City of San Diego
PUBLIC UTILITIES
Water & Wastewater

Application For Renewal of NPDES CA0107409 and 301(h) Modified Secondary Treatment Requirements

POINT LOMA OCEAN OUTFALL

Volume II
Part 1 - Basis of Application
Part 2 - NPDES Application Forms
Part 3 - Antidegradation Analysis

January 2015

THE CITY OF SAN DIEGO PUBLIC UTILITIES DEPARTMENT

Application for Renewal of NPDES CA0107409

301(h) Modified Secondary Treatment Requirements for Biochemical Oxygen Demand and Total Suspended Solids

POINT LOMA OCEAN OUTFALL &

POINT LOMA WASTEWATER TREATMENT PLANT

Submitted pursuant to
Sections 301(h) and 301(j)(5) of the Clean Water Act

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Public Utilities Department
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January 2015

APPLICATION FOR RENEWAL OF NPDES CA0107409
301(h) MODIFIED SECONDARY TREATMENT REQUIREMENTS

Point Loma Ocean Outfall
Point Loma Wastewater Treatment Plant

VOLUME II

Part 1 BASIS OF APPLICATION
Part 2 NPDES APPLICATION FORMS
Part 3 ANTIDEGRADATION ANALYSIS

***Volume II Summary**: Volume II is the second of a ten-volume submittal by the City of San Diego in application for renewal modified secondary treatment requirements for the Point Loma Ocean Outfall wastewater discharge. Part 1 of Volume II presents a brief summary of the Point Loma Ocean Outfall discharge, and presents the basis for the City's application for 301(h) modified secondary treatment requirements. Applicable NPDES and State of California permit application forms are presented in Part 2. Part 3 of Volume II presents a Tier 1 antidegradation evaluation for NPDES benchmark parameters.*

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PART 1
BASIS OF APPLICATION

Renewal of NPDES CA0107409

BASIS OF APPLICATION

Basis on which the City of San Diego Seeks Renewal of NPDES CA0107409 and Clean Water Act Section 301(h) & 301(j)(5) Modified Discharge Requirements for the Point Loma Wastewater Treatment Plant

January 2015

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List of Abbreviations

BIP	balanced indigenous population
BOD	biochemical oxygen demand
CFR	Code of Federal Regulations
CWA	Clean Water Act
EIR	Environmental Impact Report
EPA	United States Environmental Protection Agency
JPA	Joint Powers Authority
MER	mass emissions rate
MBC	Metro Biosolids Center
Metro System	San Diego Metropolitan Sewerage System
mgd	million gallons per day
mg/l	milligrams per liter
mt	metric tons
mt/yr	metric tons per year
North City WRP	North City Water Reclamation Plant
NPDES	National Pollutant Discharge Elimination System
PLOO	Point Loma Ocean Outfall
Point Loma WWTP	Point Loma Wastewater Treatment Plant
Practical Vision	*San Diego Water Board Practical Vision* (2013)
Regional Board	California Regional Water Quality Control Board, San Diego Region
ROV	remotely operated (submersible) vehicle
SBOO	South Bay Ocean Outfall
South Bay WRP	South Bay Water Reclamation Plant
TSS	total suspended solids
ZID	zone of initial dilution

PART 1
DISCHARGE OVERVIEW AND BASIS OF APPLICATION

Summary: *The City of San Diego (hereafter City) requests renewal of NPDES CA0107409 for the discharge of treated wastewater from the Point Loma Wastewater Treatment Plant (Point Loma WWTP) to the Pacific Ocean via the Point Loma Ocean Outfall. Within the renewed NPDES permit, the City requests reissuance of modified requirements for biochemical oxygen demand (BOD) and total suspended solids (TSS) per requirements established in Sections 301(h)and 301(j)(5) of the Clean Water Act (CWA). As documented herein, the Point Loma discharge meets all CWA Section 301(h) and Section 301(j)(5) criteria for issuance of modified BOD and TSS standards. The 301(h) renewal application presented herein requests no changes in the existing modified permit requirements for TSS and BOD effluent concentration limits or percent removal requirements.*

As part of this application the City is including a proposed joint water/wastewater facilities plan called "Pure Water San Diego" that has the goal of producing potable water for the San Diego Region while offloading flows and loads from the Point Loma WWTP. The Pure Water San Diego plan envisions producing 83 million gallons per day (mgd) of potable reuse water by December 31, 2035. To demonstrate the City's commitment to advance the State's water recycling goals and the Regional Water Board Practical Vision, this NPDES application proposes an initial schedule of Pure Water San Diego implementation tasks for inclusion as enforceable permit conditions within the renewed Point Loma WWTP NPDES permit. Proposed enforceable tasks for the next five years would focus on the initial 15 mgd potable reuse component of the Pure Water San Diego program. In keeping with the City's commitment to implement the Pure Water San Diego program, this permit application proposes an immediate reduction in allowable Point Loma WWTP TSS mass emission limit to 12,000 metric tons per year. As part of the Pure Water San Diego concept, when all proposed potable reuse facilities are ultimately implemented, Point Loma WWTP TSS mass emissions would be reduced to no more than 9,942 metric tons per year. This ultimate 9,942 metric tons per year TSS mass emission is equivalent to what would be permitted if the Point Loma WWTP were operating at its full capacity of 240 MGD and achieving secondary treatment.

PURPOSE OF SUBMITTAL

The San Diego Metropolitan Sewerage System (Metro System) provides wastewater service for the City of San Diego and 12 participating agencies. The E.W. Blom Point Loma Wastewater Treatment Plant (Point Loma WWTP) serves as the terminal Metro System treatment facility. The discharge of treated wastewater from the Point Loma WWTP to the Pacific Ocean via the Point Loma Ocean Outfall (PLOO) is currently regulated by a joint permit issued by the California Regional Water Quality Control Board, San Diego Region (Regional Board) and the U.S. Environmental Protection Agency (EPA). Regional Board Order No. R9-2009-0001 (EPA

NPDES CA0107409) establishes modified secondary treatment requirements for the PLOO discharge in accordance with Sections 301(h) and 301(j)(5) of the Clean Water Act (CWA).

Order No. R9-2009-0001 was originally adopted by the Regional Board on June 10, 2009. EPA issued final approval of the joint NPDES permit on June 16, 2010 and the permit became effective on August 1, 2010. Order No. R9-2009-0001 expires on July 31, 2015 and the City is required to file a Report of Waste Discharge requesting renewal of the NPDES permit 180 days in advance of this expiration date (February 1, 2015).

The City of San Diego, as the operating agency of the Metro System, requests renewal of NPDES CA0107409 and renewal of modified secondary treatment standards for total suspended solids (TSS) and biochemical oxygen demand (BOD) established under Sections 301(h) and 301(j)(5) of the CWA.

REQUESTED 301(h) MODIFIED REQUIREMENTS

In requesting renewal of 301(h) modified discharge limits for TSS and BOD, this NPDES application does not propose any increase (e.g. relaxation) of the NPDES effluent flow rate, concentration limits, performance goals, or mass emission limits established in Order No. R9-2009-0001. Additionally, this NPDES application requests continuation of the following TSS and BOD percent removal requirements established in Order No. R9-2009-0001 pursuant to requirements of CWA Section 301(j)(5):

- monthly average system-wide removal of TSS of 80 percent, and
- annual average system-wide removal of BOD of 58 percent.

COMMITMENT TO IMPLEMENT PURE WATER SAN DIEGO PROGRAM

This NPDES permit application also establishes the City's commitment to implement a comprehensive water reuse program called *Pure Water San Diego*. *Pure Water San Diego* is a long-term (approximately 20 year) program that would provide a safe, reliable, and cost-effective drinking water supply for San Diego through the application of advanced treatment technology to purify recycled water. The *Pure Water San Diego* program is a joint water and wastewater facilities plan that envisions a significant investment in potable water reuse and ancillary facilities that will eventually produce up to 83 mgd of potable supply - an amount that equates to approximately one-third of the total City of San Diego potable water demand.

The *Pure Water San Diego* program is the result of collaboration between the City of San Diego, Metro Wastewater Joint Powers Authority (JPA), and a diverse array of regional stakeholders (see Table 1 on page 3).

Table 1
Pure Water San Diego Supporters[1]

Category	Pure Water San Diego Supporter[1]
Cities and Districts	• City of San Diego[2] • City of Chula Vista[2] • City of La Mesa[2] • City of Del Mar[2] • City of El Cajon[2] • City of Lemon Grove[2] • City of Poway[2] • City of Coronado[2] • City of Imperial Beach[2] • City of National City[2] • Padre Dam Municipal Water District[2] • Otay Water District[2]
Environmental Organizations	• Coastal Environmental Rights Foundation • Surfrider Foundation, San Diego County Chapter • San Diego Coastkeeper • San Diego Audubon Society
Water Supply, Business, and Community Organizations	• San Diego Regional Chamber of Commerce • San Diego Taxpayers Association • San Diego County Water Authority • Industrial Environmental Association • Water Reliability Coalition • Equinox Center • San Diego Business Leadership Alliance • San Diego Economic Development Corporation • Building Industry Association of San Diego (San Diego BIA) • CONNECT • WateReuse Association San Diego Chapter • San Diego River Park Foundation • BIOCOM • San Diego Port Tenants Association • California Restaurant Association, San Diego County Chapter • San Diego County Apartment Association

1 Regional supporters involved in coordinating with the City of San Diego to address joint regional water and wastewater facilities needs to (1) provide a safe, reliable, and cost-effective potable water supply, (2) reduce ocean discharge flows and mass emissions, and (3) support future CWA 301(h) modified permits for the Point Loma WWTP while supporting efforts seeking administrative or legislative actions to achieve secondary equivalency status for the PLOO discharge.

2 Member of the Metro Wastewater Joint Powers Authority.

The City, Metro Wastewater JPA, and regional stakeholders identified within Table 1 have agreed to cooperate to:

- implement a comprehensive potable reuse program using state-of-the-art advanced treatment technology to achieve an ultimate goal of 83 mgd of potable reuse by December 31, 2035,
- sufficiently reduce influent flows and solids loads to the Point Loma WWTP so that ultimate PLOO TSS mass emissions are reduced to levels that would have occurred if the 240 mgd Point Loma WWTP were to achieve secondary treatment TSS concentration standards,
- support the City's application for renewed 301(h) modified TSS and BOD limits for the Point Loma WWTP, and
- support the City's pursuit of administrative or legislative efforts to codify that, as a result of implementing the comprehensive *Pure Water San Diego* program, the PLOO discharge is recognized as equivalent to secondary treatment for purposes of compliance with the CWA (secondary treatment equivalency).

To demonstrate the City's commitment to regulators and stakeholders for moving forward with *Pure Water San Diego* plans, this NPDES application proposes that the following enforceable provisions be incorporated into the renewed Point Loma WWTP 301(h) permit:

- reduce allowable PLOO mass emissions of TSS during the upcoming five-year NPDES permit, and
- establish enforceable time schedule milestones for the upcoming five-year NPDES permit to support implementation of *Pure Water San Diego* facilities planning.

Proposed Reduction in Mass Emissions Limits. Table 2 (page 5) summarizes existing TSS mass emission rates (MERs) established in Order No. R9-2009-0001. As shown in the table, the current (year 2014) permitted PLOO TSS mass emission limit is 13,598 metric tons per year (mt/year).

As part of the renewed 301(h) NPDES permit, it is proposed that PLOO mass emissions be reduced to 12,000 mt/year for years 1 through 4, and to 11,999 mt/year in year 5 of the renewed modified NPDES permit (see Table 2).

Table 2
Comparison of Proposed TSS Mass Emission Rates with Prior NPDES Mass Emission Limits

Year of NPDES Permit	Total Suspended Solids (TSS) Mass Emission Rate (MER) (metric tons per year)			
	Original TSS MER Established in Order No. 95-106[1,2]	TSS MER Established in Order No. R9-2002-0025[1,3]	Existing TSS MER Established in Order No. R9-2009-0001[1,4]	Proposed TSS MER Renewal of NPDES CA0107409[1,5,6]
Year 1	15,000	15,000	15,000	12,000
Year 2	15,000	15,000	15,000	12,000
Year 3	15,000	15,000	15,000	12,000
Year 4	15,000	15,000	15,000	12,000
Year 5	13,600	13,599	13,598	11,999

1 Not to include solids contributions from (1) Tijuana, Mexico via the emergency connection, (2) federal facilities in excess of solids contributions received in calendar year 1995, (3) Metro System flows treated in the City of Escondido, (4) South Bay WRP flows discharged to the South Bay Ocean Outfall, and (5) emergency use of the Metro System participating agencies over their capacity allotments.

2 Original Point Loma WWTP 301(h) NPDES permit adopted in 1995. TSS mass emission rate (MER) limit of 15,000 mt/year applied through December 31, 1999, and a TSS mass emission limit of 13,600 mt/year applied after January 1, 2000.

3 MER limits within Order No. R9-2002-0025, as amended by State Water Resources Control Board Order No. WQO 2002-0013. TSS MER limit of 15,000 mt/year applied through December 31, 2005, and TSS MER limit of 13,599 mt/year applied after January 1, 2006. The original version of Order No. R9-2002-0025 imposed a TSS MER limit of 13,995 mt/year for years 1 through 4, but this was revised to 15,000 mt/year by State Water Resources Control Board Order No. WQO 2002-0013.

4 TSS MER limits established within Order No. R9-2009-0001, which became effective on August 1, 2010. A TSS MER limit of 15,000 mt/year applied through December 31, 2013, and TSS MER limit of 13,598 mt/year applied after January 1, 2014.

5 Point Loma WWTP TSS mass emission rates proposed as part of this application for renewal of NPDES CA0107409. TSS MER limits of 12,000 mt/year are proposed for years 1 through 4 of the renewed NPDES permit, and a TSS MER of 11,999 mt/year is proposed for year 5 of the permit.

6 The proposed reduction in TSS mass emissions rates would be coupled with a requirement to limit Point Loma WWTP discharges to a daily maximum concentration of 60 mg/l (the current monthly average TSS concentration limit in Order No. R9-2009-0001 is 75 mg/l) upon administrative or legislative action which designates the PLOO discharge (in combination with implementation of the *Pure Water San Diego* program) as achieving secondary treatment equivalency.

Enforceable Time Schedule Milestones. To further demonstrate the City's commitment to regulators and regional stakeholders to implement the *Pure Water San Diego* program and offload Point Loma WWTP inflows and solids loads, the City proposes that the renewed 301(h) NPDES permit incorporate an enforceable time schedule governing implementation of *Pure Water San Diego* environmental review and facilities design tasks.

Table 3 (page 6) presents the proposed enforceable time schedule tasks for inclusion within the renewed five-year NPDES permit.

Table 3
Pure Water San Diego Potable Reuse Tasks, 2015 -2020[1]

Category	Task[1]	Implementation Date[1,2]
Pure Water San Diego Environmental Review	Issue Notice of Preparation for Program Environmental Impact Report (EIR)	January 31, 2015
	Publish Draft Program EIR for Public Review	January 31, 2017
	Certify Final Program EIR	January 31, 2018
North City Projects	Notice to Proceed-Final Design of 15 mgd purified water conveyance pipeline from the North City WRP	January 31, 2017
	Issue Notice to Proceed on final design of a 15 mgd Potable Reuse Purification Facility (advanced water treatment facility) for the North City WRP site	May 31, 2017
	Complete Design of the 15 mgd purified water conveyance pipeline from the North City WRP	October 31, 2019
	Complete Design of 15 mgd Potable Reuse Purification Facility (advanced water treatment facility)	January 31, 2020

1 Implementation task proposed for inclusion as an enforceable provision of NPDES CA0109409 to demonstrate the City's commitment to offloading Point Loma WWTP wastewater flows, increasing reuse of the City's wastewater, and reducing Point Loma WWTP flows and mass emissions discharged to the Pacific Ocean.

2 Task to be completed no later than the listed implementation dates.

Basis of 301(h) Application: Current Discharge. As shown in Table 3, proposed enforceable tasks and milestones for the next five years would focus on completing planning, environmental, and design tasks to support the initial 15 mgd potable reuse component of the *Pure Water San Diego* program. None of the milestones involve modification of Metro System treatment and discharge facilities within the next five years. Further, potable reuse facilities addressed in the milestone tasks presented in Table 3 will be brought online beyond the five-year term of the renewed 301(h) permit. As a result, this application for renewal of 301(h) requirements is submitted on the basis of a "current discharge", as defined in Title 40, Section 125.58 of the *Code of Federal Regulations* (40 CFR 125.58). The current discharge described herein, however, includes Point Loma WWTP treatment improvements (e.g. effluent disinfection) implemented prior to the adoption of Order No. R9-2009-0001.

PROPOSED PROGRAM DIRECTION AND FUTURE GOALS

Long-Term Pure Water San Diego Goal. The long term *Pure Water San Diego* goal of the City and its regional partners is to achieve a targeted potable reuse production capacity of 83 mgd by year December 31, 2035. Flows and loads to the Point Loma WWTP would be offloaded as each new purified water treatment plant and associated facilities become operational. It is estimated that sufficient facilities will be on-line by December 31, 2027 to

insure that the discharge of TSS mass emissions (on a wet weather annual average basis) from the Point Loma WWTP will be less than what would be permitted if the Point Loma WWTP were at full capacity and complying with the CWA secondary treatment standards.

Future Mass Emission and Potable Reuse Goals. In addition to the proposed enforceable requirements for the upcoming five-year NPDES period, this application also presents the proposed project direction and identifies additional project goals that could form the basis of enforceable requirements in future NPDES permits. These include goals for PLOO TSS mass emission reductions and goals for implementing additional potable reuse capacity.

Table 4 summarizes projected step-wise reductions in PLOO TSS mass emissions that are targeted within the next 20 years. As shown in Table 4, the program goal is to cap PLOO mass emissions at 9,942 mt/year by year 2028 and beyond. This 9,942 mt/year TSS MER would be achieved with a combination of (1) Point Loma WWTP solids offloading resulting from upstream potable reuse and treatment facilities, and (2) maintaining chemically enhanced primary treatment at the Point Loma WWTP (no conversion of the Point Loma WWTP to traditional secondary treatment).

Table 5 (page 8) presents targeted *Pure Water San Diego* goals for potable reuse for the next 20 years.

Table 4
Proposed Permitted Point Loma WWTP TSS Mass Emissions

Year	TSS MER Limit[1] (metric tons per year)
2014	13,598[2]
2015 thru 2025	12,000[3]
2026 thru 2027	11,500[4,5]
2028 forward	9,942[4,5,6]

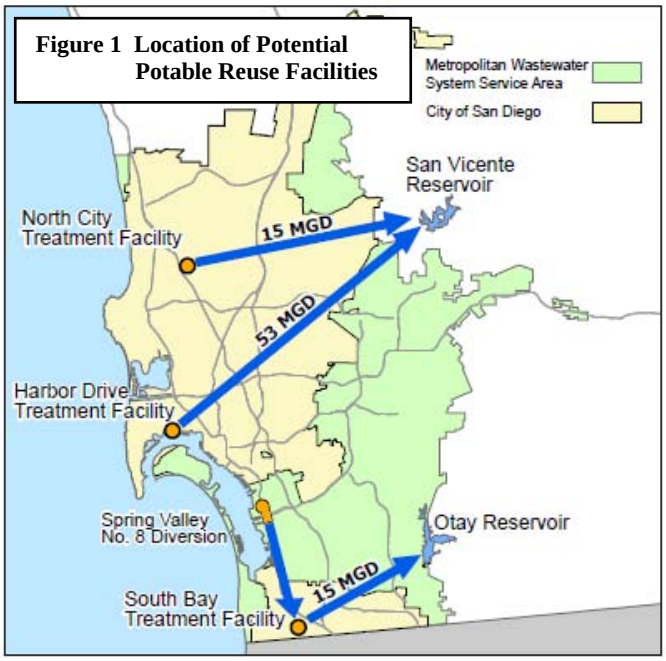
1 TSS mass emission rate (MER) for the Point Loma WWTP discharge to the Pacific Ocean via the PLOO.
2 Existing TSS MER limit for year 2014 established within Order No. R9-2009-0001.
3 TSS MER limit requested in this 301(h) application for renewal of NPDES CA0107409. The TSS MER limit would be 12,000 metric tons per year in years 1 through 4 of each five year NPDES cycle, and would be reduced to 11,999 mt/year in the final year of the permit.
4 Compliance with proposed reduced TSS MER limit is to be achieved through future offloading the Point Loma WWTP by implementing upstream potable reuse projects as part of the *Pure Water San Diego* program.
5 Program goal would become an enforceable TSS MER limit in either (1) future 301(h) modified NPDES permits or (2) future NPDES permits based on approval of secondary equivalency status for the Point Loma WWTP. (Establishing the secondary equivalency status of the Point Loma WWTP will require administrative or legislative action.)
6 Secondary equivalency TSS MER limit capped forever going forward. This 9,942 mt/year MER is equivalent to the TSS MER that would occur if the Point Loma WWTP were to operate at its 240 mgd design capacity and achieve an effluent TSS concentration of 30 mg/l (secondary treatment concentration limit).

Table 5
Potable Reuse Implementation Goals[1]

Phase	Targeted Goal: Cumulative Potable Reuse Capacity	Target Implementation Date
I	15 mgd	December 31, 2023[3]
II	30 mgd[2]	December 31, 2027[3]
III	83 mgd[2]	December 31, 2035[3]

1 Implementation of the targeted potable reuse capacity goals is subject to (1) timely environmental approval of the *Pure Water San Diego* program and associated projects, (2) timely regulatory approval of proposed reuse facilities and projects that comprise the *Pure Water San Diego* program, and (3) continued approval of future 301(h) modified NPDES permits for the Point Loma WWTP or approval of secondary equivalency status for the Point Loma WWTP.
2 Cumulative total purified water production capacity of potable reuse facilities.
3 Target implementation dates may be subject to modification based on regulatory approval schedules, environmental review issues, or legal challenges to the proposed program or projects (see footnote 1).

As discussed in detail in Appendix B, the *Pure Water San Diego* program involves the construction of state-of-the-art potable reuse treatment facilities along with purified water conveyance facilities. The first phase of this program focuses on implementing a 15 mgd potable reuse facility at the North City Water Reclamation Plant (North City WRP). Additional study will be required to select potable reuse sites for subsequent phases of the program. Figure 1 schematically presents one of the possible potable reuse options currently being developed to achieve the *Pure Water San Diego* ultimate goal of 83 mgd of potable reuse.



The *Pure Water San Diego* program would also entail the construction of wastewater solids conveyance and processing facilities to ensure that flows and loads are sufficiently offloaded from the Point Loma WWTP to achieve the PLOO TSS MER goals presented in Table 4.

"Secondary Equivalency" Concept. Technology-based secondary treatment standards established in the CWA form a key component of the overall regulatory strategy to protect receiving water quality and beneficial uses. Section 301(h) of the CWA allows an alternative approach to the national technology-based secondary treatment requirements, provided that the discharger can demonstrate compliance with a variety of requirements that ensure protection of ocean water quality in the absence of secondary treatment. Among these requirements is the

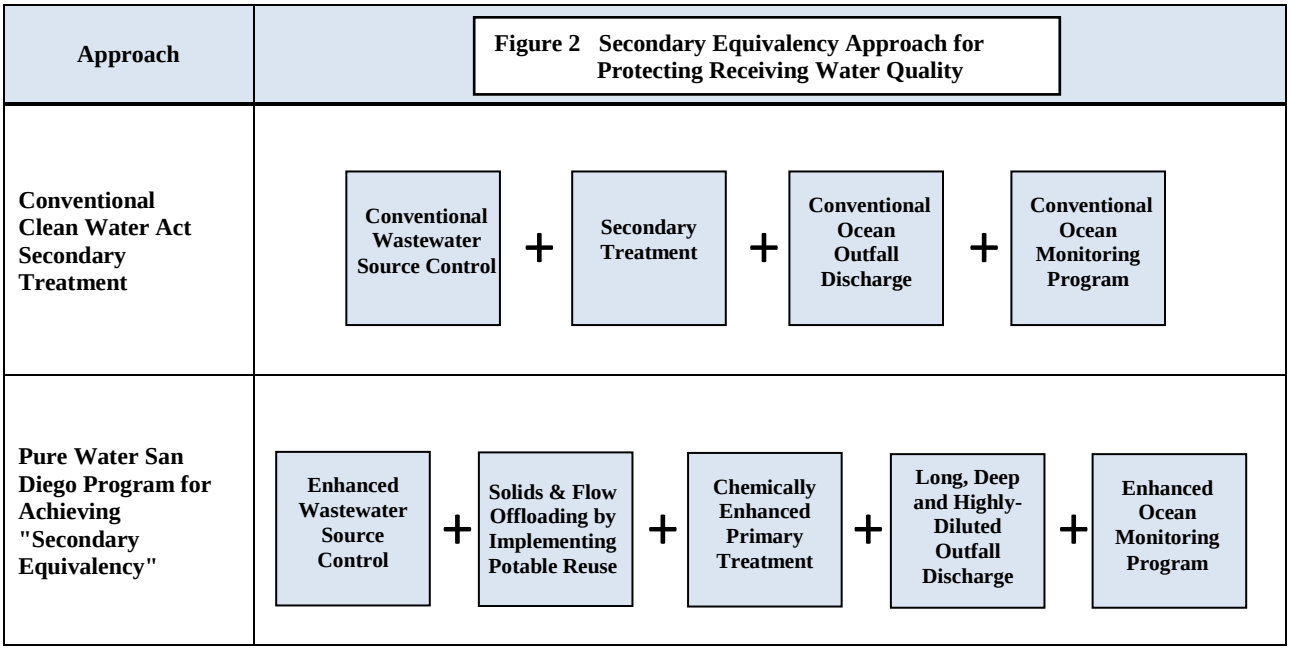
implementation of enhanced source control, the implementation of a comprehensive ocean monitoring program, and comprehensive scientific assessments of the monitoring data to demonstrate (1) compliance with water quality, sediment, benthic protection standards, and (2) maintenance of a balanced indigenous population of fish and wildlife in receiving waters.

Prior City of San Diego 301(h) applications have demonstrated compliance with all state and federal receiving water standards and all CWA Section 301(h) and 301(j)(5) requirements for the protection of the ocean environment. As documented within this multi-volume application, the current PLOO discharge continues to comply with:

- receiving water standards applicable to all ocean dischargers, and
- all applicable criteria for issuance of 301(h) and 301(j)(5) modified requirements for BOD and TSS, including maintaining a balanced indigenous population of fish and wildlife in receiving waters.

The *Pure Water San Diego* program will carry this approach farther by using potable reuse to reduce future Point Loma WWTP TSS emissions to less than or equal to the TSS mass emission that would occur if the Point Loma WWTP were to be operated at its 240 mgd capacity while achieving the secondary treatment TSS effluent concentration standard of 30 mg/l. Figure 2 schematically presents the City's approach for ensuring that chemically enhanced primary treatment at the Point Loma WWTP, in combination with other *Pure Water San Diego* components, can achieve a degree of receiving water quality protection similar to that provided by conventional secondary treatment.

Figure 2 Secondary Equivalency Approach for Protecting Receiving Water Quality



In concert with implementing the long-term *Pure Water San Diego* program, the City, Metro Wastewater JPA, and regional stakeholders have pledged to cooperate to pursue administrative and legislative efforts to achieve secondary equivalency status for the PLOO discharge.

Consistency with State Recycled Water Policy. The State Water Resources Control Board adopted Resolution No. 2009-011 on February 3, 2009, which established a statewide Recycled Water Policy. The Recycled Water Policy establishes goals and implementation policies for increasing statewide recycled water use. Implementation of the *Pure Water San Diego* program (see Table 5) would help achieve Recycled Water Policy goals by increasing regional recycled water use by 15 mgd by December 31, 2023, 30 mgd by December 31, 2027, and 83 mgd by December 31, 2035.

Consistency with Regional Board Practical Vision. The San Diego Regional Board on November 13, 2013 adopted Resolution No. R9-2013-0153, which endorsed and supported implementation of the *San Diego Water Board Practical Vision* (Practical Vision). Key elements of the Practical Vision include:

- strategizing for healthy waters,
- monitoring and assessment,
- recovery of streams, wetlands, and riparian areas,
- proactive public outreach and communication, and
- achieving a sustainable local water supply.

The 301(h) application submitted herein and the City of San Diego's commitment to implement the *Pure Water San Diego* Program are in keeping with the Regional Board's Practical Vision. As documented within this application, the current PLOO discharge and comprehensive monitoring program ensures healthy waters off the coast of Point Loma.

The Regional Board's sustainable water supply vision (see inset) is implemented by the *Pure Water San Diego* approach of decreasing future PLOO discharge flows and solids loads by developing

San Diego Water Board Practical Vision (2013)
Sustainable Water Supply

A Vision for Achieving a Sustainable Local Water Supply

In order to maintain and improve water quality and provide sufficient water to meet the demands of the Region, the San Diego Water Board must use its leadership and regulatory authority to achieve a sustainable local water supply while concurrently ensuring that water quality supports beneficial uses. Reducing the Region's dependence on imported water is needed to improve water quality within and outside of our Region and to reduce greenhouse gas emissions associated with the transport of water. The creation of a sustainable local water supply includes three aspects: the environmentally responsible use of groundwater and surface water, the creation of new sources of fresh water such as, desalination, indirect potable reuse and direct use of recycled water, and conservation efforts to reduce water demand.

This Practical Vision describes the means by which the San Diego Water Board will help water and waste water agencies achieve the goal of a sustainable local water supply. A multi-phase approach will be used to increase the supply of local water and decrease the Region's water demand. Specific activities include: taking appropriate actions to protect and restore groundwater and surface water quality, developing approaches to increase the Region's use of recycled water while maintaining high water quality, and taking actions to encourage conservation to reduce our Region's demand for water.

Practical Vision Statement

An ample, diverse, and sustainable local water supply for the San Diego Region that, combined with conservation and water reuse, minimizes dependence on imported water while maintaining and improving water quality.

Mission Statement

To use the San Diego Water Board's leadership and regulatory authority to encourage, promote, and facilitate development of new and diverse sustainable local water supplies in an environmentally responsible manner.

upstream potable reuse facilities. In accordance with the Practical Vision "sustainable water supply" element, City's proposed reuse program reduces the region's dependence on imported water, improves mineral concentrations in local water supplies, maximizes reuse of local water resources, and maintains and promotes the quality of ocean waters.

METRO SYSTEM FACILITIES AND OPERATIONS

Appendix A presents a detailed description of Metro System facilities and operations. Metro System facilities include sewer interceptors, pump stations, wastewater treatment and water recycling plants, ocean outfalls, sludge pipelines, and biosolids handling facilities. Key Metro System facilities and boundaries of participating agencies are presented in Figure 3 (page 12). Figure 4 (page 13) presents a schematic of Metro System facilities and operations. As shown in Figures 3 and 4, primary Metro System facilities include:

- North City WRP,
- Metro Biosolids Center (MBC),
- South Bay Water Reclamation Plant (South Bay WRP),
- South Bay Ocean Outfall (SBOO),
- Pump Station No. 1,
- Pump Station No. 2, and
- Point Loma WWTP and PLOO.

Each of these Metro System facilities plays a key role in Point Loma WWTP operations and NPDES permit compliance. To augment system performance, the City has implemented an integrated chemical addition approach[1] whereby chemical addition at both upstream collection facilities and treatment facilities is utilized to maximize odor control while at the same time enhancing solids removal performance at the Point Loma WWTP. The result of this program is that the Point Loma WWTP in 2014 achieved its best solids removal in its operating history. Brief descriptions of primary Metro System facilities are presented below.

North City WRP. The 30 mgd North City WRP develops recycled water for delivery to customers in the North City region. Excess North City WRP treated wastewater is returned to the sewer for transport to the Point Loma WWTP. Waste solids are directed to the MBC for digestion and dewatering.

Metro Biosolids Center. MBC digests and dewaters waste biosolids from the North City WRP, and dewaters digested biosolids received from the Point Loma WWTP.

[1] The proprietary PRI-SC technology (Peroxide Regenerated Iron Sulfide Control) involves adding ferrous chloride at upstream points in Metro System collection facilities for odor and sulfide control, and adding hydrogen peroxide at downstream points and at the Point Loma WWTP to regenerate the iron for use in controlling sulfides and enhancing solids removal at the Point Loma WWTP. See Appendix A.

Figure 3
Metro System Facilities and Participating Agency Service Areas

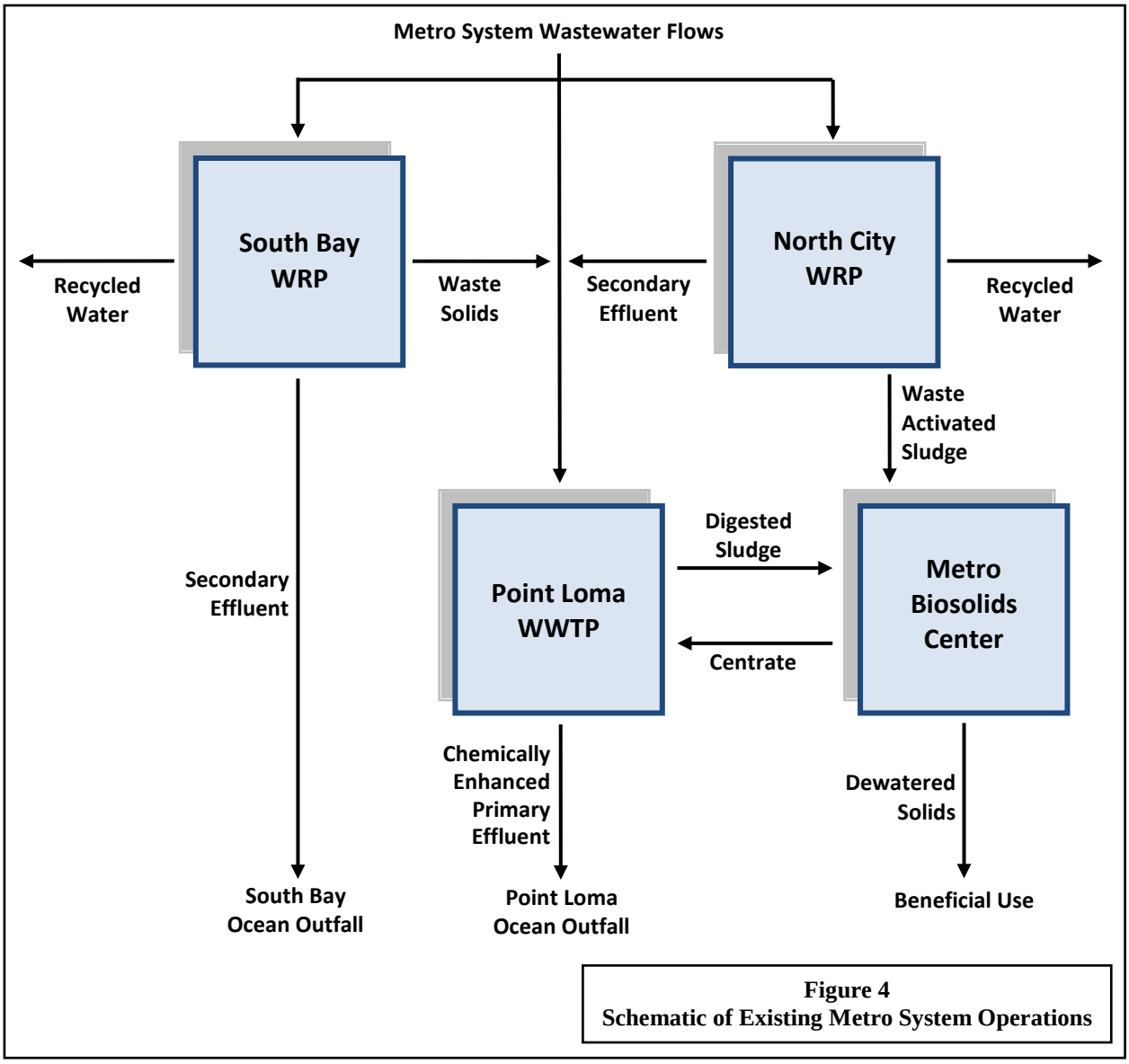


Figure 4
Schematic of Existing Metro System Operations

South Bay Water Reclamation Plant. The 15 mgd South Bay WRP produces recycled water for customers within the South Bay region. Excess South Bay WRP treated wastewater is directed to the SBOO. Waste solids are directed to the Point Loma WWTP through the South Metro Interceptor and Pump Station Nos. 1 and 2.

South Bay Ocean Outfall. SBOO discharges wastewater approximately 3.5 miles off the coast of the International Border at a depth of approximately 95 feet.

Pump Station No. 1. Pump Station No. 1 conveys wastewater from the southern portion of the Metro System through the South Metro Interceptor to Pump Station No. 2.

Pump Station No. 2. Pump Station No. 2 conveys Metro System wastewater to the Point Loma WWTP. Pump Station No. 2 also provides initial screening and chemical addition.

Point Loma WWTP. The Point Loma WWTP is the terminal treatment facility in the Metro System. The Point Loma WWTP provides 240 mgd of chemically enhanced primary treatment capacity. Treatment processes include:

- screening,
- grit removal,
- chemically enhanced primary treatment to achieve at least 80 percent removal of influent suspended solids,
- partial disinfection using sodium hypochlorite, and
- final screening.

Point Loma Ocean Outfall. Treated wastewater from the Point Loma WWTP is discharged to the PLOO. The PLOO discharges wastewater approximately 4.5 miles off the coast of Point Loma at a discharge depth of 310 feet[2]. The PLOO diffuser system is 4,992 feet long with 416 ports - 208 ports per each diffuser leg. The City employs a comprehensive discharge program to protect Point Loma receiving waters. This comprehensive program includes:

- an industrial and non-industrial toxics control program (Urban Area Pretreatment Program) to prevent harmful constituents from entering the sewer system,
- development and marketing of recycled water supplies at the 30 mgd North City WRP to lessen solids loads directed to the Point Loma WWTP and to reduce the amount of wastewater discharged to the ocean,
- development and marketing of recycled water supplies at the 15 mgd South Bay WRP to lessen Point Loma WWTP hydraulic loads and to reduce the amount of wastewater discharged to the ocean,
- chemically enhanced primary treatment at the Point Loma WWTP to achieve a minimum of 80 percent removal (system-wide) of TSS and 58 percent removal (system-wide) of BOD,
- comprehensive monitoring to assess Point Loma WWTP influent and effluent quality,
- discharge to the ocean through a highly efficient ocean outfall that achieves a high initial dilution, discharges the wastewater far offshore (beyond the three nautical mile limit of State of California waters), and discharges the wastewater at a sufficient depth to trap the waste plume below the surface, and
- comprehensive monitoring of ocean receiving waters, sediments, fish, and benthic species.

[2] While this report describes the PLOO discharge depth as 310 feet, the actual discharge depth varies with tidal cycles. Due to the height of the diffuser pipe, the depths of the outfall diffuser ports range from 306 to 313 feet below mean lower low water. Maximum water depths in the vicinity of the diffuser are approximately 320 feet.

DISCHARGE COMPLIANCE

The PLOO discharge has achieved 100 percent compliance with the 301(h) modified BOD and TSS limits established in Order No. R9-2009-0001.

BOD Removal. Table 6 summarizes system-wide BOD removal achieved by Metro System facilities during 2010-2013. As shown in Table 6, 100 percent compliance was achieved with the system-wide annual average 58 percent BOD removal requirement. In addition to achieving compliance with the 58 percent annual average BOD percent removal requirement during 2010-2013, the Metro System achieved at least 61 percent system-wide BOD removal during each month of the effective period of Order No. R9-2009-0001.

Table 6
System-Wide BOD Removal, 2010-2013
Compliance with 58 Percent BOD Removal Requirement

Month	System-Wide BOD Percent Removal[1]			
	2010[2]	2011	2012	2013
Jan	64.8	63.3	63	61.7
Feb	63.9	62.2	63.4	61.4
Mar	67.3	62.3	63.6	63.9
Apr	66.7	66.4	64.1	66.0
May	67.9	66	65.5	66.0
Jun	67.4	65.3	66.6	65.0
Jul	67.2	64.9	64.8	61.0
Aug	68.0	65.3	65.1	66.7
Sep	67.4	63.1	65.9	68.5
Oct	65.7	64.7	65.9	68.5
Nov	66.2	67.1	63.3	67.3
Dec	63.3	64.1	64.5	67.6
Annual Average	66.3	64.6	64.6	65.3
Maximum Month	68.0	67.1	66.6	68.5
Minimum Month	63.3	62.2	63.0	61.0

1 BOD percent removal (five-day BOD) computed on a system-wide basis. Data from PLOO annual monitoring reports submitted to the Regional Board for 2010-2013. Calendar year 2013 is the most recent year for which a complete 12 month data set was available at the time of preparation of this report. Data for calendar year 2014 will be electronically transmitted to regulators under separate cover when available in early 2015.
2 Order No. R9-2009-0001 became effective on August 1, 2010. Data are presented for the entire 2010 calendar year.

TSS Removal. The PLOO discharge also achieved 100 percent compliance with the minimum monthly TSS percent removal requirement of 80 percent. Table 7 (page 16) summarizes monthly average Metro System system-wide TSS removal during 2010-2013.

