M.A. Heber. 1994. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Marine and Estuarine Organisms. USEPA Report No. EPA-600-4-91-003.

c. SWRCB 1996. Procedures Manual for Conducting Toxicity Tests Developed by the Marine Bioassay Project. 96-1WQ.

d. Weber, C.I., W.B. Horning, I.I., D.J. Klemm, T.W. Nieheisel, P.A. Lewis, E.L. Robinson, J. Menkedick and F. Kessler 9eds). 1998. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms. EPA/600/4-87/028. National Information Service, Springfield, VA.

If the effluent limit for chronic toxicity is exceeded in any one test, then within 15 days of the exceedance, the Discharger shall begin conducting six additional tests, bi-weekly, over a 12 week period. If the toxicity effluent limitation is exceeded in any of these six additional tests, then the Discharger shall notify the Executive Officer. If the Executive Officer determines that the discharge consistently exceeds a toxicity limitation or performance goal, then the Discharger shall initiate a TRE/TIE in accordance with the TRE workplan, Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants (USEPA 833-B-99-002, 1999), and USEPA TIE guidance documents (Phase I, EPA/600/6-91/005F, 1992; Phase II, EPA/600/R-92/080, 1993; and Phase III, EPA/600/R-92/081, 1993). Once the source of toxicity is identified, the Discharger shall take all reasonable steps to reduce the toxicity to meet the chronic toxicity effluent limitation and the acute toxicity performance goal identified in section IV.A.1 of this Order.

Within 30 days of completion of the TRE/TIE, the Discharger shall submit the results of the TRE/TIE, including a summary of the findings, data generated, a list of corrective actions necessary to achieve consistent compliance with all the toxicity limitations/performance goals of this Order and prevent recurrence of exceedances of those limitations/performance goals, and a time schedule for implementation of such corrective actions. The corrective actions and time schedule shall be modified at the direction of the Executive Officer.

If no toxicity is detected in any of these additional six tests, then the Discharger may return to the testing frequency specified in the MRP.

VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

VII. RECLAMATION MONITORING REQUIREMENTS – NOT APPLICABLE

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER

The receiving water monitoring program required herein is also required by the San Diego Water Board Order No. R9-2011-0019, which establishes limitations and conditions for discharges from EWPCF, CWRF, BSWRP, and VMWRP through the Encina Ocean Outfall (EOO).

Receiving water and sediment monitoring in the vicinity of the EOO shall be conducted as specified below. Station location, sampling, sampling preservation and analyses, when not specified, shall be by methods approved by the Executive Officer. The monitoring program may be modified by the Executive Officer at any time.

The receiving water and sediment monitoring program for the EOO may be conducted jointly with other dischargers to the EOO.

During monitoring events, if possible, sample stations shall be located using a land-based microwave positioning system or a satellite positioning system such as GPS. If an alternate navigation system is proposed, its accuracy should be compared to that of microwave and satellite based systems, and any compromises in accuracy shall be justified.

A. Surf Zone Water Quality Monitoring

All surf zone stations shall be monitored as follows.

1. Grab samples shall be collected and analyzed for total and fecal coliform and enterococcus bacteria at a minimum frequency of one time per week. As required by implementation procedures at section III.D of the Ocean Plan, measurement of enterococcus density shall be conducted at all stations where measurement of total and fecal coliform bacteria is required.

   If a single sample exceeds any of the single sample bacterial standards, repeat sampling at that location shall be conducted to determine the extent and persistence of the exceedance. Repeat sampling shall be conducted within 24 hours of receiving analytical results and continued until the sample result is less than the single sample bacterial standards or until a sanitary survey is conducted to determine the source of the high bacterial densities.

   Single sample bacterial standards include:

   i. Total coliform density will not exceed 10,000 per 100 ml; or

   ii. Fecal coliform density will not exceed 400 per 100 ml; or

   iii. Total coliform density will not exceed 1,000 per 100 ml when the ratio of fecal/total coliform exceeds 0.1;

   iv. Enterococcus density will not exceed 104 per 100 ml.

2. At the same time samples are collected from surf zone stations, the following information shall be recorded: observation of wind direction and speed; weather (cloudy, sunny, or

rainy); current direction; tidal conditions; and observations of water color, discoloration, oil and grease; turbidity, odor, and materials of sewage origin in the water or on the beach; water temperature.

B. Near Shore Water Quality Monitoring

All near shore stations shall be monitored as follows.

1. Reduced Monitoring

If the Executive Officer determines that the effluent at all times complies with the effluent limitations and performance goals at section IV.A of this Order and the receiving water limitations at section V.A of this Order, only reduced near shore water quality monitoring specified below is required.

Table E-8. Near Shore Water Quality Reduced Monitoring Requirements

Determination	Units	Type of Sample	Minimum Frequency
Visual Observations	--	--	1/Month
Total Coliform Organisms	Number / 100 mL	Grab[1]	1/Month
Fecal Coliform Organisms	Number / 100 mL	Grab[1]	1/Month
Enterococcus	Number / 100 mL	Grab[1]	1/Month

[1] At the surface.

2. Intensive Monitoring

The intensive near shore water quality monitoring specified below is required during the 12-month period beginning November 1, 2013 through October 31, 2014, and must be submitted by December 1, 2014. This monitoring data will assist the San Diego Water Board in the evaluation of the Report of Waste Discharge. The intensive near shore water quality monitoring specified below is also required if the Executive Officer determines that 1) the effluent does not at all times comply with the effluent limitations and performance goals at section IV.A of this Order, or 2) the receiving water limitations at section V.A of this Order are not being consistently achieved.

Table E-9. Near Shore Water Quality Intensive Monitoring Requirements

Determination	Units	Type of Sample	Minimum Frequency
Visual Observations	--	--	1/Month
Total Coliform Organisms	Number / 100 mL	Grab[1]	1/Month
Fecal Coliform Organisms	Number / 100 mL	Grab[1]	1/Month
Enterococcus	Number / 100 mL	Grab[1]	1/Month

[1] At the surface and mid-depth.

C. Off Shore Water Quality Monitoring

All off shore stations shall be monitored as follows.

1. Reduced Monitoring

If the Executive Officer determines that the effluent at all times complies with the effluent limitations and performance goals at section IV.A of this Order and the receiving water limitations at section V.A of this Order, only reduced off shore water quality monitoring specified below is required.

Table E-10.Off Shore Water Quality Reduced Monitoring Requirements

Determination	Units	Type of Sample	Minimum Frequency
Visual Observations	--	--	1/Month
Total Coliform Organisms	Number / 100 mL	Grab[1]	1/Month
Fecal Coliform Organisms	Number / 100 mL	Grab[1]	1/Month
Enterococcus	Number / 100 mL	Grab[1]	1/Month

[1] At surface and mid-depth.

2. Intensive Monitoring

The intensive off shore water quality monitoring specified below is required during the 12-month period beginning November 1, 2013 through October 31, 2014, and must be submitted by December 1, 2014. This monitoring data will assist the San Diego Water Board in the evaluation of the Report of Waste Discharge. The intensive off shore water quality monitoring specified below may also be required if the Executive Officer determines that 1) the effluent does not at all times comply with the effluent limitations and performance goals at section IV.A of this Order or 2) the receiving water limitations section V.A of this Order are not being consistently achieved.

Table E-11. Off Shore Water Quality Intensive Monitoring Requirements

Determination	Units	Type of Sample	Minimum Frequency
Visual Observations	--	--	1/Month
Total Coliform Organisms	Number / 100 mL	Grab[1]	1/Month
Fecal Coliform Organisms	Number / 100 mL	Grab[1]	1/Month
Enteroccoccus	Number / 100 mL	Grab[1]	1/Month
Conductivity, Temperature, and Depth	Practical Salinity Units,°F, feet	Grab[2]	1/Month
Dissolved Oxygen	mg/L	Grab[2]	1/Month
Light Transmittance	percent	Instrument[2]	1/Month
pH	standard units	Grab[3]	1/Month

[1] At the surface and mid-depth.
[2] At the surface, mid-depth, and bottom.
[3] At the surface.

D. Benthic Monitoring

The intensive monitoring specified below is required during the 12-month period beginning November 1, 2013 through October 31, 2014, and must be submitted by December 1, 2014.

This monitoring data will assist the San Diego Water Board in the evaluation of the Report of Waste Discharge. The sediment monitoring specified below may also be required if the Executive Officer determines that 1) the effluent does not at all times comply with Effluent Limitations and Performance Goals at section IV.A of this Order or 2) the receiving water limitations section V.A of this Order are not being consistently achieved. Benthic monitoring shall be conducted at all off shore monitoring stations.

1. **Sediment Characteristics**. Analyses shall be performed on the upper 2 inches of core.

Table E-12. Sediment Monitoring Requirements

Determination	Units	Type of Sample	Minimum Frequency
Sulfides	mg/kg	Core	2/Year
Total Chlorinated Hydrocarbons	mg/kg	Core	2/Year
Biochemical Oxygen Demand (5-day @ 20°C)	mg/kg	Core	2/Year
Chemical Oxygen Demand	mg/kg	Core	2/Year
Particle Size Distribution	mg/kg	Core	2/Year
Arsenic	mg/kg	Core	1/Year
Cadmium	mg/kg	Core	1/Year
Total Chromium	mg/kg	Core	1/Year
Copper	mg/kg	Core	1/Year
Lead	mg/kg	Core	1/Year
Mercury	mg/kg	Core	1/Year
Nickel	mg/kg	Core	1/Year
Silver	mg/kg	Core	1/Year
Zinc	mg/kg	Core	1/Year
Cyanide	mg/kg	Core	1/Year
Phenolic Compounds	mg/kg	Core	1/Year
Radioactivity	pCi/kg	Core	1/Year

2. **Infauna.** Organisms shall be sieved using a 1.0-mm (0.04-in) mesh screen, fixed in ten percent buffered formalin, and transferred to 70 percent ethanol within two to seven days for storage. Organisms may be stained using Rose Bengal to facilitate sorting.

   Three replicate samples of bottom sediments shall be taken once during the specified period from all "offshore stations," and shall be collected at the same time as the sediment samples collected in accordance with Section D.1 above. These samples shall be separate from those collected for sediment analyses.

   The following data shall be reported for benthic infauna:

   a. Total biomass of: (1) Mollusks, (2) Echinoderms, (3) Polychaetes, (4) Crustaceans, (5) All other macroinvertebrates

   b. Community structure analysis for each station and each replicate. Wet weight of each taxonomic group of benthic infauna specified in Benthic Monitoring D.2.a, number of species, number of individuals per species, total numerical abundance, species abundance per square meter per station, species richness, species diversity (e.g., Shannon-Wiener), similarity analyses (e.g., Bray-Curtis), and cluster analysis (using unweighted pair-group method).

c. Station mean, range, standard deviation, and 95% confidence limits, if appropriate, for values determined above in b. The discharger may be required to conduct additional statistical analyses to determine temporal and spatial trends in the marine environment.

Table E-13. Infauna Monitoring Requirements

Determination	Units	Sample Type	Minimum Frequency
Benthic Biota	Identification and enumeration	3 Grabs	2/Year

E. Additional Biological Monitoring – Demersal Fish and Macroinvertebrates

The intensive monitoring specified below is required during the 12-month period beginning November 1, 2013 through October 31, 2014, and must be submitted by December 1, 2014. This monitoring data will assist the San Diego Water Board in the evaluation of the Report of Waste Discharge, which is required to be submitted by the Discharger within 180 days prior to the Order's expiration date of **June 1, 2016**. The biological monitoring specified below is also required if the Executive Officer determines that 1) the effluent does not at all times comply with effluent limitations and performance goals of this Order or 2) the receiving water limitations of this Order are not being consistently achieved.

Table E-14. Demersal Fish and Macroinvertebrates Monitoring Requirements

Determination	Units	Minimum Frequency
Biological Transects	Identification and enumeration	Year 4

When biological monitoring is required, the Discharger shall conduct duplicate standardized trawls at all "Trawl Stations" (during August or September). If duplicate standardized trawls have been performed after the effective date of this Order but before the specified monitoring period, then duplicate standardized trawls during the specified period will not be required.

A standardized trawl shall be a Marinovich 7.62 m (25 ft) head rope otter trawl, towed along the 150-foot depth contour for a minimum duration of ten minutes at a uniform speed between 2.0 and 2.5 knots. Steps shall be taken as necessary to ensure that the second trawl at each station covers the same distance but does not sweep the same path as the first trawl or cover the stations sampled for benthic infauna and sediments.

Fish and macroinvertebrates collected by each trawl shall be identified to the species. The following data and information shall be reported for fish and macroinvertebrates, separately.

a. Community structure analysis for each station and each replicate. As applicable, wet weight of fish and macroinvertebrate species, number per age class per species, standard length of each individual, and number per sex per species, number of species, number of individuals per species, total numerical abundance, species abundance per trawl per station, species richness, species diversity (e.g., Shannon-Wiener), similarity analyses (e.g., Bray-Curtis), and cluster analyses (using unweighted pair-group method).

b. Station mean, range, standard deviation, and 95% confidence limits, if appropriate, for values determined above in a. The discharger may be required to conduct additional "statistical analyses" to determine temporal and spatial trends in the marine environment.

c. Abnormalities and disease symptoms (e.g., fin erosion, internal and external lesions, and tumors).

Liver tissue from one commercially or ecologically important fish species shall be analyzed for "priority pollutants" (excluding asbestos). Collection of the liver tissue shall occur only after the fish contents of both trawls at each station are combined to form one pooled sample of whole fish per station.

Three composite samples shall be prepared for trawl stations T2 and T3. One composite sample shall be prepared for trawl stations T1 and T4. Each composite sample shall consist of tissues resected from at least six Dover sole (Microstomus pacificus) of similar size and of the same sex. If six Dover sole are not caught, it is recommended that one of the following species be selected: longspine combfish (Zaniolepis latipinnis), longfin sanddab (Citharichthys xanthostigma), California tonguefish (Symphurus atricauda), or hornyhead turbot (Pleuronichthys verticalis). If none of these species are caught in sufficient numbers, the discharger shall use its best judgment in preparing the samples. If possible, for the duration of this monitoring and reporting program, the same species shall be used for these analyses at all stations.

For each epifauna and infauna, size frequency and distribution shall be shown for at least the three numerically largest populations identified to the lowest possible taxon and appropriate graphs showing the relationship between species frequency and population shall be plotted from each sample.

IX. OTHER MONITORING REQUIREMENTS

A. Kelp Bed Canopy

The Discharger shall participate with other ocean dischargers in the San Diego Region in an annual regional kelp bed photographic survey. Kelp beds shall be monitored annually by means of vertical aerial infrared photography to determine the maximum aerial extent of the region's coastal kelp beds within the calendar year. Surveys shall be conducted as close as possible to the time when kelp bed canopies cover the greatest area. The entire San Diego Region coastline, from the international boundary to the San Diego Region/Santa Ana Region boundary shall be photographed on the same day.

The images produced by the surveys shall be presented in the form of 1:24,000 scale photo-mosaic of the entire San Diego Region coastline. Onshore reference points, locations of all ocean outfalls and diffusers, and the 30-foot mean lower low water (MLLW) and 60-foot (MLLW) depth contours shall be shown.

The aerial extent of the various kelp beds photographed in each survey shall be compared to that noted in surveys of previous years. Any significant losses which persist for more than one year shall be investigated by divers to determine the probable reason for the loss.

B. Regional Monitoring

The Discharger is required to participate in regional monitoring activities pursuant to CWC 13267, 13383, and 40 CFR 122.48. The intent of regional monitoring activities is to maximize the efforts of all monitoring partners using a more cost-effective monitoring design and to best utilize the pooled scientific resources of the region. During these coordinated sampling efforts,

the Discharger's sampling and analytical effort may be reallocated to provide a regional assessment of the impact of the discharge of municipal wastewater to the Southern California Bight. Anticipated modifications to the monitoring program will be coordinated so as to provide a more comprehensive picture of the ecological and statistical significance of monitoring results and to determine cumulative impacts of various pollution sources. The level of effort will be provided to the Executive Officer and USEPA for approval.

C. Solids Monitoring

The Discharger shall report, annually, the volume of screenings, sludge [biosolids], grit, and other solids generated and/or removed during wastewater treatment and the locations where these waste materials are placed for disposal. Copies of all annual reports required by 40 CFR Part 503 shall be submitted to the San Diego Water Board at the same time they are submitted to the USEPA.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D of this Order) related to monitoring, reporting, and recordkeeping.

2. Reports of marine monitoring surveys conducted to meet receiving water monitoring requirements of this MRP shall include, as a minimum, the following information:

   a. A description of climatic and receiving water characteristics at the time of sampling (weather observations, floating debris, discoloration, wind speed and direction, swell or wave action, time of sampling, tide height, etc.)

   b. A description of sampling stations, including differences unique to each station (e.g., station location, sediment grain size, distribution of bottom sediments, rocks, shell litter, calcareous worm tubes, etc.).

   c. A description of the sample collection and preservation procedures used in the survey.

   d. A description of the specific method used for laboratory analysis.

   e. An in-depth discussion of the results of the survey. All tabulations and computations shall be explained.

   f. Annual reports will include detailed statistical analyses of all data. Methods may include, but are not limited to, various multivariate analyses such as cluster analysis, ordination, and regression. The Discharger should also conduct additional analyses, as appropriate, to elucidate temporal and spatial trends in the data.

3. The Discharger shall report all instances of noncompliance not reported under Attachment D, Sections V.E, V.G, and V.H, of this Order at the time monitoring reports are submitted.

4. By March 1 of each year, the Discharger shall submit an annual report to the San Diego Water Board and USEPA Region 9 that contains tabular and graphical summaries of the monitoring data obtained during the previous year. The Discharger shall discuss the

compliance record and corrective actions taken, or which may be taken, or which may be needed to bring the discharge into full compliance with the requirements of this Order and this MRP.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State Water Board or San Diego Water Board may notify the Discharger to electronically submit Self-Monitoring Reports (SMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (http://www.waterboards.ca.gov/ciwqs/index.html). Until such notification is given, the Discharger shall submit hard copy SMRs. When electronic submittal of SMRs is required, the CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.

2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Discharger shall submit monthly SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.

3. Unless otherwise noted in the MRP, monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-15. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins	Monitoring Period	SMR Due Date
Continuous	First day of the calendar month following the permit effective date or on permit effective date if that date is first day of the month.	All	First day of second calendar month following month of sampling.
1/Day	First day of the calendar month following the permit effective date or on permit effective date if that date is first day of the month.	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	First day of second calendar month following month of sampling.
1/Week	First Sunday of the calendar month following the permit effective date or on permit effective date if on a Sunday.	Sunday through Saturday	First day of second calendar month following month of sampling.
1/Month	First day of calendar month following permit effective date or on permit effective date if that date is first day of the month.	First day of calendar month through last day of calendar month	First day of second calendar month following month of sampling.
1/Quarter	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date.	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	May 1 August 1 November 1 February 1

Sampling Frequency	Monitoring Period Begins	Monitoring Period	SMR Due Date
2/Year	Closest of January 1 or July 1 following (or on) permit effective date.	January 1 through June 30 July 1 through December 31	September 1 March 1
Significant Industrial User Compliance Status Report	Closest of January 1 or July 1 following (or on) permit effective date.	January 1 through June 30 July 1 through December 31	September 1 March 1
1/Year Pretreatment Program Biosolids Report Compliance Schedule – progress report	January 1 following (or on) permit effective date.	January 1 through December 31	March 1 (Biosolids Report – February 19)
Intensive Monitoring	November 1, 2013	November 1, 2013 through October 31, 2014	December 1, 2014

4. **Reporting Protocols.** The Discharger shall report with each sample result the applicable reported Minimum Level (ML) and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR Part 136. For each numeric effluent limitation or performance goal for a parameter identified in Table B of the Ocean Plan, the Discharger shall not use a ML greater than that specified in Appendix II of the Ocean Plan.

   The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

   a. Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

   b. Sample results less than the ML, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

   For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (+ a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

   c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.

d. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

5. **Compliance Determination.** Compliance with effluent limitations for reportable pollutants shall be determined using sample reporting protocols defined above and Attachment A of this Order. For purposes of reporting and administrative enforcement by the San Diego Water Board and State Water Board, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the reportable pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported ML.

6. **Multiple Sample Data.** When determining compliance with a measure of central tendency (arithmetic mean, geometric mean, median, etc.) of multiple sample analyses and the data set contains one or more reported determinations of DNQ or ND, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

   a. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

   b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

7. The Discharger shall submit SMRs in accordance with the following requirements:

   a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.

   b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the waste discharge requirements; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

   c. SMRs must be submitted to the San Diego Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the address listed below:

9174 Sky Park Court, Suite 100
San Diego, CA 92123-4340

C. Discharge Monitoring Reports (DMRs)

1. As described in section X.B.1 above, at any time during the term of this permit, the State or San Diego Water Board may notify the Discharger to electronically submit SMRs that will satisfy federal requirements for submittal of Discharge Monitoring Reports (DMRs). Until such notification is given, the Discharger shall submit DMRs in accordance with the requirements described below.

2. DMRs must be signed and certified as required by the standard provisions (Attachment D). The Discharger shall submit the original DMR and one copy of the DMR to the address listed below:

STANDARD MAIL	FEDEX/UPS/ OTHER PRIVATE CARRIERS
State Water Resources Control Board Division of Water Quality c/o DMR Processing Center PO Box 100 Sacramento, CA 95812-1000	State Water Resources Control Board Division of Water Quality c/o DMR Processing Center 1001 I Street, 15th Floor Sacramento, CA 95814

3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self-generated will not be accepted unless they follow the exact same format of USEPA Form 3320-1.

D. Other Reports

1. The Discharger shall report the results of any chronic toxicity testing, TRE/TIE, Encina Ocean Outfall Capacity Study, Treatment Plant Capacity Study, Sludge Disposal Report, and Pretreatment Report, as required by Special Provisions – VI.C. of this Order. The Discharger shall submit reports with the first monthly SMR scheduled to be submitted on or immediately following the report due date.

ATTACHMENT F – FACT SHEET

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List of Tables

ATTACHMENT F – FACT SHEET

As described in section II of this Order, this Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for Dischargers in California. Only those sections or subsections of this Order that are specifically identified as "not applicable" have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as "not applicable" are fully applicable to this Discharger.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the Facility.

Table F-1. Facility Information

WDID	**9 000000030**	
Discharger	Encina Wastewater Authority	
Name of Facility	Encina Ocean Outfall	
Facility Address	Encina Water Pollution Control Facility	6200 Avenida Encinas Carlsbad, CA 92011 San Diego County
	Meadowlark Water Reclamation Plant	7941 Corintia Street Carlsbad, CA 92009 San Diego County
	Shadowridge Water Reclamation Plant	2525 Lupine Hills Road Vista, CA 92081 San Diego County
	Carlsbad Water Reclamation Facility	6220 Avenida Encinas Carlsbad, CA 92011 San Diego County
Facility Contact, Title and Phone	Kevin M. Hardy, General Manager, 760-438-3941	
Authorized Person to Sign and Submit Reports	Brian Benjamin, Chief Plant Operator,760-438-3941	
Mailing Address	6200 Avenida Encinas, Carlsbad, CA 92011-1095	
Billing Address	Same as Mailing Address	
Type of Facility	Publicly Owned Treatment Works (POTW)	
Major or Minor Facility	Major	
Threat to Water Quality	1	
Complexity	A	
Pretreatment Program	Yes	
Reclamation Requirements	Producer and Distributor (regulated under separate waste discharge requirements (WDRs))	

Facility Permitted Flow	Encina Water Pollution Control Facility – 40.5 million gallons per day (MGD) Meadowlark Water Reclamation Plant – 5 MGD Carlsbad Water Reclamation Facility – 4 MGD Combined discharge to the Encina Ocean Outfall, including discharges from the EWPCF, VMWRP, BSWRP, and CWRF[1]- 43.3 MGD (May through October) 52.6 MGD Wet Weather (November through April)
Facility Design Flow	43.3 MGD
Watershed	Pacific Ocean
Receiving Water	Pacific Ocean
Receiving Water Type	Ocean

[1] Discharges from the VMWRP to the Encina Ocean Outfall are regulated under separate waste discharge requirements (WDRs).

A. The Encina Wastewater Authority (EWA) is a public joint powers authority that is owned by six member agencies. The EWA (hereinafter also Discharger) is the owner and operator of the Encina Ocean Outfall (EOO) and the Encina Water Pollution Control Facility (EWPCF), a municipal publicly-owned treatment works (POTW). The Carlsbad Municipal Water District, a subsidiary of the City of Carlsbad which is a member agency of the EWA, independently owns the Carlsbad Water Recycling Facility (CWRF), a municipal POTW, which is operated by EWA. The Vallecitos Water District, a member agency of the EWA, independently owns and operates the Meadowlark Water Reclamation Plant (VMWRP), a municipal POTW, and the VMWRP land outfall structure, prior to connection with the EOO. The Buena Sanitation District independently owns the Shadowridge Water Reclamation Plant (BSWRP) and land outfall structure prior to connection with the VMWRP land outfall and EOO. The EWPCF, CWRF, VMWRP, BSWRP, and land outfalls for VMWRP and BSWRP are collectively referred to as the Facilities.

B. For the purposes of this Order, references to the "discharger" or "permittee" in applicable federal and State laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

C. The Discharger discharges effluent consisting of treated wastewater from EWPCF, and VMWRP and waste brine from the CWRF through the EOO to the Pacific Ocean, a water of the United States. The combined discharge from EWPCF, CWRF, VMWRP and BSWRP was regulated by Order No. R9-2005-0219, which was adopted December 14, 2005 and expired on January 1, 2011. The terms of the existing Order were administratively extended and continued in effect after the permit expiration date.

D. The Discharger filed a Report of Waste Discharge (ROWD) and submitted an application for renewal of its Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit on July 1, 2010.

II. FACILITY DESCRIPTION

A. Description of Wastewater and Biosolids Treatment or Controls

The EWA is a joint powers authority established pursuant to California Government Code, Section 6500 et seq. to provide for regional treatment and disposal of wastewater in a portion of the north coastal area of San Diego County. The following member agencies comprise the

EWA: Buena Sanitation District, City of Carlsbad, City of Encinitas, Leucadia Wastewater District, Vallecitos Water District, and the City of Vista.

The EWA provides the majority of wastewater treatment and disposal services to a population of approximately 351,000 within the boundaries of the EWA member agencies. The EWA owns and operates the EWPCF and the EOO. Each EWA member agency owns, operates and maintains its own wastewater collection system which conveys wastewater to the EWPCF; EWA does not own any portion of a wastewater collection system. In addition to the wastewater generated in the member agencies' service areas, the City of Vista and the City of Oceanside have a flow transfer agreement whereby Vista and Oceanside have agreed to exchange wastewater flows in specific areas to reduce pumping costs. There are four non-categorical significant industrial users and 22 categorical industrial users within the areas served by the EWPCF. The Vallecitos Water District independently owns and operates the VMWRP and land outfall. The City of Carlsbad independently owns the CWRF, which is operated by EWA. All wastewater generated within the service areas of the EWA member agencies, except for wastewater treated at VMWRP, is treated at EWPCF, and all treated effluent from EWPCF, and VMWRP, if not recycled, is discharged to the Pacific Ocean through the EOO. The Buena Sanitation District independently owns the BSWRP and land outfall, which are non-operational but maintain a connection to the EOO.

Order No. R9-2011-0019 establishes discharge prohibitions, limitations, and conditions to regulate discharges of effluent consisting of treated wastewater and waste brine from the Facilities to the Pacific Ocean; these discharges were previously regulated by Order No. R9-2005-0219 (NPDES Permit No. CA0107395) that expired on January 1, 2011 and was administratively extended until the adoption of this Order. The wastewater collection systems tributary to EWPCF and VMWRP are not subject to the requirements and provisions of this Order. The satellite wastewater treatment plants (CWRF, BSWRP and VMWRP) are subject to the requirements and provisions of this Order for all discharges through the EOO and EWA is legally responsible under this Order to ensure their compliance.

1. Encina Water Pollution Control Facility (EWPCF)

The EWPCF is located at 6200 Avenida Encinas, Carlsbad, approximately one-third mile from the ocean, near the mouth of Cañon de las Encinas. Wastewater treatment unit operations and processes at the EWPCF consist of bar screening, peroxide addition, grit removal, primary sedimentation, biological treatment using activated sludge, and secondary clarification. EWPCF also has disinfection (chlorination) capabilities limited to the capacity necessary to disinfect secondary effluent currently reused on-site. Solids treatment unit operations and processes consist of dissolved air flotation (DAF) thickening, anaerobic digestion, and mechanical dewatering (centrifuges), and heat drying. At the time of adoption of this Order, the secondary treatment design capacity of the EWPCF is 40.5 MGD average dry-weather flowrate, and the facility is capable of processing solids at 43.3 MGD. Up to 4 MGD of secondary effluent is diverted to the CWRF and up to 1 MGD is diverted to the Gafner Water Reclamation Plant (GWRP). A small volume of treated wastewater is used on-site. All other effluent from EWPCF is discharged to the Pacific Ocean through the EOO. As part of the ROWD/application, the Discharger submitted a report certifying the capacities of the EWPCF. In 2009, the observed average daily flow from EWPCF was 23.25 MGD.

2. Vallecitos Meadowlark Water Reclamation Plant (VMWRP)

The VMWRP is located at 7941 Corintia Street, Carlsbad, approximately 5.5 miles east of the EWPCF. The VMWRP accepts raw wastewater from the Vallecitos Water District's collection system which it proceeds to treat to a tertiary level for water recycling. California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) Order No. R9-2007-0018 established WDRs, including California Code of Regulations (CCR) Title 22 water recycling requirements, for recycling of tertiary effluent from VMWRP. Wastewater treatment unit operations and processes at VMWRP consist of inline sewage grinders, primary sedimentation tanks, roughing filters, an activated sludge process utilizing aeration tanks and secondary clarifiers, tertiary filtration, and chlorine disinfection. All solids flows produced from processes at VMWRP are conveyed to EWPCF for treatment. Effluent that is not recycled, such as effluent not meeting Title 22 water recycling requirements or excess tertiary effluent, is conveyed through the Meadowlark land outfall (also referred to as a failsafe line), which connects to the EOO, for direct disposal to the Pacific Ocean. At the time of adoption of this Order, the design capacity of VMWRP is 5.0 MGD and the observed average daily flow from the facility in 2009 was 0.221 MGD.

3. Carlsbad Water Reclamation Facility (CWRF)

The CWRF is located at 6220 Avenida Encinas in the City of Carlsbad adjacent to the EWPCF. A portion of the secondary effluent flows from EWPCF, which would otherwise be discharged directly to the EOO, are diverted to CWRF to produce up to 4 MGD of recycled water for reuse in the City of Carlsbad's Carlsbad Municipal Water District service area. Order No. R9-2001-0352, issued by the San Diego Water Board, established WDRs, including CCR Title 22 water recycling requirements, for the reuse of effluent from the CWRF. By letter dated August 16, 2005, the San Diego Water Board authorized the discharge of tertiary effluent from the CWRF for water recycling purposes. The treatment unit operations and processes at CWRF consist of continuous backwash granulated media filtration, microfiltration or ultrafiltration (MF/UF), reverse osmosis (RO) membrane filtration, chlorine disinfection, and solids thickening. MF/UF backwash, along with other backwash from other CWRF processes, is thickened and returned to EWPCF for treatment and disposal. Up to 0.2 MGD of waste brine from the RO process is discharged directly to the ocean through the EOO. Effluent that is not recycled, such as effluent not meeting Title 22 water recycling requirements or excess tertiary effluent, is discharged to the EWPCF secondary aeration basins.

Solids and biosolids collected at EWPCF may be trucked to landfills in San Diego County, California, to land application sites in Yuma County, Arizona, or used in an application approved by the Executive Officer. All solids separated from wastewater at EWPCF are treated onsite to meet 40 CFR 503 Pathogen and Vector Attraction Reduction requirements. Biosolids which are land applied are shipped to agricultural sites by Solids Solutions for application at Desert Ridge Farms, LLC (2585 East County 19th Street, Yuma, AZ 85365).