As shown in Table 7, 100 percent compliance was achieved with the 80 percent system-wide TSS removal requirement established in Order No. R9-2009-0001.

Since Order No. R9-2009-0001 became effective in August 2010, system-wide TSS removal rates have ranged from 85 percent to more than 90 percent. In the absence of a 301(h) modification, federal secondary treatment standards (40 CFR 133.102) mandate 85 percent removal of TSS. To date, the Point Loma WWTP has achieved 85 percent TSS removal or better during each month since Order No. R9-2009-0001 became effective on August 1, 2010.

Table 7
System-Wide TSS Removal, 2010-2013
Compliance with 80 Percent TSS Removal Requirement

Month	System-Wide BOD_5 Percent Removal[1]			
	2010[2]	2011	2012	2013
Jan	83.1	87.5	87.8	89.4
Feb	87.2	87.9	88.1	88.4
Mar	88.4	88.4	89.5	90.0
Apr	89.0	88.9	90.3	90.4
May	90.3	88.4	90.8	90.3
Jun	89.1	88.4	91.4	90.0
Jul	90.1	87.9	90.4	86.6
Aug	90.6	87.9	90.2	92.3
Sep	89.7	87.1	90.5	93.0
Oct	88.5	87.1	90.9	92.8
Nov	89.0	88.3	90.0	92.8
Dec	85.1	88.0	89.2	92.4
Annual Average	88.3	88.0	89.9	90.7
Maximum Month	90.6	88.9	91.4	93.0
Minimum Month	83.1	87.1	87.8	86.6

1 TSS percent removal computed on a system-wide basis. Data from PLOO annual monitoring reports submitted to the Regional Board for 2010-2013. Calendar year 2013 is the most recent year for which a complete 12 month data set was available at the time of preparation of this report. Data for calendar year 2014 will be electronically transmitted to regulators under separate cover.

2 Order No. R9-2009-0001 became effective on August 1, 2010. Data are presented for the entire 2010 calendar year.

TSS Concentration Limit. In addition to establishing percent removal requirements, Order No. R9-2009-0001 established a TSS monthly average effluent concentration limit of 75 mg/l. Table 8 (page 17) summarizes monthly average TSS concentrations during 2010-2013. As shown in the table, the Point Loma WWTP attained 100 percent compliance with the TSS

effluent concentration limit. Monthly average Point Loma WWTP TSS concentrations during 2010-2013 ranged from 24 mg/l to 50 mg/l. With increased experience in fine tuning the City's system-wide integrated chemical addition approach, TSS removals achieved in 2014 were the best in the history of the Point Loma WWTP; the annual average TSS concentration of the Point Loma WWTP effluent during 2014 was less than 30 mg/l.

Table 8
Point Loma WWTP Effluent TSS Concentrations, 2010-2013
Compliance with 75mg/l TSS Effluent Limitation

Month	Monthly Average Point Loma WWTP TSS Concentration[1]			
	2010	2011	2012	2013
Jan	35	41	46	35
Feb	36	37	44	39
Mar	36	35	38	37
Apr	37	38	38	36
May	34	42	34	38
Jun	39	41	32	38
Jul	36	42	39	50
Aug	34	46	36	27
Sep	37	46	36	24
Oct	39	47	34	25
Nov	37	42	35	26
Dec	45	39	35	27
Annual Average	37	41	37	34
Maximum Month	45	47	46	50
Minimum Month	34	35	32	24

1 Data from PLOO annual monitoring reports submitted to the Regional Board for 2010-2013. Calendar year 2013 is the most recent year for which a complete 12 month data set was available at the time of preparation of this report. Data for calendar year 2014 will be electronically transmitted to regulators under separate cover.
2 Order No. R9-2009-0001 became effective on August 1, 2010. Data are presented for the entire 2010 calendar year.

TSS Mass Emissions. The PLOO effluent discharge has also achieved 100 percent compliance with TSS mass emission limits established in Order No. R9-2009-0001. Further, average annual TSS mass emissions have been reduced during the period of modified 301(h) TSS and BOD requirements (1995 to present). Demonstrating this, Figure 5 (page 18) presents a five-year running average of PLOO TSS mass emissions during the period 1995-2013. As shown in Figure 5, the Point Loma WWTP ocean discharge has achieved significant reduction in TSS mass emissions since the original 301(h) permit was issued in 1995.

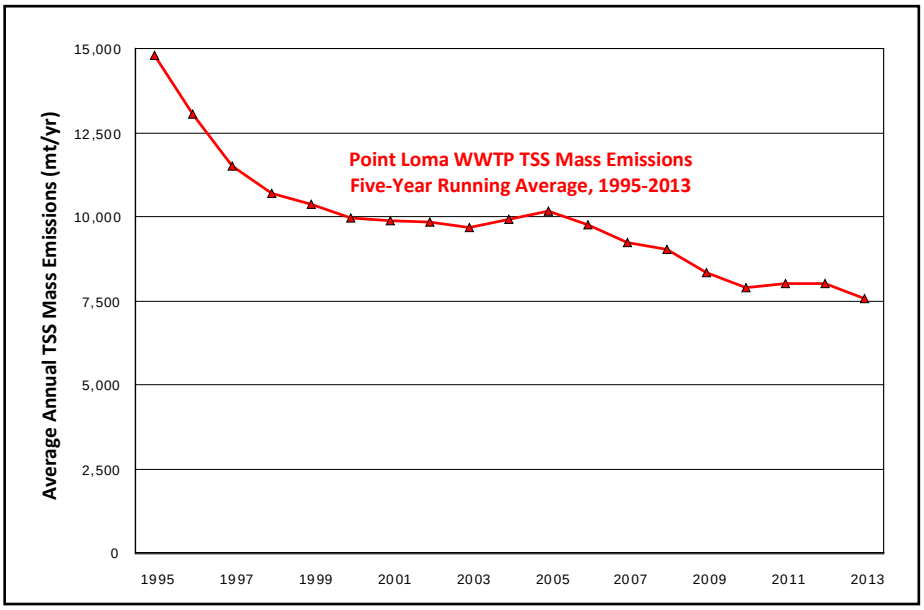


Figure 5 Point Loma WWTP Effluent TSS Mass Emissions Five-Year Running Average, 1995-2013

Figure 6 presents a breakdown of average annual PLOO TSS mass emissions during each of the three prior 301(h) permit periods, including:

- 1995, the year the initial 301(h) permit Order No. 95-106 was adopted,
- 1996-2002 (the effective period of Order No. 95-106), and
- 2003-2010 (the effective period of, Order No. R9-2002-0025), and
- 2010-2013 (the effective period of Order No. R9-2009-0001 through calendar year 2013).

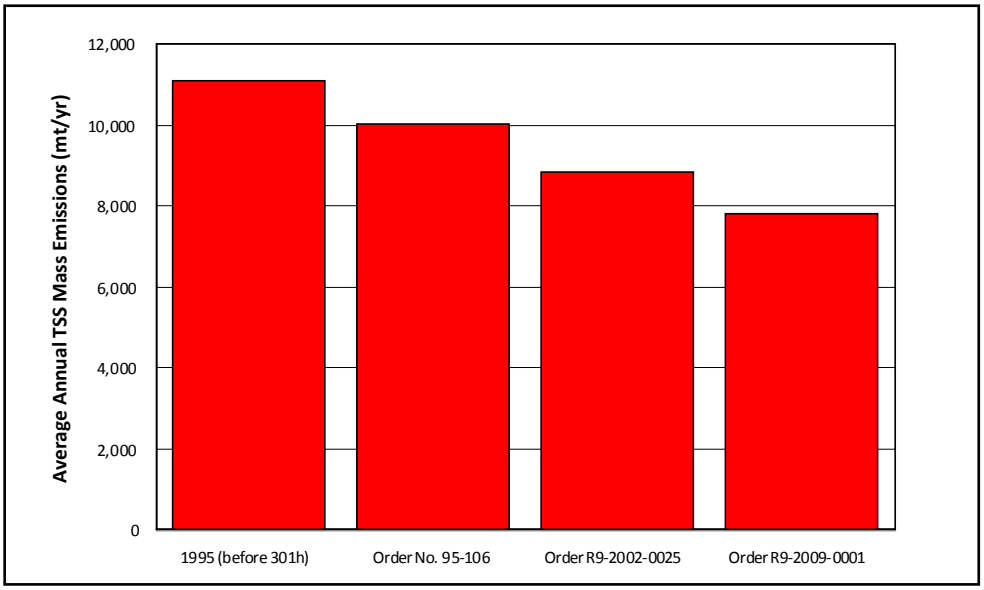


Figure 6 Reduction in Point Loma WWTP Effluent TSS Mass Emissions During the Period of 301(h) Modifications

As shown in Figure 6, TSS mass emissions have been reduced during each 301(h) modified NPDES permit. The City has achieved this system-wide reduction in TSS mass emissions through a combination of (1) solids removals at North City WRP and MBC, and (2) improvements in solids removals at the Point Loma WWTP.

As documented in the attached application, 2013 and 2014 were the best years to date for Point Loma WWTP in terms of effluent TSS concentrations, system-wide TSS percent removal, and TSS mass emissions. Metro System operators continue to fine-tune operations (including minor adjustment of the chemical dose rates shown in Appendix A) to improve the consistency and rate of system-wide solids removal.

ORGANIZATION OF APPLICATION

This application for modification of secondary treatment requirements has been prepared in accordance with Title 40, Part 125, Subpart G of the *Code of Federal Regulations*, as promulgated in the *Federal Register* by EPA on August 23, 1994. This application is also prepared in accord with *Amended Section 301(h) Technical Support Document* published by EPA in September 1994. This application consists of the following volumes:

Volume I:

Executive Summary. An executive summary of the proposed discharge is presented, along with a summary of how the discharge complies with applicable regulations.

Volume II:

Basis of Application, NPDES Application, and Antidegradation Analysis. The basis of the NPDES and 301(h) renewal request is presented in Part 1 of Volume II, along with a description of the requested permit modifications. NPDES permit application forms are presented in Part 2 of Volume II. Part 3 of Volume II compares PLOO mass emissions with mass emission benchmarks established in Order No. R9-2009-0001. For constituents that exceed the benchmarks, Part 3 evaluates the significance of the exceedances pursuant to requirements established by EPA within Special Provision VI.C.2.e of NPDES CA0107409.

Volume III:

Large Applicant Questionnaire. Volume III follows the format established in the Large Applicant Questionnaire, 40 CFR 125, Subpart G, Appendix B. Text responses to individual questions are presented with supporting tables and graphics. As necessary, the responses refer to technical appendices presented in Volumes IV through X of the submittal package.

Volumes IV-Volume X:

Technical Appendices. Volumes IV through X of the application present technical appendices that support responses to questions of the large applicant questionnaire. Technical appendices to this 301(h) application are summarized in Table 9.

Table 9
Technical Appendices to the 301(h) Renewal Application, Volumes IV through X

Volume	Appendix	Description and Sub-Appendices
Volume IV	Appendix A	Existing Metro System Facilities and Operations
	Appendix B	Future Metro System Facilities: Appendix B.1 Planned Metro System Facilities Improvements Appendix B.2 2012 Recycled Water Use Study Appendix B.3 Water Purification Demonstration Project Report
Volume V	Appendix C	Ocean Benthic Conditions: Appendix C.1 Benthic Sediments, Invertebrates and Fishes Appendix C.2 San Diego Benthic Tolerance Intervals Appendix C.3 San Diego Regional Sediment Quality Contour Plots Appendix C.4 San Diego Sediment Mapping Study Appendix C.5 Deep Benthic Habitat Assessment Study
	Appendix D	Bioaccumulation Assessment
Volume VI	Appendix E	Sources of PCB Contamination
	Appendix F	Point Loma Ocean Outfall Plume Behavior Study
	Appendix G	Kelp Forest Ecosystem Monitoring Report
	Appendix H	Coastal Remote Sensing Annual Reports
Volume VII	Appendix I	Beneficial Use Assessment: Appendix I.1 Beneficial Use Evaluation Appendix I.2 Compliance with Body Contact Recreation Standards
	Appendix J	Endangered Species Assessment
	Appendix K	Essential Fish Habitat Assessment
	Appendix L	Proposed Monitoring Program
Volume VIII	Appendix M	2013 Annual Biosolids Report
Volume IX	Appendix N	Source Control Program
	Appendix O	2013 Annual Pretreatment Program Report
Volume X	Appendix P	Oceanography
	Appendix Q	Initial Dilution Simulation Models
	Appendix R	Re-Entrainment
	Appendix S	Dissolved Oxygen Demand
	Appendix T	Analysis of Ammonia
	Appendix U	2012 California Ocean Plan
	Appendix V	Correspondence

SUMMARY OF FINDINGS

The attached application for renewal of NPDES CA0107409 demonstrates that maintaining the existing modified 301(h) requirements for TSS and BOD provide full protection of the ocean environment and beneficial uses. This NPDES renewal application documents that:

- The Point Loma WWTP has achieved 100 percent compliance with concentration, percent removal, and mass emission limits for BOD and TSS established in Order No. R9-2009-0001.
- The Point Loma discharge meets the statutory requirements of CWA Sections 301(h) and 301(j)(5) for receiving modified BOD and TSS requirements.
- The PLOO discharge has complied with applicable State of California receiving water standards and federal water quality criteria for the protection of beneficial uses.
- The TSS and BOD concentration and percent removal limits established in the current Point Loma NPDES permit are consistent with maintaining the existing high quality of ocean waters off the coast of Point Loma.
- The PLOO provides a high degree of initial dilution and effectively disperses the discharged wastes.
- Plume modeling demonstrates that the PLOO maintains the diluted waste field more than 100 feet below the ocean surface 99 percent of the time, and maintains the waste field 180 feet below the surface under typical conditions.
- Effluent disinfection at the Point Loma WWTP ensures compliance with *California Ocean Plan* body contact recreational standards throughout all depths in State-regulated waters, and ensures compliance with federal recreational bacteriological criteria outside the State-regulated three-nautical mile limit.
- A balanced indigenous population of fish, shellfish, and wildlife exists beyond the zone of initial dilution.
- The PLOO discharge does not create any discernible negative impacts on beneficial uses, fishing, habitats of special significance, recreation, or public water supplies.
- Sediment chemistry monitoring and inspections of the PLOO discharge zone by remotely operated vehicles during the over 20 year operating history of the extended PLOO demonstrate that solids are not accumulating in ocean sediments.
- Sediment data collected since 1994 demonstrate that no trends in sediment chemistry or deposition have been observed since the outfall was placed in operation that would degrade marine life. Sediment concentrations of metals in and near the outfall discharge zone continue to be near background concentrations. Sediment concentrations of toxic organic compounds are typically less than the corresponding analytical detection limits. Exceptions to this include PCBs, DDT, and polyaromatic hydrocarbons, but elevated

concentrations of these compounds are centered around a dredge disposal site south of the outfall and an area north of the outfall near the mouth of the San Diego River, and are not related to operation of the PLOO.

- The City of San Diego industrial waste source control program has been effective in reducing and controlling the discharge of toxic constituents to the sewer system.
- Mass emissions of TSS have been reduced during the period of 301(h) modification, and the City proposes additional reduction in allowable TSS mass emissions from the PLOO.
- The City continues efforts to expand recycled water use produced at the North City WRP and the South Bay WRP. Additionally, the City is moving forward with the proposed *Pure Water San Diego* program for implementing large-scale potable water reuse which would create a safe, reliable, and cost-effective source of potable supply while significantly offloading Point Loma WWTP inflows and solids loads and further reducing TSS mass emission discharged to the ocean through the PLOO.

Table 10 (pages 22 through page 25) summarizes the overall findings of the comprehensive scientific studies on which this NPDES and 301(h) application are based. Table 10 also summarizes conclusions and compliance issues addressed in EPA's December 2, 2008 Tentative Decision on the City's prior 301(h) application. EPA's June 16, 2010 final approval of the City's 301(h) application was based on the technical findings presented in the December 2008 Tentative Decision.

Table 10
Summary of Key Discharge Issues Addressed in this Application

Category	Finding from 2008 EPA Tentative Decision Document[1]	Key Questions Addressed in Attached Application	Conclusions from Attached Application
Level of Treatment	1. *The applicant's discharge will comply with primary treatment standards.* (Finding #1 from the 2008 EPA Tentative Decision)	Does the level of treatment comply with 301(h) primary treatment requirements?	The City complies with the 301(h) requirement that a minimum 30 percent removal of TSS and BOD must be achieved. As documented in this application, the City achieved a system-wide average TSS removal of approximately 89 percent and BOD removal of approximately 61 percent during the effective period of Order No. R9-2009-0001.
Water Quality Standards	2. *The applicant's proposed 301(h)-modified discharge will comply with the State of California's water quality standards for natural light and dissolved oxygen.* (Finding #2 from the 2008 EPA Tentative Decision)	Does the outfall discharge discernibly impact receiving water light transmittance or dissolve oxygen?	The Point Loma discharge complies with *California Ocean Plan* requirements that prohibit discharges from reducing light transmittance or dissolved oxygen by more than 10 percent below ambient levels. Receiving waters are not currently stressed, nor will the continued discharge lead to such stressed conditions.
Water Quality Standards	3. *The applicant has demonstrated it can consistently achieve State water quality standards and federal 304(a)(1) water quality criteria beyond the zone of initial dilution.* (Finding #3 of the 2008 EPA Tentative Decision)	Does the discharge comply with applicable water quality standards?	The PLOO discharge complies with all applicable *California Ocean Plan* receiving water standards and federal water quality criteria for the protection of marine aquatic life and human health. The discharge complies with the majority of these standards by multiple orders of magnitude.

Table 10
Summary of Key Discharge Issues Addressed in this Application

Category	Finding from 2008 EPA Tentative Decision Document[1]	Key Questions Addressed in Attached Application	Conclusions from Attached Application
Public Water Supplies	4. *The applicant's proposed discharge, alone or in combination with pollutants from other sources, will not adversely impact public water supplies or interfere with the protection and propagation of a balanced, indigenous population (BIP) of fish, shellfish and wildlife, and will allow for recreational activities.* (Finding #4 of the 2008 EPA Tentative Decision)	No public water supplies are endangered.	No impact on existing or planned water supplies. The planned Carlsbad Desalination Facility is located more than 30 miles north of the Point Loma outfall, and will not be affected in any discernible way by the Point Loma discharge.
Balanced, Indigenous Population (BIP)	4. *The applicant's proposed discharge, alone or in combination with pollutants from other sources, will not adversely impact public water supplies or interfere with the protection and propagation of a balanced, indigenous population (BIP) of fish, shellfish and wildlife, and will allow for recreational activities.* (Finding #4 of the 2008 EPA Tentative Decision)	Will retention of existing modified 301(h) limits for TSS and BOD impact benthic species, fish, or the propagation of a balanced indigenous population?	A Balanced Indigenous Population (BIP) is maintained beyond the PLOO zone of initial dilution (ZID). Key species parameters such as infaunal abundance, species diversity, Benthic Response Index, and the numbers and populations of indicator species are maintained within the limits of variability that typify natural benthic communities of the Southern California Bight. Infaunal communities off Point Loma have remained stable from year to year in terms of number of species, number of individuals, and dominance. Values for these parameters in the outfall area are similar to elsewhere in the Southern California Bight. While several trends are evident from comparing pre-discharge and post-discharge conditions, these trends are not indicative of environmental degradation. As an example, there is a general increase in the total abundance and number of benthic infauna species nearest the outfall since the discharge was initiated, contrary to what would be expected if environmental degradation were occurring. Additionally, increases in infaunal abundance have occurred near the outfall, another pattern contrary to known pollution effects. The PLOO provides a high degree of initial dilution, and the waste field is efficiently and rapidly dispersed. The erosional environment at the extended outfall site and the location of the outfall adjacent to the shelf break prevent the accumulation of solids in ocean sediments. While small increases in sulfide and BOD concentrations have occurred in sediments nearest the outfall diffusers, sediment data collected since 1994 do not indicate any trends in sediment chemistry or deposition that would degrade marine life. Because of these factors, benthic species, fish, and marine aquatic life continue to be protected, and a BIP is maintained beyond the PLOO ZID.
Bacteriological Standards and Recreation	4. *The applicant's proposed discharge, alone or in combination with pollutants from other sources, will not adversely impact public water supplies or interfere with the protection and propagation of a balanced, indigenous population (BIP) of fish, shellfish and wildlife, and will allow for recreational activities.* (Finding #4 of the 2008 EPA Tentative Decision)	Will the PLOO discharge comply with State of California body-contact recreational standards throughout the water column in State-regulated waters?	Regional Board Order No. R9-2009-0001, which became effective on August 1, 2010, implemented *California Ocean Plan* recreational body contact bacteriological standards that apply to all depths in all state-regulated waters (waters within three miles of the coast). The Point Loma discharge is disinfected and the outfall extends approximately 4.5 miles offshore (outside the three nautical mile state-regulated limit). Receiving water data collected during 2010-2013 indicate no outfall-related exceedances of *California Ocean Plan* body contact recreational standards that are applicable within the state-regulated three nautical mile limit. Data also demonstrate compliance with federal recreational water quality criteria outside the three nautical mile state-regulated limit. Further, as demonstrated in the attached application, no recreational water contact uses are known to exist off the coast of Point Loma beyond State-regulated waters.

Table 10
Summary of Key Discharge Issues Addressed in this Application

Category	Finding from 2008 EPA Tentative Decision Document[1]	Key Questions Addressed in Attached Application	Conclusions from Attached Application
Monitoring Program	5. *The applicant has a well-established monitoring program and has demonstrated it has adequate resources to continue the program.* (Finding #5 of the 2008 EPA Tentative Decision)	Is the monitoring program effective in assessing potential impacts?	The City's ocean discharge monitoring program is one of the (if not the) most comprehensive in the world, and includes influent monitoring, effluent monitoring, receiving water monitoring, sediment chemistry monitoring, benthic monitoring, and fish and fish tissue monitoring. The program includes a comprehensive array of reference and outfall stations to (1) demonstrate compliance with applicable requirements, and (2) allow for analysis of how the discharge affects the environment.
Impacts on Other Discharges	6. *The adoption by the Regional Water Board of a NPDES permit which incorporates both the federal 301(h) variance and State permit requirements will serve as the State's determination, pursuant to 40 CFR 125.59(f)(4), that the requirements under 40 CFR 125.64 are achieved* (e.g. the discharge will not result in any additional treatment requirements on any other source). (Finding #6 of the 2008 EPA Tentative Decision)	Will retention of existing modified 301(h) limits for TSS and BOD affect other point or non-point dischargers?	The discharge does not and will not affect any other point or nonpoint dischargers. The offshore distance of the outfall sufficiently separates the Point Loma discharge from point and nonpoint sources along the shore. Other regional offshore (outfall) discharges are sufficiently distant so as to not interfere with each other.
Source Control and Toxics	7. *The applicant's existing pretreatment program was approved by EPA Region 9 on June 29, 1982, and remains in effect.* 8. *The applicant has complied with urban area pretreatment requirements by demonstrating that it has an applicable pretreatment requirement in effect for each toxic pollutant introduced by an industrial discharger.* 9. *The applicant will continue to develop and implement both its existing nonindustrial source control program, in effect since 1985, and existing comprehensive public education program to minimize the amount of toxic pollutants that enter the treatment system from nonindustrial sources.* (Findings #7, #8, and #9 of the 2008 EPA Tentative Decision)	Has the City complied with applicable source control requirements?	The City implemented and received EPA approval for an Urban Area Pretreatment Program in 1996. The City continues to implement public education and non-industrial source control actions, such as the City's Household Hazardous Waste Program. The Point Loma discharge continues to comply with *California Ocean Plan* water quality standards for toxics and with applicable federal water quality criteria. Mass emissions of chromium, lead, nickel, silver, and zinc have been reduced by an order of magnitude or more from mass emissions of 25 years ago.
Mass Emissions	10. *There will be no new or substantially increased discharges from the point source of the pollutants to which the 301(h) variance applies above those specified in the permit. The discharge will not result in new or substantially increased mass emissions.* (Finding #10 of the 2008 EPA Tentative Decision)	Will the discharge result in increased mass emissions?	The City is not requesting any increase in mass emission limits as part of this application for renewal of 301(h) NPDES requirements for the PLOO. Existing mass emission rates are in keeping with maintaining compliance with State water quality standards, federal water quality criteria, and protecting beneficial uses. Additionally, the City is requesting a reduction in allowable TSS mass emissions discharged from the Point Loma WWTP within the renewed 301(h) NPDES permit.

Table 10
Summary of Key Discharge Issues Addressed in this Application

Category	Finding from 2008 EPA Tentative Decision Document[1]	Key Questions Addressed in Attached Application	Conclusions from Attached Application
Conflict with Other State or Federal Laws	11. *The issuance of a final 301(h)-modified permit is contingent upon receipt of determinations that the issuance of such permit does not conflict with applicable provisions of federal and State laws.* (Finding #11 of the EPA 2008 Tentative Decision)	Does the Point Loma discharge conflict with any applicable state or federal laws?	As documented in the attached application, the Point Loma discharge complies with applicable state and federal laws. The discharge is consistent with protecting receiving water beneficial uses and endangered and threatened species. Correspondence will be submitted to EPA from the U.S. Fish and Wildlife Service, National Marine Fisheries Service, and Regional Water Quality Control Board indicating no such conflict with applicable state or federal laws. The State of California Coastal Commission will render such a compliance determination after adoption of the renewed Point Loma NPDES permit by the Regional Water Quality Control Board.
Compliance with Section 301(j)(5) of the Clean Water Act	12. *In its operation of the Point Loma WWTP, the applicant will continue to: achieve a monthly average system-wide percent removal for TSS of not less than 80 percent and an annual average system-wide percent removal for BOD of not less than 58 percent; and has implemented a water reclamation program that will result in a reduction in the quantity of suspended solids discharged into the marine environment during the period of the 301(h) modification. In addition, the applicant has constructed a system capacity of 45 mgd of reclaimed water, thereby meeting this January 1, 2010 requirement.* (Finding #12 of the EPA 2008 Tentative Decision)	Does the Point Loma discharge comply with TSS and BOD removal requirements of Section 301(j)(5) of the Clean Water Act?	As required within Section 301(j)(5) of the CWA, the City of San Diego achieves a minimum 58 percent removal of BOD (annual average) and 80 percent removal of TSS (monthly average) on a system-wide basis. The City has achieved a system-wide average TSS removal of approximately 89 percent and average BOD removal of approximately 61 percent during the effective period of Order No. R9-2009-0001. As further required within CWA Section 301(j)(5), the City has constructed 45 mgd of recycled water production capacity.

1 Findings presented within: *Tentative Decision of the Regional Administrator Pursuant to 40 CFR Part 125, Subpart G, City of San Diego's Point Loma Wastewater Treatment Plant, Application for a Modified NPDES Permit Under Section 301(h) of the Clean Water Act.* U.S. Environmental Protection Agency, Region IX, December 2, 2008. EPA's *Final Decision of the Regional Administrator Pursuant to 40 CFR Part 125, Subpart G, City of San Diego's Point Loma Wastewater Treatment Plant, Application for a Modified NPDES Permit Under Section 301(h) of the Clean Water Act* was issued on May 27, 2010. EPA final approval of the City's 301(h) modified permit (NPDES CA0107409) was issued on June 16, 2010.

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PART 2
NPDES Application Forms

Renewal of NPDES CA0107409

EPA Form 1

Renewal of NPDES CA0107409

Please print or type in the unshaded areas only. Form Approved. OMB No. 2040-0086.

FORM 1 GENERAL

U.S. ENVIRONMENTAL PROTECTION AGENCY
GENERAL INFORMATION
Consolidated Permits Program
(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER

S		T/A	C
F			D
1	2 — 13	14	15

LABEL ITEMS

I. EPA I.D. NUMBER
III. FACILITY NAME
V. FACILITY MAILING ADDRESS
VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of **bold-faced terms**.

SPECIFIC QUESTIONS	Mark "X" YES	NO	FORM ATTACHED	SPECIFIC QUESTIONS	Mark "X" YES	NO	FORM ATTACHED
A. Is this facility a **publicly owned treatment works** which results in a **discharge** to **waters of the U.S.**? (FORM 2A)	X (16)	(17)	X (18)	B. Does or will this facility *(either existing or proposed)* include a **concentrated animal feeding operation** or **aquatic animal production facility** which results in a **discharge** to **waters of the U.S.**? (FORM 2B)	(19)	X (20)	(21)
C. Is this a facility which currently results in **discharges** to **waters of the U.S.** other than those described in A or B above? (FORM 2C)	(22)	X (23)	(24)	D. Is this a proposed facility *(other than those described in A or B above)* which will result in a **discharge** to **waters of the U.S.**? (FORM 2D)	(25)	X (26)	(27)
E. Does or will this facility treat, store, or dispose of **hazardous wastes**? (FORM 3)	(28)	X (29)	(30)	F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)	(31)	X (32)	(33)
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)	(34)	X (35)	(36)	H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)	(37)	X (38)	(39)
I. Is this facility a proposed **stationary source** which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)	(40)	X (41)	(42)	J. Is this facility a proposed **stationary source** which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)	(43)	X (44)	(45)

III. NAME OF FACILITY

1 | SKIP (16 – 29) | E.W. Blom Point Loma Wastewater Treatment Plant (30 — 69)

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*
2 — Halla Razak, P.E., Director of Public Utilities (16 — 45)	(858) 292-6401 (46 — 55)

V. FACILTY MAILING ADDRESS

A. STREET OR P.O. BOX

3 — 9192 Topaz Way (16 — 45)

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 — San Diego (16 — 40)	CA (41 — 42)	92123 (47 — 51)

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 — 1902 Gatchell Road (16 — 45)

B. COUNTY NAME

San Diego (46 — 70)

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE *(if known)*
6 — San Diego (16 — 40)	CA (41 — 42)	92106 (47 — 51)	NA (52 — 54)

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

VII. SIC CODES *(4-digit, in order of priority)*

A. FIRST	B. SECOND
4952 (specify) Municipal sewer system	Not applicable
C. THIRD	**D. FOURTH**
Not applicable	Not applicable

VIII. OPERATOR INFORMATION

A. NAME	B. Is the name listed in Item VIII-A also the owner?
City of San Diego, Public Utilities Department	☑ YES ☐ NO

C. STATUS OF OPERATOR *(Enter the appropriate letter into the answer box: if "Other," specify.)*			D. PHONE *(area code & no.)*
F = FEDERAL S = STATE P = PRIVATE	M = PUBLIC *(other than federal or state)* O = OTHER *(specify)*	M (specify) Municipality	A (858) 292-6300

E. STREET OR P.O. BOX
9192 Topaz Way

F. CITY OR TOWN	G. STATE	H. ZIP CODE	IX. INDIAN LAND
San Diego	CA	92123	Is the facility located on Indian lands? ☐ YES ☑ NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES *(Discharges to Surface Water)*	D. PSD *(Air Emissions from Proposed Sources)*	
9 N CA0107409	9 P Not applicable	
B. UIC *(Underground Injection of Fluids)*	**E. OTHER *(specify)***	
9 U Not applicable	9 Not applicable	(specify)
C. RCRA *(Hazardous Wastes)*	**E. OTHER *(specify)***	
9 R Not applicable	9 Not applicable	(specify)

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers, and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS *(provide a brief description)*

Collection and treatment of municipal wastewater produced within the service area of the San Diego Metropolitan Sewer System.

XIII. CERTIFICATION *(see instructions)*

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE *(type or print)*	B. SIGNATURE	C. DATE SIGNED
Halla Razak Director of Public Utilities	Halla Razak	1/2/2015

COMMENTS FOR OFFICIAL USE ONLY

C

EPA Form 2A

Renewal of NPDES CA0107409

FORM 2A NPDES

NPDES FORM 2A APPLICATION OVERVIEW

APPLICATION OVERVIEW

Form 2A has been developed in a modular format and consists of a "Basic Application Information" packet and a "Supplemental Application Information" packet. The Basic Application Information packet is divided into two parts. All applicants must complete Parts A and C. Applicants with a design flow greater than or equal to 0.1 mgd must also complete Part B. Some applicants must also complete the Supplemental Application Information packet. The following items explain which parts of Form 2A you must complete.

BASIC APPLICATION INFORMATION:

A. **Basic Application Information for all Applicants.** All applicants must complete questions A.1 through A.8. A treatment works that discharges effluent to surface waters of the United States must also answer questions A.9 through A.12.

B. **Additional Application Information for Applicants with a Design Flow ≥ 0.1 mgd.** All treatment works that have design flows greater than or equal to 0.1 million gallons per day must complete questions B.1 through B.6.

C. **Certification.** All applicants must complete Part C (Certification).

SUPPLEMENTAL APPLICATION INFORMATION:

D. **Expanded Effluent Testing Data.** A treatment works that discharges effluent to surface waters of the United States and meets one or more of the following criteria must complete Part D (Expanded Effluent Testing Data):

1. Has a design flow rate greater than or equal to 1 mgd,
2. Is required to have a pretreatment program (or has one in place), or
3. Is otherwise required by the permitting authority to provide the information.

E. **Toxicity Testing Data.** A treatment works that meets one or more of the following criteria must complete Part E (Toxicity Testing Data):

1. Has a design flow rate greater than or equal to 1 mgd,
2. Is required to have a pretreatment program (or has one in place), or
3. Is otherwise required by the permitting authority to submit results of toxicity testing.

F. **Industrial User Discharges and RCRA/CERCLA Wastes.** A treatment works that accepts process wastewater from any significant industrial users (SIUs) or receives RCRA or CERCLA wastes must complete Part F (Industrial User Discharges and RCRA/CERCLA Wastes). SIUs are defined as:

1. All industrial users subject to Categorical Pretreatment Standards under 40 Code of Federal Regulations (CFR) 403.6 and 40 CFR Chapter I, Subchapter N (see instructions); and
2. Any other industrial user that:
   a. Discharges an average of 25,000 gallons per day or more of process wastewater to the treatment works (with certain exclusions); or
   b. Contributes a process wastestream that makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the treatment plant; or
   c. Is designated as an SIU by the control authority.

G. **Combined Sewer Systems.** A treatment works that has a combined sewer system must complete Part G (Combined Sewer Systems).

ALL APPLICANTS MUST COMPLETE PART C (CERTIFICATION)

BASIC APPLICATION INFORMATION

PART A. BASIC APPLICATION INFORMATION FOR ALL APPLICANTS:

All treatment works must complete questions A.1 through A.8 of this Basic Application Information packet.

A.1. Facility Information.

Facility name: E.W. Blom Point Loma Wastewater Treatment Plan

Mailing Address: City of San Diego, Public Utilities Department
9192 Topaz Way, San Diego, 92123

Contact person: Halla Razak, P.E.

Title: Director of Public Utilities

Telephone number: (858) 292-6401

Facility Address (not P.O. Box): 1902 Gatchell Road
San Diego, CA 92106

A.2. Applicant Information. If the applicant is different from the above, provide the following:

Applicant name: City of San Diego, Public Utilities Department

Mailing Address: 9192 Topaz Way
San Diego, CA 92123

Contact person: Halla Razak, P.E.

Title: Director of Public Utilities

Telephone number: (858) 292-6401

Is the applicant the owner or operator (or both) of the treatment works?

✔ owner ✔ operator

Indicate whether correspondence regarding this permit should be directed to the facility or the applicant.

_____ facility ✔ applicant

A.3. Existing Environmental Permits. Provide the permit number of any existing environmental permits that have been issued to the treatment works (include state-issued permits).

NPDES	CA0107409	PSD	Not applicable
UIC	Not applicable	Other	Not applicable
RCRA	Not applicable	Other	Not applicable

A.4. Collection System Information. Provide information on municipalities and areas served by the facility. Provide the name and population of each entity and, if known, provide information on the type of collection system (combined vs. separate) and its ownership (municipal, private, etc.).

Name	Population Served (2013 (estimated))	Type of Collection System	Ownership
City of San Diego	1.2 million	Separate sanitary sewer	City of San Diego
Other Metro System agencies	1.0 million	Separate sanitary sewer	See Appendix A
Total population served	2.2 million		

Note: See Appendix A for list of Metro System agencies. The listed populations are estimates for 2013. See Appendix B.1 for Metro System population projections for future years.

A.5. Indian Country.

a. Is the treatment works located in Indian Country?

_____ Yes ✔ No

b. Does the treatment works discharge to a receiving water that is either in Indian Country or that is upstream from (and eventually flows through) Indian Country?

_____ Yes ✔ No

A.6. Flow. Indicate the design flow rate of the treatment plant (i.e., the wastewater flow rate that the plant was built to handle). Also provide the average daily flow rate and maximum daily flow rate for each of the last three years. Each year's data must be based on a 12-month time period with the 12th month of "this year" occurring no more than three months prior to this application submittal. See attached table on page 3a. Flow data for 2014 is being electronically transmitted under separate cover.

a. Design flow rate 240 mgd

	2011 Two Years Ago	2012 Last Year	2013 This Year	
b. Annual average daily flow rate	155.8	147.9	143.8	mgd
c. Maximum daily flow rate	220.2	191.5	187.1	mgd

A.7. Collection System. Indicate the type(s) of collection system(s) used by the treatment plant. Check all that apply. Also estimate the percent contribution (by miles) of each.

✔	Separate sanitary sewer	100 %
_____	Combined storm and sanitary sewer	0 %

A.8. Discharges and Other Disposal Methods.

a. Does the treatment works discharge effluent to waters of the U.S.? ✔ Yes _____ No

If yes, list how many of each of the following types of discharge points the treatment works uses:

i. Discharges of treated effluent	1
ii. Discharges of untreated or partially treated effluent	0
iii. Combined sewer overflow points	0
iv. Constructed emergency overflows (prior to the headworks)	0
v. Other _____	Not applicable

b. Does the treatment works discharge effluent to basins, ponds, or other surface impoundments that do not have outlets for discharge to waters of the U.S.? _____ Yes ✔ No

If yes, provide the following for each surface impoundment:

Location: Not applicable

Annual average daily volume discharged to surface impoundment(s) Not applicable mgd

Is discharge _____ continuous or NA intermittent?

c. Does the treatment works land-apply treated wastewater? _____ Yes ✔ No

If yes, provide the following for each land application site:

Location: Not applicable

Number of acres: Not applicable

Annual average daily volume applied to site: Not applicable Mgd

Is land application _____ continuous or NA intermittent?

d. Does the treatment works discharge or transport treated or untreated wastewater to another treatment works? _____ Yes ✔ No

Note: All Point Loma Wastewater Treatment Plant (Point Loma WWTP) effluent is directed to the Point Loma Ocean outfall for disposal. Point Loma WWTP biosolids are directed to the Metro Biosolids Center for dewatering. See EPA Form 2S and Appendix A for details.

NA = not applicable

Point Loma Wastewater Treatment Plant
Effluent Flows by Month, 2011-2013[1,2]

Month	Monthly Average Point Loma Effluent Flow [1,2]					
	2011		2012		2013	
	mgd	m^3/sec	mgd	m^3/sec	mgd	m^3/sec
January	166.5	7.29	153.9	6.74	155.4	6.81
February	164.5	7.21	149.6	6.55	150.1	6.58
March	169.2	7.41	152.8	6.70	149.1	6.53
April	156.5	6.85	152.2	6.67	143.4	6.28
M ay	150.6	6.60	147.2	6.45	143.6	6.29
June	149.6	6.55	143.6	6.29	139.9	6.13
July	148.0	6.48	144.1	6.31	143.9	6.30
August	147.0	6.44	143.1	6.27	139.2	6.10
September	148.0	6.48	142.4	6.24	138.3	6.06
October	149.6	6.56	144.7	6.34	139.6	6.11
November	162.8	7.13	149.3	6.54	141.8	6.21
December	157.5	6.90	152.2	6.67	141.0	6.18
Annual Average[3]	155.8	6.82	147.9	6.48	143.8	6.30
Maximum Daily Flow[4]	220.2	9.65	191.5	8.39	187.1	8.20

1 Question No. A.6 of EPA NPDDS Form 2A requires flow data from within 3 months of the date of application. This table shows Point Loma WWTP effluent flows for calendar years 2011-2013. (2013 is the most recent year for which a complete 12 month data set is available.) Data for calendar year 2014 will be electronically transmitted to regulators under separate cover.

2 From monthly monitoring reports submitted to the Regional Board during 2011 through 2013.

3 Average annual Point Loma WWTP flows are lower than flows projected in the City's prior NPDES application due to drought conditions, increased recycled water use, and expanded local water conservation efforts.

4 Maximum observed daily flow during the listed calendar year.

If yes, describe the mean(s) by which the wastewater from the treatment works is discharged or transported to the other treatment works (e.g., tank truck, pipe).

Digested sludge pumped via force main to Metro Biosolids Center for dewatering

If transport is by a party other than the applicant, provide:

Transporter name: Not applcable

Mailing Address:

Contact person: Not applicable

Title:

Telephone number:

For each treatment works that receives this discharge, provide the following:

Name: Metro Biosolids Center

Mailing Address: City of San Diego, Public Utilities Department
9192 Topaz Way, San Diego, CA 92123

Contact person: Halla Razak, P.E.