4. Leucadia Wastewater District-Gafner Water Reclamation Plant (GWRP)

The Leucadia Wastewater District, a member agency of EWA, independently owns and operates the Gafner Water Reclamation Plant (GWRP) located at 1960 La Costa Avenue, Leucadia, approximately 3.5 miles southeasterly of the EWPCF. A portion of secondary effluent from EWPCF that would otherwise be discharged to the Pacific Ocean is pumped by LWD's Encina Effluent Pump Station (EEPS) through the Gafner Plant Supply Line (GPSL,

formerly the LWD land outfall) to GWRP for tertiary treatment and subsequent water recycling purposes. The San Diego Water Board issued Order No. R9-2004-0223, establishing WDRs for reuse of tertiary effluent from GWRP. Wastewater treatment unit operations and processes at the GWRP consist of filtration and chlorine disinfection only. The tertiary treatment design capacity of GWRP is 1.0 MGD. The GWRP no longer has a connection from the sewage collection system to allow for the treatment of raw wastewater, and secondary treatment facilities at GWRP are no longer operational. Solids and other waste stream flows from GWRP, including effluent not meeting CCR Title 22 water recycling requirements, are discharged back to the sewer system and subsequently conveyed and treated at EWPCF. The GWRP no longer has a land outfall connection to the EOO, and wastes from GWRP cannot be directly discharged to the EOO. By correspondence dated March 25, 2004, LWD and EWA notified the San Diego Water Board that LWD is exclusively responsible for the operation and maintenance of the EEPS, GPSL, and GWRP as established by a Memorandum of Agreement between LWD and EWA. The San Diego Water Board, therefore, acknowledges that the EEPS, GPSL and GWRP are not facilities subject to the requirements of this Order.

5. Buena Sanitation District Shadowridge Water Reclamation Plant (BSWRP)

The Buena Sanitation District, a member agency of EWA, independently owns the BSWRP located at 2525 Lupine Hills Road, Vista, approximately 6 miles northeasterly of EWPCF. The BSWRP will not be in operation during the term of Order No. R9-2011-0019. The BSWRP has been and can continue to be used as a temporary storage facility for raw wastewater to manage flows within the City of Vista's wastewater collection system. Additionally, a land outfall line connecting BSWRP to the EOO remains. Consequently, a potential to discharge wastewater from BSWRP through the EOO exists, and the San Diego Water Board maintains that the BSWRP should continue to be subject to the requirements of this Order although it is a non-operating wastewater treatment plant. Specifically, a discharge from the BSWRP through the EOO to the Pacific Ocean, if such discharge occurs, is subject to secondary treatment standards and water quality-based effluent limitations (WQBELs) of this Order, and the BSWRP remains subject to all of the standard provisions in Attachment D of this Order.

6. Encina Ocean Outfall (EOO)

Table F-2a below summarizes the facilities tributary to the EOO and authorized by EWA to maintain a connection with the EOO. These facilities discharge wastes, or have the potential to discharge wastes, to the Pacific Ocean through the EOO, and, as such, are subject to the requirements of Order No. R9-2011-0019.

Table F-2a. Facilities Tributary to the Encina Ocean Outfall

Agency	Discharging Facility	Nature of Discharge	Current Design Flow Capacity (MGD)
Encina Wastewater Authority	EWPCF	Secondary Effluent	40.5
Vallecitos Water District	VMWRP	Tertiary Effluent	5.0
Carlsbad Municipal Water District	CWRF	Waste Brine	4.0
Buena Sanitation District	BSWRP	None	Not Applicable

Over the 3-year period between 2007 and 2009 the combined flowrate of effluent discharged through the EOO from EWPCF and VMWRP, as reported by the Discharger is summarized in Table F-2b:

Table F-2b. Historical Flows

Facility	Annual Average Daily Secondary Effluent Flow (MGD)		
	2007	2008	2009
EWPCF[1]	26.0	25.9	23.3
VMWRP	0.547	0.654	0.245
Total from EWPCF and VMWRP through the EOO	24.8	24.2	21.8

[1] Portions of EWPCF effluent is drawn off for reclamation by the CWRF and the GWRP Reclamation Plant.

The Discharger is subject to a dry-weather (May through October) flow limitation of 43.3 MGD calendar-monthly average in this Order for the discharge of effluent from its Facilities through the EOO to the Pacific Ocean. Order No. R9-2005-0219 included this dry-weather flow limitation which is based on projected capacity requirements for the treatment and disposal of wastewater generated within the service areas of the EWA member agencies through the year 2025. The Discharger indicated in the ROWD that these projections remain adequate for future wastewater needs, based on recent population trends.

In 2009, the observed total wastewater flows generated within the EWA service areas was 21.9 MGD which is approximately 29% of the EOO 75 MGD design capacity. The dry-weather flow limitation considers the scenario where all treated wastewater is discharged through the EOO and none is used for water recycling purposes.

The Discharger is subject to a wet-weather (November through April) flow limitation of 52.6 MGD calendar-monthly average which includes a 9.3 MGD wet-weather flow increment above the dry-weather flow limitation to account for non-excessive inflow and infiltration into the EWA member agencies' wastewater collection systems. The wet-weather increment is based on the monthly average wastewater flow rates within the service areas of the EWA member agencies during the 12-month period July 2004-June 2005 which was lowest in September 2004 (26.66 MGD, no rain) and highest in January 2005 (36.02 MGD, heavy rainfall). Using 40 CFR 133.103(d)(3) as guidance, inflow and infiltration within the EWA system is non-excessive because wet-weather wastewater flow rates do not exceed 275 gallons per capita per day. The dry-weather flow limitation is used in calculations for ocean outfall dilution factors, effluent limitations, and performance goals because any flow contributed from inflow and infiltration are assumed to be free of pollutants and do not negatively impact the treatment processes at EPWCF, VMWRP, and CWRF.

The Discharger projects that these flow limitations for the EOO will be adequate to meet treatment demand through the permit term and has not requested modification to either the wet- or dry-weather flow limitations for the EOO.

B. Discharge Points and Receiving Waters

The Discharger owns and operates the EOO which begins at the EWPCF site and extends southwesterly from the mouth of Cañon de las Encinas approximately 7,800 ft offshore to a depth of approximately 150 ft. The EOO consists of an original 5,500 ft section of 48-inch reinforced concrete pipe and a 2,300 ft extension of 72-inch diameter reinforced concrete pipe.

The final 800 feet of the 72-inch extension is the diffuser, collinear with the rest of the outfall and extending to a depth of approximately 168 ft below mean lower low water (MLLW). The diffuser has forty-four 2.5-inch diameter ports, forty-four 2.75-inch diameter ports, forty-eight 3-inch diameter ports, and two 4-inch diameter ports. The terminus of the diffuser is located at Latitude 33° 06' 33.59" North, Longitude 117° 20' 52.77" West. The design capacity of the EOO is 75 MGD (average daily flow), with a maximum rated peak-day capacity of 105 MGD if interim flow equalization facilities are utilized (EWA Ocean Outfall Disposal Capacity report, February 28, 1996).

The San Diego Water Board, with assistance from the State Water Resources Control Board (State Water Board), determined the minimum initial dilution factor to be 144 for the discharge of up to 43.3 MGD of effluent through the EOO using the US EPA-approved computer modeling package Visual Plumes with the UM3 model. The computer modeling was performed based on characteristics of the EOO, the effluent, and the receiving water, subject to the input limitations of Visual Plumes. The flowrate used in the computer modeling is equivalent to the dry-weather flowrate limitation of 43.3 MGD. Initial dilution factors were determined for each month during the period July 2003 through June 2004 using receiving water characteristics for each month provided by the Discharger; the minimum initial dilution factor was determined using the December 2004 receiving water data. Section IV.C of this Fact Sheet includes additional discussion on initial dilution. Additional details of the initial dilution computer modeling performed are provided in Attachment H and in the San Diego Water Board records.

C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data

Effluent limitations contained in Order No. R9-2005-0219 for discharges from the Facilities and representative monitoring data obtained at Monitoring Locations M-001, M-002, and M-004 at Discharge Point No. 001 are as follows:

Table F-3. Historic Effluent Limitations and Monitoring Data at M-001

Parameter	Units	Effluent Limitation			Monitoring Data (January 2006 – June 2010)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Carbonaceous Biochemical Oxygen Demand (5-day @ 20°C) ($CBOD_5$)	mg/L	25	40	--	11	15	--
	lbs/day	9,000[1]	14,000[1]	--	2,482[2]	3,242[2]	--
Total Suspended Solids	mg/L	30	45	--	32	51	--
	lbs/day	1,100[1]	1,600[1]	--	5,999[2]	9,446[2]	--
pH	standard units	--	--	6.0[3] – 9.0[4]	--	--	6.7–7.9

1 $CBOD_5$ and TSS mass emission rate (MER) effluent limitations apply to the sum of individual MERs from EWPCF, VMWRP and BSWRP based on the effluent flowrate and concentrations measured at each treatment plant facility.
2 Individual mass contribution from the EWPCF.
3 Instantaneous minimum.
4 Instantaneous maximum.

Table F-4. Historic Effluent Limitations and Monitoring Data at M-002

Parameter	Units	Effluent Limitation			Monitoring Data (January 2006 – June 2010)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Carbonaceous Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	25	40	--	29	65	--
	lbs/day	9,000[1]	14,000[1]	--	430[2]	1,033[2]	--
Total Suspended Solids	mg/L	30	45	--	72	122	--
	lbs/day	1,100[1]	1,600[1]	--	1,194[2]	2,135[2]	--
pH	standard units	--	--	6.0[3]–9.0[4]	--	--	6.0–7.8

1 $CBOD_5$ and TSS MER effluent limitations apply to the sum of individual MERs from EWPCF, VMWRP and BSWRP based on the effluent flowrate and concentrations measured at each treatment plant facility.
2 Individual mass contribution from the VMWRP.
3 Instantaneous minimum.
4 Instantaneous maximum.

Table F-5. Historic Effluent Limitations and Monitoring Data at Discharge Point No. 001 (M004)

Parameter	Units	Effluent Limitation			Monitoring Data (January 2006 – June 2010)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Carbonaceous Biochemical Oxygen Demand (5-day @ 20°C)	lbs/day	9,000[1]	14,000[1]	--	2,599[2]	3,325[2]	--
Total Suspended Solids	lbs/day	1,100[1]	1,600[1]	--	6,004[2]	9,463[2]	--
Oil & Grease	mg/L	25	40	75[3]	1.75	10	10
	lbs/day	9,000	14,000	27,000[3]	350	1,887	1,887
Settleable Solids	mL/L	1.0	1.5	3.0[3]	0.29	0.77	3.0
Turbidity	NTU	75	100	225[3]	13.9	28.2	33.5
Chronic Toxicity[4]	TUc	--	--	145	--	--	> 285.7

1 $CBOD_5$ and TSS MER effluent limitations apply to the sum of individual MERs from EWPCF, VMWRP and BSWRP based on the effluent flowrate and concentrations measured at each treatment plant facility.
2 Sum of individual MERs from the EWPCF and the VMWRP.
3 Instantaneous maximum.
4 Chronic toxicity expressed as Chronic Toxicity Units (TUc) = 100/NOEL, where NOEL (No Observed Effect Level) is expressed as the maximum percent effluent or receiving water that causes no observable effect on a test organism.

D. Compliance Summary

1. Compliance Evaluation Inspections (CEIs) of the EWPCF were conducted on five occasions between 2006 and 2010. Compliance issues noted by the inspectors were as follows:

   a. On February 28, 2006:

      i. The inspector determined that the influent flow was being computed in a manner inconsistent with that required by Order No. R9-2005-0219.

      ii. The inspector observed that there existed the possibility of water stream cross-contamination between the CWRF and the EWPCF at the EWPCF's new secondary effluent storage compartment. The plant operations team indicated that they would develop and implement a set of standard operating procedures designed to prevent cross-contamination.

   b. On March 10, 2008:

      i. The inspector found that records intended to document the accuracy of several of the flow measuring devices throughout the facility were not available.

      ii. Samples for oil & grease were being improperly collected. However, the plant operators indicated that conditions at the outfall at that time precluded the use of the proper sampling technique.

   c. On January 15, 2009, the inspector determined that flow meters had not been calibrated on an annual basis as required.

   d. On December 16, 2009, during the last CEI conducted at the time of this permit, the inspector did not note any major findings and the major finding during the January 15, 2009 CEI was corrected.

2. CEIs of the VMWRP were conducted on six occasions between 2005 and 2010. Compliance issues noted by inspectors were as follows:

   a. On June 14, 2005:

      i. The force main responsible for conveying effluent from VMWRP to EWPCF failed on April 29, 2005.

      ii. A spill from the headworks contaminated the storm sewer as a consequence of a power failure on June 1, 2005.

   b. On January 14, 2009:

      i. The inspector determined that flow meters had not been calibrated on an annual basis as required.

      ii. The Discharger did not monitoring discharges as required in the MRP during July and October 2008.

c. On December 17, 2009, during the last CEIs conducted at the time of this permit, the inspector did not note any major findings and the two major findings during the January 14, 2009 CEI was corrected.

3. From 2007 to 2010, according to the Discharger's reports, there were five deficient monitoring violations and eight effluent violations. There were no enforcement actions taken for these violations.

E. Planned Changes

The Discharger has not indicated that they have any planned capital improvement projects scheduled to occur within the term of Order No. R9-2011-0019.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in the proposed Order are based on the requirements and authorities described in this section.

A. Legal Authorities

This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the United States Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code (CWC) (commencing with section 13370). It shall serve as a NPDES permit for point source discharges from the Facilities to surface waters. This Order also serves as WDRs pursuant to article 4, chapter 4, division 7 of the CWC (commencing with section 13260).

B. California Environmental Quality Act (CEQA)

During the term of the previous Order the Discharger obtained CEQA certification for the Encina Water Pollution Control Facility Phase V Expansion project on June 23, 2004. In addition, the Vallecitos Water District obtained CEQA certification for the Meadowlark Water Reclamation Facility Expansion, lead agency Vallecitos Water District on October 20, 2004. No further expansion activity is anticipated during the course of this permit term. As such, under CWC section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100 through 21177.

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans.** The San Diego Water Board adopted a *Water Quality Control Plan for the San Diego Basin* (hereinafter Basin Plan) on September 8, 1994 that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives. The Basin Plan was subsequently approved by the State Water Board on December 13, 1994. Subsequent revisions to the Basin Plan have also been adopted by the San Diego Water Board and approved by the State Water Board. The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Beneficial uses applicable to the Pacific Ocean specified in the Basin Plan are as follows:

Table F-6. Basin Plan Beneficial Uses

Discharge Point No.	Receiving Water Name	Beneficial Use(s)
001	Pacific Ocean	Industrial service supply; navigation; contact water recreation; non-contact water recreation; commercial and sport fishing; preservation of biological habitats of special significance; wildlife habitat; rare, threatened, or endangered species; marine habitat; aquaculture; migration of aquatic organisms; spawning, reproduction, and/or early development; and shellfish harvesting.

Requirements of this Order implement the Basin Plan.

2. **California Ocean Plan.** The State Water Board adopted the *Water Quality Control Plan for Ocean Waters of California, California Ocean Plan* (Ocean Plan) in 1972 and amended it in 1978, 1983, 1988, 1990, 1997, 2000, and 2005. The State Water Board adopted the latest amendment on April 21, 2005 and it became effective on February 14, 2006. The Ocean Plan is applicable, in its entirety, to point source discharges to the ocean. The Ocean Plan identifies beneficial uses of ocean waters of the State to be protected as summarized below:

Table F-7. Ocean Plan Beneficial Uses

Discharge Point No.	Receiving Water	Beneficial Uses
001	Pacific Ocean	Industrial water supply; water contact and non-contact recreation, including aesthetic enjoyment; navigation; commercial and sport fishing; mariculture; preservation and enhancement of designated Areas of Special Biological Significance (ASBS); rare and endangered species; marine habitat; fish migration, fish spawning and shellfish harvesting.

In order to protect beneficial uses, the Ocean Plan establishes water quality objectives and a program of implementation. Requirements of this Order implement the Ocean Plan.

3. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes (40 CFR 131.21, 65 Fed. Reg. 24641 (April 27, 2000)). Under the revised regulation (also known as the Alaska Rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.

4. **Antidegradation Policy.** 40 CFR 131.12 requires that the State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The San Diego Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of 40 CFR 131.12 and State Water Board Resolution No. 68-16.

5. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and 40 CFR 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.

D. Impaired Water Bodies on CWA 303(d) List

On June 28, 2007, USEPA approved the list of impaired water bodies, prepared by the State Water Board pursuant to section 303(d) of the CWA, which are not expected to meet applicable water quality standards after implementation of technology-based effluent limitations (TBELs) for point sources. The 303(d) list for waters in the vicinity of the EOO include:

1. 6.8 acres of Agua Hedionda Lagoon for indicator bacteria and sediment

2. 1.2 miles of the Pacific Ocean shoreline impairment located at Buena Vista Creek, Carlsbad City Beach at Carlsbad Village Drive, Carlsbad State Beach at Pine Avenue Buena Vista Creek for indicator bacteria.

Impairment has been detected in the above waters. However, the receiving waters in the immediate vicinity of the EOO are not included in the current 303(d) list. An applicable total maximum daily load (TMDL) limit has not been adopted for this discharge.

E. Other Plans, Policies and Regulations

1. **Secondary Treatment Regulations.** 40 CFR Part 133 establishes the minimum levels of effluent quality to be achieved by secondary treatment. These limitations, established by the USEPA, are incorporated into this Order, except where more stringent limitations are required by other applicable plans, policies, or regulations.

2. **Storm Water.** Sewage treatment works with a design flow of 1.0 MGD or greater are required to comply with Water Quality Order No. 97-03-DWQ (NPDES General Permit No. CAS000001), WDRs for Dischargers of Storm Water Associated with Industrial Activity, Excluding Construction Activities.

3. **Pretreatment.** Discharges of pollutants that may interfere with operations of a POTW are regulated by USEPA's pretreatment regulations at 40 CFR 403. These regulations require Dischargers to develop and implement pretreatment programs that impose limitations on industrial users of the POTW.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the CFR: 40 CFR 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 CFR 122.44(d) requires that permits include WQBELs to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water.

A. Discharge Prohibitions

This Order retains the discharge prohibitions from Order No. R9-2005-0219, as described below. Compliance determination language is included in section VII of this Order to accurately describe how violations of these prohibitions are determined. Discharges from the Facilities to surface waters in violation of prohibitions contained in this Order are violations of the CWA and therefore are subject to third party lawsuits. Discharges from the Facilities to land in violation of prohibitions contained in this Order are violations of the CWC and are not subject to third party lawsuits under the CWA because the CWC does not contain provisions allowing third party lawsuits.

1. Prohibitions III.A of this Order is retained from Order No. R9-2005-0219. Prohibition III.A was included in Order No. R9-2005-0219 to clearly define what types of discharges are prohibited.

2. Order No. R9-2005-0219 established under section IV.A "Discharge Specifications" dry and wet weather flows of 43.3 MGD and 52.6 MGD, respectively. This order transfers these flow restrictions to become Prohibition III.D in this Order. Consistent with Order No. R9-2005-0219, Prohibition III.D limits the discharge flow at the EOO to 43.3 MGD from May through October and 52.6 from November through April.

3. This Order includes new prohibitions III.E, F, and G, on flow for the EWPCF, VMWRP, and CWRF equal to the design flow. These restrictions are necessary to ensure that discharge conditions, upon which requirements of this Order are based, are protective of water quality.

4. Effluent limitations and requirements in this Order for the BSWRP are based on its non-operational status. If discharges from the facility are to occur, the San Diego Water Board requires information as to the nature and extent of discharges to determine if effluent limitations established in this Order are protective of water quality and/or to evaluate the appropriateness of reopening of the Order for modification.

5. CWC section 13243 provides that the San Diego Water Board, in a water quality control plan, may specify certain conditions where the discharge of wastes or certain types of wastes, or certain types of wastes that could affect the quality of waters in the State is prohibited. Order No. R9-2005-0219 directly included the Basin Plan and Ocean Plan prohibitions as Order "Prohibitions". Consistent with Order No. R9-2005-0219, this Order requires compliance with the prohibitions from the Basin Plan and Ocean Plan; however, they are included in this Order as provisions in section VI.A.2a and b and are incorporated in Attachment G.

6. Order No. R9-2005-0219, under the section "Prohibitions" III.D and E, prohibited discharges of waste to Areas of Special Biological Significance and the discharge of sludge to the ocean. These prohibitions are expressly included in the Ocean Plan prohibitions, which are included in this Order as a "Provision" in section VI.A.2 and incorporated in Attachment G. These requirements are not retained in the prohibitions of this Order.

7. Order No. R9-2005-0219 contained Discharge Prohibition III.C, which prohibits discharges that cause violation of Ocean Plan water quality objectives established in Chapter II of the Ocean Plan. The Chapter II objectives are directly incorporated as Receiving Water Limitations in section V of this Order and are removed from section III. Prohibitions.

B. Technology-Based Effluent Limitations (TBELs)

1. Scope and Authority

Section 301(b) of the CWA and implementing USEPA permit regulations at 40 CFR 122.44 require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at 40 CFR Part 133.

Regulations promulgated in 40 CFR 125.3(a)(1) require technology-based effluent limitations for municipal Dischargers to be placed in NPDES permits based on Secondary Treatment Standards or Equivalent to Secondary Treatment Standards.

The Federal Water Pollution Control Act Amendments of 1972 (PL 92-500) established the minimum performance requirements for POTWs [defined in 40 CFR 304(d)(1)]. Section 301(b)(1)(B) of that Act requires that such treatment works must, as a minimum, meet effluent limitations based on secondary treatment as defined by the USEPA Administrator.

Based on this statutory requirement, USEPA developed secondary treatment regulations, which are specified in 40 CFR Part 133. These technology-based regulations apply to all municipal wastewater treatment plants and identify the minimum level of effluent quality attainable by secondary treatment in terms of biochemical oxygen demand (BOD_5), total suspended solids (TSS), and pH.

2. Applicable Technology-Based Effluent Limitations

a. Federal Regulations. 40 CFR Part 133 establishes the minimum weekly and monthly average level of effluent quality attainable by secondary treatment for BOD_5 and TSS. 40 CFR 133.102(a)(4) allows for effluent limitations for carbonaceous biological oxygen demand ($CBOD_5$) to be applied in lieu of effluent limitations for BOD_5 where BOD_5 may not provide a reliable measure of the oxygen demand of the effluent. USEPA has determined that a 30-day average effluent limitation of 25 mg/L and a 7-day average effluent limitation of 40 mg/L are effectively equivalent to the secondary treatment standards for BOD_5. As such, the $CBOD_5$ limitations from Order No. R9-2005-0219 are carried over to this Order.

40 CFR 133.102, in describing the minimum level of effluent quality attainable by secondary treatment, states that the 30-day average percent removal of BOD_5 and TSS shall not be less than 85 percent. This Order contains a limitation requiring an average of 85 percent removal of $CBOD_5$ and TSS over each calendar month.

The secondary treatment regulations at 40 CFR Part 133 also require that pH be maintained between 6.0 and 9.0 standard units.

The TBELs based on secondary treatment standards are applicable to the EWPCF VMWRP, and SWRF (if discharging), prior to the commingling of their respective effluents with any other wastewater. Thus, compliance with these effluent limitations must be determined at internal outfall locations upstream of the location where these wastewaters commingle with other wastewaters. Because the CWRF receives

secondary effluent as source water from EWPCF and TBELs based on secondary treatment standards are applied to the discharge from the EWPCF, the TBELs based on secondary treatment standards have not been applied to CWRF.

Order No. R9-2005-0219 applied the mass emission rates (MERs) for TBELs as the sum of loadings from internal outfalls. Consistent with concentration-based limits, this Order applies the MERs to the individual facilities subject to secondary treatment standards. The design flows used to calculate MERs for EWPCF and VMWRP are 40.5 MGD and 5.0 MGD, respectively. The new MERs are sufficient to ensure that proper operation of the Facilities and not dilution is employed to comply with final TBELs in this Order. Further information on MERs for individual facilities can be found in section IV.D of the Fact Sheet.

Technology-based effluent limitations based on secondary treatment standards for $CBOD_5$, TSS, and pH are summarized in the following table.

Table F-8a. Summary of Technology-Based Effluent Limitations Based on Secondary Treatment Standards

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Carbonaceous Biochemical Oxygen Demand (5-day @ 20°C)	mg/L	25	40	--	--	--
	% Removal	85	--	--	--	--
Total Suspended Solids	mg/L	30	45	--	--	--
	% Removal	85	--	--	--	--
pH	standard units	--	--	--	6.0	9.0

b. Ocean Plan. The Ocean Plan is applicable, in its entirety, to point source discharges to the ocean. Therefore, the discharge of wastewater to the Pacific Ocean at Discharge Point No. 001 is subject to the Ocean Plan.

The Ocean Plan establishes water quality objectives, general requirements for management of waste discharged to the ocean, effluent quality requirements for waste discharges, discharge prohibitions, and general provisions. Further, Table A of the Ocean Plan establishes TBELs for POTWs and industrial discharges for which Effluent Limitation Guidelines have not been established pursuant to Sections 301, 302, or 306 of the Federal Clean Water Act. Order No. R9-2005-0219, established numeric effluent limitations based on Table A of the Ocean Plan applicable at the EOO. Because the Table A effluent limitations are technology-based, the San Diego Water Board finds that the Table A effluent limitations are applicable to each individual contributing facility (EWPCF, VMWRP, BSWRP, and CWRF), and the Discharger shall be responsible for achieving compliance with the effluent limitations prior to commingling of the contributing wastewaters. A design flow of 4 MGD is used to calculate MERs for the CWRF.

Because secondary treatment standards contain effluent limitations for TSS that are more stringent than Table A of the Ocean Plan, the more stringent effluent limitations for TSS will be applied to discharges from EWPCF, VMWRP, and BSWRP. Table A of the

Ocean Plan requires dischargers to, as a monthly average, achieve a percent removal of 75 percent for suspended solids from the influent stream before discharging wastewater to the Pacific Ocean, except that the effluent limitation to be met shall not be less than 60 mg/L. The brine discharge generated at the CWRF is considered an industrial discharge and is subject to Table A limits prior to commingling at the EOO. Therefore, for the CWRF, an effluent TSS limitation of 60 mg/L is appropriate.

Table F-8b. Summary of Technology-Based Effluent Limitations Based on Table A of the Ocean Plan

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Oil and Grease	mg/L	25	40	--	--	75
Total Suspended Solids	mg/L	60[1]	--	--	--	--
	% Removal	[1]	--	--	--	--
Settleable Solids	mL/L	1.0	1.5	--	--	3.0
Turbidity	NTU	75	100	--	--	225
pH	standard units	--	--	--	6.0	9.0

[1] Table A of the Ocean Plan requires that the Discharger shall, as a monthly average, remove 75 percent of suspended solids from the influent stream before discharging wastewater to the Pacific Ocean, except that the effluent limitation to be met shall not be less than 60 mg/L.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

Section 301(b) of the CWA and 40 CFR 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

40 CFR 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBELs must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in 40 CFR 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBELs is intended to protect the designated uses of the receiving water as specified in the Basin Plan and Ocean Plan and achieve applicable water quality objectives and criteria that are contained in the Ocean Plan.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

The Basin Plan and Ocean Plan designate beneficial uses, establishes water quality objectives, and contain implementation programs and policies to achieve those objectives for all waters.

a. Basin Plan. The beneficial uses specified in the Basin Plan applicable to the Pacific Ocean are summarized in section III.C.1 of this Fact Sheet.

The Basin Plan water quality objective for dissolved oxygen applicable to ocean waters is stated as follows: "*The dissolved oxygen concentration in ocean waters shall not at any time be depressed more than 10 percent from that which occurs naturally, as the result of the discharge of oxygen demanding waste materials*".

The Basin Plan includes water quality objectives for pH applicable to the receiving water. The Basin Plan states, "*The terms and conditions of the State Board's "Water Quality Control Plan for Ocean Waters of California" (Ocean Plan), "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California" (Thermal Plan), and any revisions thereto are incorporated into this Basin Plan by reference. The terms and conditions of the Ocean Plan and Thermal Plan apply to the ocean waters within this Region.*"

b. Ocean Plan. The beneficial uses specified in the Ocean Plan for the Pacific Ocean are summarized in section III.C.2 of this Fact Sheet. The Ocean Plan also includes water quality objectives for the ocean receiving water for bacterial characteristics, physical characteristics, chemical characteristics, biological characteristics, and radioactivity.

Table B of the Ocean Plan includes the following water quality objectives for toxic pollutants and whole effluent toxicity:

i. 6-month median, daily maximum, and instantaneous maximum objectives for 21 chemicals and chemical characteristics, including total residual chlorine and chronic toxicity, for the protection of marine aquatic life.

ii. 30-day average objectives for 20 non-carcinogenic chemicals for the protection of human health.

iii. 30-day average objectives for 42 carcinogenic chemicals for the protection of human health.

iv. Daily maximum objectives for acute and chronic toxicity.

3. Determining the need for WQBELs

Order No. R9-2005-0219 evaluated the need for effluent limitations for non-conventional and toxic pollutant parameters in Table B of the California Ocean Plan. For this Order, the need for effluent limitations based on water quality objectives in Table B of the Ocean Plan was re-evaluated in accordance with 40 CFR 122.44(d) and guidance for statistically determining the "reasonable potential" for a discharged pollutant to exceed an objective, as outlined in the revised *Technical Support Document for Water Quality-based Toxics Control* (TSD; EPA/505/2-90-001, 1991) and the Ocean Plan Reasonable Potential Analysis (RPA) Amendment that was adopted by the State Water Board on April 21, 2005. The statistical

approach combines knowledge of effluent variability (as estimated by a coefficient of variation) with the uncertainty due to a limited amount of effluent data to estimate a maximum effluent value at a high level of confidence. This estimated maximum effluent value is based on a lognormal distribution of daily effluent values. Projected receiving water values (based on the estimated maximum effluent value or the reported maximum effluent value and minimum probably initial dilution) can then be compared to the appropriate objective to determine potential for an exceedance of that objective and the need for an effluent limitation. According to the Ocean Plan amendment, the RPA can yield three endpoints: 1) Endpoint 1, an effluent limitation is required and monitoring is required; 2) Endpoint 2, an effluent limitation is not required and the San Diego Water Board may require monitoring; 3) Endpoint 3, the RPA is inconclusive, monitoring is required, and an existing effluent limitation may be retained or a permit reopener clause may be included to allow inclusion of an effluent limitation if future monitoring warrants the inclusion. Endpoint 3 is typically the result when there are fewer than 16 data points and all are censored data (i.e., below quantitation or method detection levels for an analytical procedure).

The implementation provisions for Table B in section III.C of the Ocean Plan specify that the minimum initial dilution is the lowest average initial dilution within any single month of the year. Dilution estimates are to be based on observed waste flow characteristics, observed receiving water density structure, and the assumption that no currents of sufficient strength to influence the initial dilution process flow across the discharge structure. Before establishing a dilution credit for a discharge, it must first be determined if, and how much, receiving water is available to dilute the discharge. Prior to issuance of Order No. R9-2005-0219, the State Water Board had determined the minimum initial dilution factor (Dm), for the EOO to be 144 to 1. The Discharger has indicated that no additions or modifications to the Facilities or the EOO have been proposed that would alter the previously determined dilution characteristics. Therefore, the previous Dm of 144 to 1 will be retained in the current Order and applied to WQBELs established herein.

Conventional pollutants were not considered as part of the RPA. Technology-based effluent limitations for these pollutants are included in this Order as described in section IV.B of this Fact Sheet.

Using the RPcalc 2.0 software tool developed by the State Water Board for conducting reasonable potential analyses, the San Diego Water Board has conducted the RPA for the constituents listed in Table F-9. For constituents that do not display reasonable potential, this Order includes desirable maximum effluent concentrations which were derived using effluent limitation determination procedure described above and are referred to in this Order as "performance goals". A narrative limit statement to comply with all Ocean Plan objectives requirements is provided for those parameters not displaying reasonable potential. The Discharger is required to monitor for these constituents as stated in the MRP (Attachment E) in order to gather data for use in reasonable potential analyses for future permit renewals.

Effluent data provided in the Discharger's monitoring reports for the Facilities from January 2006 through June 2010 were used in the RPA. A minimum probable initial dilution of 144 to 1 was considered in this evaluation.