Title: Director of Public Utilities

Telephone number: (858) 292-6401

If known, provide the NPDES permit number of the treatment works that receives this discharge. Not applicable

Provide the average daily flow rate from the treatment works into the receiving facility. 1.205 mgd

An annual average of 1.205 mgd of digested sludge was pumped to the Metro Biosolids Center from the Point Loma WWTP during 2013. See EPA Form 2S for details.

e. Does the treatment works discharge or dispose of its wastewater in a manner not included in A.8.a through A.8.d above (e.g., underground percolation, well injection)? ____ Yes ✔ No

If yes, provide the following for each disposal method:

Description of method (including location and size of site(s) if applicable):

Not applicable

Annual daily volume disposed of by this method: NA

Is disposal through this method ____ continuous or NA intermittent?

WASTEWATER DISCHARGES:

If you answered "yes" to question A.8.a, complete questions A.9 through A.12 **once for each outfall** (including bypass points) through which effluent is discharged. Do not include information on combined sewer overflows in this section. **If you answered "no" to question A.8.a**, go to Part B, "Additional Application Information for Applicants with a Design Flow Greater than or Equal to 0.1 mgd."

A.9. Description of Outfall.

a. Outfall number: 001

b. Location:
- San Diego (City or town, if applicable) — 92106 (Zip Code)
- San Diego (County) — CA (State)
- N 32 deg. 39' 55" N (Latitude) — W 117 deg. 19' 25" W (Longitude)

c. Distance from shore (if applicable): 23,472 ft.

d. Depth below surface (if applicable): 300 - 320 ft.

The listed latitude and longitude is for the location where the "Y"-shaped diffuser connects to the outfall pipe. A 2-inch-diameter outfall crown vent is located at 32 deg. 42' 20" N, 117 deg. 17' 04" W.

e. Average daily flow rate: 170 mgd

f. Does this outfall have either an intermittent or a periodic discharge? ____ Yes ✔ No (go to A.9.g.)

If yes, provide the following information:

Number of times per year discharge occurs: Not applicable

Average duration of each discharge: Not applicable

Average flow per discharge: Not applicable mgd

Months in which discharge occurs: Not applicable

g. Is outfall equipped with a diffuser? ✔ Yes ____ No

A.10. Description of Receiving Waters.

a. Name of receiving water: Pacific Ocean

b. Name of watershed (if known): Not applicable

United States Soil Conservation Service 14-digit watershed code (if known): Not applicable

c. Name of State Management/River Basin (if known): Not applicable

United States Geological Survey 8-digit hydrologic cataloging unit code (if known): Not applicable

d. Critical low flow of receiving stream (if applicable):
acute NA cfs chronic NA cfs

e. Total hardness of receiving stream at critical low flow (if applicable): NA mg/l of $CaCO_3$

A.11. Description of Treatment.

a. What levels of treatment are provided? Check all that apply.

✔ Primary ____ Secondary

____ Advanced ✔ Other. Describe: Chemically enhanced primary treatment

b. Indicate the following removal rates (as applicable):

Design BOD_5 removal or Design $CBOD_5$ removal	> 58	%
Design SS removal	> 80	%
Design P removal	Not applicable	%
Design N removal	Not applicable	%
Other ____	Not applicable	%

c. What type of disinfection is used for the effluent from this outfall? If disinfection varies by season, please describe.

Ocean outfall secondary effluent is disinfected using sodium hypochlorite

If disinfection is by chlorination, is dechlorination used for this outfall? ____ Yes ✔ No

d. Does the treatment plant have post aeration? ____ Yes ✔ No

A.12. Effluent Testing Information. All Applicants that discharge to waters of the US must provide effluent testing data for the following parameters. Provide the indicated effluent testing required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum, effluent testing data must be based on at least three samples and must be no more than four and one-half years apart.

Outfall number: 001

PARAMETER	MAXIMUM DAILY VALUE		AVERAGE DAILY VALUE		
	Value	Units	Value	Units	Number of Samples
pH (Minimum)	6.9	s.u.			
pH (Maximum)	7.7	s.u.			
Flow Rate (Daily averages)	187.1	mgd	143.8	mgd	Continuous
Temperature (Winter) (Nov - April)	27.3	deg. C	24.1	deg. C	365
Temperature (Summer) (May - Oct)	30.1	deg. C	27.0	deg. C	365

* For pH please report a minimum and a maximum daily value

POLLUTANT		MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML / MDL
		Conc.	Units	Conc.	Units	Number of Samples		
CONVENTIONAL AND NONCONVENTIONAL COMPOUNDS.								
BIOCHEMICAL OXYGEN DEMAND (Report one)	BOD-5	189	mg/l	115	mg/l	363	SM5210D	2.0
	CBOD-5	NA	NA	NA	NA	NA	NA	NA
FECAL COLIFORM			See attached table for summary of effluent pathogen indicator organisms					
TOTAL SUSPENDED SOLIDS (TSS)		75.1	mg/l	33.5	mg/l	365	SM 2450D	1.4

END OF PART A.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

Note: Above data is for 2013, the last complete calendar year available at the time of preparation of this application. Data for 2014 is being transmitted electronically under separate cover.

Summary of Point Loma WWTP Effluent Bacteriological Monitoring, 2013

Parameter[1]	Sample Location	Number of 2013 Samples	Concentration (organisms per 100 ml)[2]				
			90th Percentile	75th Percentile	50th Percentile	25th Percentile	10th Percentile
Total Coliform	SEOC[3] Prior to Chlorination	185	3.45E+007	2.76E+007	2.19E+007	1.78E+007	1.40E+007
	NEOC[4] Prior to Chlorination	64	3.59E+007	2.49E+007	2.12E+007	1.79E+007	1.27E+007
	Point Loma WWTP Effluent[5]	185	1.09E+007	4.35E+006	1.62E+006	1.95E+005	5.62E+004
Fecal Coliform	SEOC[3] Prior to Chlorination	185	6.87E+006	5.48E+006	4.11E+006	3.13E+006	2.48E+006
	NEOC[4] Prior to Chlorination	64	6.49E+006	4.88E+006	3.65E+006	2.76E+006	2.38E+006
	Point Loma WWTP Effluent[5]	185	1.92E+006	7.49E+005	1.20E+005	1.45E+004	5.56E+003
Enterococcus	SEOC[3] Prior to Chlorination	185	2.91E+005	1.54E+005	7.70E+004	5.29E+004	3.15E+004
	NEOC[4] Prior to Chlorination	64	1.06E+005	8.00E+004	6.49E+004	4.29E+004	2.21E+004
	Point Loma WWTP Effluent[5]	185	2.57E+004	7.98E+003	8.60E+002	1.00E+002	1.00E+002

1 Bacteriological receiving water parameter for which body contact recreational standards are established within the *California Ocean Plan.*

2 Bacteriological grab samples collected at various times during the day by Point Loma WWTP staff during calendar year 2013 for purposes of assessing the effectiveness of Point Loma WWTP effluent disinfection. See table on page 6b for weekly bacteriological monitoring results at Monitoring Station EFF-001 collected for purposes of assessing final effluent bacteriological concentrations.

3 Sample collected at the South Effluent Outfall Channel of the Point Loma WWTP prior to chlorination.

4 Sample collected at the North Effluent Outfall Channel of the Point Loma WWTP prior to chlorination.

5 Point Loma WWTP effluent sample collected prior to discharge to the Point Loma Ocean Outfall.

Summary of Point Loma WWTP Effluent Bacteriological Monitoring, 2013

Parameter	Number of 2013 Samples	Concentration (organisms per 100 ml)[1]			Mean Log Removal[5]
		SEOC - Prior to Disinfection[2]	NEOC Prior to Disinfection[3]	Point Loma WWTP Effluent[4]	
Total Coliform[6]	185	2.20E+007	2.10E+007	1.05E+006	1.3
Fecal Coliform[6]	185	4.17E+006	3.80E+006	1.12E+005	1.6
Enterococcus[6]	185	8.56E+004	5.01E+004	1.24E+003	1.7

1 Geometric mean concentration of all grab samples collected during calendar year 2013. Data includes grab samples collected at various times of the day for purposes of assessing the effectiveness of Point Loma WWTP disinfection. See table on page 6b for weekly bacteriological monitoring results at Monitoring Station EFF-001 collected for purposes of assessing final effluent bacteriological concentrations.

2 Sample collected at the South Effluent Outfall Channel of the Point Loma WWTP prior to chlorination.

3 Sample collected at the North Effluent Outfall Channel of the Point Loma WWTP prior to chlorination.

4 Sample collected prior to discharge to the Point Loma Ocean Outfall.

5 Mean log removal computed on the basis of differences of (1) geometric mean of all Point Loma WWTP effluent samples collected during 2013 collected in the SEOC or NEOC prior to the chlorination point compared to (2) the geometric mean of the final Point Loma WWTP effluent. Does not include additional log removal or die off that occurs during outfall transport.

6 Bacteriological receiving water parameter for which body contact recreational standards are established within the *California Ocean Plan.*

Point Loma WWTP Weekly Effluent Bacteriological Monitoring, 2013

Date	Concentration per 100 ml (Most Probable Number)[1]		
	Total Coliform	Fecal Coliform	Enterococcus
January 2, 2013	70,000	46,000	<100
January 8, 2013	1,300,000	330,000	8,000e
January 14, 2013	940,000	700,000	4,200
January 22, 2013	330,000	46,000	400e
January 28, 2013	2,400,000	490,000	3,900
February 4, 2013	3,500,000	490,000	27,000
February 11, 2013	13,000	680	<100
February 19, 2013	790,000	330,000	1,500e
February 25, 2013	1,100,000	490,000	22,000
March 5, 2013	300,000	49,000	700e
March 11, 2013	9,200,000	1,100,000	28,000
March 18, 2013	7,000,000	2,300,000	230,000
March 25, 2013	22,000	4,600	<100
April 3 2013	9,200,000	5,400,000	35,000
April 8, 2013	790,000	790,000	1,200e
April 15, 2013	1,700,000	460,000	2,200
April 22, 2013	5,400,000	3,500,000	62,000e
April 29, 2013	2,400,000	490,000	55,000
May 6, 2013	49,000	13,000	<100
May 13, 2013	2, 400,000	490,000	16,000e
May 20, 2013	3,500,000	2,400,000	23,000
May 28, 2013	5,400,000	2,400,000	38,000
June 3, 2013	1,300,000	1,300,000	29,000
June 10, 2013	>16,000,000	>16,000,000	130,000e
June 17, 2013	11,000	3,100	100e
June 24, 2013	3,500,000	1,300,000	100,000e
July 1, 2013	5,400,000	5,400,000	120,000e
July 9, 2013	9,200,000	5,400,000	440,000
July 15, 2013	2,200,000	1,300,000	17,000e
July 22, 2013	3,300,000	1,100,000	5,000
July 29, 2013	4,900.000	3,300,000	36,000
August 5, 2013	7,900,000	4,900,000	90,000e
August 12, 2013	3,300,000	2,300,000	5,700
August 19, 2013	110,000	<1,800	<100
August 26, 2013	13,000	2,000	<100
September 3, 2013	79,000	6,800	200e
September 9, 2013	3,500,000	170,000	1,200e
September 16, 2013	310,000	46,000	1,600e
September 23, 2013	490,000	140,000	3,000
October 1, 2012	33,000	33,000	600e
October 7, 2012	23,000	3,300	500e
October 14, 2012	110,000	13,000	100e
October 21, 2012	63,000	3,300	100e
October 25, 2012	79,000	22,000	300e
November 4, 2013	13,000	3,300	<100
November 12, 2013	3,300	450	<100
November 18, 2013	2,400,000	490,000	300e
November 27, 2013	79,000	2,800	100e
December 2, 2013	350,000	11,000	700e
December 9, 2013	350,000	350,000	1,100e
December 16, 2013	>1,600,000	1,600,000	13,000e
December 23, 2013	350,000	49,000	400e
Geometric Mean[2]	376,000	151,000	2600

1 Point Loma effluent data collected at Monitoring Station EFF-001. Data from 2013 Point Loma annual report submitted to the Regional Board.

2 Geometric mean for all 2013 weekly samples. Where values are estimated (shown by "e"), the estimated values are used in the computation. For ">x" values, the geometric mean is computed using a concentration of "x".

BASIC APPLICATION INFORMATION

PART B. ADDITIONAL APPLICATION INFORMATION FOR APPLICANTS WITH A DESIGN FLOW GREATER THAN OR EQUAL TO 0.1 MGD (100,000 gallons per day).

All applicants with a design flow rate ≥ 0.1 mgd must answer questions B.1 through B.6. All others go to Part C (Certification).

B.1. Inflow and Infiltration. Estimate the average number of gallons per day that flow into the treatment works from inflow and/or infiltration.

8,000,000 gpd

Average annual I&I is estimated at approximately 5 percent of total flow, but I&I during any given year will depend on hydrologic conditions. Peak I&I (10-year return frequency) is estimated at 20 percent of the average annual dry weather flow. See Appendix B..1

Briefly explain any steps underway or planned to minimize inflow and infiltration.

The City maintains an agressive program that includes scheduled inspection of sewer mains and interceptors, ongoing replacement of sewer lines, and sealing manholes. The City maintains an extensive metering and modeling program to assess system flows and capacity needs.

B.2. Topographic Map. Attach to this application a topographic map of the area extending at least one mile beyond facility property boundaries. This map must show the outline of the facility and the following information. (You may submit more than one map if one map does not show the entire area.)

a. The area surrounding the treatment plant, including all unit processes. (See attached topographic map)

b. The major pipes or other structures through which wastewater enters the treatment works and the pipes or other structures through which treated wastewater is discharged from the treatment plant. Include outfalls from bypass piping, if applicable.

c. Each well where wastewater from the treatment plant is injected underground.

d. Wells, springs, other surface water bodies, and drinking water wells that are: 1) within 1/4 mile of the property boundaries of the treatment works, and 2) listed in public record or otherwise known to the applicant.

e. Any areas where the sewage sludge produced by the treatment works is stored, treated, or disposed.

f. If the treatment works receives waste that is classified as hazardous under the Resource Conservation and Recovery Act (RCRA) by truck, rail, or special pipe, show on the map where that hazardous waste enters the treatment works and where it is treated, stored, and/or disposed.

B.3. Process Flow Diagram or Schematic. Provide a diagram showing the processes of the treatment plant, including all bypass piping and all backup power sources or redundancy in the system. Also provide a water balance showing all treatment units, including disinfection (e.g, chlorination and dechlorination). The water balance must show daily average flow rates at influent and discharge points and approximate daily flow rates between treatment units. Include a brief narrative description of the diagram.

(See attached process flow diagrams)

B.4. Operation/Maintenance Performed by Contractor(s).

Are any operational or maintenance aspects (related to wastewater treatment and effluent quality) of the treatment works the responsibility of a contractor? ____Yes ✔ No

If yes, list the name, address, telephone number, and status of each contractor and describe the contractor's responsibilities (attach additional pages if necessary).

Name: Not applicable

Mailing Address: Not applicable

Telephone Number:

Responsibilities of Contractor: Not applicable

B.5. Scheduled Improvements and Schedules of Implementation. Provide information on any uncompleted implementation schedule or uncompleted plans for improvements that will affect the wastewater treatment, effluent quality, or design capacity of the treatment works. If the treatment works has several different implementation schedules or is planning several improvements, submit separate responses to question B.5 for each. (If none, go to question B.6.)

a. List the outfall number (assigned in question A.9) for each outfall that is covered by this implementation schedule.
Not applicable - no implementation schedules are in effect. Future facilities improvements, however, are proposed by the City (see Appendix B) to offload future Point Loma WWTP flows and solids in order to ensure continued and sustained compliance with NPDES ocean discharge mass emission limits for the Point Loma Ocean Outfall.

b. Indicate whether the planned improvements or implementation schedule are required by local, State, or Federal agencies.

____Yes NA No

c If the answer to B.5.b is "Yes," briefly describe, including new maximum daily inflow rate (if applicable).

Not applicable

d. Provide dates imposed by any compliance schedule or any actual dates of completion for the implementation steps listed below, as applicable. For improvements planned independently of local, State, or Federal agencies, indicate planned or actual completion dates, as applicable. Indicate dates as accurately as possible.

Implementation Stage	Schedule MM / DD / YYYY	Actual Completion MM / DD / YYYY
– Begin construction	___/ ___/ _____	___/ ___/ _____
– End construction	___/ ___/ _____	___/ ___/ _____
– Begin discharge	___/ ___/ _____	___/ ___/ _____
– Attain operational level	___/ ___/ _____	___/ ___/ _____

No compliance schedule dates have been imposed. See Appendix B for description of future facilities proposed for offloading Point Loma WWTP flows and solids to ensure continued compliance with Point Loma Ocean Outfall NPDES mass emission limits.

e. Have appropriate permits/clearances concerning other Federal/State requirements been obtained? ____Yes NA No

Describe briefly: Not applicable

B.6. EFFLUENT TESTING DATA (GREATER THAN O.1 MGD ONLY).

Applicants that discharge to waters of the US must provide effluent testing data for the following parameters. Provide the indicated effluent testing required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum, effluent testing data must be based on at least three pollutant scans and must be no more than four and one-half years old.

Outfall Number: 001

POLLUTANT	MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML / MDL
	Conc.	Units	Conc.	Units	Number of Samples		
CONVENTIONAL AND NONCONVENTIONAL COMPOUNDS.							
AMMONIA (as N)	40.4	mg/l	35.6	mg/l	52	SM 4500 NH	0.3
CHLORINE (TOTAL RESIDUAL, TRC)	1.46	mg/l	< 0.16	mg/l	119	SM 4500 Cl	0.03
DISSOLVED OXYGEN	NA	NA	NA	NA	NA	Not sampled	NA
TOTAL KJELDAHL NITROGEN (TKN)	48	mg/l	45	mg/l	4	SM 4500 NH	1.6
NITRATE PLUS NITRITE NITROGEN	4.1	mg/l	0.7	mg/l	22	EPA 300	0.04
OIL and GREASE	44.3	mg/l	10.7	mg/l	365	EPA 1644A	1.32
PHOSPHORUS (Total)	NA	NA	NA	NA	NA	Not sampled	NA
TOTAL DISSOLVED SOLIDS (TDS)	2,090	mg/l	1,655	mg/l	365	SM 2450C	28
OTHER	NA	NA	NA	NA		Not sampled	NA

END OF PART B.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

Note: Above data is for 2013, the last complete calendar year available at the time of preparation of this application. Data for 2014 is being transmitted electronically under separate cover.

FACILITY NAME AND PERMIT NUMBER:

E.W. Blom Point Loma Wastewater Treatment Plant - NPDES CA0107409

Form Approved 1/14/99
OMB Number 2040-0086

BASIC APPLICATION INFORMATION

PART C. CERTIFICATION

All applicants must complete the Certification Section. Refer to instructions to determine who is an officer for the purposes of this certification. All applicants must complete all applicable sections of Form 2A, as explained in the Application Overview. Indicate below which parts of Form 2A you have completed and are submitting. By signing this certification statement, applicants confirm that they have reviewed Form 2A and have completed all sections that apply to the facility for which this application is submitted.

Indicate which parts of Form 2A you have completed and are submitting:

✓ Basic Application Information packet

Supplemental Application Information packet:

✓ Part D (Expanded Effluent Testing Data)

✓ Part E (Toxicity Testing: Biomonitoring Data)

✓ Part F (Industrial User Discharges and RCRA/CERCLA Wastes)

____ Part G (Combined Sewer Systems)

ALL APPLICANTS MUST COMPLETE 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 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.

Name and official title: Halla Razak, P.E., Director of Public Utilities

Signature: Halla Razak

Telephone number: (858) 292-6401

Date signed: 1/21/2015

Upon request of the permitting authority, you must submit any other information necessary to assess wastewater treatment practices at the treatment works or identify appropriate permitting requirements.

SEND COMPLETED FORMS TO:

SUPPLEMENTAL APPLICATION INFORMATION

PART D. EXPANDED EFFLUENT TESTING DATA

Refer to the directions on the cover page to determine whether this section applies to the treatment works.

Effluent Testing: 1.0 mgd and Pretreatment Treatment Works. If the treatment works has a design flow greater than or equal to 1.0 mgd or it has (or is required to have) a pretreatment program, or is otherwise required by the permitting authority to provide the data, then provide effluent testing data for the following pollutants. Provide the indicated effluent testing information and any other information required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analyses conducted using 40 CFR Part 136 methods. In addition, these data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. Indicate in the blank rows provided below any data you may have on pollutants not specifically listed in this form. At a minimum, effluent testing data must be based on at least three pollutant scans and must be no more than four and one-half years old.

Outfall number: 001 (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
METALS (TOTAL RECOVERABLE), CYANIDE, PHENOLS, AND HARDNESS.											
ANTIMONY			See table on page 10a for metals, cyanide, phenolic compounds and hardness								
ARSENIC											
BERYLLIUM											
CADMIUM			See table on page 10a for metals, cyanide, phenolic compounds and hardness								
CHROMIUM											
COPPER											
LEAD			See table on page 10a for metals, cyanide, phenolic compounds and hardness								
MERCURY											
NICKEL											
SELENIUM			See table on page 10a for metals, cyanide, phenolic compounds and hardness								
SILVER											
THALLIUM											
ZINC			See table on page 10a for metals, cyanide, phenolic compounds and hardness								
CYANIDE											
TOTAL PHENOLIC COMPOUNDS											
HARDNESS (AS $CaCO_3$)			See table on page 10a for metals, cyanide, phenolic compounds and hardness								
Use this space (or a separate sheet) to provide information on other metals requested by the permit writer.											

Point Loma WWTP
Metals, Cyanide, Phenols and Hardness
NPDES Form 2A, Part D

Constituent	Maximum 2013 Value[1]		Average 2013 Value[1]		MDL[6] (µg/l)	Total Number of 2013 Samples	Analytical Method
	Concentration[2] (µg/l)	Mass[3] (mt/yr)	Concentration[4] (µg/l)	Mass[5] (mt/yr)			
Antimony	6.7	1.33	< 2.9[7]	< 0.59[7]	2.9	52	200.8
Arsenic	1.71	0.34	0.92	0.18	0.4	52	200.8
Barium	52.2	10.4	34.4	0.7	0.039	52	200.8
Beryllium	ND[8]	ND[8]	ND[8]	ND[8]	0.022	52	200.8
Cadmium	1.13	0.22	< 0.53[7]	< 0.11[7]	0.53	52	200.8
Chromium	9.0	1.79	1.8	0.36	1.2	52	200.8
Cobalt	1.52	0.30	< 0.85[7]	< 0.17[7]	0.85	52	200.8
Copper	34	6.75	16.3	3.24	2.0	52	200.8
Lead	4.0	0.79	< 2.0[7]	< 0.40[7]	2.0	52	200.8
Mercury	0.0162	0.0032	0.0082[9]	0.0016[9]	0.0005	29[9]	200.8
Molybdenum	10.6	2.11	6.0	1.19	0.89	52	200.8
Nickel	16.1	3.20	8.0	1.59	0.53	52	200.8
Selenium	1.61	0.32	1.07	0.21	0.28	52	200.8
Silver	1.21	0.24	< 0.4[7]	< 0.09[7]	0.4	52	200.8
Thallium	6.65	1.32	< 3.9[7]	< 0.77[7]	3.9	52	200.8
Vanadium	3.0	0.60	1.47	0.29	0.64	52	200.8
Zinc	66.1	13.1	29.2	5.8	2.5	52	200.8
Cyanide	4.0	0.79	2.9	< 0.58[7]	3.0	52	4500-CN
Total phenolic compounds	30.6	6.08	21.7	4.31	1.76[10]	52	625
Hardness[11] (as $CaCO_3$)	665,000	132,100	415,000	82,400	100	52	2340B

1 From Point Loma WWTP monitoring reports submitted to the Regional Board for calendar year 2013. (2013 is the most recent year for which a complete 12 month data set is available.) Data for calendar year 2014 will be electronically transmitted to regulators under separate cover.
2 Maximum sample value during calendar year 2013.
3 Mass emission (metric tons per year) computed using the maximum sample value observed during 2013 and the Point Loma WWTP flow on the day the maximum value occurred.
4 Arithmetic average of calendar year 2013 samples. "Not detected" (ND) values were assigned a concentration of one-half the MDL for purposes of computing average annual concentrations and average annual mass emissions.
5 Average mass emissions (metric tons per year) computed using the average annual concentration and the 2013 average annual Point Loma WWTP flow of 143.8mgd.
6 The listed Method Detection Limit (MDL) is the predominant MDL achieved during 2013 for the listed constituent.
7 Less than symbol "<" indicates that one or more samples for the listed constituent were not detected during 2013, and that the arithmetic average during the year (computed assuming non-detected samples contain one-half the concentration of the MDL) was less than the MDL.
8 ND indicates the constituent was not detected at the listed MDL in any Point Loma WWTP effluent sample during 2013.
9 A total of 52 mercury samples were collected during the month. The results of 23 samples were excluded due to quality control issues, including (1) duplicates that were beyond the acceptable percent relative standard deviation or (2) spiked samples in which the percent spiked recovery was below the acceptable range. Results from these samples are not incorporated into the listed average value.
10 Listed MDL is for phenol. See table on acid extractable compounds for MDLs for other phenolic compounds.
11 Computed as sum of calcium hardness and magnesium hardness. Totals rounded to three significant figures.

FACILITY NAME AND PERMIT NUMBER:

E.W. Blom Point Loma Wastewater Treatment Plant - NPDES CA0107409

Form Approved 1/14/99
OMB Number 2040-0086

Outfall number: 001 (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
VOLATILE ORGANIC COMPOUNDS.											
ACROLEIN			See tables on pages 14a-14c for toxic organic compounds								
ACRYLONITRILE											
BENZENE											
BROMOFORM			See tables on pages 14a-14c for toxic organic compounds								
CARBON TETRACHLORIDE											
CLOROBENZENE											
CHLORODIBROMO-METHANE			See tables on pages 14a-14c for toxic organic compounds								
CHLOROETHANE											
2-CHLORO-ETHYLVINYL ETHER											
CHLOROFORM			See tables on pages 14a-14c for toxic organic compounds								
DICHLOROBROMO-METHANE											
1,1-DICHLOROETHANE											
1,2-DICHLOROETHANE			See tables on pages 14a-14c for toxic organic compounds								
TRANS-1,2-DICHLORO-ETHYLENE											
1,1-DICHLOROETHYLENE											
1,2-DICHLOROPROPANE			See tables on pages 14a-14c for toxic organic compounds								
1,3-DICHLORO-PROPYLENE											
ETHYLBENZENE											
METHYL BROMIDE			See tables on pages 14a-14c for toxic organic compounds								
METHYL CHLORIDE											
METHYLENE CHLORIDE											
1,1,2,2-TETRACHLORO-ETHANE			See tables on pages 14a-14c for toxic organic compounds								
TETRACHLORO-ETHYLENE											
TOLUENE											

Outfall number: 001 (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
1,1,1-TRICHLOROETHANE				See tables on pages 14a-14c for toxic organic compounds							
1,1,2-TRICHLOROETHANE											
TRICHLORETHYLENE				See tables on pages 14a-14c for toxic organic compounds							
VINYL CHLORIDE											
Use this space (or a separate sheet) to provide information on other volatile organic compounds requested by the permit writer.											
ACID-EXTRACTABLE COMPOUNDS											
P-CHLORO-M-CRESOL				See tables on pages 14a-14c for toxic organic compounds							
2-CHLOROPHENOL											
2,4-DICHLOROPHENOL											
2,4-DIMETHYLPHENOL				See tables on pages 14a-14c for toxic organic compounds							
4,6-DINITRO-O-CRESOL											
2,4-DINITROPHENOL											
2-NITROPHENOL				See tables on pages 14a-14c for toxic organic compounds							
4-NITROPHENOL											
PENTACHLOROPHENOL											
PHENOL				See tables on pages 14a-14c for toxic organic compounds							
2,4,6-TRICHLOROPHENOL											
Use this space (or a separate sheet) to provide information on other acid-extractable compounds requested by the permit writer.											
BASE-NEUTRAL COMPOUNDS.											
ACENAPHTHENE				See tables on pages 14a-14c for toxic organic compounds							
ACENAPHTHYLENE											
ANTHRACENE				See tables on pages 14a-14c for toxic organic compounds							
BENZIDINE											
BENZO(A)ANTHRACENE				See tables on pages 14a-14c for toxic organic compounds							
BENZO(A)PYRENE											

FACILITY NAME AND PERMIT NUMBER:

E.W. Blom Point Loma Wastewater Treatment Plant - NPDES CA0107409

Form Approved 1/14/99
OMB Number 2040-0086

Outfall number: 001 (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
3,4 BENZO-FLUORANTHENE				See tables on pages 14a-14c for toxic organic compounds							
BENZO(GHI)PERYLENE											
BENZO(K)FLUORANTHENE											
BIS (2-CHLOROETHOXY) METHANE				See tables on pages 14a-14c for toxic organic compounds							
BIS (2-CHLOROETHYL)-ETHER											
BIS (2-CHLOROISO-PROPYL) ETHER											
BIS (2-ETHYLHEXYL) PHTHALATE				See tables on pages 14a-14c for toxic organic compounds							
4-BROMOPHENYL PHENYL ETHER											
BUTYL BENZYL PHTHALATE											
2-CHLORONAPHTHALENE				See tables on pages 14a-14c for toxic organic compounds							
4-CHLORPHENYL PHENYL ETHER											
CHRYSENE											
DI-N-BUTYL PHTHALATE				See tables on pages 14a-14c for toxic organic compounds							
DI-N-OCTYL PHTHALATE											
DIBENZO(A,H) ANTHRACENE											
1,2-DICHLOROBENZENE				See tables on pages 14a-14c for toxic organic compounds							
1,3-DICHLOROBENZENE											
1,4-DICHLOROBENZENE											
3,3-DICHLOROBENZIDINE				See tables on pages 14a-14c for toxic organic compounds							
DIETHYL PHTHALATE											
DIMETHYL PHTHALATE											
2,4-DINITROTOLUENE				See tables on pages 14a-14c for toxic organic compounds							
2,6-DINITROTOLUENE											
1,2-DIPHENYLHYDRAZINE											

FACILITY NAME AND PERMIT NUMBER:

E.W. Blom Point Loma Wastewater Treatment Plant - NPDES CA0107409

Form Approved 1/14/99
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Outfall number: 001 (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
FLUORANTHENE			See tables on pages 14a-14c for toxic organic compounds								
FLUORENE											
HEXACHLOROBENZENE											
HEXACHLOROBUTADIENE			See tables on pages 14a-14c for toxic organic compounds								
HEXACHLOROCYCLO-PENTADIENE											
HEXACHLOROETHANE											
INDENO(1,2,3-CD)PYRENE			See tables on pages 14a-14c for toxic organic compounds								
ISOPHORONE											
NAPHTHALENE											
NITROBENZENE			See tables on pages 14a-14c for toxic organic compounds								
N-NITROSODI-N-PROPYLAMINE											
N-NITROSODI- METHYLAMINE											
N-NITROSODI-PHENYLAMINE			See tables on pages 14a-14c for toxic organic compounds								
PHENANTHRENE											
PYRENE											
1,2,4-TRICHLOROBENZENE			See tables on pages 14a-14c for toxic organic compounds								
Use this space (or a separate sheet) to provide information on other base-neutral compounds requested by the permit writer.											
Use this space (or a separate sheet) to provide information on other pollutants (e.g., pesticides) requested by the permit writer.											
		See tables on pages 14d - 14e for pesticides, PCBs, tributyltin, and dioxins/difurans									

END OF PART D.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

Point Loma WWTP
Volatile Organic Compounds
NPDES Form 2A, Part D

Constituent	Maximum Value[1]		Average Value[1]		MDL[6] (µg/l)	Number of 2013 Samples	Analytical Method
	Concentration[2] (µg/l)	Mass[3] (mt/yr)	Concentration[4] (µg/l)	Mass[5] (mt/yr)			
Acrolein	ND[8]	ND[8]	ND[8]	ND[8]	1.3	12	8260B
Acrylonitrile	ND[8]	ND[8]	ND[8]	ND[8]	0.7	12	8260B
Benzene	ND[8]	ND[8]	ND[8]	ND[8]	0.4	12	8260B
Bromoform	ND[8]	ND[8]	ND[8]	ND[8]	0.5	12	8260B
Carbon tetrachloride	ND[8]	ND[8]	ND[8]	ND[8]	0.4	12	8260B
Chlorobenzene	0.725[9]	0.14[9]	< 0.4[7,10]	< 0.08[7]	0.4	12	8260B
Chlorodibromomethane	1.02	0.20	< 0.6[7]	< 0.12[7]	0.6	12	8260B
Chloroethane	4.49	0.89	1.7	0.35	0.9	12	8260B
Chloroform	10.8	2.15	6.5	1.29	0.2	12	8260B
Dichlorobromomethane	1.26	0.25	0.54[10]	0.11	0.5	12	8260B
1,2-dichlorobenzene	ND[8]	ND[8]	ND[8]	ND[8]	0.4	12	625
1,3-dichlorobenzene	ND[8]	ND[8]	ND[8]	ND[8]	0.5	12	625
1,4-dichlorobenzene	0.61[9]	0.12[9]	< 0.4[7,10]	< 0.08[7,10]	0.4	12	625
1,1-dichloroethane	ND[8]	ND[8]	ND[8]	ND[8]	0.4	24	8260B
1,2-dichloroethane	ND[8]	ND[8]	ND[8]	ND[8]	0.5	12	8260B
Trans-1,2-dichloroethylene	ND[8]	ND[8]	ND[8]	ND[8]	0.6	12	8260B
1,1-dichlroethene	ND[8]	ND[8]	ND[8]	ND[8]	0.4	12	8260B
1,2-dichloropropane	ND[8]	ND[8]	ND[8]	ND[8]	0.3	12	8260B
Ethylbenzene	1.53	0.30	< 0.3[7]	< 0.06[7]	0.3	12	8260B
Methyl bromide (bromomethane)	2.32	0.46	1.05	0.21	0.7	12	8260B
Methyl chloride (chloromethane)	45	8.94	15.6	3.10	0.5	12	8260B
Methylene chloride	2.3	0.46	1.2[10]	0.25[10]	0.3	12	8260B
1,1,2,2-tetrachloroethane	ND[8]	ND[8]	ND[8]	ND[8]	0.5	12	8260B
Tetrachloroethylene	ND[8]	ND[8]	ND[8]	ND[8]	1.1	12	8260B
Toluene	2.53	0.50	1.28[10]	0.25[10]	0.4	12	8260B
1,1,1-trichloroethane	ND[8]	ND[8]	ND[8]	ND[8]	0.4	12	8260B
1,1,2-trichloroethane	ND[8]	ND[8]	ND[8]	ND[8]	0.5	12	8260B
Trichloroethylene	ND[8]	ND[8]	ND[8]	ND[8]	0.7	12	8260B
Trichlorofluoromethane	ND[8]	ND[8]	ND[8]	ND[8]	0.3	12	8260B
Vinyl chloride	ND[8]	ND[8]	ND[8]	ND[8]	0.4	12	8260B

1 From Point Loma WWTP monitoring reports submitted to the Regional Board for calendar year 2013. (2013 is the most recent year for which a complete 12 month data set is available.) Data for calendar year 2014 will be electronically transmitted to regulators under separate cover.
2 Maximum sample value during calendar year 2013.
3 Mass emission (metric tons per year) computed using the maximum sample value observed during 2013 and the Point Loma WWTP flow on the day the maximum value occurred.
4 Arithmetic average of individual daily samples collected during 2013. For purposes of averaging, non-detected samples were assumed to have one-half the concentration of the MDL. Listed averages may differ from those reported in the 2013 Point Loma annual report, which assumes non-detected samples have a concentration of zero.
5 Average mass emissions (metric tons per year) computed using the average annual concentration and the average annual 2013 Point Loma WWTP flow of 143.8 mgd.
6 The listed Method Detection Limit (MDL) is the predominant MDL achieved during 2013 for the listed constituent.
7 Less than symbol "<" indicates that one or more samples for the listed constituent were not detected during 2013. Not detected values were assigned a concentration of one-half the MDL for purposes of computing average and mass emissions.
8 ND indicates the constituent was not detected at the listed MDL in any Point Loma WWTP effluent sample during 2013.
9 Value was detected but not quantifiable (DNQ). Listed value was above the MDL but below the reporting limit.
10 Listed average includes DNQ values (values above the MDL but below the reporting limit).

Point Loma WWTP
Metals, Cyanide, Phenols and Hardness
Acid Extractable Compounds

Constituent	Maximum Value[1]		Average Value[1]		MDL[6] (µg/l)	Number of 2013 Samples	Analytical Method
	Concentration[2] (µg/l)	Mass[3] (mt/yr)	Concentration[4] (µg/l)	Mass[5] (mt/yr)			
4-chlroro-3-methylphenol	ND[8]	ND[8]	ND[8]	ND[8]	1.67	51	625
2-chlorophenol	ND[8]	ND[8]	ND[8]	ND[8]	1.32	51	625
2.4-dichlorophenol	ND[8]	ND[8]	ND[8]	ND[8]	1.01	51	625
2.4-dimethylphenol	ND[8]	ND[8]	ND[8]	ND[8]	2.01	51	625
2-methyl-4,6-dinitro phenol	ND[8]	ND[8]	ND[8]	ND[8]	1.52	51	625
2,4-dinitrophenol	ND[8]	ND[8]	ND[8]	ND[8]	2.16	51	625
2-nitrophenol	ND[8]	ND[8]	ND[8]	ND[8]	1.55	51	625
4-nitrophenol	ND[8]	ND[8]	ND[8]	ND[8]	1.14	51	625
Pentachlorophenol	7.0[9]	1.39[9]	< 1.12[7]	< 0.22[7]	1.12	51	625
Phenol	30.6	6.08	21.6	4.29	1.76	51	625
2,4,6-trichlorophenol	ND[8]	ND[8]	ND[8]	ND[8]	1.65	51	625

1 From Point Loma WWTP monitoring reports submitted to the Regional Board for calendar year 2013. (2013 is the most recent year for which a complete 12 month data set is available.) Data for calendar year 2014 will be electronically transmitted to regulators under separate cover.
2 Maximum sample value during calendar year 2013.
3 Mass emission (metric tons per year) computed using the maximum sample value observed during 2013 and the Point Loma WWTP flow on the day the maximum value occurred.
4 Arithmetic average of calendar year 2013 samples.
5 Average mass emissions (metric tons per year) computed using the average annual concentration and the average annual Point Loma WWTP flow of 143.8 mgd.
6 The listed Method Detection Limit (MDL) is the predominant MDL achieved during 2013 for the listed constituent.
7 Less than symbol "<" indicates that one or more samples for the listed constituent were not detected during 2013. Not detected values were assigned a concentration of one-half the MDL for purposes of computing average and mass emissions.
8 ND indicates the constituent was not detected at the listed MDL in any Point Loma WWTP effluent sample during 2013.
9 Constituent was detected in one weekly effluent sample during 2013.