A summary of the RPA results is provided below:

Table F-9. RPA Results Summary

Parameter	Units	n[1]	MEC[2,4]	Most Stringent Criteria	Background	RPA Endpoint[3]
Arsenic	µg/L	19	11	8[5]	3[6]	2
Cadmium	µg/L	19	2.8	1[5]	0	2
Chromium, Total Recoverable	µg/L	19	4.5	2[5]	0	2
Copper	µg/L	19	54	3[5]	2[6]	2
Lead	µg/L	19	10	2[5]	0	2
Mercury	µg/L	19	0.5	0.04[5]	0.0005[6]	2
Nickel	µg/L	19	11	5[5]	0	2
Selenium	µg/L	19	3.0	15[5]	0	2
Silver	µg/L	19	5.4	0.7[5]	0.16[6]	2
Zinc	µg/L	19	150	20[5]	8[6]	2
Cyanide	µg/L	19	70	1[5]	0	2
Total Residual Chlorine[10]	µg/L	1246	883	2[5]	0	1
Ammonia	µg/L	177	45,160	600[5]	0	2
Acute Toxicity[11]	TUa	6	17.90	0.3[7]	0	2
Chronic Toxicity[12]	TUc	36	> 285.7	1[7]	0	1
Phenolic Compounds[13]	µg/L	18	< 0.8	30[5]	0	3
Chlorinated Phenolics[14]	µg/L	18	< 0.4	1[5]	0	3
Endosulfan[15]	µg/L	18	< 0.003	0.009[5]	0	3
Endrin	µg/L	18	< 0.003	0.002[5]	0	3
HCH[16]	µg/L	18	< 0.002	0.004[5]	0	3
Radioactivity	pCi/L	--	--	[8]	0	--
Acrolein	µg/L	9	< 0.5	220[9]	0	3
Antimony	µg/L	19	8.0	1,200[9]	0	2
Bis(2-chloroethoxyl)methane	µg/L	9	< 0.7	4.4[9]	0	3
Bis(2-chloroisopropyl)ether	µg/L	9	< 0.72	1,200[9]	0	3
Chlorobenzene	µg/L	9	< 0.03	570[9]	0	3
Chromium (III)[17]	µg/L	9	110	190,000[9]	0	3
Di-n-butyl phthalate	µg/L	9	< 0.06	3,500[9]	0	3
Dichlorobenzenes[18]	µg/L	9	0.3	5,100[9]	0	3
Diethyl phthalate	µg/L	9	4.3	33,000[9]	0	3
Dimethyl phthalate	µg/L	9	< 0.7	820,000[9]	0	3
4,6-Dinitro-2-methylphenol	µg/L	9	< 0.6	220[9]	0	3
2,4-Dinitrophenol	µg/L	9	<0.6	4.0[9]	0	3
Ethylbenzene	µg/L	9	< 0.04	4,100[9]	0	3
Fluoranthene	µg/L	9	< 0.024	15[9]	0	3
Hexachlorocyclopentadiene	µg/L	9	< 0.8	58[9]	0	3
Nitrobenzene	µg/L	9	< 0.7	4.9[9]	0	3
Thallium	µg/L	19	24	2[9]	0	2
Toluene	µg/L	9	1.6	85,000[9]	0	2
Tributyltin	µg/L	9	< 0.004	0.0014[9]	0	3
1,1,1-Trichloroethane	µg/L	9	< 0.03	540,000[9]	0	3
Acrylonitrile	µg/L	10	< 0.33	0.10[9]	0	3
Aldrin	µg/L	10	< 0.003	0.000022[9]	0	3
Benzene	µg/L	10	< 0.03	5.9[9]	0	3
Benzidine	µg/L	10	< 5.0	0.000069[9]	0	3
Beryllium	µg/L	19	1.0	0.033[9]	0	3
Bis(2-chloroethyl) ether	µg/L	10	< 0.9	0.045[9]	0	3
Bis(2-ethylhexyl) phthalate	µg/L	10	1.7	3.5[9]	0	2
Carbon tetrachloride	µg/L	10	< 0.04	0.90[9]	0	3
Chlordane	µg/L	10	< 0.025	0.000023[9]	0	3

Parameter	Units	n[1]	MEC[2,4]	Most Stringent Criteria	Background	RPA Endpoint[3]
Chlorodibromomethane	µg/L	9	0.5	8.6[9]	0	2
Chloroform	µg/L	10	1.9	130[9]	0	2
DDT[19]	µg/L	9	< 0.032	0.00017[9]	0	3
1,4-Dichlorobenzene	µg/L	9	< 0.93	18[9]	0	3
3,3-Dichlorobenzidine	µg/L	9	< 1.2	0.0081[9]	0	3
1,2-Dichloroethane	µg/L	9	< 0.04	28[9]	0	3
1,1-Dichloroethylene	µg/L	9	< 0.07	0.9[9]	0	3
Dichlorobromomethane	µg/L	9	0.7	6.2[9]	0	2
Dichloromethane	µg/L	9	0.6	450[9]	0	2
1,3-Dichloropropene	µg/L	9	< 0.05	8.9[9]	0	3
Dieldrin	µg/L	9	< 0.003	0.00004[9]	0	3
2,4-Dinitrotoluene	µg/L	9	< 0.72	2.6[9]	0	3
1,2-Diphenylhydrazine	µg/L	9	< 0.72	0.16[9]	0	3
Halomethanes[20]	µg/L	9	1.4	130[9]	0	2
Heptachlor	µg/L	9	< 0.003	0.00005[9]	0	3
Heptachlor Epoxide	µg/L	9	< 0.003	0.00002[9]	0	3
Hexachlorobenzene	µg/L	9	< 0.91	0.00021[9]	0	3
Hexachlorobutadiene	µg/L	9	< 0.92	14[9]	0	3
Hexachloroethane	µg/L	9	< 0.94	2.5[9]	0	3
Isophorone	µg/L	9	< 0.8	730[9]	0	3
N-nitrosodimethylamine	µg/L	9	< 0.88	7.3[9]	0	3
N-nitrosodi-N-propylamine	µg/L	9	< 0.72	0.38[9]	0	3
N-nitrosodiphenylamine	µg/L	9	< 0.72	2.5[9]	0	3
PAHs[21]	µg/L	7	< 0.03	0.0088[9]	0	3
PCBs[22]	µg/L	7	< 0.06	0.000019[9]	0	3
TCDD equivalents[23]	pg/L	8	0.0000014	0.0000039[9]	0	3
1,1,2,2-Tetrachoroethane	µg/L	9	< 0.04	2.3[9]	0	3
Tetrachloroethylene	µg/L	8	< 0.04	2.0[9]	0	3
Toxaphene	µg/L	8	< 0.5	0.00021[9]	0	3
Trichloroethylene	µg/L	8	< 0.05	27[9]	0	3
1,1,2-Trichloroethane	µg/L	9	< 0.05	9.4[9]	0	3
2,4,6-Trichlorophenol	µg/L	8	< 0.6	0.29[9]	0	3
Vinyl Chloride	µg/L	8	< 0.05	36[9]	0	3

1. Number of data points available for the RPA.
2. If there is a detected value, the highest reported value is summarized in the table. If there are no detected values, the lowest MDL is summarized in the table.
3. End Point 1 – RP determined, limit required, monitoring required.
   End Point 2 – Discharger determined not to have RP, monitoring may be established.
   End Point 3 – RPA was inconclusive, carry over previous limits if applicable, and establish monitoring.
4. Note that the reported MEC does not account for dilution. The RPA does account for dilution; therefore it is possible for a parameter with an MEC in exceedance of the most stringent criteria not to present a RP (i.e. Endpoint 1).
5. Based on the 6-Month Median in the Table B of the Ocean Plan.
6. Background concentrations contained in Table C of the Ocean Plan.
7. Based on the Daily Maximum in Table B of the Ocean Plan.
8. Not to exceed limits specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, Section 30253 of the California Code of Regulations. Radioactivity at levels that exceed the applicable criteria are not expected in the discharge.
9. Based on 30-Day Average in Table B of the Ocean Plan.
10. VMWRP and CWRF utilize chorine disinfection.
11. Three of the nine reported acute toxicity measurements were recorded as 0 TUa. These data points were not

Parameter	Units	n[1]	MEC[2,4]	Most Stringent Criteria	Background	RPA Endpoint[3]

included in the RPA since several steps require the log transformation of the reported data. Inclusion of these data points would decrease the likelihood of determining an Endpoint 1 for acute toxicity and increase the likelihood of determining Endpoint 2; therefore, there exclusion does not bias the result of the RPA.

12. Chronic toxicity expressed as Chronic Toxicity Units (TUc) = 100/NOEL, where NOEL (No Observed Effect Level) is express as the maximum percent effluent of receiving water that causes no observable effect on a test organism. In instances where chronic toxicity measurements exceeded the maximum calibration point of the method (i.e., the measurement was reported as > 285.7 TUc), the maximum calibration point was used in the RPA.
13. Non-chlorinated phenolic compounds represent the sum of 2,4-dimethylphenol, 4,6-dinitro-2-methylphenol, 2,3-dinitrophenol, 2-methylphenol, 4-methylphenol, 2-nitropheneol, 4-nitrophenol, and phenol.
14. Chlorinated phenolic compounds represent the sum of 4-chloro-3-methylphenol, 2-chlorophenol, pentachlorophenol, 2,4,5-trichlorophenol, and 2,4,6-trichlorophenol.
15. Endosulfan represents the sum of alpha-endosulfan, beta-endosulfan, and endosulfan sulfate.
16. HCH (hexachlorocyclohexane) represents the sum of the alpha, beta, gamma (Lindane), and delta isomers of hexachlorocyclohexane.
17. Chromium data was reported as Total Chromium and is summarized under Chromium (VI).
18. Dichlorobenzenes represent the sum of 1,2- and 1,3-dichlorobenzene.
19. DDT represents the sum of 4,4'DDT; 2,4'DDT; 4,4'DDE; 2,4'DDE; 4,4'DDD; and 2,4'DDD.
20. Halomethanes represent the sum of bromoform, bromomethane (methyl bromide), and chloromethane (methyl chloride).
21. PAHs (polynuclear aromatic hydrocarbons) represent the sum of acenapthalene; anthracene; 1,2-benzanthracene; 3,4-benzofluoranthene; benzo[k]fluoranthene; 1,12-benzoperylene; benzo[a]pyrene; chrysene; dibenzo[a,h]anthracene; fluorene; indeno[1,2,3-cd]pyrene; phenanthrene; and pyrene.
22. PCBs (polychlorinated biphenyls) represent the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Arolclor-1254, and Arcolor-1260.
23. TCDD equivalents represent the sum of concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors, as shown by the table below. USEPA Method 8280 may be used to analyze TCDD equivalents.

Isomer Group	Toxicity Equivalence Factor
2,3,7,8 – tetra CDD	1.0
2,3,7,8 – penta CDD	0.5
2,3,7,8 – hexa CDD	0.1
2,3,7,8 – hepta CDD	0.01
octa CDD	0.001
2,3,7,8 – tetra CDF	0.1
1,2,3,7,8 – penta CDF	0.05
2,3,4,7,8 – penta CDF	0.5
2,3,7,8 – hexa CDFs	0.1
2,3,7,8 – hepta CDFs	0.01
Octa CDF	0.001

Consistent with 40 CFR 122(I)(2)(i)(B), effluent limitations from Order No. R9-2005-0219 would not be retained for constituents for which the RPA results indicated Endpoint 2. Instead, performance goals have been assigned for these constituents. Parameters for which Endpoint 2 was concluded are determined not to have reasonable potential, thus it is inappropriate to establish effluent limitations for these parameters.

For parameters for which Endpoint 3 was concluded, reasonable potential was inconclusive. For parameters for which Endpoint 3 was concluded and previous effluent limitations had

not been established, reasonable potential was not determined. For parameters for which new data is available and reasonable potential cannot be determined, effluent limitations have been retained. The monitoring and reporting program (MRP) in Attachment E of this Order is intended to facilitate collection of additional information for these constituents to determine if reasonable potential exists in future permit renewals and/or updates.

Reasonable potential to cause or contribute to an exceedance of water quality objectives contained within the Ocean Plan (i.e. Endpoint 1) was determined for total residual chlorine and chronic toxicity, thus effluent limitations for total residual chlorine and chronic toxicity have been established in this Order based on the minimum probable dilution of 144 to 1, as discussed below.

4. WQBEL Calculations

a. From the Table B water quality objectives of the Ocean Plan, effluent limitations and performance goals are calculated according to the following equation for all pollutants, except for acute toxicity (if applicable) and radioactivity:

Ce = Co + Dm (Co – Cs) where,

Ce = the effluent limitation (µg/L)
Co = the water quality objective to be met at the completion of initial dilution (µg/L)
Cs = background seawater concentration
Dm = minimum probable initial dilution expressed as parts seawater per part wastewater

b. Initial dilution (Dm) has been determined to be 144 to 1 by the San Diego Water Board through the application of USEPA's dilution model, Visual Plumes.

c. Table C of the Ocean Plan establishes background concentrations for some pollutants to be used when determining reasonable potential (represented as "Cs"). In accordance with Table B implementing procedures, Cs equals zero for all pollutants not established in Table C. The background concentrations provided in Table C are summarized below:

Table F-10. Pollutants Having Background Concentrations

Pollutant	Background Seawater Concentration
Arsenic	3 µg/L
Copper	2 µg/L
Mercury	0.0005 µg/L
Silver	0.16 µg/L
Zinc	8 µg/L

d. As an example of how effluent limitations and performance goals have been calculated, the performance goals for cyanide are determined as follows:

Water quality objectives from the Ocean Plan for cyanide are:

Table F-11. Example Parameter Water Quality Objectives

Parameter	Units	6-Month Median	Daily Maximum	Instantaneous Maximum
Cyanide	µg/L	1	4	10

Using the equation, Ce = Co + Dm (Co – Cs), effluent limitations/performance goals are calculated as follows.

Cyanide

Ce = 1 + 144 (1 – 0) = 145 (6-Month Median)
Ce = 4 + 144 (4 – 0) = 580 (Daily Maximum)
Ce = 10 + 144 (10 – 0) = 1,450 (Instantaneous Maximum)

Based on the implementing procedures described above, effluent limitations and performance goals have been calculated for all Table B pollutants from the California Ocean Plan and incorporated into this Order.

e. 40 CFR 122.45(f)(1) requires effluent limitations be expressed in terms of mass, with some exceptions, and 40 CFR 122.45(f)(2) allows pollutants that are limited in terms of mass to additionally be limited in terms of other units of measurement. This Order includes effluent limitations expressed in terms of mass and concentration. In addition, pursuant to the exceptions to mass limitations provided in 40 CFR 122.45(f)(1), some effluent limitations are not expressed in terms of mass, such as pH and temperature, and when the applicable standards are expressed in terms of concentration (e.g., CTR criteria and MCLs) and mass limitations are not necessary to protect the beneficial uses of the receiving water.

Mass-based effluent limitations were calculated using the following equation:

lbs/day = permitted flow (MGD) x pollutant concentration (mg/L) x 8.34

f. A summary of the WQBELs established in this Order are provided below:

Summary of Water Quality-based Effluent Limitations
Discharge Point No. 001

Table F-12. Summary of Water Quality-based Effluent Limitations

Parameter	Units	Effluent Limitations			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
BASED ON OBJECTIVES FOR PROTECTION OF MARINE AQUATIC LIFE					
Chlorine, Total Residual	µg/L	2.9E+02	1.2E+03	8.7E+03	--
	lbs/day	1.0E+02	4.2E+02	3.1E+03	--
Chronic Toxicity	TUc	--	145	--	--

g. A summary of the performance goals is provided in Table F-14 of this Fact Sheet.

5. Whole Effluent Toxicity (WET)

a. Implementing provisions at section III.C.4.c.(3) of the Ocean Plan require chronic toxicity monitoring for ocean waste discharges with minimum initial dilution factors ranging from 100:1 to 350:1. Using quarterly chronic WET testing data conducted between January 2006 and January 2010, the RPA resulted in Endpoint 1, and an effluent limitation and quarterly monitoring for chronic toxicity is required. Based on the methods established

by the California Ocean Plan, a maximum daily effluent limitation (MDEL) of 145 TUc is established in this Order.

b. Implementing provisions at section III.C.4.c.(3) of the Ocean Plan states that the San Diego Water Board may require acute toxicity testing in addition to chronic toxicity monitoring for ocean waste discharges with minimum initial dilution factors ranging from 100:1 to 350:1 as necessary for the protection of beneficial uses of ocean waters. The Discharger has been granted a dilution ratio of 144 at Discharge Point No. 001 and the results of the RPA do not indicate reasonable potential for acute toxicity; however, because acute toxicity is included as a performance goal, acute toxicity monitoring is being carried over to this Order.

D. Final Effluent Limitations

The following tables list the effluent limitations established by this Order. These effluent limitations, including mass emission rate (MER) effluent limitations apply year round. Where this Order establishes MERs, these limitations have been derived based on flows of 40.5 MGD (EWPCF), 5 MGD (VMWRP), and 4 MGD (CWRF). MER effluent limitations for the combined flows are based on 43.3 MGD, the projected average dry weather flow of the EOO.

Table F-13.a. Technology-based Effluent Limitations for EWPCF at M-001.

Parameter	Units	Effluent Limitations					
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	6-Month Median
Carbonaceous Biochemical Oxygen Demand (5-day @ 20°C)[1]	mg/L	25	40	--	--	--	--
	lbs/day	8,400	14,000	--	--	--	--
Total Suspended Solids[1]	mg/L	30	45	--	--	--	--
	lbs/day	10,000	15,000	--	--	--	--
Oil and Grease	mg/L	25	40	--	--	75	--
	lbs/day	8,400	14,000	--	--	25,000	
Settleable Solids	ml/L	1.0	1.5	--	--	3.0	--
Turbidity	NTU	75	100	--	--	225	--
pH	standard units	--	--	--	6.0	9.0	--

[1] The average monthly percent removal of $CBOD_5$ and TSS shall not be less than 85 percent.

Table F-13.b. Technology-based Effluent Limitations for VMWRP at M-002.

Parameter	Units	Effluent Limitations					
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	6-Month Median
Carbonaceous Biochemical Oxygen Demand (5-day @ 20°C)[1]	mg/L	25	40	--	--	--	--
	lbs/day	1,000	1,700	--	--	--	--
Total Suspended Solids[1]	mg/L	30	45	--	--	--	--
	lbs/day	1,300	1,900	--	--	--	--
Oil and Grease	mg/L	25	40	--	--	75	--
	lbs/day	1,000	1,700	--	--	3,100	
Settleable Solids	ml/L	1.0	1.5	--	--	3.0	--
Turbidity	NTU	75	100	--	--	225	--
pH	standard units	--	--	--	6.0	9.0	--

[1] The average monthly percent removal of $CBOD_5$ and TSS shall not be less than 85 percent.

Table F-13.c. Technology-based Effluent Limitations for BSWRP at M-003.

Parameter	Units	Effluent Limitations					
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	6-Month Median
Carbonaceous Biochemical Oxygen Demand (5-day @ 20°C)[1]	mg/L	25	40	--	--	--	--
Total Suspended Solids[1]	mg/L	30	45	--	--	--	--
Oil and Grease	mg/L	25	40	--	--	75	--
Settleable Solids	ml/L	1.0	1.5	--	--	3.0	--
Turbidity	NTU	75	100	--	--	225	--
pH	standard units	--	--	--	6.0	9.0	--

[1] The average monthly percent removal of $CBOD_5$ and TSS shall not be less than 85 percent.

Table F-13.d. Technology-based Effluent Limitations for CWRF at M-005.

Parameter	Units	Effluent Limitations					
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	6-Month Median
Total Suspended Solids[1]	mg/L	60	--	--	--	--	--
	lbs/day	2,000	--	--	--	--	--
Oil and Grease	mg/L	25	40	--	--	75	--
	lbs/day	834	1,300	--	--	2,500	
Settleable Solids	ml/L	1.0	1.5	--	--	3.0	--
Turbidity	NTU	75	100	--	--	225	--
pH	standard units	--	--	--	6.0	9.0	--

Table F-13.e. Effluent Limitations for Combined Flow, Based on Table B of the Ocean Plan at M-004.

Parameter	Units	Effluent Limitations					
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	6-Month Median
BASED ON OBJECTIVES FOR PROTECTION OF MARINE AQUATIC LIFE							
Chlorine, Total Residual	µg/L	--	--	1,200	8,700	--	290
	lbs/day	--	--	420	3,100	--	100
Chronic Toxicity[1]	TUc	--	--	145	--	--	--

[1] Chronic toxicity expressed as Chronic Toxicity Units (TUc) = 100/NOEL, where NOEL (No Observed Effect Level) is expressed as the maximum percent effluent or receiving water that causes no observable effect on a test organism.

1. Satisfaction of Anti-Backsliding Requirements

The TBELs in this Order are at least as stringent as the effluent limitations in the previous Order.

Effluent limitations from Order No. R9-2005-0219 are not retained for constituents for which RPA results indicated Endpoint 2, or Endpoint 3 when previous effluent limitations had not been established: instead performance goals have been assigned for these constituents. Parameters for which Endpoint 2 was concluded are determined not to have reasonable potential, thus it is inappropriate to establish effluent limitations for these parameters. For parameters for which Endpoint 3 was concluded and previous effluent limitations had not been established, reasonable potential was not determined. For parameters for which new data is available, and reasonable potential cannot be determined, effluent limitations have been removed as allowed under 40 CFR 122(l)(2)(i)(B), and performance goals have been established in their place. The MRP for this Order is designed to obtain additional

information for these constituents to determine if reasonable potential exists for these constituents in future permit renewals and/or updates.

This permit complies with all applicable federal and State anti-backsliding regulations.

2. Satisfaction of Antidegradation Policy

WDRs for the Discharger must conform with federal and State antidegradation policies provided at 40 CFR 131.12 and in State Water Board Resolution No. 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters in California*. The antidegradation policies require that beneficial uses and the water quality necessary to maintain those beneficial uses in the receiving waters of the discharge shall be maintained and protected, and, if existing water quality is better than the quality required to maintain beneficial uses, the existing water quality shall be maintained and protected unless allowing a lowering of water quality is necessary to accommodate important economic and social development or consistent with maximum benefit to the people of California. When a significant lowering of water quality is allowed by the San Diego Water Board, an antidegradation analysis is required in accordance with the State Water Board's Administrative Procedures Update (July 2, 1990), *Antidegradation Policy Implementation for NPDES Permitting.*

a. Technology-based Effluent Limitations (TBELs)

The TBELs are at least as stringent as the previous effluent limitations, and no degradation of the receiving water is expected. The TBELs contained in Order No. R9-2005-0219 were modified from previous NPDES permits for the Discharger, to allow for increase mass emissions rates resulting from the Phase V expansion. When evaluating the conditions for R9-2005-0219, the San Diego Water Board considered the potential increase in pollutant MERs resulting from the proposed increased flow.

This Order modifies the location at which TBELs based on Table A of the Ocean Plan are applied. As discussed in section IV.B of this Fact Sheet, Table A TBELs contained in Order No. R9-2005-0219 were applicable at the EOO. This Order modifies the compliance determination point for Table A TBELs to the individual discharges from the EWPCF, VMWRP, BSWRP, and CWRF, prior to commingling within the EOO.

Order No. R9-2005-0219 applied TBELs based on secondary treatment standards, as concentrations, to the individual discharges of secondary effluent from the EWPCF and VMWRP. Corresponding MER limitations, however, were applied as the sum of individual mass from each facility and calculated based on the permitted flow of the EOO of 43.3 MGD.

Consistent with concentration limitations, this Order applies effluent MER limitations, based on Table A and/or secondary treatment standards, at the individual discharges from the Facilities. The revised effluent MER limitations are calculated based on design flows of 40.5 MGD (EWCF), 5 MGD (VMWRP), and 4 MGD(CWRF). Because the new MERs are applied individually, they ensure proper performance of individual treatment plants. In addition, the 43.3 MGD flow restriction on the EOO remains the same as in Order No. R9-2005-0219, thus the San Diego Water Board does not anticipate a lowering of water quality and no antidegradation analysis is required.

b. Water Quality-based Effluent Limitations

The WQBELs contained in this Order are no less stringent than those contained in Order No. R9-2005-0219. As WQBELs and performance goals are at least as stringent as in Order No. R9-2005-0219, the San Diego Water Board has determined that an antidegradation analysis is not required.

3. Stringency of Requirements for Individual Pollutants

This Order contains both TBELs and WQBELs for individual pollutants. The TBELs consist of restrictions on $CBOD_5$, TSS, oil and grease, settleable solids, turbidity, and pH. Restrictions on these constituents are discussed in section IV.B of this Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. These limitations are not more stringent than required by the CWA.

WQBELs have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. The scientific procedures for calculating the individual WQBELs are based on the Ocean Plan, which was approved by USEPA on February 14, 2006. All beneficial uses and water quality objectives contained in the Basin Plan were approved under State law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to 40 CFR 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

E. Performance Goals

Constituents that do not display reasonable potential to cause or contribute to an exceedance of water quality standard are listed as performance goals in this Order. Performance goals serve to maintain existing treatment levels and effluent quality and supports State and federal antidegradation policies. Additionally, performance goals provide all interested parties with information regarding the expected levels of pollutants in the discharge that should not be exceeded in order to maintain the water quality objectives established in the Ocean Plan. Performance goals are not limitations or standards for the regulation of the discharge. Effluent concentrations above the performance goals will not be considered as violations of the permit but serve as red flags that indicate water quality concerns. Repeated red flags may prompt the San Diego Water Board to reopen and amend the permit to replace performance goals for constituents of concern with effluent limitations, or the San Diego Water Board may coordinate such actions with the next permit renewal.

The following table lists the performance goals established by this Order. A minimum probable initial dilution factor of 144 to 1 was used in establishing the performance goals.

Table F-14. Performance Goals Based on the Ocean Plan

Parameter	Unit	Performance Goals[1]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
OBJECTIVES FOR PROTECTION OF MARINE AQUATIC LIFE					
Arsenic, Total Recoverable	µg/L	7.3E+02	4.2E+03	1.1E+04	--
	lbs/day	2.6E+02	1.5E+03	4.0E+03	--
Cadmium, Total Recoverable	µg/L	1.5E+02	5.8E+02	1.5E+03	--
	lbs/day	5.2E+01	2.1E+02	5.2E+02	--
Chromium VI, Total Recoverable[2]	µg/L	2.9E+02	1.2E+03	2.9E+03	--
	lbs/day	1.0E+02	4.2E+02	1.0E+03	--
Copper, Total Recoverable	µg/L	1.5E+02	1.5E+03	4.1E+03	--
	lbs/day	5.3E+01	5.2E+02	1.5E+03	--
Lead, Total Recoverable	µg/L	2.9E+02	1.2E+03	2.9E+03	--
	lbs/day	1.0E+02	4.2E+02	1.0E+03	--
Mercury, Total Recoverable	µg/L	5.08E+00	2.2E+01	5.7E+01	--
	lbs/day	1.83E+00	8.1E+00	2.1E+01	--
Nickel, Total Recoverable	µg/L	7.3E+02	2.9E+03	7.3E+03	--
	lbs/day	2.6E+02	1.0E+03	2.6E+03	--
Selenium, Total Recoverable	µg/L	2.2E+03	8.7E+03	2.2E+04	--
	lbs/day	7.9E+02	3.1E+03	7.9E+03	--
Silver, Total Recoverable	µg/L	7.8E+01	3.8E+02	9.9E+02	--
	lbs/day	2.8E+01	1.4E+02	3.6E+02	--
Zinc, Total Recoverable	µg/L	1.7E+03	1.0E+04	2.8E+04	--
	lbs/day	6.3E+02	3.8E+03	1.0E+04	--
Cyanide, Total Recoverable	µg/L	1.5E+02	5.8E+02	1.5E+03	
	lbs/day	5.2E+01	2.1E+02	5.2E+02	
Chlorine, Total Residual	µg/L	2.9E+02	1.2E+03	8.7E+03	--
	lbs/day	1.0E+02	4.2E+02	3.1E+03	--
Ammonia (expressed as nitrogen)	µg/L	8.7E+04	3.5E+05	8.7E+05	--
	lbs/day	3.1E+04	1.3E+05	3.1E+05	--
Acute Toxicity	TUa	--	4.6E+00	--	
Chronic Toxicity[3]	TUc	--	1.5E+0	--	--
Phenolic Compounds (non-chlorinated)[4]	µg/L	4.4E+03	1.7E+04	4.4E+04	--
	lbs/day	1.6E+03	6.3E+03	1.6E+04	--
Chlorinated Phenolics[5]	µg/L	1.5E+02	5.8E+02	1.5E+03	--
	lbs/day	5.2E+01	2.1E+02	5.2E+02	--
Endosulfan[6]	µg/L	1.3E+00	2.6E+00	3.9E+00	--
	lbs/day	4.7E-01	9.4E-01	1.4E+00	--
Endrin	µg/L	2.9E-01	5.8E-01	8.7E-01	--

Parameter	Unit	Performance Goals[1]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
	lbs/day	1.0E-01	2.1E-01	3.1E-01	--
HCH[7]	µg/L	5.8E-01	1.2E+00	1.7E+00	--
	lbs/day	2.1E-01	4.2E-01	6.3E-01	--
Radioactivity	pCi/L	Not to exceed limits specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, Section 30253 of the California Code of Regulations, Reference to Section 30253 is prospective, including future changes to any incorporated provisions of federal law, as the changes take effect.			
OBJECTIVES FOR PROTECTION OF HUMAN HEALTH – NONCARCINOGENS					
Acrolein	µg/L	--	--	--	3.2E+04
	lbs/day	--	--	--	1.2E+04
Antimony	µg/L	--	--	--	1.7E+05
	lbs/day	--	--	--	6.3E+04
Bis(2-chloroethoxy) Methane	µg/L	--	--	--	6.4E+02
	lbs/day	--	--	--	2.3E+02
Bis(2-chloroisopropyl) Ether	µg/L	--	--	--	1.7E+05
	lbs/day	--	--	--	6.3E+04
Chlorobenzene	µg/L	--	--	--	8.3E+04
	lbs/day	--	--	--	3.0E+04
Chromium (III), Total Recoverable	µg/L	--	--	--	2.8E+07
	lbs/day	--	--	--	9.9E+06
Di-n-butyl Phthalate	µg/L	--	--	--	5.1E+05
	lbs/day	--	--	--	1.8E+05
Dichlorobenzenes[8]	µg/L	--	--	--	7.4E+05
	lbs/day	--	--	--	2.7E+05
Diethyl Phthalate	µg/L	--	--	--	4.8E+06
	lbs/day	--	--	--	1.7E+06
Dimethyl Phthalate	µg/L	--	--	--	1.2E+08
	lbs/day	--	--	--	4.3E+07
4,6-dinitro-2-methylphenol	µg/L	--	--	--	3.2E+04
	lbs/day	--	--	--	1.2E+04
2,4-dinitrophenol	µg/L	--	--	--	5.8E+02
	lbs/day	--	--	--	2.1E+02
Ethylbenzene	µg/L	--	--	--	5.9E+05
	lbs/day	--	--	--	2.1E+05
Fluoranthene	µg/L	--	--	--	2.2E+03
	lbs/day	--	--	--	7.9E+02
Hexachlorocyclopentadiene	µg/L	--	--	--	8.4E+03
	lbs/day	--	--	--	3.0E+03

Parameter	Unit	Performance Goals[1]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
Nitrobenzene	µg/L	--	--	--	7.1E+02
	lbs/day	--	--	--	2.6E+02
Thallium, Total Recoverable	µg/L	--	--	--	2.9E+02
	lbs/day	--	--	--	1.0E+02
Toluene	µg/L	--	--	--	1.2E+07
	lbs/day	--	--	--	4.5E+06
Tributyltin	µg/L	--	--	--	2.0E-01
	lbs/day	--	--	--	7.3E-02
1,1,1-trichloroethane	µg/L	--	--	--	7.8E+07
	lbs/day	--	--	--	2.8E+07
OBJECTIVES FOR PROTECTION OF HUMAN HEALTH – CARCINOGENS					
Acrylonitrile	µg/L	--	--	--	1.5E+01
	lbs/day	--	--	--	5.2E+00
Aldrin	µg/L	--	--	--	3.2E-03
	lbs/day	--	--	--	1.2E-03
Benzene	µg/L	--	--	--	8.6E+02
	lbs/day	--	--	--	3.1E+02
Benzidine	µg/L	--	--	--	1.0E-02
	lbs/day	--	--	--	3.6E-03
Beryllium	µg/L	--	--	--	4.8E+00
	lbs/day	--	--	--	1.7E+00
Bis(2-chloroethyl) Ether	µg/L	--	--	--	6.5E+00
	lbs/day	--	--	--	2.4E+00
Bis(2-ethlyhexyl) Phthalate	µg/L	--	--	--	5.1E+02
	lbs/day	--	--	--	1.8E+02
Carbon Tetrachloride	µg/L	--	--	--	1.3E+02
	lbs/day	--	--	--	4.7E+01
Chlorodane	µg/L	--	--	--	3.3E-03
	lbs/day	--	--	--	1.2E-03
Chlorodibromomethane	µg/L	--	--	--	1.2E+03
	lbs/day	--	--	--	4.5E+02
Chloroform	µg/L	--	--	--	1.9E+04
	lbs/day	--	--	--	6.8E+03
DDT[9]	µg/L	--	--	--	2.5E-02
	lbs/day	--	--	--	8.9E-03
1,4-dichlorobenzene	µg/L	--	--	--	2.6E+03
	lbs/day	--	--	--	9.4E+02
3,3'-dichlorobenzidine	µg/L	--	--	--	1.2E+00