Point Loma WWTP
Base Neutral Compounds
NPDES Form 2A, Part D

Constituent	Maximum 2013 Value		Average 2013 Value		MDL[6] (µg/l)	Number of 2013 Samples	Analytical Method
	Concentration[2] (µg/l)	Mass[3] (mt/yr)	Concentration[4] (µg/l)	Mass[5] (mt/yr)			
Acenapthene	ND[9]	ND[9]	ND[9]	ND[8]	1.8	12	625
Acenaphthylene	ND[9]	ND[9]	ND[9]	ND[8]	1.77	12	625
Anthracene	ND[9]	ND[9]	ND[9]	ND[8]	1.9	12	625
Benzidine	ND[9]	ND[9]	ND[9]	ND[8]	1.52	12	625
Benzo(a)anthracene	ND[8]	ND[8]	ND[8]	ND[8]	1.1	12	625
Benzo(a)pyrene	ND[8]	ND[8]	ND[8]	ND[8]	1.25	12	625
3,4-benzo(b)fluoranthene	ND[8]	ND[8]	ND[8]	ND[8]	1.35	12	625
Benzo(g,h,i)perylene	ND[8]	ND[8]	ND[8]	ND[8]	1.09	12	625
Benzo(k)fluoranthene	ND[8]	ND[8]	ND[8]	ND[8]	1.49	12	625
Bis (2-chloroethyxy) methane	ND[8]	ND[8]	ND[8]	ND[8]	1.01	12	625
Bis (2-chloroethyl) ether	ND[8]	ND[8]	ND[8]	ND[8]	1.38	12	625
Bis (2-chloroisopropyl) ether	ND[8]	ND[8]	ND[8]	ND[8]	1.16	12	625
Bis (2-ethylhexyl) phthalate	ND[8]	ND[8]	ND[8]	ND[8]	8.96	12	625
4-bromophenyl phenyl ether	ND[8]	ND[8]	ND[8]	ND[8]	1.4	12	625
Butyl benzyl phthalate	ND[8]	ND[8]	ND[8]	ND[8]	2.84	12	625
2-chloronaphthalene	ND[8]	ND[8]	ND[8]	ND[8]	1.87	12	625
4-chlorophenyl phenyl ether	ND[8]	ND[8]	ND[8]	ND[8]	1.57	12	625
Chrysene	ND[8]	ND[8]	ND[8]	ND[8]	1.16	12	625
di-n-butyl phthalate	ND[8]	ND[8]	ND[8]	ND[8]	3.96	12	625
di-n-octyl phthalate	ND[8]	ND[8]	ND[8]	ND[8]	1.0	12	625
Dibenzo(a,h)anthracene	ND[8]	ND[8]	ND[8]	ND[8]	1.01	12	625
1,2-dichlorobenzene	ND[8]	ND[8]	ND[8]	ND[8]	0.4	12	625
1,3-dichlorobenzene	ND[8]	ND[8]	ND[8]	ND[8]	0.5	12	625
1,4-dichlorobenzene	0.61[9]	0.12[9]	< 0.4[7,10]	< 0.08[7,10]	0.4	12	625
3,3-dichlorobenzidene	ND[8]	ND[8]	ND[8]	ND[8]	2.44	12	625
Diethyl phthalate	5.36	1.06	5.05	1.00	3.05	12	625
Dimethyl phthalate	ND[8]	ND[8]	ND[8]	ND[8]	1.44	12	625
2,4-dinitrotoluene	ND[8]	ND[8]	ND[8]	ND[8]	1.36	12	625
2,6-dinitrotoluene	ND[8]	ND[8]	ND[8]	ND[8]	1.53	12	625
1,2-diphenylhydrazine	ND[8]	ND[8]	ND[8]	ND[8]	1.37	12	625
Fluoranthene	ND[8]	ND[8]	ND[8]	ND[8]	1.33	12	625
Fluorene	ND[8]	ND[8]	ND[8]	ND[8]	1.61	12	625
Hexachlorobenzene	ND[8]	ND[8]	ND[8]	ND[8]	1.48	12	625
Hexachlorobutadiene	ND[8]	ND[8]	ND[8]	ND[8]	1.64	12	625
Hexachlorocyclopentadiene	ND[8]	ND[8]	ND[8]	ND[8]	1.25	12	625
Hexachloroethane	ND[8]	ND[8]	ND[8]	ND[8]	1.32	12	625
Ideno(1,2,3-cd)pyrene	ND[8]	ND[8]	ND[8]	ND[8]	1.14	12	625
Isophorone	ND[8]	ND[8]	ND[8]	ND[8]	1.53	12	625
Naphthalene	ND[8]	ND[8]	ND[8]	ND[8]	1.65	12	625
Nitrobenzene	ND[8]	ND[8]	ND[8]	ND[8]	1.6	12	625
n-nitrosodi-n-propylamine	ND[8]	ND[8]	ND[8]	ND[8]	1.16	12	625
n-nitrosodi-methylamine	ND[8]	ND[8]	ND[8]	ND[8]	1.27	12	625
n-nitrosodi-phenylamine	ND[8]	ND[8]	ND[8]	ND[8]	3.48	12	625
Phenanthrene	ND[8]	ND[8]	ND[8]	ND[8]	1.34	12	625
Pyrene	ND[8]	ND[8]	ND[8]	ND[8]	1.43	12	625
1,2,4-trichlorobenzene	ND[8]	ND[8]	ND[8]	ND[8]	0.7	24	625

1 From Point Loma WWTP monitoring reports submitted to the Regional Board for calendar year 2013. (2013 is the most recent year for which a complete 12 month data set is available.) Data for calendar year 2014 will be electronically transmitted to regulators under separate cover.

2 Maximum sample value during calendar year 2013.

3 Mass emission (metric tons per year) computed using the maximum sample value observed during 2013 and the Point Loma WWTP flow on the day the maximum value occurred.

4 Arithmetic average of calendar year 2013 samples.

5 Average mass emissions (metric tons per year) computed using the average annual concentration and the average annual Point Loma WWTP flow of 143.8 mgd. For purposes of computing mass emissions, not detected (ND) concentrations are assumed to be one-half the corresponding MDL.

6 The listed Method Detection Limit (MDL) is the predominant MDL achieved during 2013 for the listed constituent.

7 Less than symbol "<" indicates that one or more samples for the listed constituent were not detected during 2013. Not detected values were assigned a concentration of one-half the MDL for purposes of computing average and mass emissions.

8 ND indicates the constituent was not detected at the listed MDL in any Point Loma WWTP effluent sample during 2013.

9 Value was detected but not quantifiable (DNQ). Listed value was above the MDL but below the reporting limit.

10 Listed average includes DNQ values (values above the MDL but below the reporting limit).

Point Loma WWTP
Pesticides and PCBs
NPDES Form 2A, Part D

Constituent	Maximum 2013 Value		Average 2013 Value		MDL[6] (µg/l)	Number of 2013 Samples	Analytical Method
	Concentration[2] (µg/l)	Mass[3] (mt/yr)	Concentration[4] (µg/l)	Mass[5] (mt/yr)			
Aldrin	ND[8]	ND[8]	ND[8]	ND[8]	0.003	52	608
Dieldrin	ND[8]	ND[8]	ND[8]	ND[8]	0.008	52	608
Chlordane (alpha)	< 0.002[9]	ND[8]	ND[8]	ND[8]	0.002	52	608
Chlordane (gamma)	0.00245[10]	0.0005[10]	ND[8]	ND[8]	0.002	52	608
BHC alpha	0.0014[11]	0.0003[11]	< 0.001[7]	< 0.0002[7]	0.001	52	608
BHC beta	0.020[11]	0.0040[11]	< 0.006[7]	< 0.0012[7]	0.006	52	608
BHC delta	ND[8]	ND[8]	ND[8]	ND[8]	0.004	52	608
BHC gamma	ND[8]	ND[8]	ND[8]	ND[8]	0.003	52	608
2,4' -DDD	ND[8]	ND[8]	ND[8]	ND[8]	0.003	52	608
2,4' -DDE	0.001[11]	ND[8]	ND[8]	ND[8]	0.001	52	608
2,4' -DDT	ND[8]	ND[8]	ND[8]	ND[8]	0.003	52	608
4,4' -DDD	ND[8]	ND[8]	ND[8]	ND[8]	0.004	52	608
4,4' -DDE	0.00255[10]	0.0005[10]	ND[8]	ND[8]	0.002	52	608
4,4' -DDT	ND[8]	ND[8]	ND[8]	ND[8]	0.004	52	608
Endosulfan (alpha)	ND[8]	ND[8]	ND[8]	ND[8]	0.003	52	608
Endosulfan (beta)	ND[8]	ND[8]	ND[8]	ND[8]	0.005	52	608
Endosulfan Sulfate	ND[8]	ND[8]	ND[8]	ND[8]	0.005	52	608
Endrin	0.0165[10]	0.0033[10]	< 0.008[7]	< 0.0016[7]	0.008	52	608
Endrin aldehyde	ND[8]	ND[8]	ND[8]	ND[8]	0.009	52	608
Heptachlor	ND[8]	ND[8]	ND[8]	ND[8]	0.002	52	608
Heptachlor epoxide	ND[8]	ND[8]	ND[8]	ND[8]	0.004	52	608
Methoxychlor	ND[8]	ND[8]	ND[8]	ND[8]	0.018	52	608
Nonachlor (cis)	ND[8]	ND[8]	ND[8]	ND[8]	0.005	52	608
Nonachlor (trans)	ND[8]	ND[8]	ND[8]	ND[8]	0.003	52	608
PCB 1016	ND[8]	ND[8]	ND[8]	ND[8]	0.012	52	608
PCB 1221	ND[8]	ND[8]	ND[8]	ND[8]	0.018	52	608
PCB 1232	ND[8]	ND[8]	ND[8]	ND[8]	0.012	52	608
PCB 1242	ND[8]	ND[8]	ND[8]	ND[8]	0.005	52	608
PCB 1248	ND[8]	ND[8]	ND[8]	ND[8]	0.005	52	608
PCB 1254	ND[8]	ND[8]	ND[8]	ND[8]	0.011	52	608
PCB 1260	ND[8]	ND[8]	ND[8]	ND[8]	0.009	52	608
PCB 1262	ND[8]	ND[8]	ND[8]	ND[8]	0.010	52	608
Toxaphene	ND[8]	ND[8]	ND[8]	ND[8]	0.33	52	608

1 From Point Loma WWTP monitoring reports submitted to the Regional Board for calendar year 2013. (2013 is the most recent year for which a complete 12 month data set is available.) Data for calendar year 2014 will be electronically transmitted to regulators under separate cover.
2 Maximum sample value during calendar year 2013.
3 Mass emission (metric tons per year) computed using the maximum sample value observed during 2013 and the Point Loma WWTP flow on the day the maximum value occurred.
4 Arithmetic average of calendar year 2013 samples. Not detected values (ND) were assigned a concentration of one-half the MDL for purposes of computing average and mass emissions.
5 Average mass emissions (metric tons per year) computed using the average annual concentration and the average annual Point Loma WWTP flow of 143.8 mgd. For purposes of computing mass emissions, not detected (ND) concentrations are assumed to be one-half the corresponding MDL.
6 The listed Method Detection Limit (MDL) is the predominant MDL achieved during 2013 for the listed constituent.
7 Less than symbol "<x" indicates that the arithmetic average during the year was less than the MDL "x".
8 ND indicates the constituent was not detected at the listed MDL in any Point Loma WWTP effluent sample during 2013.
9 Constituent was detected but at less than the MDL during two 2013 samples (concentration was reported as < 0.002 µg/l).
10 Constituent was detected in one weekly effluent sample during 2013.
11 Constituent was detected but not quantifiable (DNQ) in one weekly effluent sample during 2013. The value was above the MDL but below the reporting limit.

Point Loma WWTP Tributyltin
NPDES Form 2A, Part D

Constituent	Maximum 2013 Value		Average 2013 Value		MDL[5] (µg/l)	Number of 2013 Samples	Analytical Method
	Concentration[2] (µg/l)	Mass[3] (mt/yr)	Concentration[4] (µg/l)	Mass[3] (mt/yr)			
Monobutyltin	ND[6]	ND[6]	ND[6]	ND[6]	2	12	8323
Tributyltin	ND[6]	ND[6]	ND[6]	ND[6]	2	12	8323

1 From Point Loma WWTP monitoring reports submitted to the Regional Board for calendar year 2013. (2013 is the most recent year for which a complete 12 month data set is available.) Data for calendar year 2014 will be electronically transmitted to regulators under separate cover.
2 Maximum sample value during calendar year 2013.
3 Mass emission could not be computed as the sample was not detected.
4 Average value during calendar year 2013.
5 The listed Method Detection Limit (MDL) is the predominant MDL achieved during 2013 for the listed constituent.
6 ND indicates the constituent was not detected at the listed MDL in any Point Loma WWTP effluent sample during 2013.

Point Loma WWTP Dioxins and Difurans, 2013[1]
NPDES Form 2A, Part D
EPA Method 1613

Constituent	Number of 2013 Samples			TCDD Equivalents[2] (picograms per liter)			Toxicity Factor[2]
	Total Number[3]	Number of Non-Detect Samples[4]	Number of DNQ Samples[5]	2013 Maximum Value[6]	2013 Annual Median[7]	2013 MDL[8]	
2,3,7,8-tetra CDD	12	12	0	ND[9]	ND[9]	0.26	1.0
1,2,3,7,8-penta CDD	12	12	0	ND[9]	ND[9]	0.277	0.5
1,2,3,4,7,8_hexa_CDD	12	12	0	ND[9]	ND[9]	0.482	0.1
1,2,3,6,7,8-hexa CDD	12	12	0	ND[9]	ND[9]	0.484	0.1
1,2,3,7,8,9-hexa CDD	12	12	0	ND[9]	ND[9]	0.479	0.1
1,2,3,4,6,7,8-hepta CDD	12	0	12	< 0.055[10]	< 0.034[10]	0.53	0.01
octa CDD	12	0	12	< 0.036[10]	< 0.024[10]	1.4	0.001
2,3,7,8-tetra CDF	12	12	0	ND[9]	ND[9]	0.257	0.1
1,2,3,7,8-penta CDF	12	12	0	ND[9]	ND[9]	0.335	0.05
2,3,4,7,8-penta CDF	12	12	0	ND[9]	ND[9]	0.335	0.5
1,2,3,4,7,8-hexa CDF	12	12	0	ND[9]	ND[9]	0.284	0.1
1,2,3,6,7,8-hexa CDF	12	11	1	< 0.049[10]	ND[9]	0.281	0.1
1,2,3,7,8,9-hexa CDF	12	12	0	ND[9]	ND[9]	0.348	0.1
2,3,4,6,7,8-hexa CDF	12	12	0	ND[9]	ND[9]	0.294	0.1
1,2,3,4,6,7,8-hepta CDF	12	12	0	ND[9]	ND[9]	0.295	0.01
1,2,3,4,7,8,9-hepta CDF	12	12	0	ND[9]	ND[9]	0.397	0.01
octa CDF	12	12	0	ND[9]	ND[9]	0.738	0.001

1 From Point Loma WWTP monitoring reports submitted to the Regional Board for calendar year 2013. (2013 is the most recent year for which a complete 12 month data set is available.) Data for calendar year 2014 will be electronically transmitted to regulators under separate cover.
2 TCDD equivalents are in concentrations of picograms per liter (10^{-6} µg/l), and represent the concentration of the constituent multiplied by the respective toxicity factors. Toxicity factors are as listed in Table 10 of Order No. R9-2009-0001.
3 Total number of samples during 2013 for the listed constituent.
4 Number of samples during 2013 where the constituent was not detected (ND).
5 Number of samples during 2013 where the constituent was detected but not quantifiable (DNQ).
6 Maximum sample value reported during calendar year 2013.
7 Mean value during calendar year 2013.
8 Maximum Method Detection Limit (MDL) achieved during 2013 testing.
9 ND indicates the constituent was not detected at the listed MDL in any Point Loma WWTP effluent sample during 2013.
10 Value was detected but not quantifiable (DNQ).

SUPPLEMENTAL APPLICATION INFORMATION

PART E. TOXICITY TESTING DATA

POTWs meeting one or more of the following criteria must provide the results of whole effluent toxicity tests for acute or chronic toxicity for each of the facility's discharge points: 1) POTWs with a design flow rate greater than or equal to 1.0 mgd; 2) POTWs with a pretreatment program (or those that are required to have one under 40 CFR Part 403); or 3) POTWs required by the permitting authority to submit data for these parameters.

- At a minimum, these results must include quarterly testing for a 12-month period within the past 1 year using multiple species (minimum of two species), or the results from four tests performed at least annually in the four and one-half years prior to the application, provided the results show no appreciable toxicity, and testing for acute and/or chronic toxicity, depending on the range of receiving water dilution. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136.
- In addition, submit the results of any other whole effluent toxicity tests from the past four and one-half years. If a whole effluent toxicity test conducted during the past four and one-half years revealed toxicity, provide any information on the cause of the toxicity or any results of a toxicity reduction evaluation, if one was conducted.
- If you have already submitted any of the information requested in Part E, you need not submit it again. Rather, provide the information requested in question E.4 for previously submitted information. If EPA methods were not used, report the reasons for using alternate methods. If test summaries are available that contain all of the information requested below, they may be submitted in place of Part E.

If no biomonitoring data is required, do not complete Part E. Refer to the Application Overview for directions on which other sections of the form to complete.

E.1. Required Tests.

Indicate the number of whole effluent toxicity tests conducted in the past four and one-half years.

247 chronic 16 acute See pages 15a-15e for chronic toxicity test results. See pages 16a-16b for acute toxicity test results.

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

	Test number:_____	Test number:_____	Test number:_____
a. Test information.			
Test species & test method number	See pages 15a - 15e for chronic toxicity results		
Age at initiation of test			
Outfall number	Point Loma WWTP chronic and acute toxicity samples collected at Monitoring Station EFF-001		
Dates sample collected	See pages 15a - 15e for chronic toxicity results		
Date test started			
Duration	See pages 15a - 15e for chronic toxicity results		
b. Give toxicity test methods followed.			
Manual title			
Edition number and year of publication	See pages 15a - 15e for chronic toxicity results		
Page number(s)			
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite			
Grab	See pages 15a - 15e for chronic toxicity results		
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)			
Before disinfection			
After disinfection	See pages 15a - 15e for chronic toxicity results		
After dechlorination			

Point Loma Chronic Toxicity - Giant Kelp
2010-2013[1]

Chronic Toxicity (TUc)[1] *Macrocystis pyrifera* (giant kelp) Daily Maximum Effluent Limit is 205 TUc[2]		
Date of Test	**Germination**	**Growth**
1/4/2010	64	64
2/8/2010	64	64
3/15/2010	64	64
4/5/2010	64	64
5/3/2010	64	64
6/14/2010	64	64
7/7/2010	N.V.	N.V.
7/13/2010	64	204
8/9/2010	64	64
9/19/2010	64	64
10/3/2010	64	64
11/1/2010	64	64
12/13/2010	114	N.V.
1/10/2011	64	64
2/7/2011	64	64
4/12/2011	N.V.	N.V.
4/25/2011	N.V.	N.V.
5/2/2011	64	64
5/16/2011	64	64
6/7/2011	64	114
7/12/2011	64	64
8/9/2011	64	64
9/12/2011	64	64
10/10/2011	114	64
11/14/2011	64	64
12/20/2011	64	64
1/9/2012	64	64
2/12/2012	64	64
3/5/2012	114	64
4/15/2012	64	114
1/4/2010	64	64
2/8/2010	64	64
3/15/2010	64	64

Chronic Toxicity (TUc)[1] *Macrocystis pyrifera* (giant kelp) Daily Maximum Effluent Limit is 205 TUc[2]		
Date of Test	**Germination**	**Growth**
4/5/2010	64	64
5/3/2010	64	64
6/14/2010	64	64
5/7/2012	64	N.V.
5/22/2012	64	64
6/11/2012	N.V.	64
6/25/2012	64	64
7/9/2012	64	64
8/6/2012	64	64
9/10/2012	64	64
10/8/2012	114	64
11/5/2012	64	64
12/10/2012	64	64
1/14/2013	64	64
2/4/2013	N.V.	N.V.
2/19/2013	64	64
3/4/2013	114	64
4/15/2013	64	64
5/7/2013	64	64
6/3/2013	64	N.V.
6/25/2013	N.V.	64
7/7/2013	114	114
7/8/2013*	**370**[3]	**370**[3]
7/23/2013	114[4]	64[4]
8/5/2013	114[4]	64[4]
8/20/2013	204[4]	204[4]
9/10/2013	114[4]	204[4]
9/24/2013	204[4]	114[4]
10/7/2013	204[4]	114[4]
11/4/2013	114	114
11/12/2013	204	114
12/2/2013	64	204

1 From monthly toxicity monitoring reports submitted to the Regional Board during 2010 through 2013. (2013 is the most recent year for which a complete 12 month data set is available.) Data for calendar year 2014 will be electronically transmitted to regulators under separate cover.

2 Chronic toxicity monitoring was conducted per Order No. R9-2009-0001, which became effective on August 1, 2010. Table 9 of Order No. R9-2009-0001 establishes a daily maximum chronic toxicity effluent concentration limit of 205 TUc for the Point Loma ocean outfall discharge.

3 Exceedance of the chronic toxicity limit occurred in the July 8, 2013 giant kelp chronic toxicity tests for germination and growth. In accordance with Provision VI.C.2.d of Order No. R9-2009-0001, the City collected and analyzed six additional chronic toxicity samples over the ensuing 12 week period. All subsequent chronic toxicity tests were within the effluent limit, and toxicity levels were too low to implement toxicity identification procedures. The cause of the isolated July 8, 2013 exceedance is unknown.

4 If an exceedance of the effluent limit occurs and the source of the exceedance is unknown, Provision VI.C.2.d of Order No. R9-2009-0001 requires the City to conduct six additional chronic toxicity tests at two week intervals using the same test species. If all of these additional chronic toxicity results are within the effluent limit, testing at the normal schedule can be resumed.

NOTE: A summary of acute toxicity test procedures is presented in the "Bioassay Procedures" section of the EPA NPDES application forms (Part 2, Volume II).

Point Loma Chronic Toxicity - Red Abalone
2010-2013[1]

Chronic Toxicity (TUc)[1] *Haliotis rufeuscens* (red abalone) Daily Maximum Effluent Limit is 205 TUc[2]	
Date of Test	**Development**
1/20/2010	64
2/16/2010	NV[3]
2/25/2010	NV[3]
3/9/2010	NV[3]
3/15/2010	64
4/12/2010	64
5/11/2010	NV[3]
5/24/2010	NV[3]
6/22/2010	64
7/19/2010	64
8/9/2010	64
9/19/2010	64
10/3/2010	NV[3]
11/1/2010	NV[3]
12/13/2010	64
1/10/2011	64
2/7/2011	64
3/7/2011	64
4/12/2011	64
5/16/2011	64
6/8/2011	64
7/13/2011	64
8/11/2011	64
9/13/2011	64
10/11/2011	64

Chronic Toxicity (TUc)[1] *Haliotis rufeuscens* (red abalone) Daily Maximum Effluent Limit is 205 TUc[2]	
Date of Test	**Development**
1/9/2012	64
2/14/2012	64
3/5/2012	64
4/17/2012	114
5/7/2012	64
6/11/2012	64
7/9/2012	64
8/6/2012	64
9/10/2012	64
10/8/2012	64
11/5/2012	64
12/17/2012	DNS[4]
1/7/2013	64
2/19/2013	64
3/11/2013	64
4/21/2013	114
5/13/2013	NV[3]
6/10/2013	NV[3]
7/15/2013	64
8/12/2013	64
9/16/2013	64
10/15/2013	64
11/18/2013	64

1 From monthly toxicity monitoring reports submitted to the Regional Board during 2010 through 2013. (2013 is the most recent year for which a complete 12 month data set is available.) Data for calendar year 2014 will be electronically transmitted to regulators under separate cover.

2 Chronic toxicity monitoring was conducted per Order No. R9-2009-0001, which became effective on August 1, 2010. Table 9 of Order No. R9-2009-0001 establishes a daily maximum chronic toxicity effluent concentration limit of 205 TUc for the Point Loma ocean outfall discharge.

3 No value was obtainable for the test.

4 DNS indicates that the test was not started.

NOTE: A summary of acute toxicity test procedures is presented in the "Bioassay Procedures" section of the EPA NPDES application forms (Part 2, Volume II).

Point Loma Chronic Toxicity - Topsmelt
2010-2013[1,3]

Date of Test	Chronic Toxicity (TUc)[1,3] *Atherinops affinis* (topsmelt) Daily Maximum Effluent Limit is 205 TUc[2]	
	Survival	Growth
8/9/2010	64	64
9/19/2010	64	64
10/3/2010	64	64
11/1/2010	64	64
12/13/2010	64	64
1/10/2011	64	64
2/9/2012	64	64
3/5/2012	64	64
4/12/2012[3]	64	64

1 From monthly toxicity monitoring reports submitted to the Regional Board during 2010 through 2013. (2013 is the most recent year for which a complete 12 month data set is available.) Data for calendar year 2014 will be electronically transmitted to regulators under separate cover.

2 Chronic toxicity monitoring was conducted per Order No. R9-2009-0001, which became effective on August 1, 2010. Table 9 of Order No. R9-2009-0001 establishes a daily maximum chronic toxicity effluent concentration limit of 205 TUc for the Point Loma ocean outfall discharge.

3 No topsmelt chronic toxicity analyses were performed during 2013, as *Strongylocentrotus purpuratus* (purple urchin) was determined to be the most sensitive species.

NOTE: A summary of chronic toxicity test procedures is presented in the "Bioassay Procedures" section of the EPA NPDES application forms (Part 2, Volume II).

Point Loma Chronic Toxicity - Purple Urchin
2010-2013[1]

Date of Test	Chronic Toxicity (TUc)[1] *Strongylocentrotus purpuratus* (purple urchin) Daily Maximum Effluent Limit is 205 TUc[2]
	Fertilization
7/13/2011	114
11/14/2011	64
12/12/2011	64
3/5/2012	64
4/17/2012	114
6/11/2012	64
8/6/2012	64
9/10/2012	64
12/17/2012	64
5/13/2013	64
6/25/2013	64

1 From monthly toxicity monitoring reports submitted to the Regional Board during 2010 through 2013. (2013 is the most recent year for which a complete 12 month data set is available.) Data for calendar year 2014 will be electronically transmitted to regulators under separate cover.

2 Chronic toxicity monitoring was conducted per Order No. R9-2009-0001, which became effective on August 1, 2010. Table 9 of Order No. R9-2009-0001 establishes a daily maximum chronic toxicity effluent concentration limit of 205 TUc for the Point Loma ocean outfall discharge.

NOTE: A summary of chronic toxicity test procedures is presented in the "Bioassay Procedures" section of the EPA NPDES application forms (Part 2, Volume II).

Statistical Summary of Point Loma WWTP Chronic Toxicity
2010-2013[1]

Parameter	Chronic Toxicity (TUc), 2010-2013[1] Daily Maximum Effluent Concentration Limit is 205 TUc[2]					
	Macrocystis pyrifera (giant kelp)		*Haliotis rufeuscens* (red abalone)	*Atherinops affinis* (topsmelt)		*Strongylocentrotus purpuratus* (purple urchin)
	Germination	Growth	Development	Survival	Growth	Fertilization
Number of Samples	62	61	47	12	12	11
Minimum Value	64	64	64	64	64	64
25th Percentile Value	64	64	64	64	64	64
50th Percentile (Median) Value	64	64	64	64	64	64
75th Percentile Value	101.5	64	64	64	64	64
Maximum Value	370[3,4]	370[3,4]	47	12	12	11
Number of. Exceedances[5]	1[4]	1[4]	0	0	0	0
Percent of Exceedances[6]	1.6%[4]	1.6%[4]	0.0%	0.0%	0.0%	0.0%

1 From monthly toxicity monitoring reports submitted to the Regional Board during 2010 through 2013. (2013 is the most recent year for which a complete 12 month data set is available.) Data for calendar year 2014 will be electronically transmitted to regulators under separate cover.

2 Chronic toxicity monitoring was conducted per Order No. R9-2009-0001, which became effective on August 1, 2010. Table 9 of Order No. R9-2009-0001 establishes a daily maximum chronic toxicity effluent concentration limit of 205 TUc for the Point Loma ocean outfall discharge.

3 If an exceedance of the effluent limit occurs and the source of the exceedance is unknown, Provision VI.C.2.d of Order No. R9-2009-0001 requires the City to conduct six additional chronic toxicity tests at two week intervals using the same test species. If all of these additional chronic toxicity results are within the effluent limit, testing at the normal schedule can be resumed.

4 Exceedance of the chronic toxicity limit occurred in the July 8, 2013 giant kelp chronic toxicity tests for germination and growth. In accordance with Provision VI.C.2.d of Order No. R9-2009-0001, the City collected and analyzed six additional chronic toxicity samples over the ensuing 12 week period. All subsequent chronic toxicity tests were within the effluent limit, and toxicity levels were too low to implement toxicity identification procedures. The cause of the isolated July 8, 2013 exceedance is unknown.

5 Number of chronic toxicity samples for the listed species during 2010 through 2013 that exceeded the 205 TUc effluent limit established in Order No. R9-2009-0001.

6 Percent of chronic toxicity samples for the listed species during 2010 through 2013 that exceeded the 205 TUc effluent limit established in Order No. R9-2009-0001.

NOTE: A summary of chronic toxicity test procedures is presented in the "Bioassay Procedures" section of the EPA NPDES application forms (Part 2, Volume II).

	Test number:_____	Test number:_____	Test number:_____
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:	See pages 15a - 15e for chronic toxicity results		
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity	See pages 15a - 15e for chronic toxicity results		
Acute toxicity	See pages 16a - 16b for acute toxicity results		
g. Provide the type of test performed.			
Static			
Static-renewal	See pages 15a - 15e for chronic toxicity results		
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water	See pages 15a - 15e for chronic toxicity results		
Receiving water			
i. Type of dilution water. It salt water, specify “natural” or type of artificial sea salts or brine used.			
Fresh water			
Salt water	See pages 15a - 15e for chronic toxicity results		
j. Give the percentage effluent used for all concentrations in the test series.			
	See pages 15a - 15e for chronic toxicity results		
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH	See pages 15a - 15e for chronic toxicity results		
Salinity			
Temperature			
Ammonia	See pages 15a - 15e for chronic toxicity results		
Dissolved oxygen			
l. Test Results.			
Acute:	See pages 16a - 16b for acute toxicity results		
Percent survival in 100% effluent	%	%	%
LC_{50}	See pages 16a - 16b for acute toxicity results		
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)	See pages 16a - 16b for acute toxicity results		

Point Loma WWTP Acute Toxicity
2010-2013[1]

Date of Test	Acute Toxicity (TUa), 2010-2013[1] Maximum Daily Performance Goal is 6.42 TUa[2]	
	Atherinops affinis **(topsmelt)**	***Mysidopsis bahia*** **(shrimp)**
3/21/2010	No test[3]	2.5
11/14/2010	2.96	2.91
1/23/2011	2.02	1.64
2/13/2011	3.27	2.65
6/12/2011	3.32	No test[4]
9/18/2011	2.53	No test[4]
3/11/2012	3.62	No test[4]
10/14/2012	3.27	4.31
4/21/2013	4.63	4.41
10/27/2013	2.50	3.92

1 From monthly toxicity monitoring reports submitted to the Regional Board during 2010 through 2013. (2013 is the most recent year for which a complete 12 month data set is available.) Data for calendar year 2014 will be electronically transmitted to regulators under separate cover.

2 Acute toxicity monitoring was conducted per Order No. R9-2009-0001, which became effective on August 1, 2010. Order No. R9-2009-0001 does not establish an enforceable effluent concentration limit for acute toxicity, but establishes a maximum daily performance goal of 6.42 TUa. Provision VI.C.2.b of Order No. R9-2009-0001 requires the City to notify the Regional Board when the performance goal is exceeded and investigate, identify, and correct the cause of the exceedance.. As shown above, all acute toxicity tests of the Point Loma WWTP effluent conducted to date pursuant to Order No. R9-2009-0001 have complied with the 6.42 TUa performance goal.

3 Test conducted under monitoring requirements established in Order No. R9-2002-0025. No test was required for *Atherinops affinis* (topsmelt), as *Mysidopsis bahia (*shrimp) was determined to be the most sensitive species.

4 Test conducted under monitoring requirements established in Order No. R9-2009-0001. No test was required for *Mysidopsis bahia (*shrimp), as *Atherinops affinis* (topsmelt) was determined to be the most sensitive species.

NOTE: A summary of acute toxicity test procedures is presented in the "Bioassay Procedures" section of the EPA NPDES application forms (Part 2, Volume II).

Statistical Summary of Point Loma WWTP Acute Toxicity 2010-2013[1]

Parameter	Acute Toxicity (TUa), 2010-2013[1] Maximum Daily Performance Goal is 6.42 TUa[2]	
	Atherinops affinis **(topsmelt)**	***Mysidopsis bahia*** **(shrimp)**
Number of Samples	9	7
Minimum Value	2.02	1.64
25th Percentile Value	2.53	2.58
50th Percentile (Median) Value	3.27	2.91
75th Percentile Value	3.32	4.12
Maximum Value	4.63	4.41
Number of. Exceedances[3]	0	0
Percent of Exceedances[4]	0%	0%

1 From monthly toxicity monitoring reports submitted to the Regional Board during 2010 through 2013. (2013 is the most recent year for which a complete 12 month data set is available.) Data for calendar year 2014 will be electronically transmitted to regulators under separate cover.

2 Acute toxicity monitoring was conducted per Order No. R9-2009-0001, which became effective on August 1, 2010. Order No. R9-2009-0001 does not establish an enforceable effluent concentration limit for acute toxicity, but establishes a maximum daily acute toxicity performance goal of 6.42 TUa. Provision VI.C.2.b of Order No. R9-2009-0001 requires the City to notify the Regional Board when the performance goal is exceeded and investigate, identify, and correct the cause of the exceedance.. As shown above, all acute toxicity tests of the Point Loma WWTP effluent conducted to date pursuant to Order No. R9-2009-0001 have complied with the 6.42 TUa performance goal.

3 Number of acute toxicity samples for the listed species during 2010-2013 that exceeded the 6.42 TUa performance goal established in Order No. R9-2009-0001.

4 Percent of acute toxicity samples for the listed species during 2010-2013 that exceeded the 6.42 TUa performance goal established in Order No. R9-2009-0001.

NOTE: A summary of acute toxicity test procedures is presented in the "Bioassay Procedures" section of the EPA NPDES application forms (Part 2, Volume II).

Chronic:	See pages 15a - 15e for chronic toxicity results		
NOEC	%	%	%
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe)	See pages 15a - 15e for chronic toxicity results		
m. Quality Control/Quality Assurance.			
Is reference toxicant data available?			
Was reference toxicant test within acceptable bounds?	See pages 15a - 15e for chronic toxicity results		
What date was reference toxicant test run (MM/DD/YYYY)?			
Other (describe)	See pages 15a - 15e for chronic toxicity results		

E.3. Toxicity Reduction Evaluation. Is the treatment works involved in a Toxicity Reduction Evaluation?

____Yes ✔ No If yes, describe: _____

Not applicable - Point Loma Ocean Outfall discharge has complied with all acute and chronic toxicity standards. See attached acute and chronic toxicity monitoring results.

E.4. Summary of Submitted Biomonitoring Test Information. If you have submitted biomonitoring test information, or information regarding the cause of toxicity, within the past four and one-half years, provide the dates the information was submitted to the permitting authority and a summary of the results.

Date submitted: See note (MM/DD/YYYY)

Summary of results: (see instructions)

Note: Acute and chronic toxicity tests are performed monthly per requirements of NPDES CA0107409 and subitted on a monthly basis to the Regional Board for review.

END OF PART E.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE.

SUPPLEMENTAL APPLICATION INFORMATION

PART F. INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES

All treatment works receiving discharges from significant industrial users or which receive RCRA, CERCLA, or other remedial wastes must complete Part F.

GENERAL INFORMATION:

F.1. Pretreatment Program. Does the treatment works have, or is it subject to, an approved pretreatment program?

✔ Yes ____ No

F.2. Number of Significant Industrial Users (SIUs) and Categorical Industrial Users (CIUs). Provide the number of each of the following types of industrial users that discharge to the treatment works.

a. Number of non-categorical SIUs. 34

b. Number of CIUs. 41

Note: Number of Categorical Industrial Users (CIUs) and non-categorical Significant Industrial Users (SUIs) within the entire Metro System as of December 31, 2013. See Appendix O for 2013 details on CIUs, non-categorical SIUs, pretreatment inspections and sampling, compliance status, and enforcement actions.

SIGNIFICANT INDUSTRIAL USER INFORMATION:

Supply the following information for each SIU. If more than one SIU discharges to the treatment works, copy questions F.3 through F.8 and provide the information requested for each SIU.

F.3. Significant Industrial User Information. Provide the name and address of each SIU discharging to the treatment works. Submit additional pages as necessary.

Name:

Mailing Address:

Completion of NPDES Form 3510-2A, Part F is not required for 301(h) applicants per 40 CFR 125.59(c)(1). Information for Parts F.3 through F.15 is presented in the Large Applicant Questionnaire, Section III.H per requirements of 40 CFR 125, Subpart G. Appendices N and O of this application present information on individual CIUs and SIUs.

F.4. Industrial Processes. Describe all of the industrial processes that affect or contribute to the SIU's discharge.

See Appendix O for information on individual CIUs and SIUs.

F.5. Principal Product(s) and Raw Material(s). Describe all of the principal processes and raw materials that affect or contribute to the SIU's discharge.

Principal product(s):

Raw material(s):

Completion of NPDES Form 3510-2A, Part F is not required for 301(h) applicants per 40 CFR 125.59(c)(1). Information for Parts F.3 through F.15 is presented in the Large Applicant Questionnaire, Section III.H per requirements of 40 CFR 125, Subpart G. Appendices N and O of this application present information on individual CIUs and SIUs.

F.6. Flow Rate.

a. Process wastewater flow rate. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

_____ gpd (_____continuous or _____intermittent) See Appendix O for information on individual CIUs and SIUs.

b. Non-process wastewater flow rate. Indicate the average daily volume of non-process wastewater flow discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

_____ gpd (_____continuous or _____intermittent) See Appendix O for information on individual CIUs and SIUs.

F.7. Pretreatment Standards. Indicate whether the SIU is subject to the following:

a. Local limits ✔ Yes ____ No

b. Categorical pretreatment standards ____ Yes ____ No

See Appendix O for information on individual CIUs and SIUs.

If subject to categorical pretreatment standards, which category and subcategory?

See Appendix O for information on individual CIUs and SIUs.

F.8. Problems at the Treatment Works Attributed to Waste Discharged by the SIU. Has the SIU caused or contributed to any problems (e.g., upsets, interference) at the treatment works in the past three years?

____Yes ✔ No If yes, describe each episode.

Not applicable

RCRA HAZARDOUS WASTE RECEIVED BY TRUCK, RAIL, OR DEDICATED PIPELINE:

F.9. RCRA Waste. Does the treatment works receive or has it in the past three years received RCRA hazardous waste by truck, rail, or dedicated pipe? ____Yes ✔ No (go to F.12.)

F.10. Waste Transport. Method by which RCRA waste is received (check all that apply):

NA Truck NA Rail NA Dedicated Pipe

F.11. Waste Description. Give EPA hazardous waste number and amount (volume or mass, specify units).

EPA Hazardous Waste Number	Amount	Units
Not applicable	Not applicable	Not applicable

CERCLA (SUPERFUND) WASTEWATER, RCRA REMEDIATION/CORRECTIVE ACTION WASTEWATER, AND OTHER REMEDIAL ACTIVITY WASTEWATER:

F.12. Remediation Waste. Does the treatment works currently (or has it been notified that it will) receive waste from remedial activities?

✔ Yes (complete F.13 through F.15.) ____No

Provide a list of sites and the requested information (F.13 - F.15.) for each current and future site.

F.13. Waste Origin. Describe the site and type of facility at which the CERCLA/RCRA/or other remedial waste originates (or is expected to originate in the next five years).

See Appendix O for a list of dischargers of remedial wastes and/or extracted groundwater.

F.14. Pollutants. List the hazardous constituents that are received (or are expected to be received). Include data on volume and concentration, if known. (Attach additional sheets if necessary).

See Appendix O for a list of dischargers of remedial wastes and/or extracted groundwater. Groundwater remediation discharges with free product or discharges in excess of 14,000 gallons per day are regulated as Class 2 SIUs. As detailed in Appendix O, a total of 12 Metro System groundwater remediation discharges were regulated as Class 2 SIUs as of December 31, 2013.

F.15. Waste Treatment.

a. Is this waste treated (or will it be treated) prior to entering the treatment works?

✔ Yes ____No

If yes, describe the treatment (provide information about the removal efficiency):

See Appendix O for a list of dischargers of remedial wastewater and/or extracted groundwater and a list of required pretreatment processes.

b. Is the discharge (or will the discharge be) continuous or intermittent?

✔ Continuous ____Intermittent If intermittent, describe discharge schedule.

See Appendix O for a list of dischargers of remedial wastes and/or extracted groundwater.

END OF PART F.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

SUPPLEMENTAL APPLICATION INFORMATION

PART G. COMBINED SEWER SYSTEMS

If the treatment works has a combined sewer system, complete Part G.

G.1. System Map. Provide a map indicating the following: (may be included with Basic Application Information)

a. All CSO discharge points. Not applicable. Metro System is 100 percent separate sanitary sewer system. No CSO discharges.

b. Sensitive use areas potentially affected by CSOs (e.g., beaches, drinking water supplies, shellfish beds, sensitive aquatic ecosystems, and outstanding natural resource waters).

c. Waters that support threatened and endangered species potentially affected by CSOs.

G.2. System Diagram. Provide a diagram, either in the map provided in G.1. or on a separate drawing, of the combined sewer collection system that includes the following information:

a. Locations of major sewer trunk lines, both combined and separate sanitary.

b. Locations of points where separate sanitary sewers feed into the combined sewer system.

c. Locations of in-line and off-line storage structures.

d. Locations of flow-regulating devices. Not applicable. Metro System is 100 percent separate sanitary sewer system. No CSO discharges.

e. Locations of pump stations.

CSO OUTFALLS:

Complete questions G.3 through G.6 once for each CSO discharge point.

G.3. Description of Outfall.

a. Outfall number Not applicable. Metro System is 100 percent separate sanitary sewer system. No CSO discharges.

b. Location

Not applicable - no CSO discharges
(City or town, if applicable) (Zip Code)

Not applicable - no CSO discharges.
(County) (State)

(Latitude) (Longitude)

c. Distance from shore (if applicable) NA ft.

d. Depth below surface (if applicable) NA ft.

e. Which of the following were monitored during the last year for this CSO?

____Rainfall ____CSO pollutant concentrations ____CSO frequency

____CSO flow volume ____Receiving water quality

f. How many storm events were monitored during the last year? NA

G.4. CSO Events.

a. Give the number of CSO events in the last year.

NA events (___ actual or ___ approx.)

b. Give the average duration per CSO event.

NA hours (____ actual or ____ approx.)

NA = not applicable

c. Give the average volume per CSO event.

NA million gallons (_____ actual or _____ approx.)

d. Give the minimum rainfall that caused a CSO event in the last year.

NA inches of rainfall

G.5. Description of Receiving Waters.

a. Name of receiving water: Not applicable - no CSO discharges

b. Name of watershed/river/stream system: Not applicable - no CSO discharges

United States Soil Conservation Service 14-digit watershed code (if known): _____

c. Name of State Management/River Basin: Not applicable - no CSO discharges

United States Geological Survey 8-digit hydrologic cataloging unit code (if known): _____

G.6. CSO Operations.

Describe any known water quality impacts on the receiving water caused by this CSO (e.g., permanent or intermittent beach closings, permanent or intermittent shell fish bed closings, fish kills, fish advisories, other recreational loss, or violation of any applicable State water quality standard).

Not applicable - no CSO discharges

END OF PART G.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE.

EPA Form 2S

Renewal of NPDES CA0107409

FACILITY NAME AND PERMIT NUMBER:

E.W. Blom Point Loma Wastewater Treatment Plant NPDES CA0107409

Form Approved 1/14/99
OMB Number 2040-0086

FORM 2S NPDES

NPDES FORM 2S APPLICATION OVERVIEW

PRELIMINARY INFORMATION

This page is designed to indicate whether the applicant is to complete Part 1 or Part 2. Review each category, and then complete Part 1 or Part 2, as indicated. For purposes of this form, the term "you" refers to the applicant. "This facility" and "your facility" refer to the facility for which application information is submitted.

FACILITIES INCLUDED IN ANY OF THE FOLLOWING CATEGORIES MUST COMPLETE PART 2 (PERMIT APPLICATION INFORMATION).

1. Facilities with a currently effective NPDES permit.

2. Facilities which have been directed by the permitting authority to submit a full permit application at this time.

ALL OTHER FACILITIES MUST COMPLETE PART 1 (LIMITED BACKGROUND INFORMATION).

PART 1: LIMITED BACKGROUND INFORMATION

This part should be completed only by "sludge-only" facilities - that is, facilities that do not currently have, and are not applying for, an NPDES permit for a direct discharge to a surface body of water.

For purposes of this form, the term "you" refers to the applicant. "This facility" and "your facility" refer to the facility for which application information is submitted.

1. Facility Information.

a. Facility name: Not applicable - See Part 2 (page 6 of 23)

b. Mailing Address: _____

_____

c. Contact person: Not applicable - See Part 2 (page 6 of 23)

Title: _____

Telephone number: _____

d. Facility Address (not P.O. B ox): Not applicable - See Part 2 (page 6 of 23)

_____

e. Indicate the type of facility

NA Publicly owned treatment works (POTW) _____ Privately owned treatment works

_____ Federally owned treatment works _____ Blending or treatment operation

_____ Surface disposal site _____ Sewage sludge incinerator

_____ Other (describe) _____

2. Applicant Information.

a. Applicant name: Not applicable - See Part 2 (page 6 of 23)

b. Mailing Address: Not applicable - See Part 2 (page 6 of 23)

_____

c. Contact person: Not applicable - See Part 2 (page 6 of 23)

Title: _____

Telephone number: Not applicable - See Part 2 (page 6 of 23)

d. Is the applicant the owner or operator (or both) of this facility?

NA owner _____ operator

e. Should correspondence regarding this permit be directed to the facility or the applicant?

NA facility _____ applicant

Note: Biosolids from the E.W. Blom Point Loma Wastewater Treatment Plant are digested onsite, conveyed to the Metro Biosolids Center for dewatering, and hauled offsite for reuse/disposal. This permit application addresses solids handling operations at the Point Loma Wastewater Treatment Plant, dewatering operations at the Metro Biosolids Center, and offsite solids reuse/disposal.

Dewatered biosolids are either hauled to Otay Landfill for use as alternative daily cover or hauled to Yuma County, Arizona for land application beneficial reuse.

3. Sewage Sludge Amount. Provide the total dry metric tons per latest 365 day period of sewage sludge handled under the following practices:

a.	Amount generated at the facility	NA dry metric tons
b.	Amount received from off site	NA dry metric tons
c.	Amount treated or blended on site	NA dry metric tons
d.	Amount sold or given away in a bag or other container for application to the land	NA dry metric tons
e.	Amount of bulk sewage sludge shipped off site for treatment or blending	NA dry metric tons
f.	Amount applied to the land in bulk form	NA dry metric tons
g.	Amount placed on a surface disposal site	NA dry metric tons
h.	Amount fired in a sewage sludge incinerator	NA dry metric tons
i.	Amount sent to a municipal solid waste landfill	NA dry metric tons
j.	Amount used or disposed by another practice	NA dry metric tons

Describe Part 1 is not applicable - See Part 2 (page 6 of 23)

4. Pollutant Concentrations. Using the table below or a separate attachment, provide existing sewage sludge monitoring data for the pollutants for which limits in sewage sludge have been established in 40 CFR part 503 for this facility's expected use or disposal practices. If available, base data on three or more samples taken at least one month apart and no more than four and one-half years old.

POLLUTANT	CONCENTRATION (mg/kg dry weight)	ANALYTICAL METHOD	DETECTION LEVEL FOR ANALYSIS
ARSENIC			
CADMIUM		Not applicable - See Part 2	
CHROMIUM			
COPPER			
LEAD		Not applicable - See Part 2	
MERCURY			
MOLYBDENUM			
NICKEL		Not applicable - See Part 2	
SELENIUM			
ZINC			

5. Treatment Provided At Your Facility.

a. Which class of pathogen reduction does the sewage sludge meet at your facility?

_____ Class A _____ Class B NA Neither or unknown

b. Describe, on this form or another sheet of paper, any treatment processes used at your facility to reduce pathogens in sewage sludge:

Part 1 is not applicable - See Part 2

Note: Biosolids from the E.W. Blom Point Loma Wastewater Treatment Plant are digested onsite, conveyed to the Metro Biosolids Center for dewatering, and hauled offsite for reuse/disposal. This permit application addresses solids handling operations at the Point Loma Wastewater Treatment Plant, dewatering operations at the Metro Biosolids Center, and offsite solids reuse/disposal.

Dewatered biosolids are either hauled to Otay Landfill for use as alternative daily cover or hauled to Yuma County, Arizona for land application beneficial reuse.

c. Which vector attraction reduction option is met for the sewage sludge at your facility?

NA Option 1 (Minimum 38 percent reduction in volatile solids)
_____ Option 2 (Anaerobic process, with bench-scale demonstration)
_____ Option 3 (Aerobic process, with bench-scale demonstration)
_____ Option 4 (Specific oxygen uptake rate for aerobically digested sludge)
_____ Option 5 (Aerobic processes plus raised temperature)
_____ Option 6 (Raise pH to 12 and retain at 11.5)
_____ Option 7 (75 percent solids with no unstabilized solids)
_____ Option 8 (90 percent solids with unstabilized solids)
_____ Option 9 (Injection below land surface)
_____ Option 10 (Incorporation into soil within 6 hours)
_____ Option 11 (Covering active sewage sludge unit daily)
_____ None or unknown

d. Describe, on this form or another sheet of paper, any treatment processes used at your facility to reduce vector attraction properties of sewage sludge:

Not applicable - See Part 2

6. Sewage Sludge Sent to Other Facilities. Does the sewage sludge from your facility meet the Table 1 ceiling concentrations, the Table 3 pollutant concentrations, Class A pathogen requirements, and one of the vector attraction options 1-8?
_____ Yes NA No

If yes, go to question 8 (Certification).

If no, is sewage sludge from your facility provided to another facility for treatment, distribution, use, or disposal?
_____ Yes NA No

If no, go to question 7 (Use and Disposal Sites).

If yes, provide the following information for the facility receiving the sewage sludge:

a. Facility name: Part 1 is not applicable - See Part 2

b. Mailing address: _____

c. Contact person: Part 1 is not applicable - See Part 2

Title: _____

Telephone number: Part 1 is not applicable - See Part 2

d. Which activities does the receiving facility provide? (Check all that apply)

NA Treatment or blending
NA Sale or give-away in bag or other container
_____ Land application
_____ Surface disposal
_____ Incineration
_____ Other (describe):

Part 1 is not applicable - See Part 2

Note: Biosolids from the E.W. Blom Point Loma Wastewater Treatment Plant are digested onsite, conveyed to the Metro Biosolids Center for dewatering, and hauled offsite for reuse/disposal. This permit application addresses solids handling operations at the Point Loma Wastewater Treatment Plant, dewatering operations at the Metro Biosolids Center, and offsite solids reuse/disposal.

Dewatered biosolids are either hauled to Otay Landfill for use as alternative daily cover or hauled to Yuma County, Arizona for land application beneficial reuse.

7. Use and Disposal Sites. Provide the following information for each site on which sewage sludge from this facility is used or disposed:

a. Site name or number: Part 1 is not applicable - See Part 2

b. Contact person: _____

Title: Part 1 is not applicable - See Part 2

Telephone: _____

c. Site location (Complete 1 or 2)

1. Street or Route #: Part 1 is not applicable - See Part 2

County: _____

City or Town: _____ State: _____ Zip: _____

2. Latitude: NA Longitude: NA

d. Site type (Check all that apply)

____ Agricultural ____ Lawn or home garden ____ Forest
____ Surface disposal ____ Public Contact ____ Incineration
____ Reclamation ____ Municipal Solid Waste Landfill ____ Other (describe): Not applicable

8. Certification. Sign the certification statement below. (Refer to instructions to determine who is an officer for purposes of this certification.)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with the 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 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.

Name and official title: Part 1 is not applicable - See Part 2

Signature: _____

Telephone number: _____

Date signed: Part 1 is not applicable - See Part 2

SEND COMPLETED FORMS TO:

Note: Biosolids from the E.W. Blom Point Loma Wastewater Treatment Plant are digested onsite, conveyed to the Metro Biosolids Center for dewatering, and hauled offsite for reuse/disposal. This permit application addresses solids handling operations at the Point Loma Wastewater Treatment Plant, dewatering operations at the Metro Biosolids Center, and offsite solids reuse/disposal.

Dewatered biosolids are either hauled to Otay Landfill for use as alternative daily cover or hauled to Yuma County, Arizona for land application beneficial reuse.

PART 2: PERMIT APPLICATION INFORMATION

Complete this part if you have an effective NPDES permit or have been directed by the permitting authority to submit a full permit application at this time. In other words, complete this part if your facility has, or is applying for, an NPDES permit.

For purposes of this form, the term "you" refers to the applicant. "This facility" and "your facility" refer to the facility for which application information is submitted.

APPLICATION OVERVIEW — SEWAGE SLUDGE USE OR DISPOSAL INFORMATION

Part 2 is divided into five sections (A-E). Section A pertains to all applicants. The applicability of Sections B, C, D, and E depends on your facility's sewage sludge use or disposal practices. The information provided on this page indicates which sections of Part 2 to fill out.

1. SECTION A: GENERAL INFORMATION.

Section A must be completed by all applicants

2. SECTION B: GENERATION OF SEWAGE SLUDGE OR PREPARATION OF A MATERIAL DERIVED FROM SEWAGE SLUDGE.

Section B must be completed by applicants who either:

1) Generate sewage sludge, or

2) Derive a material from sewage sludge.

3. SECTION C: LAND APPLICATION OF BULK SEWAGE SLUDGE.

Section C must be completed by applicants who either:

1) Apply sewage to the land, or

2) Generate sewage sludge which is applied to the land by others.

NOTE: Applicants who meet either or both of the two above criteria are exempted from this requirement if all sewage sludge from their facility falls into one of the following three categories:

1) The sewage sludge from this facility meets the ceiling and pollutant concentrations, Class A pathogen reduction requirements, and one of vector attraction reduction options 1-8, as identified in the instructions, or
2) The sewage sludge from this facility is placed in a bag or other container for sale or give-away for application to the land, or
3) The sewage sludge from this facility is sent to another facility for treatment or blending.

4. SECTION D: SURFACE DISPOSAL

Section D must be completed by applicants who own or operate a surface disposal site.

5. SECTION E: INCINERATION

Section E must be completed by applicants who own or operate a sewage sludge incinerator.

Note: Biosolids from the E.W. Blom Point Loma Wastewater Treatment Plant are digested onsite, conveyed to the Metro Biosolids Center for dewatering, and hauled offsite for reuse/disposal. This permit application addresses solids handling operations at the Point Loma Wastewater Treatment Plant, dewatering operations at the Metro Biosolids Center, and offsite solids reuse/disposal.

Dewatered biosolids are either hauled to Otay Landfill for use as alternative daily cover or hauled to Yuma County, Arizona for land application beneficial reuse.

A. GENERAL INFORMATION

All applicants must complete this section.

A.1. Facility Information.

a. Facility name: E.W. Blom Point Loma Wastewater Treatment Plant & Metro Biosolids Center

b. Mailing Address: City of San Diego, Public Utilities Department
9192 Topaz Way, San Diego, CA 92123

c. Contact person: Halla Razak, P.E.
Title: Director of Public Utilities
Telephone number: (858) 292-6401

d. Facility Address (not P.O. Box):
Metro Biosolids Center
5240 Convoy Street
San Diego, CA 92121

E.W. Blom Point Loma Wastewater Treatment Plant
902 Gatchell Road
San Diego, CA 92106

e. Is this facility a Class I sludge management facility? ✔ Yes _____ No

f. Facility design flow rate: 240 mgd

g. Total population served: 2.2 million

h. Indicate the type of facility:

✔ Publicly owned treatment works (POTW)
_____ Privately owned treatment works
_____ Federally owned treatment works
_____ Blending or treatment operation
_____ Surface disposal site
_____ Sewage sludge incinerator
_____ Other (describe)

A.2. Applicant Information. If the applicant is different from the above, provide the following:

a. Applicant name: City of San Diego, Public Utilities Department

b. Mailing Address: 9192 Topaz Way
San Diego, CA 92123

c. Contact person: Halla Razak, P.E.
Title: Director of Public Utilities
Telephone number: (858) 292-6401

d. Is the applicant the owner or operator (or both) of this facility?

✔ owner ✔ operator

e. Should correspondence regarding this permit should be directed to the facility or the applicant.

_____ facility ✔ applicant

Note: Biosolids from the E.W. Blom Point Loma Wastewater Treatment Plant are digested onsite, conveyed to the Metro Biosolids Center for dewatering, and hauled offsite for reuse/disposal. This permit application addresses solids handling operations at the Point Loma Wastewater Treatment Plant, dewatering operations at the Metro Biosolids Center, and offsite solids reuse/disposal.

Dewatered biosolids are either hauled to Otay Landfill for use as alternative daily cover or hauled to Yuma County, Arizona for land application beneficial reuse.

A.3. Permit Information.

a. Facility's NPDES permit number (if applicable): NPDES CA0107409 (Point Loma WWTP discharge to Point Loma Ocean Outfall)

b. List, on this form or an attachment, all other Federal, State, and local permits or construction approvals received or applied for that regulate this facility's sewage sludge management practices:

Permit Number	Type of Permit
Order No. 97-03	RWQCB waste discharge requirements for North City Water Reclamation Plant

Note: Metro Biosolids Center (MBC) receives untreated biosolids from the City of San Diego North City Water Reclamation Plant (NCWRP) and digested biosolids from the E.W. Blom Point Loma Wastewater Treatment Plant. NCWRP biosolids are digested and dewatered at MBC. NCWRP secondary treated wastewater is discharged to the Point Loma WWTP for treatment and ocean disposal. Point Loma WWTP biosolids are digested onsite and conveyed to MBC for dewatering.

A.4. Indian Country. Does any generation, treatment, storage, application to land, or disposal of sewage sludge from this facility occur in Indian Country?

_____Yes ✔ No If yes, describe: Not applicable

A.5. Topographic Map. Provide a topographic map or maps (or other appropriate map(s) if a topographic map is unavailable) that show the following information. Map(s) should include the area one mile beyond all property boundaries of the facility:

a. Location of all sewage sludge management facilities, including locations where sewage sludge is stored, treated, or disposed.

b. Location of all wells, springs, and other surface water bodies, listed in public records or otherwise known to the applicant within 1/4 mile of the facility property boundaries.

See attached figure for MBC site layout. See Appendix M for topographic maps of land application sites.

A.6. Line Drawing. Provide a line drawing and/or a narrative description that identifies all sewage sludge processes that will be employed during the term of the permit, including all processes used for collecting, dewatering, storing, or treating sewage sludge, the destination(s) of all liquids and solids leaving each unit, and all methods used for pathogen reduction and vector attraction reduction.

A.7. Contractor Information. See attached process schematic

Are any operational or maintenance aspects of this facility related to sewage sludge generation, treatment, use or disposal the responsibility of a contractor? ✔ Yes _____No

If yes, provide the following for each contractor (attach additional pages if necessary):

a.	Name	Terra Renewal Services, Inc. (formerly Solids Solutions, LLC)
b.	Mailing Address	12812 Valley View Avenue, #9 Garden Grove, CA 92845
c.	Telephone Number	(760) 801-3175
d.	Responsibilities of contractor	Hauling and direct land application of dewatered solids at agricultural reuse sites in Yuma County, Arizona.

Note: Biosolids from the E.W. Blom Point Loma Wastewater Treatment Plant are digested onsite, conveyed to the Metro Biosolids Center for dewatering, and hauled offsite for reuse/disposal. This permit application addresses solids handling operations at the Point Loma Wastewater Treatment Plant, dewatering operations at the Metro Biosolids Center, and offsite solids reuse/disposal.

Dewatered biosolids are either hauled to Otay Landfill for use as alternative daily cover or hauled to Yuma County, Arizona for land application beneficial reuse.

FACILITY NAME AND PERMIT NUMBER:

E.W. Blom Point Loma Wastewater Treatment Plant NPDES CA0107409

Form Approved 1/14/99
OMB Number 2040-0086

A.8. Pollution Concentrations: Using the table below or a separate attachment, provide sewage sludge monitoring data for the pollutants for which limits in sewage sludge have been established in 40 CFR Part 503 for this facility's expected use or disposal practices. All data must be based on three or more samples taken at least one month apart and must be no more than four and one-half years old.

POLLUTANT	CONCENTRATION (mg/kg dry weight)	ANALYTICAL METHOD	DETECTION LEVEL FOR ANALYSIS
ARSENIC			
CADMIUM		See page 9a of 23	
CHROMIUM			
COPPER		See page 9a of 23	
LEAD			
MERCURY		See page 9a of 23	
MOLYBDENUM			
NICKEL		See page 9a of 23	
SELENIUM			
ZINC		See page 9a of 23	

A.9. Certification. Read and submit the following certification statement with this application. Refer to the instructions to determine who is an officer for purposes of this certification. Indicate which parts of Form 2S you have completed and are submitting:

_____ Part 1 Limited Background Information packet

Part 2 Permit Application Information packet:

✓ Section A (General Information)

✓ Section B (Generation of Sewage Sludge or Preparation of a Material Derived from Sewage Sludge)

✓ Section C (Land Application of Bulk Sewage Sludge)

✓ Section D (Surface Disposal)

_____ Section E (Incineration)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with the 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 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.

Name and official title Halla Razak, P.E., Director of Public Utilities

Signature Halla Razak Date signed 1/2/2015

Telephone number (858) 292-6401

Upon request of the permitting authority, you must submit any other information necessary to assess sewage sludge use or disposal practices at your facility or identify appropriate permitting requirements.

SEND COMPLETED FORMS TO:

Metro Biosolids Center
Summary of Sludge Pollutant Concentrations, Centrifuged Dewatered Sludge
Calendar Year 2013

Constituent	MBC Sludge Concentration during 2013[1,2] (mg/kg dry weight)														
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ave. Value[3]	Max Value	503.13 Limit[4]
Arsenic	4.15	4.32	4.22	6.39	5.28	4.65	4.03	3.25	3.08	2.83	3.8	3.58	4.13	6.39	41
Cadmium	1.1	1.3	1.2	0.75	1.2	1.4	1.4	1.4	1.2	1.1	1.7	1.1	1.2	1.7	39
Chromium	45.2	46.9	50.3	49.1	62.5	53.9	49.7	40.8	33.6	33.4	38.6	36.0	45.0	62.5	3000[5]
Copper	658	656	704	566	746	622	741	656	684	677	688	627	669	746	1500
Lead	17	19	20	13	17	18	20	20	29	27	29	18	20.6	29	300
Mercury	1.1	1.2	1.6	1.4	1.3	1.5	1.9	1.0	1.1	1.1	0.9	1.1	1.3	1.9	17
Molybdenum	14.8	14.2	16.0	12.4	19.5	18.8	19.5	18.8	18.3	20.8	19.9	14.4	17.3	20.8	75[6]
Nickel	35.8	35.9	31.5	31.6	41.0	43.5	35.4	31.3	35.2	36.6	38.8	33.7	35.9	43.5	420
Selenium	4.5	4.52	4.23	6.28	4.91	7.63	5.85	4.11	5.69	4.58	4.22	4.44	5.08	7.63	36
Zinc	842	784	897	912	1175	937	923	982	906	839	914	742	904	1175	2800
Total Nitrogen	4.89	4.95	4.95	4.92	4.91	4.89	4.68	5.13	4.99	5.06	5.02	4.70	4.9	5.13	NS[7]
Percent Solids	28.7	27.8	28.3	27.1	26.9	26.4	26.8	26.8	26.7	26.6	27.4	27.5	27.3	28.7	NS[7]
Percent Volatile	58.1	59.2	56.9	60.6	57.4	58.9	60.8	60.6	57.6	60.9	60.8	59.9	59.3	60.9	NS[7]

1 From monthly sludge monitoring reports submitted to the Regional Board during calendar year 2013. (2013 is the most recent year for which a complete 12 month data set is available.) Data for calendar year 2014 will be electronically transmitted to regulators under separate cover. See Appendix M.

2 Based on samples of daily dewatered sludge from each of the Metro Biosolids Center (MBC) centrifuges that are composited during each calendar month. Centrifuged MBC sludge includes solids from both the E.W. Blom Point Loma Wastewater Treatment Plant and the City of San Diego North City Water Reclamation Plant.

3 Computed average of 12 monthly average composite samples.

4 Federal ceiling concentration standards established in Table 3 of 40 CFR 503.13. Also conforms to State of Arizona standards established in Table 2, 18, Chapter 9 of the *Arizona Administrative Code*.

5 Chromium standard established within Table 1, ceiling concentrations within Title 18, Chapter 9 of the *Arizona Administrative Code.*

6 Ceiling concentration standard for molybdenum is established in 40 CFR 503.13m Table 1.

7 No standard.

B. GENERATION OF SEWAGE SLUDGE OR PREPARATION OF A MATERIAL DERIVED FROM SEWAGE SLUDGE

Complete this section if your facility generates sewage sludge or derives a material from sewage sludge.

B.1. Amount Generated On Site.

Total dry metric tons per 365-day period generated at your facility: 37,750 dry metric tons

Total sludge production at Point Loma WWTP during 2013 was 114 dry short tons per day (37,750 mt/year). Metro Biosolids Center (MBC) digested sludge averaged 89 dry (short) tons per day (29.740 mt/year). MBC also receives solids from the North City WRP. Centrifuge centrate is conveyed back to the Point Loma WWTP for treatment.

B.2. Amount Received from Off Site. If your facility receives sewage sludge from another facility for treatment, use, or disposal, provide the following information for each facility from which sewage sludge is received. If you receive sewage sludge from more than one facility, attach additional pages as necessary.

a. Facility name

b. Mailing Address

c. Contact person

Title

Telephone number

d. Facility Address (not P.O. Box)

Note: Sludge generated at the E.W. Blom Point Loma WWTP is digested onsite and conveyed to the Metro Biosolids Center (MBC) for dewatering. MBC also receives waste activated sludge from the City of San Diego North City Water Reclamation Plant (NCWRP). After digestion at MCB, combined NCWRP and Point Loma WWTP sludge is dewatered using centrifuges at MBC. Centrate from the MBC centrifuges is conveyed back to the Point Loma WWTP for treatment, while sludge cake is transported offsite for beneficial reuse at landfills or beneficial use for agricultural land application. The attached table on page 10a summarize Point Loma WWTP sludge production and centrate returns and MBC sludge dewatering volumes. The table on page 10b summarizes sludge disposition. The table on page 10c summarizes scum, grit, rags and screenings from the Point Loma WWTP.

e. Total dry metric tons per 365-day period received from this facility: See attached tables and Appendix M for Point Loma and MBC sludge processing, flows, production, and beneficial reuse. dry metric tons

f. Describe, on this form or on another sheet of paper, any treatment processes known to occur at the off-site facility, including blending activities and treatment to reduce pathogens or vector attraction characteristics.

See attached tables and Appendix M for

B.3. Treatment Provided At Your Facility. Note: Point Loma WWTP biosolids are digested onsite and conveyed to MBC for dewatering.

a. Which class of pathogen reduction is achieved for the sewage sludge at your facility?

_____ Class A ✔ Class B _____ Neither or unknown

b. Describe, on this form or another sheet of paper, any treatment processes used at your facility to reduce pathogens in sewage sludge:
Anaerobic digestion (onsite at Point Loma WWTP) and centrifuge dewatering at MBC. See Appendix M.

c. Which vector attraction reduction option is met for the sewage sludge at your facility?

✔ Option 1 (Minimum 38 percent reduction in volatile solids)
_____ Option 2 (Anaerobic process, with bench-scale demonstration)
_____ Option 3 (Aerobic process, with bench-scale demonstration)
_____ Option 4 (Specific oxygen uptake rate for aerobically digested sludge)
_____ Option 5 (Aerobic processes plus raised temperature)
_____ Option 6 (Raise pH to 12 and retain at 11.5)
_____ Option 7 (75 percent solids with no unstabilized solids)
_____ Option 8 (90 percent solids with unstabilized solids)
_____ None or unknown

Summary of Facilities Discharging to Metro Biosolids Center (MBC)

Facility[1]	Location	Description of Flow Directed to MBC
Point Loma WWTP	1902 Gatchell San Diego, CA 92106	Anaerobically digested advanced primary sludge
North City WRP	4949 Eastgate Mall San Diego, CA 92121	Waste activated sludge

1 Facility owned and operated by the City of San Diego. Facility contact information: San Diego Public Utilities Department, 9192 Topaz Way, San Diego, CA 92123, (858) 292-6300.

Summary of Monthly Solids Reports
Metro Biosolids Center
Calendar Year 2013

Month	Average Monthly Values during 2013[1]							
	Point Loma Digested Sludge[2,3]			Combined MBC Centrifuge Centrate[2,3]			MBC Centrifuge Dewatered Biosolids[2,3]	
	mgd	Percent Solids	Dry Tons/Day[4]	mgd	Percent Solids	Dry Tons/Day[4]	Percent Solids	Dry Tons/Day[4]
Jan	1.241	2.1	109	2.211	0.29	26.4	28.7	86.4
Feb	1.185	2.1	105	2.061	0.29	25.4	28.2	77.4
Mar	1.196	2.1	102	2.173	0.30	27.2	28.4	70.6
Apr	1.169	2.3	111	2.149	0.35	31.1	27.2	81.1
May	1.066	2.3	101	2.182	0.43	37.7	27.4	91.9
Jun	1.124	2.5	112	1.991	0.54	43.2	28.2	77.8
Jul	1.248	2.4	126	2.335	0.49	48.1	27.0	90.1
Aug	1.298	2.3	123	2.386	0.41	40.4	27.2	101.5
Sep	1.213	2.3	117	2.404	0.39	38.8	27.4	98.0
Oct	1.265	2.2	118	2.310	0.34	33.0	27.0	97.6
Nov	1.308	2.3	125	2.449	0.34	34.5	27.7	102.1
Dec	1.146	2.4	113	2.076	0.27	23.7	27.9	93.6
Annual Ave.	1.205	2.3	114[5]	2.227	0.37	34.1	27.7	89.0[6]

1 Monthly average value. From monthly sludge monitoring reports submitted to the Regional Board during calendar year 2013. (2013 is the most recent year for which a complete 12 month data set is available.) Data for calendar year 2014 will be electronically transmitted to regulators under separate cover. See Appendix M for 2013 MBC sludge production and reuse/disposal data.
2 Includes digested sludge from Point Loma WWTP and biosolids from North City WTP digested onsite at MBC.
3 Mechanical condition of cake pumps and variability of sludge concentrations can affect the overall accuracies of the reported values.
4 Listed ton/day values are short tons (2000 pounds).
5 Point Loma WWTP average 2013 sludge production of 114 dry (short) tons per day corresponds to an annual sludge production of 37,750 metric tons per year.
6 MBC average 2013 dewatered sludge production of 89 dry (short) tons per day corresponds to an annual dewatered sludge production of 29,470 metric tons per year.

Biosolids Beneficial Use and Landfill Disposal
Metro Biosolids Center and Point Loma WWTP[1]
Calendar Year 2013

	Otay Landfill Alternative Daily Cover Beneficial Use (wet tons)[2]			Land Application Beneficial Use (wet tons)[2]	Totals		
	Point Loma WWTP	MBC	Total	Cullison Farm Yuma AZ	Wet Tons[2]	Percent Solids	Dry Tons[2]
January	0	7,445.5	7,445.5	1,886.3	9,331.8	28.7	2,678.2
February	0	6,070.4	6,070.4	1,611.3	7,681.8	28.2	2,166.3
March	0	5,543.4	5,543.4	2,150.9	7,694.3	28.4	2,185.2
April	0	6,573.7	6,573.7	2,376.6	8,950.3	27.2	2,434.5
May	0	7,942.2	7,942.2	2,459.0	10,401.2	27.4	2,849.9
June	0	6,536.4	6,536.4	1,748.1	8,284.5	28.2	2,336.2
July	0	9,603.0	9,603.0	740.9	10,343.9	27.0	2,792.9
August	0	10,405.1	10,405.1	1,163.4	11,568.5	27.2	3,146.6
September	209.3	9,460.1	9,669.4	1,278.4	10,947.8	27.4	2,999.7
October	469.6	9,636.1	10,105.7	1,568.6	11,674.3	27.0	3,152.1
November	2,962.9	9,980.8	12,943.7	1,060.1	14,003.8	27.7	3,879.1
December	2,760.7	9,881.5	12,642.2	519.0	13,161.2	27.9	3,672.0
Total	6,402.5	99,078	105,481[4]	18,563[5]	124,043	---	34,292.7[6]
Average	533.5	8,257	8,790	1,547	10,337	27.6[3]	2,857.7

1 From monthly sludge monitoring reports submitted to the Regional Board during calendar year 2013. (2013 is the most recent year for which a complete 12 month data set is available.) Data for calendar year 2014 will be electronically transmitted to regulators under separate cover. See Appendix M.

2 Listed ton/day values are short tons (2000 pounds).

3 Average of 12 monthly average values. Value may differ slightly from annual average value computed on basis of composite of daily samples.

4 Reported sludge totals sent to landfills during 2013 totaled 105,481 wet (short) tons (26,439 dry metric tons per year, as reported on page 14, Item B.10.e of EPA Form 2S).

5 Reported sludge totals beneficially applied to land during 2013 totaled 18,563 wet (short) tons (4,671 dry metric tons per year, as reported on page 12, Item B.7 of EPA Form 2S).

Disposal of Scum, Grit, Rags/Screenings
Metro Biosolids Center and Point Loma WWTP
Calendar Year 2013

Month	Scum, Grit, Rags/Screenings during 2013[1] (wet tons)[2]				
	Scum		Digester Cleanings	Grit	Rags and Screenings
	Copper Mountain Landfill	Otay Landfill	Otay Landfill	Miramar Landfill	Miramar Landfill
January	41.67	0	0	156.8	595.6
February	28.06	0	0	136.2	531.1
March	35.52	0	0	165.6	582.0
April	20.29	0	0	162.3	598.4
May	23.87	8.47	0	196.7	600.9
June	27.42	8.47	0	32.0	598.2
July	18.95	0	0	154.0	591.5
August	22.33	0	0	179.0	675.4
September	27.13	0	209	181.3	596.3
October	5.21	0	470	6.3	138.8
November	29.82	0	2963	146.9	502.6
December	30.82	0	2761	138.6	450.1
Total	311.09	16.94	6403	1,655.7	6,460.9
Average	25.92	1.4	534	138.0	538.4

1 From monthly sludge monitoring reports submitted to the Regional Board during calendar year 2013. (2013 is the most recent year for which a complete 12 month data set is available.) Data for calendar year 2014 will be electronically transmitted to regulators under separate cover. See Appendix M.

2 Listed ton/day values are short tons (2000 pounds).

B.3. Treatment Provided At Your Facility. (con't)

d. Describe, on this form or another sheet of paper, any treatment processes used at your facility to reduce vector attraction properties of sewage sludge:

Anaerobic digestion at Point Loma WWTP. Centrifuge dewatering at MBC in enclosed building. Vector attraction requirements are attained by reducting the volatile solids content to a minimum of 38 percent (Option 1).

e. Describe, on this form or another sheet of paper, any other sewage sludge treatment or blending activities not identified in (a) - (d) above:

Treated to Class B standards through anaerobic digestion for minimum of 15 days at temperature of 35-55 degrees C.

Complete Section B.4 if sewage sludge from your facility meets the ceiling concentrations in Table 1 of 40 CFR 503.13, the pollutant concentrations in Table 3 of §503.13, the Class A pathogen reduction requirements in §503.32(a), and one of the vector attraction reduction requirements in § 503.33(b)(1)-(8) and is land applied. Skip this section if sewage sludge from your facility does not meet all of these criteria.

B.4. Preparation of Sewage Sludge Meeting Ceiling and Pollutant Concentrations, Class A Pathogen Requirements, and One of Vector Attraction Reduction Options 1-8.

a. Total dry metric tons per 365-day period of sewage sludge subject to this section that is applied to the land: NA dry metric tons

b. Is sewage sludge subject to this section placed in bags or other containers for sale or give-away for application to the land?

_____Yes NA No

Complete Section B.5. if you place sewage sludge in a bag or other container for sale or give-away for land application. Skip this section if the sewage sludge is covered in Section B.4.

B.5. Sale or Give-Away in a Bag or Other Container for Application to the Land.

a. Total dry metric tons per 365-day period of sewage sludge placed in a bag or other container at your facility for sale or give-away for application to the land: Not applicable dry metric tons

b. Attach, with this application, a copy of all labels or notices that accompany the sewage sludge being sold or given away in a bag or other container for application to the land.

Complete Section B.6 if sewage sludge from your facility is provided to another facility that provides treatment or blending. This section does not apply to sewage sludge sent directly to a land application or surface disposal site. Skip this section if the sewage sludge is covered in Sections B.4 or B.5. If you provide sewage sludge to more than one facility, attach additional pages as necessary.

B.6. Shipment Off Site for Treatment or Blending.

a. Receiving facility name

b. Mailing address

Note: Sludge generated at the E.W. Blom Point Loma WWTP is digested onsite and conveyed to MBC for dewatering. MBC also receives waste activated sludge from the City of San Diego North City WRP. After digestion at MCB, combined NCWRP and Point Loma WWTP sludge is dewatered using centrifuges at MBC. Centrate from the MBC centrifuges is conveyed back to the Point Loma WWTP for treatment, while sludge cake is transported offsite for beneficial reuse at landfills or beneficial use for agricultural land application. See table on page 10b and Appendix M for 2013 MBC sludge dewatering totals.

c. Contact person

Title

Telephone number Not applicable

d. Total dry metric tons per 365-day period of sewage sludge provided to receiving facility: See table on page 10a

B.6. Shipment Off Site for Treatment or Blending. (con't)

e. Does the receiving facility provide additional treatment to reduce pathogens in sewage sludge from your facility?____ Yes ✔ No

Which class of pathogen reduction is achieved for the sewage sludge at the receiving facility?

NA Class A _____ Class B _____ Neither or unknown

Describe, on this form or another sheet of paper, any treatment processes used at the receiving facility to reduce pathogens in sewage sludge:
Not applicable - Point Loma WWTP sludge is conveyed to MBC for centrifuge dewatering.

f. Does the receiving facility provide additional treatment to reduce vector attraction characteristics of the sewage sludge?
_____Yes _____No

Which vector attraction reduction option is met for the sewage sludge at the receiving facility?

NA Option 1 (Minimum 38 percent reduction in volatile solids)
_____ Option 2 (Anaerobic process, with bench-scale demonstration)
_____ Option 3 (Aerobic process, with bench-scale demonstration)
_____ Option 4 (Specific oxygen uptake rate for aerobically digested sludge)
_____ Option 5 (Aerobic processes plus raised temperature)
_____ Option 6 (Raise pH to 12 and retain at 11.5)
_____ Option 7 (75 percent solids with no unstabilized solids)
_____ Option 8 (90 percent solids with unstabilized solids)
_____ None

Describe, on this form or another sheet of paper, any treatment processes used at the receiving facility to reduce vector attraction properties of sewage sludge.

MBC provides centrifuge dewatering of Point Loma WWTP sludge. Digestion occurs at the Point Loma site.

g. Does the receiving facility provide any additional treatment or blending activities not identified in (c) or (d) above? ____ Yes NA No

If yes, describe, on this form or another sheet of paper, the treatment or blending activities not identified in (c) or (d) above:

Digested Point Loma WWTP sludge is blended with digested NCWRP sludge at MBC and dewatered using centrifuges.

h. If you answered yes to (e), (f), or (g), attach a copy of any information you provide the receiving facility to comply with the "notice and necessary information" requirement of 40 CFR 503.12(g).

i. Does the receiving facility place sewage sludge from your facility in a bag or other container for sale or give-away for application to the land? _____ Yes ✔ No

If yes, provide a copy of all labels or notices that accompany the product being sold or given away.

Complete Section B.7 if sewage sludge from your facility is applied to the land, <u>unless</u> the sewage sludge is covered in:

- **Section B.4 (it meets Table 1 ceiling concentrations, Table 3 pollutant concentrations, Class A pathogen requirements, and one of vector attraction reduction options 1-8); <u>or</u>**
- **Section B.5 (you place it in a bag or other container for sale or give-away for application to the land); <u>or</u>**
- **Section B.6 (you send it to another facility for treatment or blending).**

B.7. Land Application of Bulk Sewage Sludge.

a. Total dry metric tons per 365-day period of sewage sludge applied to all land application sites: 4,671 dry metric tons
Land application totals for 2013. See Appendix M and table on page 10b.

B.7. Land Application of Bulk Sewage Sludge. (con't)

b. Do you identify all land application sites in Section C of this application? ✔ Yes _____ No

If no, submit a copy of the land application plan with application (see instructions). See Appendix M for list of land application sites.

c. Are any land application sites located in States other than the State where you generate sewage sludge or derive a material from sewage sludge? ✔ Yes _____ No

If yes, describe, on this form or another sheet of paper, how you notify the permitting authority for the States where the land application sites are located. Provide a copy of the notification.

Terra Renewal handles transport and reuse of sludge. Terra Renewal Yuma AZ sites are regulated by:Arizona Department of Environmental Quality, 110 W. Washington, St., MO5415-B1, Phoenix AZ 85007
See Appendix M for a list of land application sites.

Complete Section B.8 if sewage sludge from your facility is placed on a surface disposal site.

B.8. Surface Disposal.

a. Total dry metric tons of sewage sludge from your facility placed on all surface disposal sites per 365-day period: 0 dry metric tons

b. Do you own or operate all surface disposal sites to which you send sewage sludge for disposal?

_____ Yes NA No

If no, answer B.8.c through B.8.f for each surface disposal site that you do not own or operate. If you send sewage sludge to more than one such surface disposal site, attach additional pages as necessary.

c. Site name or number: Not applicable - no surface disposal of sludge

d. Contact person: _____

Title: Not applicable - no surface disposal of sludge

Telephone number: _____

Contact is NA Site owner NA Site operator

e. Mailing address: Not applicable - no surface disposal of sludge

_____

f. Total dry metric tons of sewage sludge from your facility placed on this surface disposal site per 365-day period: 0 dry metric tons

Complete Section B.9 if sewage sludge from your facility is fired in a sewage sludge Incinerator.

B.9. Incineration.

a. Total dry metric tons of sewage sludge from your facility fired in all sewage sludge incinerators per 365-day period: 0 dry metric tons

b. Do you own or operate all sewage sludge incinerators in which sewage sludge from your facility is fired? _____ Yes NA No

If no, complete B.9.c through B.9.f for each sewage sludge incinerator that you do not own or operate. If you send sewage sludge to more than one such sewage sludge incinerator, attach additional pages as necessary.

c. Incinerator name or number: Not applicable - no sludge incineration

d. Contact person: _____

Title: Not applicable - no sludge incineration

Telephone number: _____

Contact is: NA Incinerator owner NA Incinerator operator

B.9. Incineration. (con't)

e. Mailing address: Not applicable - no sludge incineration

f. Total dry metric tons of sewage sludge from your facility fired in this sewage sludge incinerator per 365-day period: 0 dry metric tons

Complete Section B.10 if sewage sludge from this facility is placed on a municipal solid waste landfill.

B.10. Disposal in a Municipal Solid Waste Landfill. Provide the following information for each municipal solid waste landfill on which sewage sludge from your facility is placed. If sewage sludge is placed on more than one municipal solid waste landfill, attach additional pages as necessary.

a. Name of landfill: Otay Landfill

b. Contact person: Otay Landfill, Inc.