Parameter	Unit	Performance Goals[1]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
	lbs/day	--	--	--	4.2E-01
1,2-dichloroethane	µg/L	--	--	--	4.1E+03
	lbs/day	--	--	--	1.5E+03
1,1-dichloroethylene	µg/L	--	--	--	1.3E+02
	lbs/day	--	--	--	4.7E+01
Dichlorobromomethane	µg/L	--	--	--	9.0E+02
	lbs/day	--	--	--	3.2E+02
Dichloromethane	µg/L	--	--	--	6.5E+04
	lbs/day	--	--	--	2.4E+04
1,3-dichloropropene	µg/L	--	--	--	1.3E+03
	lbs/day	--	--	--	4.7E+02
Dieldrin	µg/L	--	--	--	5.8E-03
	lbs/day	--	--	--	2.1E-03
2,4-dinitrotoluene	µg/L	--	--	--	3.8E+02
	lbs/day	--	--	--	1.4E+02
1,2-diphenylhydrazine	µg/L	--	--	--	2.3E+01
	lbs/day	--	--	--	8.4E+00
Halomethanes[10]	µg/L	--	--	--	1.9E+04
	lbs/day	--	--	--	6.8E+03
Heptachlor	µg/L	--	--	--	7.3E-03
	lbs/day	--	--	--	2.6E-03
Heptachlor Epoxide	µg/L	--	--	--	2.9E-03
	lbs/day	--	--	--	1.0E-03
Hexachlorobenzene	µg/L	--	--	--	3.0E-02
	lbs/day	--	--	--	1.1E-02
Hexachlorobutadiene	µg/L	--	--	--	2.0E+03
	lbs/day	--	--	--	7.3E+02
Hexachloroethane	µg/L	--	--	--	3.6E+02
	lbs/day	--	--	--	1.3E+02
Isophorone	µg/L	--	--	--	1.1E+05
	lbs/day	--	--	--	3.8E+04
N-nitrosodimethylamine	µg/L	--	--	--	1.1E+03
	lbs/day	--	--	--	3.8E+02
N-nitrosodi-N-propylamine	µg/L	--	--	--	5.5E+01
	lbs/day	--	--	--	2.0E+01
N-nitrosodiphenylamine	µg/L	--	--	--	3.6E+02
	lbs/day	--	--	--	1.3E+02
PAHs[11]	µg/L	--	--	--	1.3E+00

Parameter	Unit	Performance Goals[1]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average
	lbs/day	--	--	--	4.6E-01
PCBs[12]	µg/L	--	--	--	2.8E-03
	lbs/day	--	--	--	9.9E-04
TCDD equivalents[13]	µg/L	--	--	--	5.7E-07
	lbs/day	--	--	--	2.0E-07
1,1,2,2-tetrachloroethane	µg/L	--	--	--	3.3E+02
	lbs/day	--	--	--	1.2E+02
Tetrachloroethylene	µg/L	--	--	--	2.9E+02
	lbs/day	--	--	--	1.0E+02
Toxaphene	µg/L	--	--	--	3.0E-02
	lbs/day	--	--	--	1.1E-02
Trichloroethylene	µg/L	--	--	--	3.9E+03
	lbs/day	--	--	--	1.4E+03
1,1,2-trichloroethane	µg/L	--	--	--	1.4E+03
	lbs/day	--	--	--	4.9E+02
2,4,6-trichlorophenol	µg/L	--	--	--	4.2E+01
	lbs/day	--	--	--	1.5E+01
Vinyl Chloride	µg/L	--	--	--	5.2E+03
	lbs/day	--	--	--	1.9E+03

Parameter	Unit	Performance Goals[1]			
		6-Month Median	Maximum Daily	Instantaneous Maximum	30-Day Average

[1] Scientific "E" notation is used to express certain values. In scientific "E" notation, the number following the "E" indicates that position of the decimal point in the value. Negative numbers after the "E" indicate that the value is less than 1, and positive numbers after the "E" indicate that the value is greater than 1. In this notation a value of 6.1E-02 represents 6.1×10^{-2} or 0.061, 6.1E+02 represents 6.1×10^{2} or 610, and 6.1E+00 represents 6.1×10^{0} or 6.1.

[2] Dischargers may, at their option, apply this performance goal as a total chromium performance goal.

[3] Chronic toxicity expressed as Chronic Toxicity Units (TUc) = 100/NOEL, where NOEL (No Observed Effect Level) is expressed as the maximum percent effluent or receiving water that causes no observable effect on a test organism.

[4] Non-chlorinated phenolic compounds represent the sum of 2,4-dimethylphenol, 4,6-Dinitro-2-methylphenol, 2,4-dinitrophenol, 2-methylphenol, 4-methylphenol, 2-Nitrophenol, 4-nitrophenol, and phenol.

[5] Chlorinated phenolic compounds represent the sum of 4-chloro-3-methylphenol, 2-chlorophenol, pentachlorophenol, 2,4,5-trichlorophenol, and 2,4,6-trichlorophenol.

[6] Endosulfan represents the sum of alpha-endosulfan, beta-endosulfan, and endosulfan sulfate.

[7] HCH (hexachlorocyclohexane) represents the sum of the alpha, beta, gamma (Lindane), and delta isomers of hexachlorocyclohexane.

[8] Dichlorobenzenes represent the sum of 1,2- and 1,3-dichlorobenzene.

[9] DDT represents the sum of 4,4'DDT; 2,4'DDT; 4,4'DDE; 2,4'DDE; 4,4'DDD; and 2,4'DDD.

[10] Halomethanes represent the sum of bromoform, bromomethane (methyl bromide), and chloromethane (methyl chloride).

[11] PAHs (polynuclear aromatic hydrocarbons) represent the sum of acenapthalene; anthracene; 1,2-benzanthracene; 3,4-benzofluoranthene; benzo[k]fluoranthene; 1,12-benzoperylene; benzo[a]pyrene; chrysene; dibenzo[a,h]anthracene; fluorene; indeno[1,2,3-cd]pyrene; phenanthrene; and pyrene.

[12] PCBs (polychlorinated biphenyls) represent the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Arolclor-1254, and Arcolor-1260.

[13] TCDD equivalents represent the sum of concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors, as shown by the table below. USEPA Method 8280 may be used to analyze TCDD equivalents.

Isomer Group	Toxicity Equivalence Factor
2,3,7,8 – tetra CDD	1.0
2,3,7,8 – penta CDD	0.5
2,3,7,8 – hexa CDD	0.1
2,3,7,8 – hepta CDD	0.01
octa CDD	0.001
2,3,7,8 – tetra CDF	0.1
1,2,3,7,8 – penta CDF	0.05
2,3,4,7,8 – penta CDF	0.5
2,3,7,8 – hexa CDFs	0.1
2,3,7,8 – hepta CDFs	0.01
Octa CDF	0.001

F. Interim Effluent Limitations – Not Applicable

G. Land Discharge Specifications – Not Applicable

H. Reclamation Specifications

Vallecitos Water District and Carlsbad Municipal Water District shall continue to comply with reclamation requirements established in San Diego Water Board Order Nos. R9-2007-0018 and R9-2001-0352, respectively, and any applicable future revised or renewal waste discharge requirements.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

Receiving water limitations of this Order are derived from the water quality objectives for ocean waters established by the Basin Plan and the Ocean Plan.

Prior to this Order, the San Diego Water Board has interpreted the Bacterial Characteristics Water-contact Standards of the Ocean Plan (Receiving Water Limitations section V.A.1) to apply only in the zone bounded by the shoreline and a distance 1,000 feet from the shoreline or the 30-foot depth contour, whichever is further from the shoreline, and within kelp beds. The 2005 Ocean Plan also has language that these standards also apply in areas outside this zone used for water contact sports, as determined by the Regional Boards (i.e., waters designated as REC-1). These designations would need to be specified in the Basin Plan. Because the San Diego Water Board has not completed a process to designate specific areas where the water-contact standards apply, Ocean Plan Bacterial Standards apply throughout all ocean waters in the San Diego Region. This interpretation has been confirmed by the USEPA.

By letter dated March 3, 2011, EWA submitted a summary of the near shore and offshore receiving water monitoring results collected for January 2006 through December 2010. The results from the offshore stations were all within the Ocean Plan Bacterial Standards for total coliform and fecal coliform. For enterococcus, there were two values in excess of the 30-day geometric mean limitation; however, EWA provided details indicating that these two exceedances may not have been caused by the discharge from EWA's facilities. In addition to their compliance history, EWA's March 3, 2011 letter stated that EWA would ensure compliance by sampling early each month, expediting testing of samples, and conducting repeat sampling if there are any exceedances. Thus, the 5-year compliance schedule, that was included in three recently adopted POTW Ocean Outfall NPDES Permits, is not included in this tentative Order.

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

40 CFR 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. CWC sections 13267 and 13383 authorize the San Diego Water Board to require technical and monitoring reports. The MRP (Attachment E) of this Order, establishes monitoring and reporting requirements to implement federal and State requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for the Facilities.

A. Influent Monitoring

Influent monitoring is required to assess the performance of treatment facilities and to evaluate compliance with effluent limitations. Influent monitoring frequencies and sample types for flow,

$CBOD_5$, BOD_5, and TSS have been retained from Order No. R9-2005-0219 for the EWPCF and VMWRP. Influent monitoring requirements for the BSWRP are added to this Order in the event that discharges from the facility occur. Refer to section III.A of Attachment E for a summary of influent monitoring requirements.

B. Effluent Monitoring

Effluent monitoring is required to determine compliance with the permit conditions, to identify operational problems, to improve plant performance, and to conduct reasonable potential analyses for subsequent Orders. Effluent monitoring also provides information on wastewater characteristics for use in interpreting water quality and biological data. Effluent monitoring requirements for all parameters, except for oil and grease, TSS, and turbidity at M-004, have been retained from Order No. R9-2005-0219.

Order No. R9-2011-0019 establishes new monitoring requirements for brine discharged from the CWRF that is contributory to discharges at the EOO to the receiving water. These monitoring requirements have been established in order to ascertain compliance with limitations based on technology-based effluent limits contained in Table A of the Ocean Plan. Compliance will be evaluated at the newly established monitoring location M-005 which shall be located where representative samples of brine from the CWRF can be collected, prior to commingling with other discharges contributing to the EOO.

Monitoring requirements at M-004 for the Ocean Plan Table A constituents oil and grease, suspended solids, and turbidity have been removed from this Order. This Order applies effluent limitations for these constituents at each individual facility. Correspondingly, this Order requires monitoring for oil and grease, settleable solids, and turbidity at the location of each individual facility, prior to commingling with other discharges contributing to the EOO.

The MRP (Attachment E) of this Order modifies the sample type specified in Order No. R9-2005-0219 for turbidity, nonchlorinated and chlorinated phenolics, endosulfan, endrin, and hexachlorocyclohexane isomers (HCH), from composite to grab. The Ocean Plan Table A specifies turbidity objectives as an instantaneous maximum and a grab sample is more appropriate for the Facilities to determine compliance with this objective. For nonchlorinated and chlorinated phenolics, endosulfan, endrin, and HCH, methods approved under 40 CFR Part 136 specify amber glass containers and other specialized materials for sample containers and automatic samplers to avoid degradation and introduction of interfering analytes. As such, it may be difficult to appropriately equip automatic samplers or to manually collect composites.

C. Whole Effluent Toxicity Testing Requirements

As described in section IV.C.5 of the Fact Sheet, quarterly chronic and semiannual acute WET testing is required by this Order to determine compliance with effluent limitations and performance goals based on Ocean Plan Table B water quality objectives and evaluate any potential synergistic effects in the effluent.

D. Receiving Water Monitoring

1. Surface Water

a. Microbiological (Near Shore and Off Shore)

The near shore and off shore water quality sampling program is designed to help evaluate the fate of the wastewater plume under various conditions and to determine if the Ocean Plan standards are being negatively impacted by the discharge. Further, bacterial sampling is required to provide data to help track the wastewater plume in the offshore waters, to evaluate compliance with recreational water standards in the kelp beds, and to address issues of beach water quality at the shoreline stations. Monitoring requirements for total coliform organisms, fecal coliform organisms, and enterococcus bacteria have been established in this Order, consistent with Order No. R9-2005-0219.

b. Benthic Monitoring

Sediment and infauna monitoring is required to help evaluate the potential effects of the discharge on the physical and chemical properties of the sediment and biological communities in the vicinity of the discharge, consistent with Order No. R9-2005-0219.

c. Fish and Invertebrate

Fish and invertebrate monitoring is required to assess the effects of the discharge on local fish and megabenthic invertebrate communities in the surrounding area of the discharge location, consistent with Order No. R9-2005-0219.

E. Other Monitoring Requirements

1. **Kelp Bed Monitoring.** Kelp bed monitoring is intended to assess the extent to which the discharge of wastes may affect the aerial extent and health of coastal kelp beds. The aerial extent of the various kelp beds photographed in each survey will provide a baseline for future monitoring to help evaluate any significant and persistent losses to the kelp beds.

2. **Regional Monitoring.** The Discharger is required to participate in regional monitoring activities coordinated by the Southern California Coastal Water Project (SCCWRP). The procedures for Executive Officer and USEPA approval shall be the same as detailed above for the strategic process studies. The intent of regional monitoring activities is to maximize the efforts of all monitoring partners using a more cost-effective monitoring design and to best utilize the pooled scientific resources of the region. During these coordinated sampling efforts, the Discharger's sampling and analytical effort may be reallocated to provide a regional assessment of the impact of the discharge of municipal wastewater to the Southern California Bight. Anticipated modifications to the monitoring program will be coordinated so as to provide a more comprehensive picture of the ecological and statistical significance of monitoring results and to determine cumulative impacts of various pollution sources.

3. **Solids Monitoring.** The Discharger is required to monitor solids generated at the Facilities pursuant to 40 CFR Part 503. The Discharger shall report, annually, the volume of screenings, sludges, grit, and other solids generated and/or removed during wastewater treatment and the locations where these waste materials are placed for disposal.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR 122.42, are provided in Attachment D to the Order.

40 CFR 122.41(a)(1) and (b) through (n) establish conditions that apply to all State-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. 40 CFR 123.25(a)(12) allows the State to omit or modify conditions to impose more stringent requirements. In accordance with 40 CFR 123.25, this Order omits federal conditions that address enforcement authority specified in 40 CFR 122.41(j)(5) and (k)(2) because the enforcement authority under the CWC is more stringent. In lieu of these conditions, this Order incorporates by reference CWC section 13387(e).

B. Special Provisions

1. Reopener Provisions

This Order may be re-opened and modified, revoked and reissued, or terminated in accordance with the provisions of 40 CFR Parts 122, 123, 124, and 125. The San Diego Water Board may reopen the permit to modify permit conditions and requirements. Causes for modifications include the promulgation of new regulations, modification in sludge use or disposal practices, or adoption of new regulations by the State Water Board or the San Diego Water Board, including revisions to the Basin Plan.

2. Special Studies and Additional Monitoring Requirements

a. Spill Prevention and Response Plans

The CWA largely prohibits any discharge of pollutants from point sources to waters of the United States except as authorized under an NPDES permit. In general, any point source discharge of sewage effluent to waters of the United States must comply with technology-based, secondary treatment standards, at a minimum, and any more stringent requirements necessary to meet applicable water quality standards and other requirements. The unpermitted discharge of wastewater to waters of the United States is illegal under the CWA. Further, the Basin Plan prohibitions discharges of waste to land, except as authorized by WDRs of the terms described in CWC section 13264. The Basin Plan also prohibits the unauthorized discharge of treated or untreated sewage to waters of the State or to a storm water conveyance system. Further, Discharge Prohibition III.A of the Order prohibits the discharge of waste from the Facilities not treated by secondary treatment process and not in compliance with the effluent limitations of the Order and/or to a location other than Discharge Point No. 001.

Sanitary collection and treatment systems experience periodic failures resulting in discharges that may affect waters of the State. There are many factors which may affect the likelihood of a spill. To ensure appropriate funding, management, and planning to reduce the likelihood of a spill, and increase the spill preparedness, this Order requires the Discharger to maintain and implement Spill Prevention and Response Plans.

b. Spill Reporting Requirements

To determine compliance with Discharge Prohibition III.A and provide appropriate notification to the general public for the protection of public health, spill reporting requirements have been established in section VI.C.2.a and VI.C.2.b of this Order.

c. Whole Effluent Toxicity (WET)

Implementing provisions at section III.C.4.c.(3) of the Ocean Plan require chronic toxicity monitoring for ocean waste discharges with minimum initial dilution factors ranging from 100:1 to 350:1 and that the Regional Water Quality Control Boards may also require acute toxicity monitoring in addition to chronic for the protection of beneficial uses of ocean waters. Based on methods of the California Ocean Plan, a maximum daily effluent limitation of 145 TUc is established in this Order and quarterly monitoring is retained from Order No. R9-2005-0219. In addition, the San Diego Water Board is carrying over the performance goal of 4.6 TUa and the requirement to conduct acute toxicity monitoring.