Title:

Telephone number: (619) 6421-3773 (Otay landfill site) (619) 449-4053 (corp. offices)

Contact is: _____ Landfill owner ✔ Landfill operator

c. Mailing address: 8514 Mast Boulevard
Santee, CA 92071

d. Location of municipal solid waste landfill:

Street or Route #: 1700 Maxwell Road

County: San Diego County

City or Town: Chula Vista State: CA Zip: 91911

e. Total dry metric tons of sewage sludge from your facility placed in this municipal solid waste landfill per 365-day period:

26,439 dry metric tons See Appendix M and table on page 10b for monthly totals.

f. List, on this form or an attachment, the numbers of all other Federal, State, and local permits that regulate the operation of this municipal solid waste landfill.

Permit Number	Type of Permit
Order No. 2001-103	State of California Waste Discharge Requirements (Regional Water Quality Board)

g. Submit, with this application, information to determine whether the sewage sludge meets applicable requirements for disposal of sewage sludge in a municipal solid waste landfill (e.g., results of paint filter liquids test and TCLP test)
See attached Appendix M.

h. Does the municipal solid waste landfill comply with applicable criteria set forth in 40 CFR Part 258?

✔ Yes _____ No

Note: Biosolids from the E.W. Blom Point Loma Wastewater Treatment Plant are digested onsite, conveyed to the Metro Biosolids Center for dewatering, and hauled offsite for reuse/disposal. This permit application addresses solids handling operations at the Point Loma Wastewater Treatment Plant, dewatering operations at the Metro Biosolids Center, and offsite solids reuse/disposal.

Dewatered biosolids are either hauled to Otay Landfill for use as alternative daily cover or hauled to Yuma County, Arizona for land application beneficial reuse.

C. LAND APPLICATION OF BULK SEWAGE SLUDGE

Complete Section C for sewage sludge that is applied to the land, unless any of the following conditions apply:

- **The sewage sludge meets the Table 1 ceiling concentrations, the Table 3 pollutant concentrations, Class A pathogen requirements, and one of vector attraction reduction options 1-8 (fill out B.4 Instead); or**
- **The sewage sludge is sold or given away in a bag or other container for application to the land (fill out B.5 Instead); or**
- **You provide the sewage sludge to another facility for treatment or blending (fill out B.6 instead).**

Complete Section C for every site on which the sewage sludge that you reported in Section B.7 is applied.

C.1. Identification of Land Application Site.

a. Site name or number: Terra Renewal Services

b. Site location (Complete 1 and 2).

1. Street or Route #: See Appendix M for land application site locations

   County: See Appendix M for land application site locations

   City or Town: Yuma County State: Arizona Zip: Varies - See Appendix M

2. Latitude: Varies - See Appendix M Longitude: Varies - See Appendix M

   Method of latitude/longitude determination

   _____ USGS map _____ Field survey _____ Other

c. Topographic map. Provide a topographic map (or other appropriate map if a topographic map is unavailable) that shows the site location.

C.2. Owner Information.

a. Are you the owner of this land application site? _____ Yes ✔ No

b. If no, provide the following information about the owner:

Name: Terra Renewal Services

Telephone number: (760) 801-3175

Mailing Address: 12812 Valley View Street, Suite 9
Garden Grove, CA 95062

C.3. Applier Information.

a. Are you the person who applies, or who is responsible for application of, sewage sludge to this land application site?
_____ Yes ✔ No

b. If no, provide the following information for the person who applies:

Name: Terra Renewal Services

Telephone number: (760) 801-3175

Mailing Address: 12812 Valley View Street, Suite 9
Garden Grove, CA 95062

C.4. Site Type: Identify the type of land application site from among the following.

✔ Agricultural land _____ Forest _____ Public contact site
_____ Reclamation site _____ Other. Describe: _____

C.5. Crop or Other Vegetation Grown on Site.

a. What type of crop or other vegetation is grown on this site?
Alfalfa, sudan grass, other feed crops (See Appendix M)

b. What is the nitrogen requirement for this crop or vegetation?
Varies from approximately 10 - 500 pounds per acre (depends on crop) - See Appendix M

C.6. Vector Attraction Reduction.

Are any vector attraction reduction requirements met when sewage sludge is applied to the land application site?
_____ Yes ___✔___ No

Option 1 is implemented: Reduction of VSS content during sludge treatment

If yes, answer C.6.a and C.6.b;

a. Indicate which vector attraction reduction option is met:

NA
_____ Option 9 (Injection below land surface)

_____ Option 10 (Incorporation into soil within 6 hours)

b. Describe, on this form or another sheet of paper, any treatment processes used at the land application site to reduce vector attraction properties of sewage sludge:

Not applicable

Complete Question C.7 only if the sewage sludge applied to this site since July 20, 1993, is subject to the cumulative pollutant loading rates (CPLRs) in 40 CFR 503.13(b)(2).

C.7. Cumulative Loadings and Remaining Allotments.

a. Have you contacted the permitting authority in the State where the bulk sewage sludge subject to CPLRs will be applied, to ascertain whether bulk sewage sludge subject to CPLRs has been applied to this site on or since July 20, 1993? ___✔___ Yes _____ No

If no, sewage sludge subject to CPLRs may not be applied to this site.

If yes, provide the following information:

Permitting authority: Arizona Department of Environmental Quality

Contact Person: Robert Phalen

Telephone number: (602) 771-7674

b. Based upon this inquiry, has bulk sewage sludge subject to CPLRs been applied to this site since July 20, 1993?
___✔___ Yes _____ No

If no, skip C.7.c.

Note: Biosolids from the E.W. Blom Point Loma Wastewater Treatment Plant are digested onsite, conveyed to the Metro Biosolids Center for dewatering, and hauled offsite for reuse/disposal. This permit application addresses solids handling operations at the Point Loma Wastewater Treatment Plant, dewatering operations at the Metro Biosolids Center, and offsite solids reuse/disposal.

c. Provide the following information for every facility other than yours that is sending, or has sent, bulk sewage sludge to CPLRs to this site since July 20, 1993. If more than one such facility sends sewage sludge to this site, attach additional pages as necessary.

Facility name: See Appendix M for pollutant loading rates for each site

Mailing Address: See Appendix M for pollutant loading rates for each site

Contact person:

Title: See Appendix M for pollutant loading rates for each site

Telephone number:

Note: Biosolids from the E.W. Blom Point Loma Wastewater Treatment Plant are digested onsite, conveyed to the Metro Biosolids Center for dewatering, and hauled offsite for reuse/disposal. This permit application addresses solids handling operations at the Point Loma Wastewater Treatment Plant, dewatering operations at the Metro Biosolids Center, and offsite solids reuse/disposal.

Dewatered biosolids are either hauled to Otay Landfill for use as alternative daily cover or hauled to Yuma County, Arizona for land application beneficial reuse.

D. SURFACE DISPOSAL

Complete this section if you own or operate a surface disposal site.

Complete Sections D.1 - D.5 for each active sewage sludge unit.

D.1. Information on Active Sewage Sludge Units.

a. Unit name or number: Not applicable - no surface disposal of sludge

b. Unit location (Complete 1 and 2).

1. Street or Route # Not applicable - no surface disposal of sludge

County _____

City or Town _____ State _____ Zip _____

2. Latitude NA Longitude NA

Method of latitude/longitude determination: _____ USGS map _____ Field survey NA Other

c. Topographic map. Provide a topographic map (or other appropriate map if a topographic map is unavailable) that shows the site location.

d. Total dry metric tons of sewage sludge placed on the active sewage sludge unit per 365-day period: Not applicable dry metric tons

e. Total dry metric tons of sewage sludge placed on the active sewage sludge unit over the life of the unit: Not applicable dry metric tons

f. Does the active sewage sludge unit have a liner with a maximum hydraulic conductivity of 1×10^{-7} cm/sec? _____ Yes NA No

If yes, describe the liner (or attach a description):

Not applicable - no surface disposal of sludge

g. Does the active sewage sludge unit have a leachate collection system? _____ Yes NA No

If yes, describe the leachate collection system (or attach a description). Also describe the method used for leachate disposal and provide the numbers of any Federal, State, or local permit(s) for leachate disposal:

Not applicable - no surface disposal of sludge

h. If you answered no to either D.1.f. or D.1.g., answer the following question:

Is the boundary of the active sewage sludge unit less than 150 meters from the property line of the surface disposal site?
_____ Yes NA No

If yes, provide the actual distance in meters: Not applicable

Provide the following information:

Remaining capacity of active sewage sludge unit, in dry metric tons: Not applicable dry metric tons

Anticipated closure date for active sewage sludge unit, if known: Not applicable (MM/DD/YYYY)

Provide, with this application, a copy of any closure plan that has been developed for this active sewage sludge unit.

D.2. Sewage Sludge from Other Facilities. Is sewage sent to this active sewage sludge unit from any facilities other than your facility?

_____ Yes ✔ No

If yes, provide the following information for each such facility. If sewage sludge is sent to this active sewage sludge unit from more than one such facility, attach additional pages as necessary.

a. Facility name Not applicable - no surface disposal of sludge

b. Mailing Address _____

_____

c. Contact person Not applicable - no surface disposal of sludge

Title _____

Telephone number _____

d. Which class of pathogen reduction is achieved before sewage sludge leaves the other facility?

_____ Class A _____ Class B NA None or unknown

e. Describe, on this form or another sheet of paper, any treatment processes used at the other facility to reduce pathogens in sewage sludge:

Not applicable - no surface disposl of sludge

f. Which vector attraction reduction option is met for the sewage sludge at the receiving facility?

NA Option 1 (Minimum 38 percent reduction in volatile solids)
_____ Option 2 (Anaerobic process, with bench-scale demonstration)
_____ Option 3 (Aerobic process, with bench-scale demonstration)
_____ Option 4 (Specific oxygen uptake rate for aerobically digested sludge)
_____ Option 5 (Aerobic processes plus raised temperature)
_____ Option 6 (Raise pH to 12 and retain at 11.5)
_____ Option 7 (75 percent solids with no unstabilized solids)
_____ Option 8 (90 percent solids with unstabilized solids)
_____ None or unknown

g. Describe, on this form or another sheet of paper, any treatment processes used at the receiving facility to reduce vector attraction properties of sewage sludge

Not applicable - no surface disposal of sludge

h. Describe, on this form or another sheet of paper, any other sewage sludge treatment activities performed by the other facility that are not identified in (d) - (g) above:

Not applicable - no surface disposal of sludge

D.3. Vector Attraction Reduction

a. Which vector attraction option, if any, is met when sewage sludge is placed on this active sewage sludge unit?

NA Option 9 (Injection below and surface)
_____ Option 10 (Incorporation into soil within 6 hours)
_____ Option 11 (Covering active sewage sludge unit daily)

D.3. Vector Attraction Reduction. (con't)

b. Describe, on this form or another sheet of paper, any treatment processes used at the active sewage sludge unit to reduce vector attraction properties of sewage sludge:

Not applicable - no surface disposal of sludge

D.4. Ground-Water Monitoring.

a. Is ground-water monitoring currently conducted at this active sewage sludge unit, or are ground-water monitoring data otherwise available for this active sewage sludge unit?
_____ Yes _____NA_____ No

If yes, provide a copy of available ground-water monitoring data. Also, provide a written description of the well locations, the approximate depth to ground-water, and the ground-water monitoring procedures used to obtain these data.

Not applicable - no surface disposal of sludge

b. Has a ground-water monitoring program been prepared for this active sewage sludge unit? _____ Yes _____NA_____ No

If yes, submit a copy of the ground-water monitoring program with this permit application.

c. Have you obtained a certification from a qualified ground-water scientist that the aquifer below the active sewage sludge unit has not been contaminated? _____ Yes _____NA_____ No

If yes, submit a copy of the certification with this permit application.

D.5. Site-Specific Limits. Are you seeking site-specific pollutant limits for the sewage sludge placed on the active sewage sludge unit?
_____ Yes _____NA_____ No

If yes, submit information to support the request for site-specific pollutant limits with this application.

E. INCINERATION

Complete this section if you fire sewage sludge in a sewage sludge incinerator.

Complete this section once for each incinerator in which you fire sewage sludge. If you fire sewage sludge in more than one sewage sludge incinerator, attach additional copies of this section s necessary.

E.1. Incinerator Information.

a. Incinerator name or number: Not applicable - no incineration

b. Incinerator location (Complete 1 and 2).

1. Street or Route # Not applicable - no incineration

County Not applicable - no incineration

City or Town NA State NA Zip NA

2. Latitude NA Longitude NA

Method of latitude/longitude determination: _____ USGS map _____ Field survey NA Other

E.2. Amount Fired. Dry metric tons per 365-day period of sewage sludge fired in the sewage sludge incinerator: 0 dry metric tons

E.3. Beryllium NESHAP.

a. Is the sewage sludge fired in this incinerator "beryllium-containing waste," as defined in 40 CFR Part 61.31? _____ Yes NA No

Submit, with this application, information, test data, and description of measures taken that demonstrate whether the sewage sludge incinerated is beryllium-containing waste, and will continue to remain as such.

b. If the answer to (a) is yes, **submit with this application** a complete report of the latest beryllium emission rate testing and documentation of ongoing incinerator operating parameters indicating that the NESHAP emission rate limit for beryllium has been and will continue to be met.

E.4. Mercury NESHAP.

a. How is compliance with the mercury NESHAP being demonstrated?

NA Stack testing (if checked, complete E.4.b)

_____ Sewage sludge sampling (if checked, complete E.4.c)

b. If stack testing is conducted, submit the following information with this application:

A complete report of stack testing and documentation of ongoing incinerator operating parameters indicating that the incinerator has met, and will continue to meet, the mercury NESHAP emission rate limit.

Copies of mercury emission rate tests for the two most recent years in which testing was conducted.

c. If sewage sludge sampling is used to demonstrate compliance, submit a complete report of sewage sludge sampling and documentation of ongoing incinerator operating parameters indicating that the incinerator has met, and will continue to meet the mercury NESHAP emission rate limit.

E.5. Dispersion Factor.

a. Dispersion factor, in micrograms/cubic meter per gram/second: NA

b. Name and type of dispersion model: Not applicable - No incineration

c. Submit a copy of the modeling results and supporting documentation with this application.

E.6. Control Efficiency.

a. Control efficiency, in hundredths, for the following pollutants:

Arsenic: NA Chromium: NA Nickel: NA

Cadmium: NA Lead: NA

b. Submit a copy of the results or performance testing and supporting documentation (including testing dates) with this application.

E.7. Risk Specific Concentration for Chromium.

a. Risk specific concentration (RSC) used for chromium, in micrograms per cubic meter: NA

b. Which basis was used to determine the RSC?

NA Table 2 in 40 CFR 503.43

____Equation 6 in 40 CFR 503,43 (site-specific determination)

c. If Table 2 was used, identify the type of incinerator used as the basis:

NA Fluidized bed with wet scrubber

____Fluidized bed with wet scrubber and wet electrostatic precipitator

____Other types with wet scrubber

____Other types with wet scrubber and wet electrostatic precipitator

d. If Equation 6 was used, provide the following:

Decimal fraction of hexavalent chromium concentration to total chromium concentration in stack exit gas: NA

Submit results of incinerator stack tests for hexavalent and total chromium concentrations, including date(s) of test, with this application.

E.8. Incinerator Parameters

a. Do you monitor Total Hydrocarbons (THC) in the sewage sludge incinerator's exit gas? _____ Yes NA No

Do you monitor Carbon Monoxide (CO) in the sewage sludge incinerator's exit gas? _____ Yes NA No

b. Incinerator type: Not applicable

c. Incinerator stack height, in meters: Not applicable

Indicate whether value submitted is: _____ Actual stack height _____ Creditable stack height

E.9. Performance Test Operating Parameters

a. Maximum Performance Test Combustion Temperature: Not applicable

b. Performance test sewage sludge feed rate, in dry metric tons/day: Not applicable

indicate whether value submitted is:

NA Average use _____ Maximum design

Submit, with this application, supporting documents describing how the feed rate was calculated.

c. Submit, with this application, information documenting the performance test operating parameters for the air pollution control device(s) used for this sewage sludge incinerator.

E.10. **Monitoring Equipment.** List the equipment in place to monitor the following parameters:

a. Total hydrocarbons or carbon monoxide: Not applicable - no incineration

b. Percent oxygen:

c. Moisture content: Not applicable - no incineration

d. Combustion temperature:

e. Other: Not applicable - no incineration

E.11. **Air Pollution Control Equipment.** Submit, with this application, a list of all air pollution control equipment used with this sewage sludge incinerator.

Not applicable - no incineration

Figures and Maps

Renewal of NPDES CA0107409


Figure 1
Location of Metro System Facilities
DEL MAR
POWAY
SAN DIEGO
Penasquitos Pump Station
Old Penasquitos Trunk Sewer
Pump Station 65
Pump Station 65 Force Main
Pump Station 64
North City WRP
New Penasquitos Trunk Sewer Relief Pipeline
North City Raw Sludge and Reclaimed Water Pipelines
Pacific Ocean
North City Tunnel Connector
Centrate Pipeline
Metro Biosolids Center
Rose Canyon Trunk Sewer
Metro Operations Complex
East Mission Beach Trunk Sewer
Digested Sludge Pipeline
Mission Gorge Trunk Sewer
North Mission Valley Interceptor
North Metro Interceptors
Pump Station 2
Digested Sludge Pipeline
Point Loma Ocean Outfall
Point Loma Wastewater Treatment Plant
CORONADO
Pump Station 1
NATIONAL CITY
South Metro Interceptor
CHULA VISTA
OTAY RIVER PUMP STATION
Otay River Wastewater Pipeline
Grove Avenue Pump Station
IMPERIAL BEACH
South Bay Wastewater Pipeline
South Bay Land Outfall
South Bay Reclamation Sewers
South Bay WRP
South Bay Ocean Outfall
MEXICO
PADRE DAM MUNICIPAL WATER DISTRICT
East Mission Gorge Pump Station
LAKESIDE/ ALPINE
WINTERGARDENS
EL CAJON
LA MESA
LEMON GROVE
SPRING VALLEY
OTAY WATER DISTRICT
SAN DIEGO
EAST OTAY MESA SEWER MAINTENANCE DISTRICT
LAKE MIRAMAR
SAN VICENTE RESERVOIR
LAKE MURRAY
SWEETWATER RESERVOIR
LOWER OTAY RESERVOIR
Wastewater Facilities
Existing Facility
Existing Pipelines
City of San Diego Metro System Area
Metro Wastewater Participating Agency Areas
Key: WRP - Water Reclamation Plant
Miles
0 1 2 4 6
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SanGIS

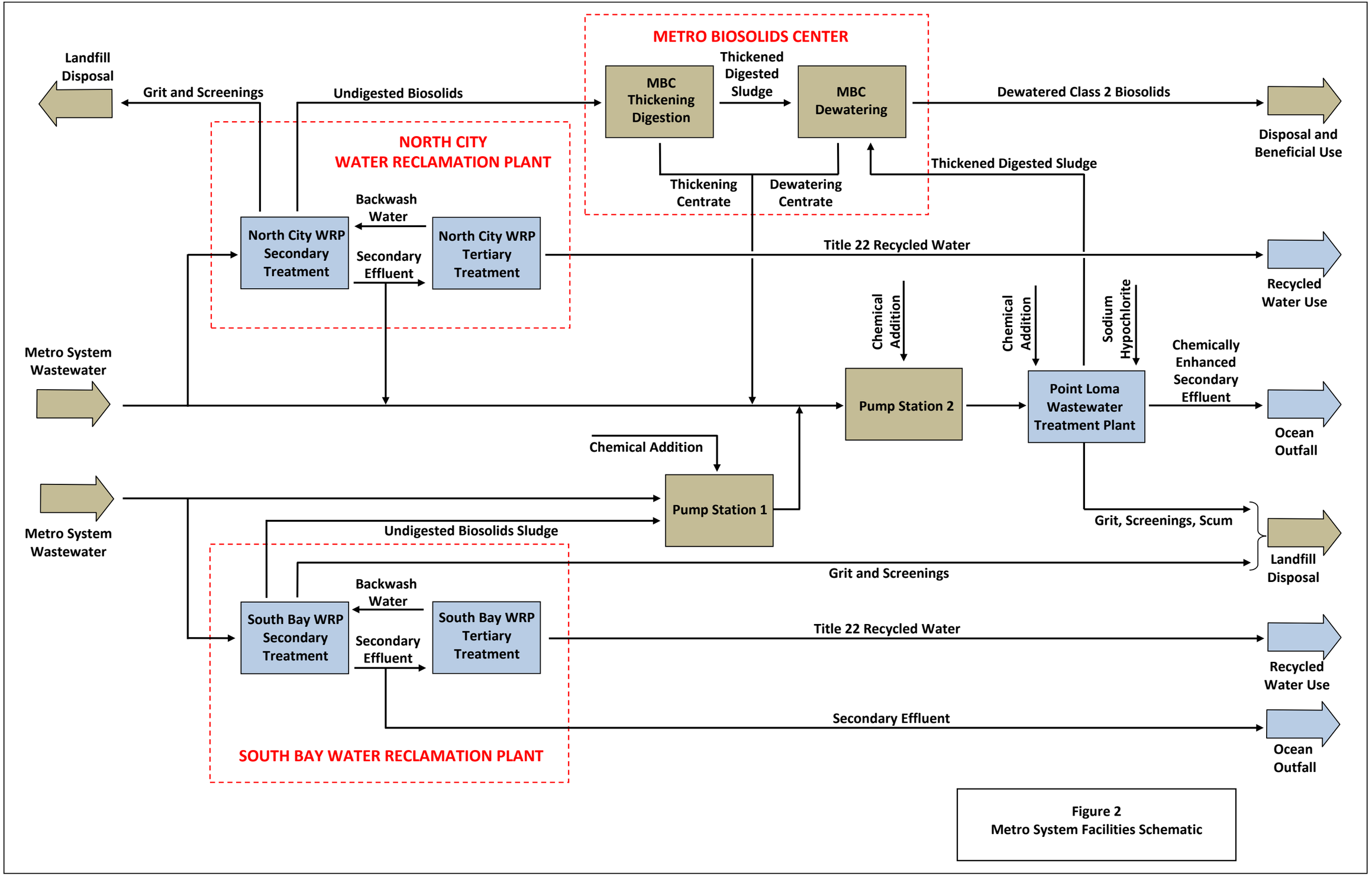


Figure 2
Metro System Facilities Schematic

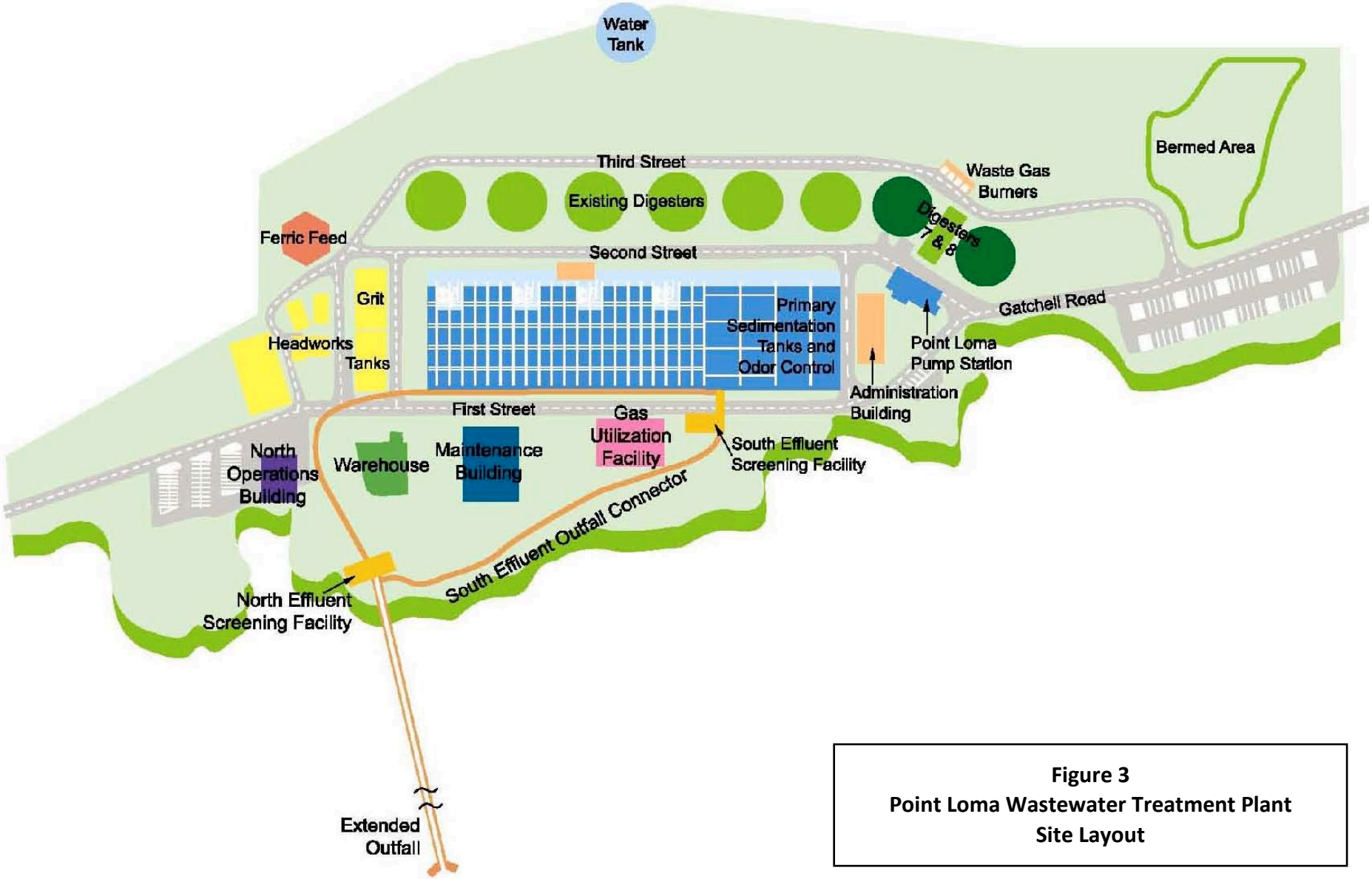


Figure 3
Point Loma Wastewater Treatment Plant
Site Layout

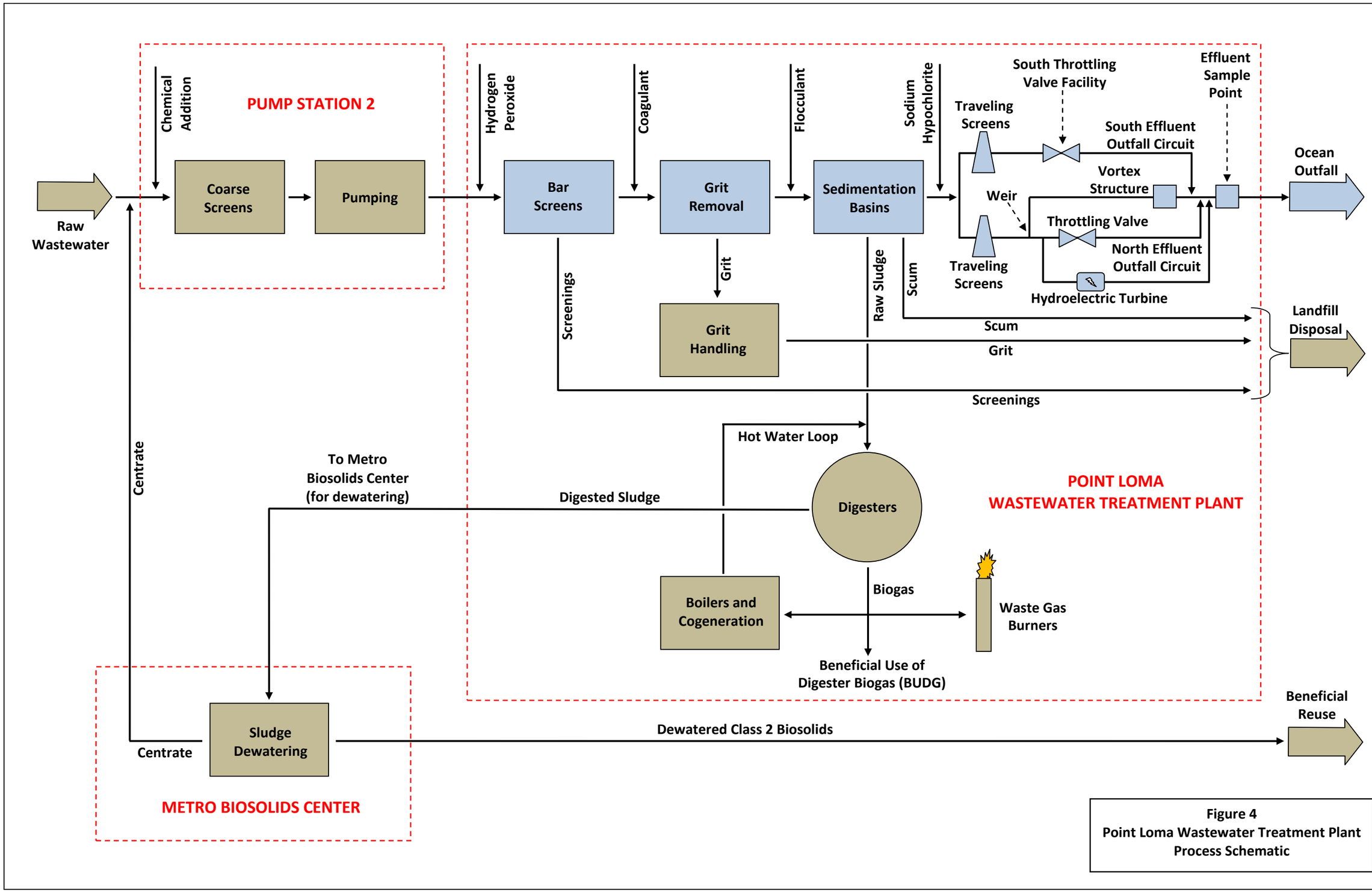


Figure 4
Point Loma Wastewater Treatment Plant
Process Schematic

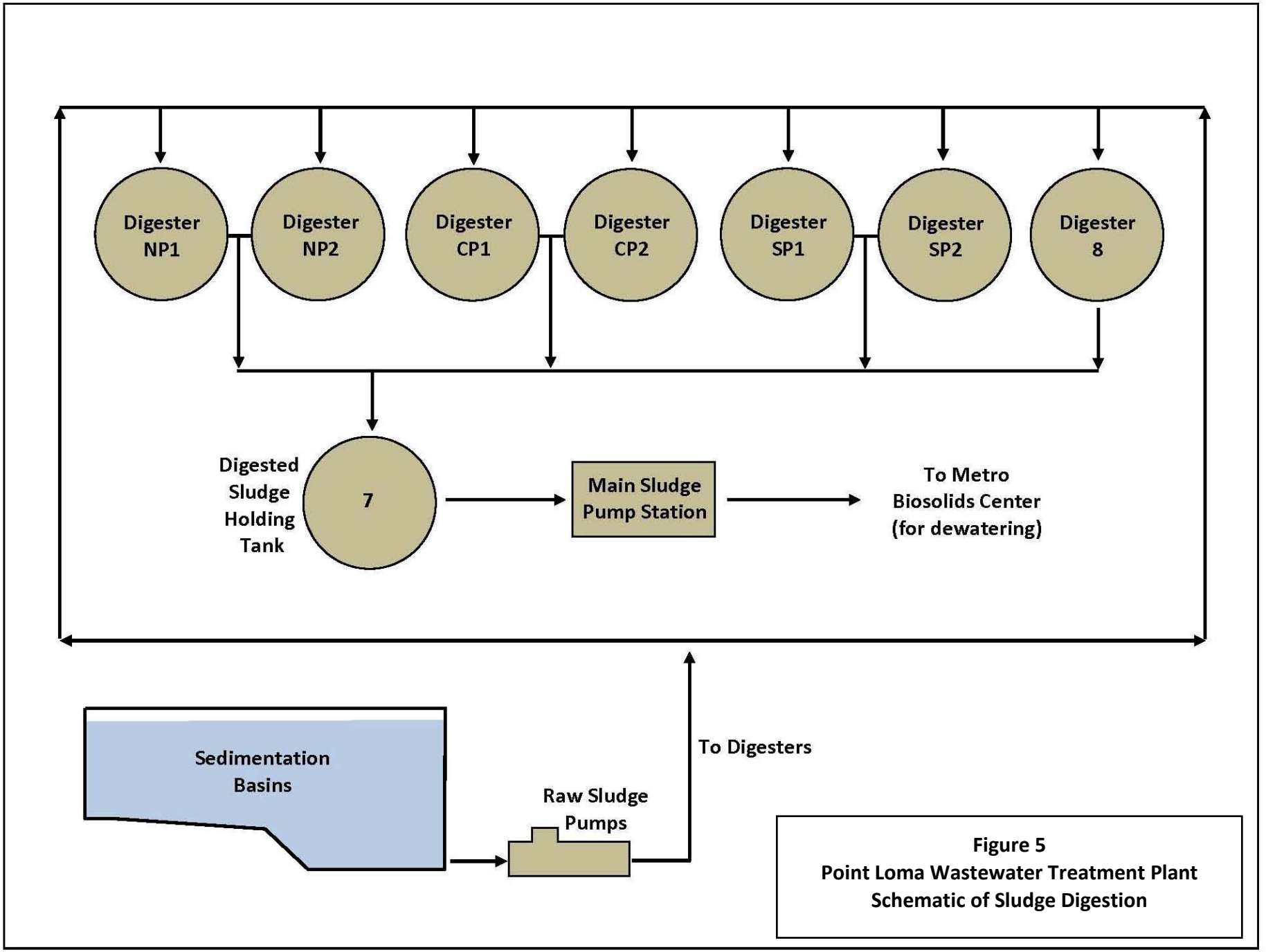


Figure 5
Point Loma Wastewater Treatment Plant
Schematic of Sludge Digestion

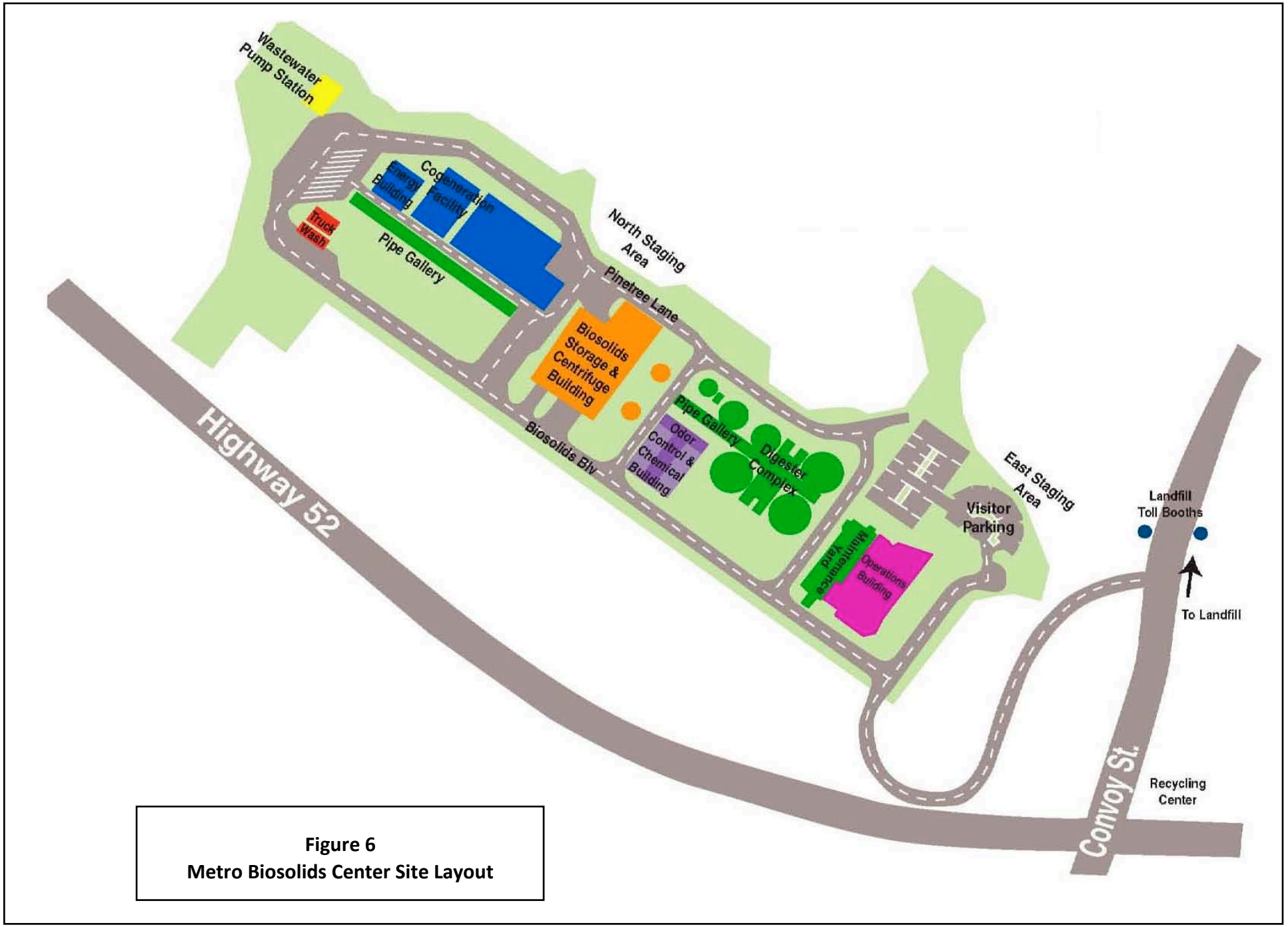


Figure 6
Metro Biosolids Center Site Layout

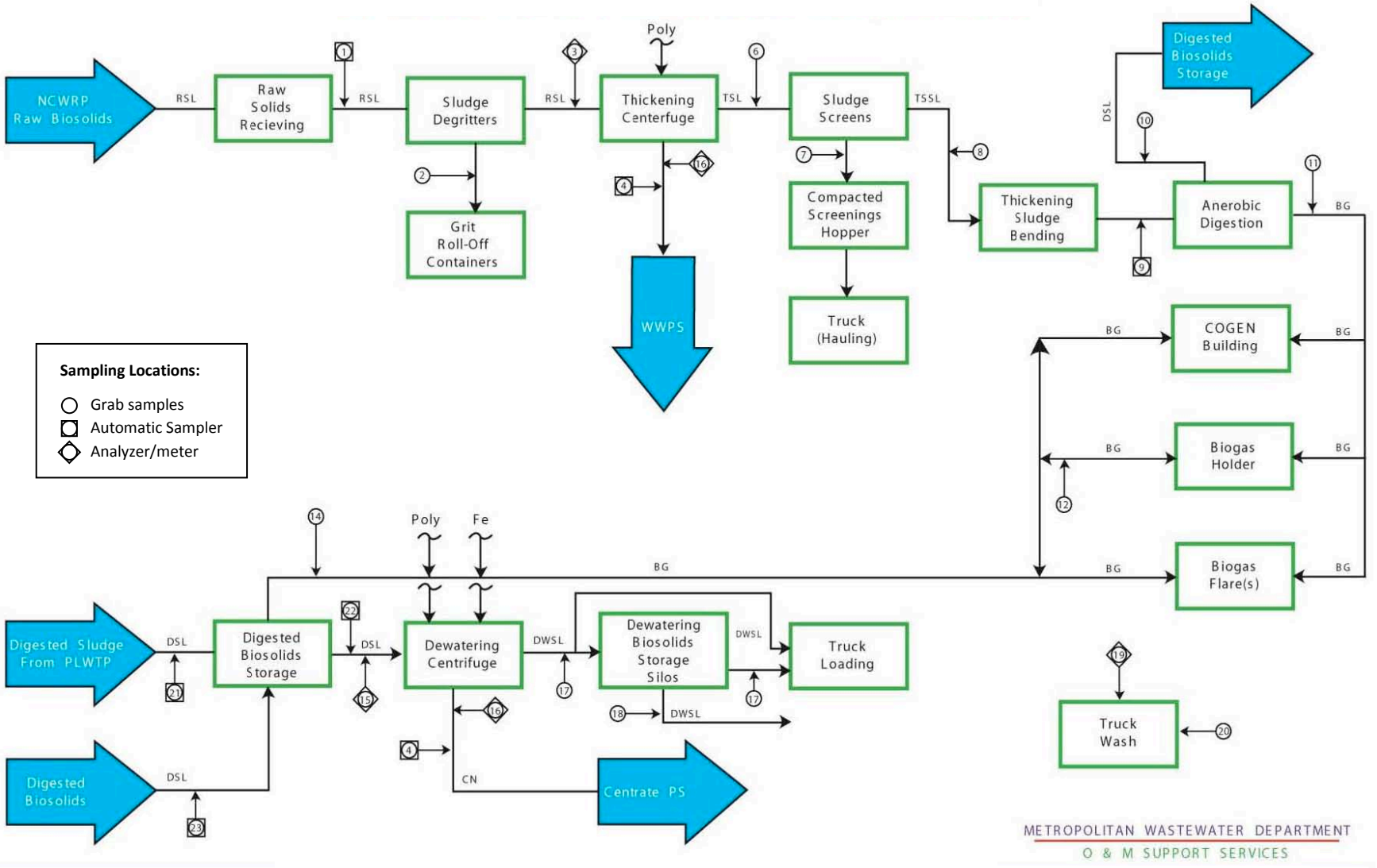
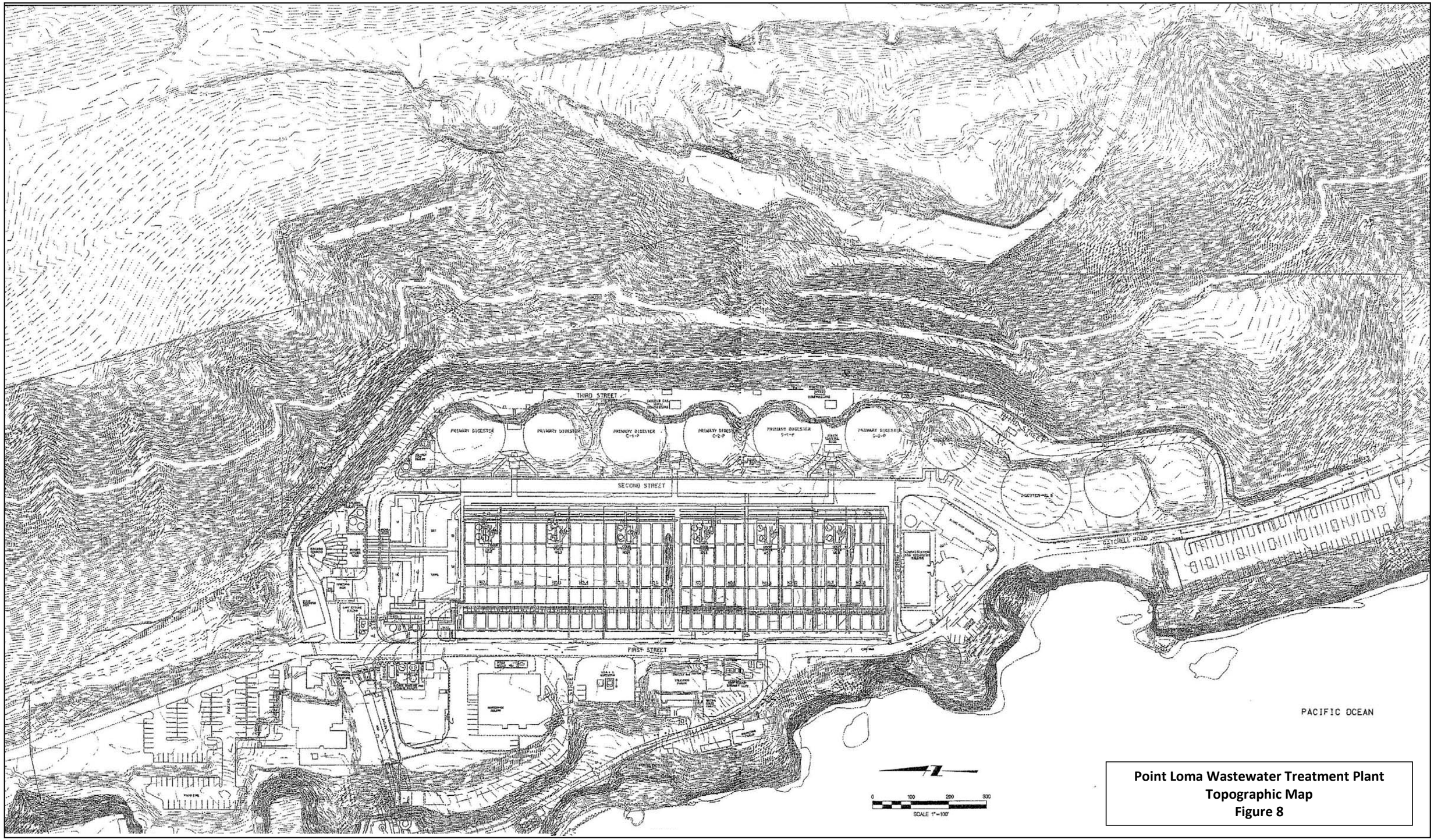
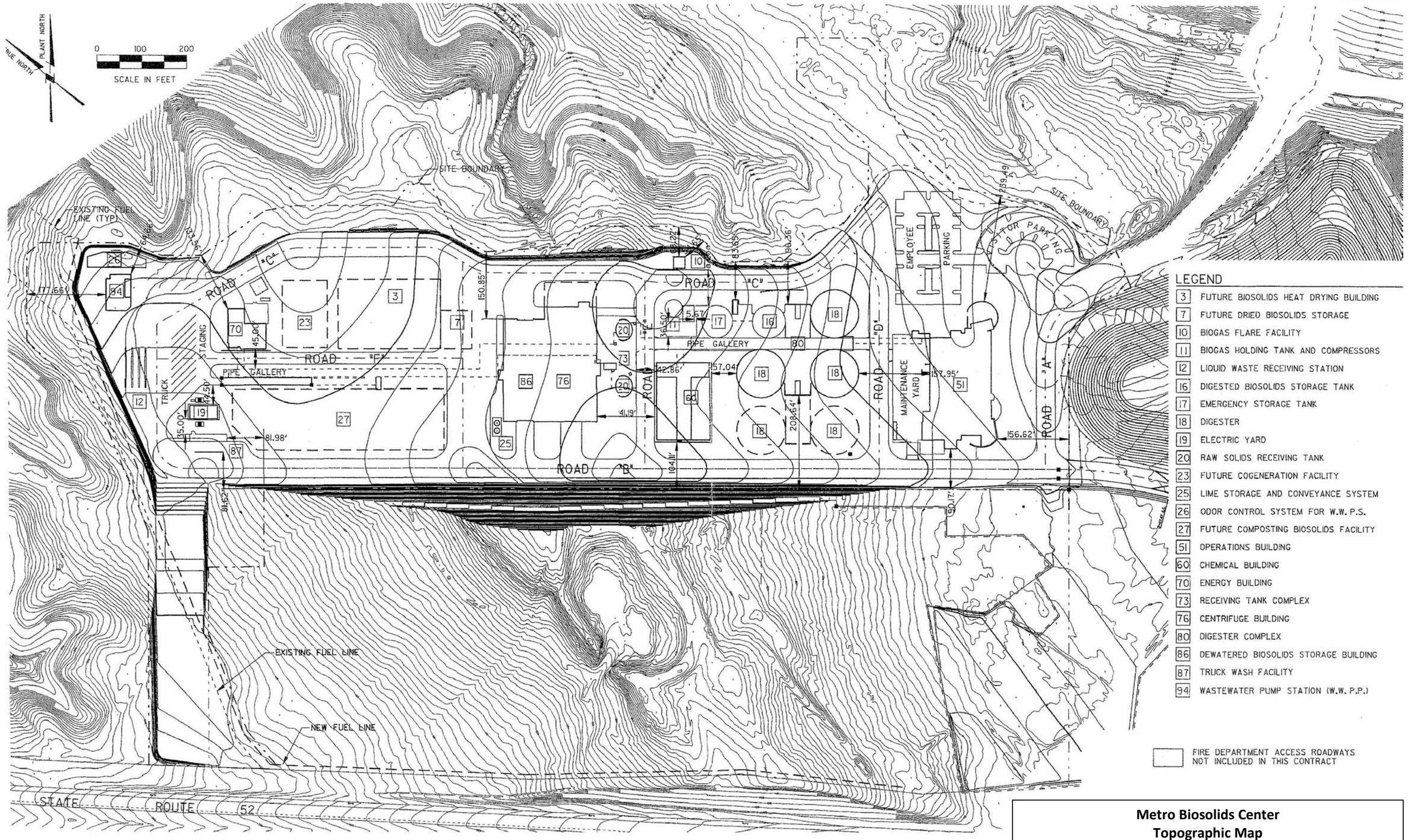


Figure 7
Metro Biosolids Center Process Schematic



Point Loma Wastewater Treatment Plant
Topographic Map
Figure 8



Metro Biosolids Center
Topographic Map
Figure 9

Bioassay Procedures

Renewal of NPDES CA0107409

SUMMARY OF STANDARD PROCEDURES
CHRONIC BIOASSAYS

INTRODUCTION

Sensitive life-stage bioassays (chronic bioassays) are performed using 24-hour composite effluent samples collected at the Point Loma WTP. The objective of these chronic bioassays is to estimate the "safe" or "no effect" concentration of the effluent and the EPA-designated toxicant. Tests are performed in accordance with procedures set forth in Regional Board Order No. R9-2009-001 (NPDES CA0107409). In accordance with Order No. R9-2009-001, test results are reported to the Regional Board, EPA, California Department of Public Health, and the San Diego County Health and Human Services Agency.

KELP GERMINATION AND GROWTH BIOASSAYS

Giant Kelp (*Macrocystis pyrifera*) bioassays are conducted in accordance with EPA/600/R-95/136 (USEPA, 1995). The test endpoints are germination success and germination tube length. The results are expressed as the "no observable effect concentration" (NOEC), which is defined as the lowest exposure concentration at which no adverse effect is observed when compared to the controls. A reference toxicant test is conducted concurrently under environmental conditions as the effluent test, and is used to determine organism sensitivity.

Preparation of Test Organisms. Reproductive blades (sporophylls) of adult kelp plants are collected in the kelp beds near La Jolla, California. The sporophylls are collected one day prior to test initiation and returned to the laboratory in a cooler containing blue ice. The kelp blades are maintained at a temperature of approximately 9 to 12°C during transport and holding.

Sporophylls are cleaned, rinsed, blotted dry, arranged in a single layer, and then desiccated for approximately 24 hours at 9 to 12°C. They are then rinsed again, placed in a one-liter glass beaker containing clean 0.2-µm filtered seawater, and held at the test temperature of 15 ± 1°C. They are removed from the beaker after one hour and immobile spores are allowed to settle.

After approximately 30 minutes, 400 milliliters (ml) of zoospores are siphoned from the top layer of seawater into a flask, and are then observed under a compound microscope at 100x to verify their viability. Spore density is determined by making direct microscopic counts using a bright-line hemacytometer.

Receiving Water. In accordance with requirements established in Order No. R9-2002-0025, receiving water for the tests is collected at Point Loma receiving water reference stations. Reference receiving water samples for chronic toxicity tests are collected at either Station B-8 (approximately 6.7 miles north of the outfall offshore from Mission Beach) or Station B-13 (approximately 8.3 miles north of the outfall offshore from Pacific Beach).

Both stations were selected because they have similar depths and distances offshore to the Point Loma Ocean Outfall, but are located at sufficient distances from the outfall so as to not be discernibly influenced by the outfall. As demonstrated by transport studies (see Appendices P, Q, and R), Stations B-8 and B-13 are sufficiently removed from the outfall zone to render any outfall-related effects on any water quality parameter non-measureable as a result of dilution, dispersion, and transport. Historic receiving water data have failed to show any measureable or discernible outfall-related influence on Stations B-8 or B-13 for any water quality parameter. As a result of this large geographic distance and lack of outfall-related effects, Stations B-8 and B-13 have historically been used as reference control stations (stations that are affected by ambient ocean conditions but not discernibly affected by the outfall). Table 1 summarizes information on these reference stations.

Table 1
Reference Stations for Collection Receiving Water

Station	Depth		Latitude	Longitude	Approximate Distance from Point Loma Ocean Outfall	
	Feet	Meters			Miles	Kilometers
B-8	290	88.4	32° 45.50′ N	117° 20.77′ W	6.7	10.8
B-13	367	112	32° 46.37′ N	117° 22.63′ W	8.3	13.4

Receiving water is collected with 96 hours of test initiation, and is transported to the City of San Diego Toxicology Laboratory. The receiving water samples are then placed in a temperature-controlled room at 15°C until used.

Natural seawater for the reference toxicant tests is obtained from the Scripps Institution of Oceanography (SIO) within 96 hours of test initiation. The seawater is first filtered with an in-

line system containing 1.0-µm and 0.2 µm polypropylene filters, then is collected and held in 20 liter carboys at 15°C.

Test Design. For chronic toxicity tests, a study array is used that consists of five 50-ml control test chambers filled with 40 ml of receiving water and five 50-ml test chambers filled with 40 ml of test material for each concentration. Dilution water is comprised of receiving water for the effluent tests and natural seawater collected at SIO for the reference toxicant tests.

The test chambers are 50-ml polycarbonate Petri dishes with a standard microscope slide placed in each dish. Solutions are adjusted to 15°C in a temperature-controlled incubator prior to test initiation. To eliminate bias in the analysis of test results, test containers are assigned random numbers, and are placed in an illuminated incubator in numeric order. The spore stock is well mixed to ensure homogeneity, and approximately 3.0 x 10^4 spores are added to each test chamber using a micropipette. This results in a final spore density of approximately 7,500 spores/ml. Test chambers are illuminated on a 16:8 light:dark cycle using cool white light at an intensity of approximately 50 µE/m^2/s.

Effluent Test. The 24-hour composite effluent samples of Point Loma WTP effluent are collected by City personnel using an ISCO (Lincoln, NE) automatic sampler. Each effluent sample is collected in a 1 liter high density polyethylene bottle. Collected samples are transported to the City's Toxicology Laboratory on wet ice and are refrigerated until test initiation. The exposure series consists of 0.15, 0.27, 0.49, 0.88, and 1.56 percent effluent.

Reference Toxicant Test. Copper is used as the reference toxicant in concentrations of 5.6, 10, 18, 32, 100, and 180 micrograms per liter (µg/l).

Observations and Maintenance. Salinity, pH, temperature, and dissolved oxygen are measured at the beginning and end of each test in all concentrations. At 24 hours, the temperature is measured in all test concentrations. At the end of the 48-hour test period, the microscope slide from each test chamber is removed, and 18-mm cover slip is place on top, and the excess water from the top and bottom of the slide is blotted away. The slide is then observed under a compound microscope at 400x. The endpoints determined are germination success and germination tube length.

Statistical Analysis and Test Acceptability. CETIS (Tidepool Scientific Software, 2010) and ToxCalc (Tidepool Scientific Software, 2002) software are used for all statistical analyses. Data are analyzed in accordance with "Flowchart for statistical analysis of giant kelp, *Macrocystis pyrifera*, germination data," and "Flowchart for statistical analysis of giant kelp, *Macrocystis pyrifera*, growth data: (USEPA, 1995; pp. 495 & 508). For results to be valid, mean

control non-germination cannot exceed 30 percent, and mean control germination tube length must be at least 10 µm. In addition, the NOEC for the germination endpoint must fall below 35 µg/l copper, and the minimum significant difference (%MSD) relative to the control must be less than 20 for all parameters in the reference toxicant test.

In accordance with USEPA guidelines on method variability, the lower "Percent MSD" (PMSD) bound was also evaluated in order to minimize Type 1 error (i.e., false positive). If the relative difference between an exposure concentration and the control was smaller than the 10th percentile PMSD value listed for the test method in the USEPA guidance document (i.e., 6.5 for germination and 7.9 for growth), then the exposure concentration was treated as if it did not differ significantly from control for the purpose of determining the NOEC (USEPA, 2000).

RED ABALONE DEVELOPMENT BIOASSAY

Red abalone (*Haliotis rufescens*) bioassays are conducted in accordance with EPA/600/R-95/136 (USEPA, 1995). The test endpoint is larval development and the results are expressed as the "no observable effect concentration" (NOEC), which is defined as the lowest exposure concentration at which no adverse effect is observed when compared with the controls. A reference toxicant test is conducted concurrently under identical conditions as the effluent test, and is used to determine test organism sensitivity.

Preparation of Test Organisms. Test organisms are purchased from Cultured Abalone (Goleta, CA) and/or American Abalone Farm (Davenport, CA) and shipped via overnight delivery to the City's Toxicology Laboratory in an insulated cooler with blue ice. Mature abalone are placed in 100 gallon recirculation tanks with continuous aeration and filtration at 15°C. The loading factor of each holding tank is maintained at no less than one abalone per liter of tank volume.

Food is withheld for at least 48 hours prior to test initiation. This allows the abalone to acclimate and to eliminate wastes. Abalone are induced to spawn using the hydrogen peroxide method. Four ripe abalone of each sex are placed into clean polyethylene buckets filled with six liters of 0.2-µm filtered seawater obtained from SIO. The seawater in each bucket is aerated and held at the test temperature of 15 ± 1°C. Tris buffer and hydrogen peroxide solutions are added to the buckets. At the end of the exposure period, the buckets are emptied, rinsed, and refilled with 0.2-µm filtered seawater. Aeration is suspended once spawning begins.

Sperm is collected in a 100-ml flask by siphoning from directly above the respiratory pore of each male abalone as it spawned. Eggs are siphoned from the bottom of the spawning bucket and transferred to a third (fertilization) bucket approximately 30 minutes after the first female has begun spawning. Approximately 100,000 eggs are transferred to the fertilization bucket which contains 2 liters filtered seawater.

Eggs are fertilized within one hour of release by adding 100 ml of sperm-laden water at a concentration of approximately 10 million sperm per ml. A gentle flow of filtered seawater is used to roll the eggs and allow them to fertilize. The eggs are allowed to settle for 15 minutes before the sperm-laden water is siphoned off. The bucket is then refilled with seawater and the eggs are again allowed to settle. After 15 minutes, the fertilized eggs are siphoned into a one liter beaker for enumeration. The fertilized egg density in the beaker is determined by direct count on a Sedgewick-Rafter counting chamber. Eggs are kept in suspension at 15°C using a perforated plunger at all times. Each test vessel is inoculated with 500 embryos from the egg stock using a 10-mL wide-bore pipette.

Receiving Water. Receiving water is collected as described in the giant kelp bioassay section with 96 hours of test initiation and immediately transported to the City's Toxicology Laboratory. Upon arrival, the receiving water is placed in a temperature-controlled room at 15°C until used.

Natural seawater for the reference toxicant test is obtained from SIO within 96 hours of test initiation. The seawater is first filtered with an in-line system containing 1.0-µm and 0.2-µm polypropylene filters, and is then collected and held in 20 liter carboys at 15°C.

Test Design. The study array consists of five 50-ml control test chambers filled with 40 ml of receiving water and five 50-ml test chambers filled with 40 ml of test material for each concentration. Dilution water consists of receiving water for the effluent test and natural seawater collected at SIO for the reference toxicant test as per permit requirements.

Tests are initiated by distributing 40 ml of test solution into each test chamber, adjusting the solutions to 15°C in a temperature-controlled room, and delivering approximately 500 embryos to each vessel using a micropipette. Test chambers are illuminated on a 16:8 light:dark cycle at ambient laboratory levels.

Effluent Test. A 24-hour composite effluent sample is collected by City of San Diego personnel using an ISCO (Lincoln, NE) automatic sampler. The effluent sample is collected in a one liter polyethylene bottle and delivered immediately to the City's Toxicology Laboratory.

The samples are then refrigerated until test initiation. The exposure series consists of 0.15, 0.27, 0.49, 0.88, and 1.56 percent effluent.

Reference Toxicant Test. Zinc is used as the reference toxicant in concentrations of 10, 18, 32, 56, and 100 µg/l.

Observations and Maintenance. Salinity, pH, dissolved oxygen, and temperature of each test concentration are measured at test initiation and termination. At 24 hours, temperature is measured in all test concentrations. The test is terminated after 48 hours by fixing the larvae with buffered formaldehyde in seawater. One milliliter of 37% formaldehyde is then added to each flask. The larvae are observed in the testing flasks using an inverted microscope.

Statistical Analysis and Test Acceptability. CETIS (Tidepool Scientific Software, 2010) and ToxCalc (Tidepool Scientific Software, 2002) software are used for all statistical analyses. The data are analyzed in accordance with "Flowchart for statistical analysis of red abalone *Haliotis rufescens*, development data" (USEPA, 1995; p. 298). The percentage of normally developed embryos for each replicate is arcsine square root transformed in order to normalize the data. Valid tests must have a mean control larval abnormality less than or equal to 20 percent. In addition, the NOEC must fall below 56 µg/l zinc and the minimum significant difference (%MSD) relative to the control must be less than 20 percent.

In response to sporadic control performance issues, the red abalone tests were scored both inclusive and exclusive of unicellular embryos, which can be indicative of poor animal quality. The inclusive scoring method typically induced greater variability and reduced test sensitivity. Moreover, data from accumulated studies showed no association between the distribution of unicellular embryos and exposure to the reference toxicant, which further support the use of the exclusive method in scoring the red abalone tests.

In accordance with USEPA guidelines on method variability, the lower PMSD bound was also evaluated in order to minimize Type 1 error (i.e., false positive). If the relative difference between an exposure concentration and the control was smaller than the 10^{th} percentile PMSD value listed for the test method in the USEPA guidance document (i.e., 3.8), then the exposure concentration was treated as if it did not differ significantly from control for the purpose of determining the NOEC (USEPA, 2000).

TOPSMELT SURVIVAL AND GROWTH BIOASSAYS

Topsmelt (*Atherinops affinis*) bioassays are conducted in accordance with EPA/600/R-95/136 (USEPA, 1995). The test endpoints are survival and growth. The results are expressed as the "no observable effect concentration" (NOEC), which is defined as the lowest exposure concentration at which no adverse effect is observed when compared with the controls. A reference toxicant test is conducted concurrently under identical environmental conditions as the effluent test, and is used to determine test organism sensitivity.

Preparation of Test Organisms. The test organisms, *Atherinops affinis*, are purchased from Aquatic Bio Systems, Inc. (Fort Collins, CO) and are approximately 9 to 14 days old at test initiation. They are shipped via overnight delivery service in oxygenated plastic bags contained in an insulated container. Upon receipt, fish are observed for mortality and stress. If no abnormalities are found, the animals are deemed acceptable. Organisms are acclimated to laboratory conditions and held at the test temperature of 20 ± 1°C until testing is initiated. Mortality is monitored to ensure that it is less than 10 percent during the acclimation and holding periods.

Receiving Water. Receiving water is collected as described in the giant kelp bioassay section with 96 hours of test initiation and immediately transported to the City's Toxicology Laboratory. Upon arrival, the receiving water is placed in a temperature-controlled room at 15°C until used.

Natural seawater for the reference toxicant test is obtained from SIO within 96 hours of test initiation. The seawater is first filtered with an in-line system containing 1.0-µm and 0.2 µm polypropylene filters, is then collected and held in 20 liter carboys at 15°C.

Test Design. Test chambers consist of 250-ml polycarbonate plastic cups. Two hundred milliliters of test solution or control water are dispensed into the designated test chamber. Five replicates of each effluent concentration and control are tested. Tests are initiated by placing five randomly selected larvae into each test chamber once water quality parameters have met protocol limits in all test chambers.

Effluent Test. A 24-hour composite effluent sample is collected by City of San Diego personnel using an ISCO (Lincoln, NE) automatic sampler. Effluent samples are collected in a one liter polyethylene bottle and delivered immediately to the City's Toxicology Laboratory. The samples are then refrigerated until test initiation. The exposure series consists of 0.15, 0.27, 0.49, 0.88, and 1.56 percent effluent.

Reference Toxicant Test. Copper is used as the reference toxicant in concentrations of 32, 56, 100, 180, and 320 µg/l.

Organism Feeding. Topsmelt larvae are fed approximately 40 *Artemia* nauplii each in the morning and again in the afternoon throughout the test period.

Observations and Maintenance. Initial readings on the test solutions are recorded prior to the introduction of test animals. Parameters measured include dissolved oxygen, pH, temperature, and salinity. Each test chamber is monitored daily for mortality and sub-lethal effects. Daily renewals of test solutions are made by siphoning test material out of each test chamber and immediately adding fresh test solution of the appropriate concentration. After replacement, the used test solution is pooled by concentration to measure final water quality parameters. The test duration is 7 days. Upon test termination, final observations are made and test animals are desiccated for weight analysis.

Fish weights are determined by placing fish from each replicate in a tared weighing pan and drying them at 60°C for 24 hours or 105°C for 6 hours. After drying, the fish are placed in a desiccator to cool and are then weighed on an analytical balance to the nearest 0.01 milligram.

Statistical Analysis and Test Acceptability. The endpoints of toxicity tests using the topsmelt larvae are based on the adverse effects on survival and growth. Data are analyzed using CETIS (Tidepool Scientific Software, 2010) and ToxCalc (Tidepool Software, 2001) software in accordance with the appropriate US EPS flowcharts for statistical analysis of topsmelt survival and growth test data by hypothesis testing and point estimation (USEPA, 1995; pp. 105-106). Criteria for acceptance include:

1. The average survival of control larvae must be at least 80%.
2. If the test was initiated with 9-day old larvae, the average weight per larva must exceed 0.85 mg in the reference and brine controls; the average weight of preserved larvae must exceed 0.72 mg.
3. The LC_{50} for survival must be with two standard deviations of the control chart mean for the laboratory. The LC_{50} for survival with copper must be less than or equal to 205 µg/l.
4. The reference toxicant test must have a minimum significant difference (MSD) of <25% for survival relative to the control and an MSD of <50% for growth relative to the control for growth for the reference toxicant test.

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SUMMARY OF STAND PROCEDURES
ACUTE BIOASSAYS

INTRODUCTION

Acute bioassays of standard reference toxicants and a 24-hour composite effluent samples are collected at the Point Loma WTP and are performed by the City of San Diego Toxicology Laboratory using topsmelt (*Atherinops affinis*) and mysid shrimp (*Mysidopsis bahia*). The objective of such acute tests is to estimate the "safe" or "no effect" concentration of the Point Loma WTP effluent and the EPA designated reference toxicant.

Tests are performed in accordance with procedures set forth in Regional Board Order No. R9-2009-001 (NPDES CA0107409). In accordance with Order No. R9-2009-001, test results are reported to the Regional Board, EPA, California Department of Public Health, and the San Diego County Health and Human Services Agency.

TOPSMELT SURVIVAL BIOASSAY

The topsmelt test endpoint is survival and the acute lethality is expressed as the concentration lethal to 50% of the test organisms (LC_{50}) over a 96-hour exposure period. The reference toxicant test is conducted concurrently under identical environmental conditions as the effluent test, and is used to determine test organism sensitivity.

Preparation of Test Organisms. The test organisms, *Atherinops affinis*, are purchased from Aquatic Bio Systems, Inc. (Fort Collins, CO) and are approximately 9 to 14 days old at test initiation. They are shipped via overnight delivery service in oxygenated plastic bags contained in an insulated container. Upon receipt, fish are observed for mortality and stress. If no abnormalities are found, then these animals are deemed acceptable. Organisms are acclimated to laboratory conditions and held at the test temperature of 20 ± 2°C until testing is initiated. Mortality is monitored to ensure that it is less than 10 percent during the acclimation and holding periods.

Receiving Water. Receiving water for acute bioassays are collected from the Pacific Ocean at either Station B-8 or B-13, as documented in the previously described standard procedures for chronic bioassay tests. As previously documented, Stations B-8 and B-13 are sufficiently remote from the outfall to ensure that they are not influenced by the outfall itself.

Receiving water is collected with 96 hours of test initiation, and transported to the City of San Diego Toxicology Laboratory. The receiving water samples are then place in a temperature-controlled room at 15°C until used.

Natural seawater for the reference toxicant test is obtained from SIO within 96 hours of test initiation. The seawater is filtered with an in-line system containing 1.0-µm and 0.2-µm polypropylene filters and is collected and held in 20-L carboys at 15°C.

Test Design. The study array consists of four 400-ml control test chambers filled with 350 ml of receiving water and four 400-ml test chambers filled with 350 ml of test material for each concentration. Dilution water consists of receiving water for the effluent test and natural seawater collected from SIO for the reference toxicant test. An additional brine control series is also tested. The test chambers are 400-ml polyethylene tripour beakers. Solutions are adjusted to 20°C in a temperature-controlled room prior to test initiation. Ten larval topsmelt are randomly placed in each test chamber to help eliminate bias in the analysis of test results. Oxygen and temperature levels are measured in all concentrations prior to introduction of the fish. Animals are fed once daily during the test period.

Effluent Test. A 24-hour composite effluent sample is collected by City of San Diego personnel using an ISCO automatic sampler. Samples are used with 36 hours of collection. The effluent sample is collected in a 10 liter polyethylene carboy and delivered on ice to the CSDBL. The sample is then refrigerated and adjusted with hypersaline brine to achieve test salinity. The sample is maintained at 4°C throughout the collection, holding, and transport periods. The nominal exposure series consisted of 3.88, 7.75, 15.5, 31.0, and 62.0 percent effluent. Depending on brine salinity, however, exposure series may consist of concentrations ranging from 3.75 to 68.0 percent effluent.

Reference Toxicant Test. Copper is used as the reference toxicant in concentrations of 56, 100, 180, 320, and 560 µg/l. Serial dilutions are made using volumetric pipettes and volumetric flasks.

Observations and Maintenance. Observations of mortality and sub-lethal effects are recorded daily. Water quality analyses (dissolved oxygen, pH, salinity, and temperature) are also performed daily on the control and all test concentrations. Ammonia is measured in 100% effluent at test initiation.

Statistical Analysis and Test Acceptability. CETIS (Tidepool Scientific Software, 2010) and ToxCalc (Tidepool Scientific Software, 2002) software are used for all statistical analyses. Data are analyzed in accordance with "Determination of the NOAEC from a Multi-Effluent-Concentration Acute Toxicity Test" (USEPA, 1990; p. 94). Criterion for test acceptance consisted of 90% or greater control survival.

MYSID SURVIVAL BIOASSAY

The mysid test endpoint is survival and the acute lethality is expressed as the concentration lethal to 50% of the test organisms (LC_{50}) over a 96-hour exposure period. The reference toxicant test is conducted concurrently under identical environmental conditions as the effluent test, and is used to determine test organism sensitivity.

Preparation of Test Organisms. The test organisms, *Mysidopsis bahia*, are purchased from Aquatic Bio Systems, Inc. (Fort Collins, CO) and are approximately 4 to 5 days old at test initiation. They are shipped via overnight delivery service in oxygenated plastic bags contained in an insulated container. Upon receipt, mysids are observed for mortality and stress. If no abnormalities are found, the animals are deemed acceptable. Organisms are acclimated to laboratory conditions and held at the test temperature of 20 ± 2°C until testing is initiated. Mortality is monitored to ensure that it is less than 10 percent during the acclimation and holding periods.

Receiving Water. Receiving water is collected at either Station B-8 or B-13, as described in the previously documented procedures for chronic toxicity samples. Natural seawater for the reference toxicant test is obtained from SIO with 96 hours of test initiation. The seawater, filtered with an in-line system containing 1.0-µm and 0.2-µ polypropylene filters, is collected and held in 20 liter carboys at 15°C.

Test Design. The study array consists of four 400-ml control test chambers filled with 350 ml of receiving water and four 400-ml test chambers filled with 350 ml of test material for each concentration. Dilution water consists of receiving water for the effluent test and natural seawater collected at SIO for the reference toxicant test.

An additional brine control series is also tested. The test chambers are 400-ml polyethylene tripour beakers. Solutions are adjusted to 20°C in a temperature-controlled room prior to test initiation. Ten mysids are randomly placed in each test chamber to help eliminate bias in the analysis of test results. Oxygen and temperature levels are measured in all concentrations prior to introduction of the mysids. Animals are fed twice during the test period.

Effluent Test. 24-hour composite effluent samples are collected by City of San Diego personnel using an ISCO automatic sampler. Samples are used within 36 hours of collection. The effluent samples are collected in a 10 liter polyethylene carboy and delivered on ice to the City's Toxicology Laboratory. The sample is then refrigerated and adjusted with hypersaline brine to achieve test salinity. The sample is maintained at 4°C throughout the collection, holding, and transport periods. The nominal exposure series consists of 3.88, 7.75, 15.5, 31.0, and 62.0 percent effluent. Depending on brine salinity, however, exposure series may consist of concentrations ranging from 3.75 to 68.0 percent effluent.

Reference Toxicant Test. Copper is used as the reference toxicant in concentrations of 56, 100, 180, 320, and 560 µg/l. Serial dilutions are made using volumetric pipettes and volumetric flasks.

Observations and Maintenance. Observations of mortality and sub-lethal effects are recorded daily. Water quality analyses (dissolved oxygen, pH, salinity, and temperature) are also performed daily on the control and all test concentrations. Ammonia is measured in 100% effluent at test initiation.

Statistical Analysis and Test Acceptability. CETIS (Tidepool Scientific Software, 2010) and ToxCalc (Tidepool Scientific Software, 2002) software are used for all statistical analyses. Data are analyzed in accordance with "Determination of the NOAEC from a Multi-Effluent-Concentration Acute Toxicity Test" (USEPA, 1990; p. 94). Criterion for test acceptance consists of 90% or greater control survival.

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City of San Diego. 2001. Quality Assurance Manual. City of San Diego Ocean Monitoring Program, Metropolitan Wastewater Department, Environmental Monitoring and Technical Services Division, San Diego, CA.

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USEPA. 1990. Methods for measuring the acute toxicity of effluents and receiving waters to freshwater and marine organisms. U.S. Environmental Protection Agency, Environmental Monitoring and Support Laboratory, Cincinnati, OH, EPA/600/4-90/027F.

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State of California Form 200

Renewal of NPDES CA0107409

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

State of California
Regional Water Quality Control Board

APPLICATION/REPORT OF WASTE DISCHARGE
GENERAL INFORMATION FORM FOR
WASTE DISCHARGE REQUIREMENTS OR NPDES PERMIT

I. FACILITY INFORMATION

A. Facility:

Name: E.W. Blom Point Loma Wastewater Treatment Plant			
Address: 1902 Gatchell Road			
City: San Diego	**County:** San Diego	**State:** CA	**Zip Code:** 92106
Contact Person: Halla Razak, P.E., Director of Public Utilities		**Telephone Number:** (858) 292-6401	

B. Facility Owner:

Name: City of San Diego, Public Utilities Department			**Owner Type (Check One)** 1. ☐ Individual 2. ☐ Corporation
Address: 9192 Topaz Way			3. ☑ Governmental Agency 4. ☐ Partnership
City: San Diego	**State:** CA	**Zip Code:** 92123	5. ☐ Other:
Contact Person: Halla Razak, P.E., Director of Public Utilities		**Telephone Number:** (858) 292-6401	**Federal Tax ID:**

C. Facility Operator (The agency or business, not the person):

Name: City of San Diego, Public Utilities Department			**Operator Type (Check One)** 1. ☐ Individual 2. ☐ Corporation
Address: 9192 Topaz Way			3. ☑ Governmental Agency 4. ☐ Partnership
City: San Diego	**State:** CA	**Zip Code:** 92123	5. ☐ Other:
Contact Person: Halla Razak, P.E., Director of Public Utilities		**Telephone Number:** (858) 292-6401	

D. Owner of the Land:

Name: City of San Diego, Public Utilities Department			**Owner Type (Check One)** 1. ☐ Individual 2. ☐ Corporation
Address: 9192 Topaz Way			3. ☑ Governmental Agency 4. ☐ Partnership
City: San Diego	**State:** CA	**Zip Code:** 92123	5. ☐ Other:
Contact Person: Halla Razak, P.E., Director of Public Utilities		**Telephone Number:** (858) 292-6401	

E. Address Where Legal Notice May Be Served:

Address: 9192 Topaz Way		
City: San Diego	**State:** CA	**Zip Code:** 92123
Contact Person: Halla Razak, P.E., Director of Public Utilities		**Telephone Number:** (858) 292-6401

F. Billing Address:

Address: 9192 Topaz Way		
City: San Diego	**State:** CA	**Zip Code:** 92123
Contact Person: Halla Razak, P.E., Director of Public Utilities		**Telephone Number:** (858) 292-6401

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

State of California
Regional Water Quality Control Board

APPLICATION/REPORT OF WASTE DISCHARGE GENERAL INFORMATION FORM FOR WASTE DISCHARGE REQUIREMENTS OR NPDES PERMIT

II. TYPE OF DISCHARGE

Check Type of Discharge(s) Described in this Application (A or B):

☐ **A. WASTE DISCHARGE TO LAND** ☑ **B. WASTE DISCHARGE TO SURFACE WATER**

Check all that apply:

- ☑ Domestic/Municipal Wastewater Treatment and Disposal
- ☐ Cooling Water
- ☐ Mining
- ☐ Waste Pile
- ☐ Wastewater Reclamation
- ☐ Other, please describe: Not applicable
- ☐ Animal Waste Solids
- ☐ Land Treatment Unit
- ☐ Dredge Material Disposal
- ☐ Surface Impoundment
- ☐ Industrial Process Wastewater
- ☐ Animal or Aquacultural Wastewater
- ☐ Biosolids/Residual
- ☐ Hazardous Waste (see instructions)
- ☐ Landfill (see instructions)
- ☐ Storm Water

III. LOCATION OF THE FACILITY

Describe the physical location of the facility.

1. Assessor's Parcel Number(s)		2. Latitude		3. Longitude	
Facility:	532-520-06	**Facility:**	32 40' 45" N	**Facility:**	117 14' 46" W
Discharge Point:	NA	**Discharge Point:**	32 39' 55" N	**Discharge Point:**	117 19' 25" W

Note: Listed facility location is site of North City WRP tertiary treatment facilities.
Listed discharge point is site of proposed diffusion structure at Metro Biosolids Center.

IV. REASON FOR FILING

- ☐ New Discharge or Facility
- ☐ Changes in Ownership/Operator (see instructions)
- ☐ Change in Design or Operation
- ☑ Waste Discharge Requirements Update or NPDES Permit Reissuance
- ☐ Change in Quantity/Type of Discharge
- ☐ Other: _____

V. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

Name of Lead Agency: Not applicable - renewal of NPDES permit for existing facility

Has a public agency determined that the proposed project is exempt from CEQA? ☐ **Yes** ☐ **No**

If Yes, state the basis for the exemption and the name of the agency supplying the exemption on the line below.

Basis for Exemption/Agency: Not applicable - renewal of NPDES permit for existing facility

Has a "Notice of Determination" been filed under CEQA? ☐ **Yes** ☐ **No**

If Yes, enclose a copy of the CEQA document, Environmental Impact Report, or Negative Declaration. If no, identify the expected type of CEQA document and expected date of completion.

Not applicable - renewal of NPDES permit for existing facility

Expected CEQA Documents:

☐ **EIR** ☐ **Negative Declaration**

Expected CEQA Completion Date: Not applicable

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

State of California
Regional Water Quality Control Board

APPLICATION/REPORT OF WASTE DISCHARGE
GENERAL INFORMATION FORM FOR
WASTE DISCHARGE REQUIREMENTS OR NPDES PERMIT

VI. OTHER REQUIRED INFORMATION

Please provide a COMPLETE characterization of your discharge. A complete characterization includes, but is not limited to, design and actual flows, a list of constituents and the discharge concentration of each constituent, a list of other appropriate waste discharge characteristics, a description and schematic drawing of all treatment processes, a description of any Best Management Practices (BMPs) used, and a description of disposal methods.

Also include a site map showing the location of the facility and, if you are submitting this application for an NPDES permit, identify the surface water to which you propose to discharge. Please try to limit your maps to a scale of 1:24,000 (7.5' USGS Quadrangle) or a street map, if more appropriate.

VII. OTHER

Attach additional sheets to explain any responses which need clarification. List attachments with titles and dates below:

See attached multi-volume application for renewal of NPDES permit and renewal of modified 301(h) requirements for BOD and total suspended solids.

You will be notified by a representative of the RWQCB within 30 days of receipt of your application. The notice will state if your application is complete or if there is additional information you must submit to complete your Application/Report of Waste Discharge, pursuant to Division 7, Section 13260 of the California Water Code.

VIII. CERTIFICATION

"I certify under penalty of law that this document, including all attachments and supplemental information, were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated 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."

Print Name: Halla Razak, P.E. **Title:** Director of Public Utilities

Signature: Halla Razak **Date:** 1/21/2015

FOR OFFICE USE ONLY

Date Form 200 Received:	Letter to Discharger:	Fee Amount Received:	Check #:

Contributions Disclosure

Renewal of NPDES CA0107409

CONTRIBUTIONS DISCLOSURE STATEMENT

I certify that the neither I nor the City of San Diego have made any contributions amounting to $250 or more to any of the current Regional Water Quality Control Board members within 12 months of the date of this application for use in a federal, state, or local election.