This Order requires the Discharger to develop a Toxicity Reduction Evaluation (TRE) workplan, and submit the TRE workplan within 180 days of the effective date of this Order. The workplan shall describe steps the Discharger intends to follow if the limitation for chronic toxicity (145 TUc) is exceeded or if the performance goal for acute toxicity (4.6 TUa) is exceeded.

If the limitation or performance goals for chronic and/or acute toxicity is exceeded, then within 15 days of the exceedance, the Discharger shall begin conducting six additional tests, bi-weekly, over a 12 week period. If the toxicity effluent limitation/performance goal is exceeded in any of these six additional tests, then the Discharger shall notify the Executive Officer. If the Executive Officer determines that the discharge consistently exceeds a toxicity effluent limitation or performance goal, then the Discharger shall initiate a TRE/TIE in accordance with the TRE workplan, *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants* (USEPA 833-B-99-002, 1999), and USEPA Toxicity Identification Evaluation (TIE) guidance documents (Phase I, EPA/600/6-91/005F, 1992; Phase II, EPA/600/R-92/080, 1993; and Phase III, EPA/600/R-92/081, 1993). If no toxicity is detected in any of these additional six tests, then the Discharger may return to the testing frequency specified in the MRP.

3. Best Management Practices and Pollution Prevention – Not Applicable

4. Construction, Operation, and Maintenance Specifications – Not Applicable

5. Special Provisions for Wastewater Facilities

a. Encina Ocean Outfall Capacity

As required by Order No. R9-2005-0219, the Discharger submitted a report in July 2010 evaluating the capacity of the EOO. Based on a review of the projected future wastewater treatment and disposal needs, the Discharger concluded that the available capacity is sufficient to meet the wastewater demand within the EWA service area over the life of Order No. R9-2011-0019. To ensure that sufficient capacity is available to accommodate potential growth in the future, this Order requires the Discharger to

evaluate the capacity of the EOO during the term of the permit and submit their findings to the San Diego Water Board.

b. Treatment Plant Capacity

Consistent with Order No. R9-2005-0219, this Order requires the Discharger to perform a treatment plant capacity study to serve as an indicator for the San Diego Water Board of the facility's increasing hydraulic capacity and growth in the service area.

The Discharger shall submit a written report to the Executive Officer within 90 days after the monthly average influent flow rate equals or exceeds 75 percent of the secondary treatment design capacity of the wastewater treatment and/or disposal facilities. The Discharger's senior administrative officer shall sign a letter in accordance with Standard Provision V.B. (Attachment D) which transmits that report and certifies that that policy-making body is adequately informed of the influent flow rate relative to the facility's design capacity. The report shall include the following:

- Average influent daily flow for the calendar month, the date on which the maximum daily flow occurred, and the rate of that maximum flow.
- The Discharger's best estimate of when the average daily influent flow for a calendar month will equal or exceed the design capacity of the facilities.
- The Discharger's intended schedule for studies, design, and other steps needed to provide additional treatment for the wastewater from the collection system and/or control the flow rate before the waste flow exceeds the capacity of present units.

c. Pretreatment Program

The federal CWA section 307(b), and federal regulations, 40 CFR Part 403, require POTWs to develop an acceptable industrial pretreatment program. A pretreatment program is required to prevent the introduction of pollutants, which will interfere with treatment plant operations or sludge disposal, and prevent pass through of pollutants that exceed water quality objectives, standards, or permit limitations. Pretreatment requirements are imposed pursuant to 40 CFR Part 403.

The Discharger shall implement and enforce its approved pretreatment program and is an enforceable condition of this Order. If the Discharger fails to perform the pretreatment functions, the San Diego Water Board, the State Water Board, or USEPA may take enforcement actions against the Discharger as authorized by the CWA.

d. Sludge (Biosolids Disposal Requirements

The use and disposal of biosolids is regulated under federal and State laws and regulations, including permitting requirements and technical standards included in 40 CFR Part 503. The Discharger is required to comply with the standards and time schedules contained in 40 CFR Part 503.

Title 27, CCR, Division 2, Subdivision 1, section 20005 establishes approved methods for the disposal of collected screenings, residual sludge, biosolids, and other solids

removed from liquid wastes. Requirements to ensure the Discharger disposes of solids in compliance with State and federal regulations have been included in this Order.

e. Collection System

The State Water Board issued General Waste Discharge Requirements for Sanitary Sewer Systems, Water Quality Order No. 2006-0003-DWQ (General Order) on May 2, 2006. The General Order requires public agencies that own or operate sanitary sewer systems with greater than 1 mile of pipes or sewer lines to enroll for coverage under the General Order. The General Order requires agencies to develop sanitary sewer management plans (SSMPs) and report all sanitary sewer overflows (SSOs), among other requirements and prohibitions.

Furthermore, the General Order contains requirements for operation and maintenance of collection systems and for reporting and mitigating SSOs. Public agencies that are discharging wastewater into the Facilities were required to obtain enrollment for regulation under the General Order by December 1, 2006.

At this time the Discharger does not own or operate the collection systems from which it receives wastewater.

6. Other Special Provisions – Not Applicable

7. Compliance Schedules – Not Applicable

VIII. PUBLIC PARTICIPATION

The San Diego Water Board is considering the issuance of WDRs that will serve as an NPDES permit for the Facilities. As a step in the WDR adoption process, the San Diego Water Board staff has developed tentative WDRs. The San Diego Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The San Diego Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was published in the San Diego Union Tribune on February 22, 2011 and posted on the San Diego Water Board web site on February 22, 2011.

B. Written Comments

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments must be submitted either in person or by mail to the Executive Office at the San Diego Water Board at the address above on the cover page of this Order.

To be fully responded to by staff and considered by the San Diego Water Board, written comments must be received at the San Diego Water Board offices by 5:00 p.m. on March 24, 2011.

C. Public Hearing

The San Diego Water Board will hold a public hearing on the tentative WDRs during its regular board meeting on the following date and time and at the following location:

Date: April 13, 2011
Time: 9:00 AM
Location: Regional Water Quality Control Board
Regional Board Meeting Room
9174 Sky Park Court, Suite 100
San Diego, CA 92123

Interested persons are invited to attend. At the public hearing, the San Diego Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Please be aware that dates and venues may change. Our Web address is http://www.waterboards.ca.gov/sandiego/ board_info/agendas/ where you can access the current agenda for changes in dates and locations.

D. Waste Discharge Requirements Petitions

Any aggrieved person may petition the State Water Board to review the decision of the San Diego Water Board regarding the final WDRs. The petition must be submitted within 30 days of the San Diego Water Board's action to the following address:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

E. Information and Copying

The Report of Waste Discharge (RWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the San Diego Water Board by calling (858) 467-2952.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the San Diego Water Board, reference this facility, and provide a name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this Order should be directed to Joann Cofrancesco at jcofrancesco@waterboards.ca.gov or (858) 637-5589.

ATTACHMENT G – DISCHARGE PROHIBITIONS CONTAINED IN THE OCEAN PLAN AND BASIN PLAN

I. Ocean Plan Discharge Prohibitions

1. The Discharge of any radiological chemical, or biological warfare agent or high-level radioactive waste into the ocean is prohibited.

2. Waste shall not be discharged to designated Areas of Special Biological Significance except as provided in Chapter III.E. of the Ocean Plan.

3. Pipeline discharge of sludge to the ocean is prohibited by federal law; the discharge of municipal and industrial waste sludge directly to the ocean, or into a waste stream that discharges to the ocean, is prohibited. The discharge of sludge digester supernatant directly to the ocean, or to a waste stream that discharges to the ocean without further treatment, is prohibited.

4. The by-passing of untreated wastes containing concentrations of pollutants in excess of those of Table A or Table B [of the Ocean Plan] is prohibited.

II. Basin Plan Discharge Prohibitions

1. The discharge of waste to waters of the State in a manner causing, or threatening to cause a condition of pollution, contamination or nuisance as defined in CWC section 13050, is prohibited.

2. The discharge of waste to land, except as authorized by WDRs or the terms described in CWC section 13264 is prohibited.

3. The discharge of pollutants or dredged or fill material to waters of the United States except as authorized by an NPDES permit or a dredged or fill material permit (subject to the exemption described in CWC section 13376) is prohibited.

4. Discharges of recycled water to lakes or reservoirs used for municipal water supply or to inland surface water tributaries thereto are prohibited, unless this San Diego Water Board issues an NPDES permit authorizing such a discharge; the proposed discharge has been approved by the State of California Department of Public Health and the operating agency of the impacted reservoir; and the discharger has an approved fail-safe long-term disposal alternative.

5. The discharge of waste to inland surface waters, except in cases where the quality of the discharge complies with applicable receiving water quality objectives, is prohibited. Allowances for dilution may be made at the discretion of the San Diego Water Board. Consideration would include streamflow data, the degree of treatment provided and safety measures to ensure reliability of facility performance. As an example, discharge of secondary effluent would probably be permitted if streamflow provided 100:1 dilution capability.

6. The discharge of waste in a manner causing flow, ponding, or surfacing on lands not owned or under the control of the discharger is prohibited, unless the discharge is authorized by the San Diego Water Board.

7. The dumping, deposition, or discharge of waste directly into waters of the State, or adjacent to such waters in any manner which may permit its being transported into the waters, is prohibited unless authorized by the San Diego Water Board.

8. Any discharge to a storm water conveyance system that is not composed entirely of storm water is prohibited unless authorized by the San Diego Water Board. [The federal regulations, 40 CFR 122.26(b)(13), define storm water as storm water runoff, snow melt runoff, and surface runoff and drainage. 40 CFR 122.26(b)(2) defines an illicit discharge as any discharge to a storm water conveyance system that is not composed entirely of storm water except discharges pursuant to an NPDES permit and discharges resulting from fire fighting activities.] [Section 122.26 amended at 56 FR 56553, November 5, 1991; 57 FR 11412, April 2, 1992].

9. The unauthorized discharge of treated or untreated sewage to waters of the State or to a storm water conveyance system is prohibited.

10. The discharge of industrial wastes to conventional septic tank/ subsurface disposal systems, except as authorized by the terms described in CWC section 13264, is prohibited.

11. The discharge of radioactive wastes amenable to alternative methods of disposal into the waters of the State is prohibited.

12. The discharge of any radiological, chemical, or biological warfare agent into waters of the State is prohibited.

13. The discharge of waste into a natural or excavated site below historic water levels is prohibited unless the discharge is authorized by the San Diego Water Board.

14. The discharge of sand, silt, clay, or other earthen materials from any activity, including land grading and construction, in quantities which cause deleterious bottom deposits, turbidity or discoloration in waters of the State or which unreasonably affect, or threaten to affect, beneficial uses of such waters is prohibited.

ATTACHMENT H – DILUTION MODEL INFORMATION

In the process of issuance of Order No. R9-2005-0219, the San Diego Water Board performed modeling and calculations to determine the minimum initial dilution. The minimum initial dilution value was used to develop effluent limitations in Order No. R9-2005-0219, which was adopted by the San Diego Water Board on December 14, 2005 and remains in effect at the time of reissuance. For this proposed permit reissuance (Tentative Order No. R9-2011-0019), flows for the Encina Ocean Outfall, as reported in the Report of Waste Discharges are the same as those used as the basis for limitations in Order No. R9-2005-0219; therefore, the minimal initial dilution remains appropriate. As such, the minimum initial dilution value is carried over from R9-2005-0219 for use in calculation of limitations. A description of the San Diego Water Board's procedures was included as Attachment H from Order R9-2005-0219 and is presented below for background information.

Dilution Model Information as Presented in Attachment H of Order No. R9-2005-0219

The San Diego Water Board determined the minimum initial dilution factor for the discharge of up to 43.3 million gallon per day (mgd) of effluent through the Encina Ocean Outfall (EOO) to be 144 using the US EPA-approved computer modeling package, Visual Plumes with the UM3 model. The computer modeling was performed using EOO design characteristics and receiving water density data provided by Encina Wastewater Authority (EWA) for the 12-month period July 2003 through June 2004 and average effluent temperature characteristics. The Visual Plumes model package is limited to modeling diffusers with ports all pointing in one direction, while the EOO features ports discharging on both sides of the outfall diffuser. To determine EOO minimum initial dilution (lowest average initial dilution in any month of the year), the San Diego Water Board used the Visual Plumes and UM3 model package to simulate initial dilution under two scenarios. Scenario 1 simulated conditions on each side of the EOO by applying half of the EOO flow through the diffuser ports on that respective half of the outfall; this scenario is appropriate when the discharges from each side of the diffuser do not interact. Scenario 2 simulated conditions in which the total EOO flow is discharged through all of the EOO diffuser ports, discharging in the same direction; this scenario simulates conditions when the discharges from each side of the diffuser strongly interact and is a more conservative approach. Minimum initial dilution factors under these two modeling scenarios were approximately the same; however, the results from Scenario 2 modeling were used to determine the minimum initial dilution factor for this permit renewal. These dilution model results are summarized in Table H-1 below.

Table H-1: Summary of Visual Plumes Dilution Model Results.

Ambient Profile	Effluent Temperature (°C)	Dilution Factor at Last Trap Level	Dilution Factor at Surface
Jan-04	21.3	No result	261.2
Feb-04	21.1	125.3	148.2
Mar-04	22.0	152.8	No result
Apr-04	22.5	143.9	No result
May-04	23.7	152.4	No result
Jun-04	24.4	185.7	194.4
Jul-03	25.4	162.7	191.5
Aug-03	25.6	158.7	189.1
Sep-03	25.5	148.8	181.5

Oct-03	24.6	137 1	57.7
Nov-03	23.3	126.3	147.2
Dec-03	21.9	143.5	No result

For each month and for each Visual Plumes run, initial dilution was interpreted to occur either when the plume first reaches the surface, or at the last trapping level when the plume does not surface. The minimum initial dilution was the lowest dilution factor attained using the December 2003 ambient profile.

Information about the EOO and the outfall diffuser were obtained from the EWA's Report of Waste Discharge Supplemental Information (October 2005) and EWA Ocean Outfall Disposal Capacity report (February 28, 1996). The following information and assumptions were used for the input into the model:

Port diameter – 2.775 inches - Average of forty-four 2.5-inch diameter ports, forty-four 2.75-inch diameter ports, forty-eight 3-inch diameter ports, and two 4-inch diameter ports.

Port elevation – 4 feet

Vertical angle – -5 degrees

Horizontal angle – 0 degrees – The EWA indicated that diffuser ports alternated facing 0 degrees and 180 degrees. This model does not have input abilities for a diffuser with ports facing various directions. A single direction for all ports was assigned. This will result in a conservative dilution factor.

Number of ports – 38 ports

Port spacing – 6 feet (half of true spacing between ports on each side of the diffuser)

Acute mix zone - Not relevant, value does not affect dilution factor as defined by the SWRCB.

Chronic mix zone - Not relevant, value does not affect dilution factor as defined by the SWRCB.

Port depth – 151.5 feet

Effluent flow – 43.3 mgd – This is the total projected wastewater flow generated within the service areas of the EWA member agencies. This is also the total treated effluent flow from the EWPCF and VMWRP that would be discharged through the EOO if none of the treated effluent is used for water recycling purposes.

Effluent salinity – 1.48 practical salinity unit (psu) – This value is based on total dissolved solids concentration information contained in the March 2003 Report of Waste Discharge submitted by EWA in support of Addendum no. 2 to Order No. 2000-0036.

Effluent temp – See Table 1. The effluent used for modeling for each month is the average of monthly temperature data for the period 2002-2003.

Effluent concentration - Not relevant, input does not affect dilution factor.

Ambient data - Monthly ambient data for July 2003 through June 2004 obtained for the 2003-2004 offshore intensive receiving water monitoring program conducted by EWA. Salinity and temperature data taken at offshore monitoring stations G1, G2, Z1, and Z2 were averaged at each depth and the average values were used in Visual Plumes.

Far-field diffusion coefficient - 0.0003 m0.67/s2 - recommended in the Visual Plumes manual as a conservative value.

Special Settings Tab, Farfield Diffusivity Option - 4/3 Power Diffusivity was chosen based on the fact that the discharge is occurring in open water.

Special Settings Tab, Diffuser Port Contraction Coefficient - 0.61 - based on the use of cylindrical ports in the diffuser.

Special Settings Tab, Standard Light Adsorption Coefficient - 0.16 - recommended in the manual as a conservative value.