Signature: 

Name: Halla Razak

Title: Director of Public Utilities

Date: 1/2/2015

Organization: City of San Diego
Public Utilities Department
9192 Topaz Way
San Diego, CA 92023

Phone Number: (858) 292-6401

PART 3
ANTIDEGRADATION ANALYSIS

Renewal of NPDES CA0107409

TIER 1

ANTIDEGRADATION ANALYSIS

Assessment of Compliance with Performance Goals Established in Table 11 of Order No. R9-2009-0001 (NPDES CA0107409)

and

Assessment of Tier 1 Significance Criteria Established in Provision VI.C.2.e of Order No. R9-2009-0001

January 2015

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List of Abbreviations

APU	Administrative Procedures Update
CFR	Code of Federal Regulations
DNQ	detected not quantifiable
EPA	U.S. Environmental Protection Agency
IWCP	San Diego Metropolitan Industrial Wastewater Control Program
MDL	Method Detection Limit
MER	mass emissions rate
MDL	method detection limit
mg	milligram
mgd	million gallons per day
mg/l	milligrams per liter
mt	metric tons
mt/yr	metric tons per year
ND	not detected
NPDES	National Pollutant Discharge Elimination System
PAHs	polynuclear aromatic hydrocarbons
PCBs	polychlorinated biphenyls
PLOO	Point Loma ocean outfall
Point Loma WWTP	Point Loma Wastewater Treatment Plant
r^2	coefficient of determination (statistical significance)
Regional Board	California Regional Water Quality Control Board, San Diego Region
SANDAG	San Diego Association of Governments
SIU	Significant Industrial User
State Board	California State Water Resources Control Board
TOMPs	toxic organic management plans
TTO	total toxic organics
TUa	acute toxicity units
TUc	chronic toxicity units
µg/l	micrograms per liter

1. INTRODUCTION

1.1 NPDES REQUIREMENTS

Existing NPDES Permit. The City of San Diego, as operator of the Metropolitan Sewerage System, discharges treated wastewater from the E.W. Blom Point Loma Metropolitan Wastewater Treatment Plant (Point Loma WWTP) to the Pacific Ocean through the Point Loma Ocean Outfall (PLOO). The PLOO discharge is regulated by requirements established by the California Regional Water Quality Control Board, San Diego Region (Regional Board) and U.S. Environmental Protection Agency (EPA) in Regional Board Order No. R9-2009-0001 (NPDES CA0107409).

NPDES Permit Performance Goals. Table 11 of NPDES CA0107409 establishes EPA mass emission performance goals for toxic pollutant loads discharged to the ocean via the PLOO. The performance goals were established to assess pollutant mass emission loads from the Point Loma WWTP to the environment, and to establish a framework for evaluating the need to assess compliance with federal antidegradation requirements at the time of permit reissuance. The performance goals are not enforceable water quality-based standards, and exceedance of a performance goal does not constitute a violation. Mass emissions may exceed a performance goal benchmark, yet remain well below scientifically established standards to protect aquatic life or human health.

The EPA mass emission performance goals established within Table 11 of Order No. R9-2009-0001 reflect mass emissions that occurred during the period 1990-1995, prior to issuance of the original Point Loma WWTP 301(h) NPDES permit. If observed mass emissions for any constituent exceed the performance goals established in Order No. R9-2009-0001, it is presumed that mass emissions for the constituent have increased since the 1990-1995 reference period. Such an increase in mass emissions triggers the need for a special evaluation at the time of NPDES permit reapplication to determine if federal antidegradation regulations have been satisfied.

Historical Compliance with Performance Goals. Historically, the Point Loma WWTP discharge has complied with applicable NPDES mass emission performance goals for all

constituents except phenolic compounds (non-chlorinated). Addressing this issue, Provision VI.C.2.e of Order No. R9-2009-0001 established the following requirement:

> *e.* ***Antidegradation Analysis***
>
> *USEPA and the San Diego Water Board have concluded that a full antidegradation analysis justifying that the continued increase in effluent loading of phenolic compounds (non-chlorinated) to a Tier 2 waterbody may be necessary. For phenolic compounds (non-chlorinated), the Discharger shall conduct a thorough analysis of the projected effluent load above the mass emission benchmark level, the resulting impact to receiving water quality of the total effluent load, and opportunities for effluent load reduction through additional treatment or controls (including local limits) and pollution prevention. If this analysis shows that the total effluent load for phenolic compounds (nonchlorinated) produces either (1) a receiving water concentration at the boundary of the zone of initial dilution that is less than ten percent above the ambient (farfield) concentration, or (2) the receiving water concentration at the boundary of the zone of initial dilution is less than 50 percent of the California Ocean Plan water quality objectives for phenolic compounds (non-chlorinated), then the resulting impact to water quality is not considered "significant" and further analysis is not required at this time. However, if the change in receiving water quality is found to be "significant" upon review by USEPA and the San Diego Water Board, then the Discharger must conduct a socioeconomic analysis considering the full benefits and costs of the increased effluent loading of phenolic compounds (non-chlorinated), including environmental impacts. Specifically, this analysis must assess whether allowing these increased loadings is necessary to accommodate important social and economic development in the San Diego service area.*
>
> *These two evaluations (i.e., the analysis* [to] *determine "significance" and the socioeconomic analysis) shall be conducted by the Discharger in coordination with USEPA and the San Diego Water Board. Within 90 days of the permit effective date, the Discharger shall submit study plans for these two analyses - and implementation schedules to USEPA and San Diego Water Board for review and approval. These plans and schedules shall be modified and implemented as directed by USEPA and the San Diego Water Board. A final report analyzing "significance" is due within one year of the permit effective date. A final Tier 2 antidegradation analysis report, including a socioeconomic analysis considering the full benefits and costs of the increased effluent loading of phenolic compounds (non-chlorinated) and environmental impacts, is due within 6 months of a determination by USEPA that the increased loadings are significant.*

2011 Significance Study. In response to this requirement, the City in 2011 submitted the required "level of significance" evaluation entitled*: Point Loma Wastewater Treatment Plant, Non-chlorinated Phenol Antidegradation Special Study, Evaluation of Significance* (2011 Significance Study). The 2011 Significance Study evaluated Point Loma WWTP data for the period 2002-2010 using the second of the significance assessment methods (e.g. demonstrating that receiving water concentrations upon completion of initial dilution were less than 50 percent of the *California Ocean Plan* receiving water standards for non-chlorinated phenolic compounds). The 2011 Significance Study concluded that:

- A trend of increased PLOO mass emissions of phenolic compounds (non-chlorinated) has occurred during the past several decades.
- The Point Loma WWTP achieved 100 percent compliance with NPDES effluent concentration limits for phenolic compounds (non-chlorinated) during 2002-2010, and the highest observed values were less than one half of one percent of the NPDES permit requirement.

- The Point Loma WWTP effluent achieved 100 percent compliance with acute and chronic toxicity limits during 2002-2010, and no phenol-related effects were observed on chronic toxicity or acute toxicity. Further, bioassay analyses of Point Loma WWTP effluent during 2002-2010 did not indicate any increasing trends.
- Commercial/domestic sources were significant contributors to the Point Loma WWTP phenol load, and Metro System phenol loads appeared to be related to population.
- Industrial contributions of phenol were limited by existing categorical pretreatment limits for surrogate parameters and air quality rules which have resulted in a phase-out of volatile phenol-based solvents and cleaners.
- The City will need to continue to monitor future phenol mass emission trends and evaluate the need for a local limit for phenolic compounds.
- During 2002-2010, the PLOO discharge complied with *California Ocean Plan* receiving water standards for phenolic compounds (non-chlorinated) by a wide margin. (Receiving water concentrations after initial dilution were less than one-quarter of one percent of the allowable *California Ocean Plan* receiving water limits for phenolic compounds (non-chlorinated).
- The PLOO discharge was within the test limits for significance established within Provision VI.C.2.e of Order No. R9-2009-0001 by more than two orders of magnitude. As a result, the discharge of phenolic compounds (non-chlorinated) from the PLOO did not result in significant adverse water quality effects.

On the basis of these conclusions, the 2011 Significance Assessment determined that the PLOO discharge resulted in water quality effects that were "not significant", as defined within Provision VI.C.2.e of Order No. R9-2009-0001. Accordingly, on the basis of the 2002-2010 data, the 2011 Significance Assessment concluded that the PLOO discharge complied with EPA Tier 1 antidegradation regulations, and that no Tier 2 socioeconomic antidegradation analysis was required.

1.2 ANTIDEGRADATION OVERVIEW

Federal Antidegradation Regulations. Discharge Specifications and Provisions of Order No. R9-2009-0001 implement federal antidegradation regulations, as established within Title 40, S ection 131.12 of the *Code of Federal Regulations*. The federal antidegradation regulations require states to adopt policies and implementation practices consistent with the following Tier 1 and Tier 2 antidegradation requirements:

(1) Existing instream water uses [includes marine and ocean waters] *and the level of water quality necessary to protect the existing uses shall be maintained and protected.* (Tier 1 requirement)

(2) *Where the quality of the waters exceed* [are better than] *levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the State finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the State's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In allowing such degradation or lower water quality, the State shall assure water quality adequate to protect existing uses fully. Further, the State shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control.* (Tier 2 requirement)

State Antidegradation Policy. On October 28, 1968, the State Water Resources Control Board (State Board) adopted Resolution No. 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters in California*. Resolution No. 68-16 established the following policy (non-degradation policy) that requires maintenance of high quality waters:

> *Whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality will be maintained until it has been demonstrated to the State that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial uses of such water and will not result in water quality less than that prescribed in the policies.*

The State of California antidegradation policy (which preceded the 1972 Clean Water Act) applies to inland surface waters and groundwaters as well as State-regulated ocean waters, and requires that the existing water quality be maintained unless it is demonstrated that the benefits associated with the proposed water quality degradation outweigh the detriments associated with the degradation.

State Implementation of Federal Antidegradation Regulations. The State Board has interpreted Resolution No. 68-16 as incorporating federal antidegradation regulations. Administrative procedures for antidegradation analysis were issued by the State Board in 1990 in "Administrative Procedures Update, Antidegradation Policy Implementing for NPDES Permitting" (APU 90-004, July 2, 1990). This State Board guidance allows the Regional Boards to make a determination of Tier 1 antidegradation compliance (e.g. no significant water quality impacts and beneficial uses will be fully supported) if:

1. *A Regional Board determines that the reduction in water quality will be spatially localized or limited with respect to the waterbody; e.g. confined to the mixing zone; or*
2. *A Regional Board determines the reduction in water quality is temporally limited and will not result in any long-term deleterious effects on water quality; e.g. will cease after a storm event, or*
3. *A Regional Board determines that proposed action will produce minor effects which will not result in a significant reduction in water quality; e.g. a POTW has a minor increase in the volume of discharge subject to secondary treatment.*

The State Board administrative procedures require a complete antidegradation analysis (Tier 2) if the Tier 1 analysis demonstrates water quality necessary to support beneficial uses is not maintained.

1.3 PURPOSE OF REPORT

Order No. R9-2009-0001 became effective on August 1, 2010. To address antidegradation issues associated with performance goals established within Order No. R9-2009-2001, this report compares Point Loma WWTP mass emissions during 2010-2013 with EPA mass emission performance goals established within Table 11 of Order No. R9-2009-0001 and identifies constituents which exceed the performance goals. For constituents which exceed the performance goals, a Tier 1 assessment of the level of significance of water quality impacts is performed pursuant to Provision VI.C.2.e of Order No. R9-2009-0001 to determine if a Tier 2 analysis is required.

To support the Tier 1 antidegradation analysis and "level of significance" assessment, this report also:

- assesses compliance with effluent standards and applicable water quality criteria,
- evaluates trends in mass emissions and treatment removal,
- reviews potential sources of constituents that exceed the performance goals, and
- develops projections on future mass emissions and assesses the level of significance of potential future mass emissions on receiving water quality in accordance with significance thresholds established in Provision VI.C.2.e of Order No. R9-2009-0001.

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2. NPDES PERMIT PERFORMANCE GOALS

2.1 OVERVIEW OF PERFORMANCE GOALS

Objective of Performance Goals. EPA toxics mass emission benchmarks (performance goals) for the PLOO discharge are established in Discharge Specification A.1.d and Table 11 of Order No. R9-2009-0001 (NPDES CA0107409). Discharge Specification A.1.d states:

> *A.1d. USEPA Toxics Mass Emission Benchmarks.*
>
> *These mass emission benchmarks are established to address the uncertainty due to projected increases in toxic pollutant loadings from the Point Loma WWTP to the marine environment during the 5-year 301 (h) variance, and to establish a framework for evaluating the need for an antidegradation analysis to determine compliance with water quality standards at the time of permit reissuance. The benchmarks contained in Order No. R9-2002-0025 are retained for this permit.*
>
> *The annual mass emission benchmarks for the 1995 permit were determined using 1990 through April 1995 n-day average monthly performance (95th percentile) of the Point Loma WWTP and the Discharger's projected end-of-permit effluent flow of 205 mgd for the 1995 301 (h) application. For the 2002 permit, mass emission benchmarks for copper and selenium were recalculated using the 1994 n-day average monthly performance (95th percentile) and 205 mgd and the mass emission benchmark for cyanide was corrected. Average monthly performance was calculated as outlined in Appendix E of Technical Support Document for Water Quality-based Toxics Control (EPAl5005/2-90-001, 1991; T8D)*
>
> *These mass emission benchmarks are not water quality-based effluent limitations and are not enforceable, as such. The mass emission threshold values may be re-evaluated and modified during the permit term, or the permit may be modified to incorporate water quality-based effluent limits, in accordance with the requirements set forth at 40 CFR 122.62 and 124.5.*

Approach. As noted in Chapter 1, an increase in mass emissions is one factor that can trigger the need for an antidegradation assessment. Order No. R9-2009-0001 established mass emission performance goals as a means of assessing which parameters require antidegradation analysis as part of renewal of the Point Loma WWTP NPDES permit (NPDES CA0107409). This chapter compares observed mass emissions with EPA mass emission performance goals established in Table 11 of Order No. R9-2009-0001. For constituents in which mass emissions exceed the performance goal benchmarks, the cause and nature of the exceedances are evaluated.

Data Period Evaluated. Year 2013 represents the most current complete year for which data are available. As a result, this analysis uses data from the period 2010-2013 in assessing compliance with the EPA mass emission performance benchmarks established in Table 11 of Order No. R9-2009-0001.

2.2 COMPLIANCE WITH PERFORMANCE GOALS

EPA Mass Emission Performance Goals. Table 2-1 (pages 2-2 through 2-4) presents EPA toxics mass emissions performance goals established within Discharge Specification A.1.d and Table 11 of Order No. R9-2009-0001, and compares the performance goals with PLOO mass emissions that occurred during 2010-2013.

Table 2-1
Comparison of Point Loma Outfall Discharge with
Performance Goals Established in Table 11 of Order No. R9-2009-0001

Parameter	Annual Mass Emission Benchmark[1] (mt/year)	Annual Mass Emissions[2] (metric tons/year)				Antidegradation Analysis Required?
		2010	2011	2012	2013	
Arsenic	0.88	0.19	0.19	0.15	0.18	No
Cadmium	1.4	ND[3]	< 0.11[4]	< 0.11[4]	< 0.11[4]	No
Chromium (hexavalent)	14.2	0.43	0.36	0.35	0.35	No
Copper	26	4.6	4.5	4.1	3.2	No
Lead	14.2	< 0.43[4]	< 0.43[4]	< 0.41[4]	< 0.40[4]	No
Mercury	0.19	0.0015[5]	0.0017	0.0015	0.0016	No
Nickel	11.3	1.7	1.6	1.3	1.6	No
Selenium	0.44	0.26	0.21	0.17	0.21	No
Silver	2.8	< 0.09[4]	< 0.09[4]	< 0.08[4]	< 0.08[4]	No
Zinc	18.3	5.5	5.4	5.4	5.8	No
Cyanide	1.57	0.46	0.45	0.47	0.57	No
Ammonia (as N)	8,018	6,770	7,050	7,170	7,090	No
Phenolic compounds (non-chlorinated)	2.57	3.20	3.51	3.81	4.29	**Yes**
Chlorinated phenols	1.73	< 0.36[4]	< 0.36[4]	< 0.34[4]	0.33[4]	No
Endosulfan	0.006	< 0.0009[4]	ND[3]	ND[3]	ND[3]	No
Endrin	0.008	ND[3]	ND[3]	< 0.0016[4]	< 0.0020[4]	No
HCH[6]	0.025	< 0.0011[4]	ND[3]	ND[3]	< 0.0040[4]	No
Acrolein	17.6	ND[3]	ND[3]	ND[3]	ND[3]	No
Antimony	56.6	ND[3]	< 0.62[4]	ND[3]	< 0.58	No
bis (2-chloroethoxy) methane	1.5	ND[3]	ND[3]	ND[3]	ND[3]	No
bis (2-chloroisopropyl) ether	1.61	ND[3]	ND[3]	ND[3]	ND[3]	No
Chlorobenzene	1.7	< 0.09[4]	ND[3]	< 0.08[4]	< 0.08[4,7]	No
Di-n-butyl phthalate	1.33	ND[3]	< 0.85[4]	ND[3]	ND[3]	No

Table 2-1 is continued on the next page

Table 2-1 (continued)
Comparison of Point Loma Outfall Discharge with
Performance Goals Established in Table 11 of Order No. R9-2009-0001

Parameter	Annual Mass Emission Benchmark[1] (mt/year)	Annual Mass Emissions[2] (metric tons/year)				Antidegradation Analysis Required?
		2010	2011	2012	2013	
Dichlorobenzenes	2.8	< 0.84[4]	< 0.84[4]	< 0.10[4]	< 0.10[4]	No
Diethyl phthalate	6.23	1.51	1.16	1.04	1.01	No
Dimethyl phthalate	1.59	ND[3]	ND[3]	ND[3]	ND[3]	No
4,6-dinitro-2-methylphenol	6.8	ND[3]	ND[3]	ND[3]	ND[3]	No
2,4-dinitrophenol	11.9	ND[3]	ND[3]	ND[3]	ND[3]	No
Ethylbenzene	2.04	< 0.65	< 0.65	< 0.61[4]	< 0.60[4]	No
Fluoranthene	0.62	ND[3]	ND[3]	ND[3]	ND[3]	No
Nitrobenzene	2.07	ND[3]	ND[3]	ND[3]	ND[3]	No
Thallium	36.8	< 0.84[4]	< 0.84[4]	< 0.79[4]	< 0.77[4]	No
Toluene	3.31	0.30	0.26	0.25	0.25[6]	No
Tributyltin	0.001	ND[3]	ND[3]	ND[3]	ND[3]	No
1,1,1-trichloroethane	2.51	ND[3]	ND[3]	ND[3]	ND[3]	No
Acrylonitrile	5.95	ND[3]	ND[3]	ND[3]	ND[3]	No
Aldrin	0.006	ND[3]	ND[3]	< 0.00061[4]	ND[3]	No
Benzene	1.25	ND[3]	ND[3]	< 0.081[4]	ND[3]	No
Benzidine	12.5	ND[3]	ND[3]	ND[3]	ND[3]	No
Beryllium	1.42	< 0.005[4]	< 0.005[4]	ND[3]	ND[3]	No
bis (2-chloroethyl) ether	1.61	ND[3]	ND[3]	ND[3]	ND[3]	No
bis (2-ethylhexyl) phthalate	2.89	< 1.94[4]	< 1.93[4]	< 1.82[4]	ND[3]	No
Carbon tetrachloride	0.79	ND[3]	ND[3]	ND[3]	ND[3]	No
Chlordane	0.014	ND[3]	ND[3]	ND[3]	ND[3]	No
Chloroform	2.19	1.08	0.97	1.06	1.29	No
DDT[8]	0.043	ND[3]	ND[3]	< 0.00041[4]	ND[3]	No
1,4-dichlorobenzene	1.25	0.11	0.11	0.061	0.020	No
3,3-dichlorobenzidine	4.67	ND[3]	ND[3]	ND[3]	ND[3]	No
1,2-dichloroethane	0.79	ND[3]	ND[3]	ND[3]	ND[3]	No
1,1-dichloroethylene	0.79	ND[3]	ND[3]	ND[3]	ND[3]	No
Dichloromethane[9]	13.7	2.3	0.35	0.27	< 0.23[4,7]	No
1,3-dichloropropene	1.42	ND[3]	ND[3]	< 0.06[4]	ND[3]	No
Dieldrin	0.011	ND[3]	ND[3]	ND[3]	ND[3]	No

Table 2-1 is continued on the next page

Table 2-1 (Continued)
Comparison of Point Loma Outfall Discharge with
Performance Goals Established in Table 11 of Order No. R9-2009-0001

Parameter	Annual Mass Emission Benchmark[1] (mt/year)	Annual Mass Emissions[2] (metric tons/year)				Antidegradation Analysis Required?
		2010	2011	2012	2013	
2,4-dinitrotoluene	1.61	ND[3]	ND[3]	ND[3]	ND[3]	No
1,2-diphenylhydrazine	1.52	ND[3]	ND[3]	ND[3]	ND[3]	No
Halomethanes[10]	5.86	1.17	0.82	1.75	3.30	No
Heptachlor	0.001	ND[3]	ND[3]	ND[3]	ND[3]	No
Heptachlor epoxide	0.024	ND[3]	ND[3]	ND[3]	ND[3]	No
Hexachlorobenzene	0.54	ND[3]	ND[3]	ND[3]	ND[3]	No
Hexachlorobutadiene	0.54	ND[3]	ND[3]	ND[3]	ND[3]	No
Hexachloroethane	1.13	ND[3]	ND[3]	ND[3]	ND[3]	No
Isophorone	0.71	ND[3]	ND[3]	ND[3]	ND[3]	No
N-nitrosodimethylamine	0.76	ND[3]	ND[3]	ND[3]	ND[3]	No
N-nitrosodiphenylamine	1.47	ND[3]	ND[3]	ND[3]	ND[3]	No
PAHs[11]	15.45	ND[3]	ND[3]	ND[3]	ND[3]	No
PCBs[12]	0.275	ND[3]	ND[3]	ND[3]	ND[3]	No
1,1,2,2-tetrachloroethane	1.95	ND[3]	ND[3]	ND[3]	ND[3]	No
Tetrachloroethylene	4.0	ND[3]	ND[3]	ND[3]	ND[3]	No
Toxaphene	0.068	ND[3]	ND[3]	ND[3]	ND[3]	No
Trichloroethylene	1.56	ND[3]	ND[3]	ND[3]	ND[3]	No
1,1,2-trichloroethane	1.42	ND[3]	ND[3]	ND[3]	ND[3]	No
2,4,6-trichlorophenol	0.96	ND[3]	ND[3]	ND[3]	ND[3]	No
Vinyl chloride	0.4	ND[3]	ND[3]	< 0.08[4]	ND[3]	No

1 Annual mass emission performance goal benchmarks established by EPA in Table 11 Order No. R9-2009-0001.
2 The above-listed annual mass emissions are computed by multiplying the average annual concentration by the annual average Point Loma WWTP flow. To be conservative, samples with not detected (ND) values were assigned a concentration of one-half the referenced Method Detection Limit (MDL) for purposes of computing the arithmetic annual average concentration. This may result in values slightly different from the annual average values reported in the City's 2010-2013 annual reports for the Point Loma WWTP, which computed annual average values assuming a zero concentration for each not detected (ND) sample.
3 ND indicates the constituent was not detected in any sample during the listed year. Per Compliance Determination VII.G of Order No. R9-2009-0001, mass emission rates shall be reported as "ND" when the constituent is not detected.
4 The constituent was detected at a quantifiable concentration during the year, but the annual average concentration was less than the corresponding MDL. The listed value is the mass emission value computed assuming the concentration less than the MDL.
5 Listed annual average for mercury is based on sample results for the second half of 2010 (MDL of 0.0005 µg/l). Mercury was not detected at an MDL of 0.09 µg/l during the first half of 2010.
6 Sum of alpha, beta, gamma (lindane) and delta isomers of hexachlorocyclohexane (BHC).
7 Arithmetic average and mass emission was computed using values listed as DNQ (detected not quantifiable).
8 Sum of 4,4'DDT, 2,4'DDT, 4,4'DDE, 2,4'DDE, 4,4'DDD, and 2,4'DDD.
9 Dichloromethane is also known as methylene chloride.
10 Halomethanes are the sum of bromoform, bromomethane (methyl bromide), and chloromethane (methyl chloride).
11 PAHs (polynuclear aromatic hydrocarbons) include acenapthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoranthene, 1,2-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[a,h]anthracene, fluorene, phenanthrene, pyrene, and ideno[1,2,3-cd]pyrene. None of these constituents were detected in the Point Loma WWTP effluent during 2010-2013.
12 PCBs (polychlorinated biphenyls) include chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, -1221, -1232, -1242, -1248, -1254, and -1260.

Exceedance of Performance Goal for Phenolic Compounds. As shown in Table 2-1, Point Loma WWTP mass emissions were less than the toxic mass emission benchmarks of Table 11 (Discharge Specification A.1.d) for all constituents except phenolic compounds (non-chlorinated). Mass emissions of non-chlorinated phenolic compounds exceeded the benchmark of 2.57 metric tons per year during each of the four years.

2.3 ANALYSIS OF PHENOL EXCEEDANCES

As documented in Table 2-1, non-chlorinated phenolic compounds is the only parameter that exceeded benchmark mass emissions established in Order No. R9-2009-0001. Because PLOO mass emissions (except for non-chlorinated phenolic compounds) are within the benchmarks and no increase in mass emissions is requested as part of this NPDES renewal, a Tier 1 antidegradation analysis is required only for non-chlorinated phenolic compounds.

Conformance with Effluent Limitations. While non-chlorinated phenolic compounds exceeded the non-enforceable mass emission benchmark established within Table 11 of Order No. R9-2009-0001, the Point Loma discharge complied with enforceable effluent concentration and mass emission limitations established within Table 9 of Order No. R9-2009-0001. Table 2-2 (page 2-6) summarizes non-chlorinated phenol concentrations and mass emissions in the Point Loma WWTP effluent during 2010-2013, and compares the data with effluent concentration and mass emission limits established within Table 9 of Order No. R9-2009-0001.

Continuing a historic trend of achieving 100 percent compliance, the Point Loma discharge complied with effluent concentration and mass emission limits for non-chlorinated phenolic compounds by a wide margin during 2010-2013. Order No. R9-2009-0001 establishes a 6-month median non-chlorinated phenol limit of 6,200 µg/l, and the 6-month maximum non-chlorinated phenol concentration observed during 2010-2013 was 22.6 µg/l - a value that is approximately one-third of one percent (0.36 percent) of this 6-month median concentration limit.

The maximum observed non-chlorinated phenol value of 30.6 µg/l represented approximately one-tenth of one percent (0.12 percent) of the daily maximum effluent concentration limit established in Order No. R9-2009-0001.

Table 2-3 (page 2-7) compares PLOO non-chlorinated phenol mass emissions with enforceable mass emission effluent limits established in Table 9 of Order No. R9-2009-001. As shown in Table 2-3, the PLOO discharge complied with the mass emission effluent limitations of Order No. R9-2009-0001 by two or more orders of magnitude. The maximum observed 6-month median non-chlorinated phenol mass emission during 2010-2013 was only one quarter of one percent (0.25 percent) of the allowable effluent limit.

Table 2-2
Non-Chlorinated Phenol Compliance with
Effluent Concentration Limitations Established in Table 9 of Order No. R9-2009-0001

Year	Number of Samples	PLOO Non-Chlorinated Phenol Effluent Concentrations 2010-2013[1]						Percent of Samples in Compliance[8]
		Maximum Observed Daily Value[2] (µg/l)	Percent of Daily Maximum Permit Limit[3]	Maximum Observed 6-Month Median[4] (µg/l)	Percent of 6-Month Median Permit Limit[5]	Average Value[6] (µg/l)	Median Value[7] (µg/l)	
2010[9]	45	20.1	0.08%	16.5	0.27%	14.8	15.2	100%
2011	48	23.6	0.09%	18.1	0.29%	16.2	16.8	100%
2012	48	25.7	0.10%	19.8	0.32%	18.7	18.9	100%
2013	51	30.6	0.12%	22.6	0.36%	21.6	21.7	100%
Effluent Limit		25,000[10]	---	6,200[11]	---	---	---	---

1 PLOO effluent concentrations monitored at Monitoring Location EFF-001 as reported to the Regional Board for the period 2010-2013. Year 2013 was the last year for which an entire calendar year of data are available at the time of preparation of this report.

2 Maximum observed daily concentration value for non-chlorinated phenol during the listed year.

3 Maximum observed non-chlorinated phenol concentration during the listed year as a percentage of the 25,000 µg/l daily maximum effluent concentration limit established in Order No. R9-2009-0001.

4 Maximum observed 6-month median non-chlorinated phenol concentration during the listed year.

5 Maximum observed 6-month median non-chlorinated phenol concentration during the listed year as a percentage of the 6,200 µg/l 6-month median effluent concentration limit established in Order No. R9-2009-0001.

6 Arithmetic average non-chlorinated phenol concentration during the listed year.

7 Median observed non-chlorinated phenol concentration during the listed year.

8 Percent of samples during the year that complied with both the daily maximum and 6-month median effluent concentration standards established in Order No. R9-2009-0001.

9 Order No. R9-2009-001 became effective on August 1, 2010. The above table presents non-chlorinated phenol data for the entire calendar year 2010.

10 Table 9 of Order No. R9-2009-0001 establishes a daily maximum effluent concentration limit for non-chlorinated phenol of 25,000 µg/l.

11 Table 9 of Order No. R9-2009-0001 establishes a 6-month median effluent concentration limit for non-chlorinated phenol of 6,200 µg/l.

Table 2-3
Non-Chlorinated Phenol Compliance with
Mass Emission Effluent Limitations Established in Table 9 of Order No. R9-2009-0001

Year	Number of Samples	PLOO Non-Chlorinated Phenol Mass Emissions, 2010-2013[1]				Percent of Samples in Compliance[6]
		Maximum Observed Daily Value[2] (lbs/day)	Maximum Observed Value as a Percent of the Daily Maximum Limit[3]	Maximum Observed 6-Month Median Value[4] (lbs/day)	Maximum 6-Month Median Value as a Percent of the 6-Month Median Effluent Limit[5]	
2010[7]	45	26.7[8]	0.064%	21.5	0.20%	100%
2011	48	30.0[9]	0.071%	23.5	0.21%	100%
2012	48	30.3[10]	0.072%	24.3	0.22%	100%
2013	51	37.0[11]	0.088%	27.1	0.25%	100%
Mass Emission Limit		42,000[12]	---	11,000[13]	---	---

1 PLOO effluent mass emissions at Monitoring Location EFF-001 as reported to the Regional Board for the period 2010-2013. Year 2013 was the last year for which an entire calendar year of data was available at the time of preparation of this report.
2 Maximum observed daily mass emission value for non-chlorinated phenol during the listed year.
3 Maximum observed non-chlorinated phenol mass emission during the listed year as a percentage of the 42,000 pounds per day daily maximum mass emission limit established in Order No. R9-2009-0001.
4 Value computed using the maximum observed 6-month median value (see Table 2-2) and the annual average Point Loma WWTP flow for the listed year.
5 Maximum observed 6-month median non-chlorinated phenol concentration during the listed year as a percentage of the 6,200 µg/l 6-month median effluent concentration limit established in Order No. R9-2009-0001.
6 Percent of samples during the year that complied with both the daily maximum and 6-month median mass emission standards established in Order No. R9-2009-0001.
7 Order No. R9-2009-001 became effective on August 1, 2010. The above table presents non-chlorinated phenol data for the entire calendar year 2010.
8 Maximum daily mass emission during 2010 occurred on December 8, 2010 at a daily maximum non-chlorinated phenol concentration of 20.8 µg/l and a Point Loma WWTP flow of 153.7 mgd.
9 Maximum daily mass emission during 2011 occurred on May 25, 2011 at a daily maximum non-chlorinated phenol concentration of 23.6 µg/l and a Point Loma WWTP flow of 152.5 mgd.
10 Maximum daily mass emission during 2012 occurred on November 24, 2012 at a daily maximum non-chlorinated phenol concentration of 25.7 µg/l and a Point Loma WWTP flow of 141.5 mgd.
11 Maximum daily mass emission during 2013 occurred on November 12, 2013 at a daily maximum non-chlorinated phenol concentration of 30.6 µg/l and a Point Loma WWTP flow of 145.1 mgd.
12 Table 9 of Order No. R9-2009-0001 establishes a 42,000 lb/day daily maximum mass emission limit for non-chlorinated phenol.
13 Table 9 of Order No. R9-2009-0001 establishes a 11,000 lb/day 6-month median mass emission limit for non-chlorinated phenol.

Influent and Effluent Trends. Table 2-4 (page 2-8) compares average annual non-chlorinated phenol mass emissions during the effective period of Order No. R9-2009-0001 with historic PLOO mass emissions. As shown in Table 2-4, mass emissions of non-chlorinated phenolic compounds have increased during the past 20 years compared to the period prior to 1995.

Table 2-4
Historic Mass Emissions of Phenol Point Loma Ocean Outfall Discharge

Period	Average Point Loma Mass Emissions for Non-Chlorinated Phenolics[1]	
	(metric tons/year)	(pounds per day)
1980 - 1989[2]	1.7	10.3
1990 - 1995[2]	2.2	13.3
1996 - 2001[3]	3.3	19.9
2002 - 2010[4]	2.7	16.3
2010 - 2013[5]	3.8	23.0
Non-enforceable performance goal[6]	2.57	---
Enforceable Effluent Limit[7]	---	11,000

1 This table presents average annual Point Loma WWTP phenol mass emissions for the listed time periods. Values rounded to two significant figures. It should be noted that the phenol mass emission benchmark established in Order No. R9-2009-0001 is based on 95th percentile values for the period January 1990 through April 1995 and a reference flow of 205 mgd (8.98 m^3/sec).

2 Represents the period prior to the initial Point Loma 301(h) modified permit.

3 Effective period of Order No. 95-106, the initial Point Loma 301(h) modified permit.

4 Effective period of Order No. R9-2002-0025, the first renewal of the Point Loma 301(h) modified permit.

5 Effective period of Order No. R9-2009-0001, the most recent Point Loma 301(h) modified permit.

6 Table 11 of Order No. R9-2009-0001 establishes a non-enforceable annual mass emission performance goal benchmarks of 2.57 metric tons. The performance goal is established for purposes of establishing a framework for evaluating the need for an antidegradation analysis.

7 Table 9 of Order No. R9-2009-0001 establishes a 11,000 lb/day 6-month median mass emission effluent limit (enforceable limit) for non-chlorinated phenol.

Historic Point Loma WWTP influent and effluent data demonstrate that the upward trend in phenol mass emissions is consistent, and is not an artifact of a few high concentrations in a limited number of samples. T able 2-5 (page 2-9) presents Point Loma WWTP influent and effluent concentrations for non-chlorinated phenolic compounds during 1995-2013 (the period for which 301(h) modified secondary treatment standards have been in effect for the PLOO discharge).

As shown in Table 2-5, concentrations of non-chlorinated phenolic compounds in the Point Loma WWTP influent and effluent have risen during the past several years. Additionally, slight declines in the percent removal of non-chlorinated phenol at the Point Loma WWTP have occurred during the effective period of Order No. R9-2009-0001.

Table 2-5
Comparison of Point Loma WWTP Influent and Effluent Concentrations of Phenol

Year	Mean Annual Point Loma WWTP Phenol Concentration[1] (µg/l)		Mean Point Loma WWTP Percent Removal[2] (%)
	Influent	Effluent	
1996	19.1	17.9	6%
1997	14.6	12.9	12%
1998	14.2	13.0	8%
1999	17.1	11.6	32%
2000	16.4	11.7	29%
2001	16.9	11.0	25%
2002	14.7	11.4	23%
2003	14.8	10.5	29%
2004	15.8	11.3	28%
2005	14.2	10.6	25%
2006	19.2	13.9	27%
2007	17,1	12.2	29%
2008	17,3	12.5	28%
2009	18,8	14.4	23%
2010	17.6	14.8	16%
2011	20.4	16.2	20%
2012	22.8	18.7	18%
2013	23.9	21.6	10%
1996-2001[3]	16.4	13.4	20%
2002-2010[4]	15.7	11.5	27%
2010-2013[5]	21.8	18.3	16%

1 From annual Point Loma WWTP monitoring reports for 1996-2013 submitted by the City to the Regional Board.
2 Computed percent removal based on listed Point Loma WWTP influent and effluent phenol concentrations.
3 Effective period of Order No. 95-106, the initial Point Loma 301(h) modified permit.
4 Effective period of Order No. R9-2002-0025, the first renewal of the Point Loma 301(h) modified permit.
5 Effective period of Order No. R9-2009-0001, the current Point Loma 301(h) modified permit.

Toxicity Compliance. As shown in Table 2-2 (page 2-6) concentrations of non-chlorinated phenol in the Point Loma WWTP effluent are a typically less than one-tenth of one percent of the *California Ocean Plan*-based effluent concentration limits for the protection of aquatic habitat. Since Point Loma WWTP effluent concentrations of non-chlorinated phenolic compounds are significantly below *California Ocean Plan* thresholds for the protection of aquatic habitat, it would be expected that non-chlorinated phenol would not create discernible acute or chronic toxicity in the Point Loma WWTP effluent. Point Loma WWTP effluent toxicity data collected to date during the effective period of Order No. R9-2009-0001 support this conclusion. Table 2-6 (page 2-10) summarizes acute toxicity monitoring of the Point Loma WWTP effluent during 2010-2013. As shown in the table, the Point Loma WWTP discharge achieved 100 percent compliance with the acute toxicity performance goal established in Order No. R9-2009-0001.

Table 2-6
Statistical Summary of Point Loma WWTP Acute Toxicity, 2010-2013[1]

Date	Acute Toxicity (TUa)[1] Maximum Daily Performance Goal is 6.42 TUa[2]	
	Atherinops affinis **(topsmelt)**	***Mysidopsis bahia*** **(shrimp)**
Number of Samples	9	7
Minimum Value	2.02	1.64
25th Percentile Value	2.53	2.58
50th Percentile (Median) Value	3.27	2.91
75th Percentile Value	3.32	4.12
Maximum Value	4.63	4.41
Number of Exceedances[3]	0	0
Percent of Exceedances[4]	0%	0%

1 From monthly toxicity monitoring reports submitted to the Regional Board during 2010 through 2013. Acute toxicity monitoring was conducted per monitoring provisions of Order No. R9-2009-0001, which became effective on August 1, 2010.

2 Order No. R9-2009-0001 does not establish an enforceable effluent concentration limit for acute toxicity, but establishes a maximum daily acute toxicity performance goal of 6.42 TUa. Provision VI.C.2.b of Order No. R9-2009-0001 requires the City to notify the Regional Board when the performance goal is exceeded and investigate, identify, and correct the cause of the exceedance. As shown above, all acute toxicity tests of the Point Loma WWTP effluent conducted to date pursuant to Order No. R9-2009-0001 have complied with the 6.42 TUa performance goal.

3 Number of acute toxicity samples for the listed species during 2010-2013 that exceeded the 6.42 TUa performance goal established in Order No. R9-2009-0001.

4 Percent of acute toxicity samples for the listed species during 2010-2013 that exceeded the 6.42 TUa performance goal established in Order No. R9-2009-0001.

Table 2-7 (page 2-11) summarizes Point Loma effluent chronic toxicity monitoring during 2010-2013. In accordance with the monitoring requirements of Order No. R9-2009-0001, chronic toxicity monitoring during 2010-2013 included testing of four different species using six different types of tests. Chronic toxicity exceeded the permit limit during only one test - July 8, 2013 for giant kelp. In accordance with the provisions of Order No. R9-2009-0001, accelerated chronic toxicity testing was implemented after this exceedance, but all subsequent toxicity values were within limits. Further, toxicity levels in the Point Loma WWTP effluent were too low during this period to allow implementation of toxicity identification protocols. Point Loma WWTP effluent concentrations of phenolic compounds (non-chlorinated) during this July period were slightly above average, but significantly below the maximum observed concentrations during 2013. As a result, this one-time chronic toxicity exceedance does not appear to be related in any way to concentrations or mass emissions of non-chlorinated phenolic compounds.

While an increase in Point Loma WWTP effluent phenol mass emission and concentrations has occurred during the past decade, acute and chronic toxicity data during this period do not show any such correlating increase. Additionally, no meaningful statistical correlation exists between Point Loma WWTP effluent phenol concentrations and effluent acute or chronic toxicity. Consequently, it is concluded that non-chlorinated phenol concentrations in the Point Loma WWTP effluent do not cause or represent a threat regarding compliance with *California Ocean Plan* receiving water standards for acute and chronic toxicity.

Table 2-7
Statistical Summary of Point Loma WWTP Chronic Toxicity, 2010-2013[1]

Date	Chronic Toxicity (TUc)[1] Daily Maximum Effluent Concentration Limit is 250 TUc[2]					
	Macrocystis pyrifera (giant kelp)		*Haliotis rufescens* (red abalone)	*Atherinops affinis* (topsmelt)		*Strongylocentrotus purpuratus* (purple urchin)
	Germination	Growth	Development	Survival	Growth	Fertilization
Number of Samples	62	61	47	12	12	11
Minimum Value	64	64	64	64	64	64
25th Percentile Value	64	64	64	64	64	64
50th Percentile (Median) Value	64	64	64	64	64	64
75th Percentile Value	101.5	64	64	64	64	64
Maximum Value	370[3,4]	370[3,4]	47	12	12	11
Number of. Exceedances[5]	1[4]	1[4]	0	0	0	0
Percent of Exceedances[6]	1.6%[4]	1.6%[4]	0.0%	0.0%	0.0%	0.0%

1 From monthly toxicity monitoring reports submitted to the Regional Board during 2010 through 2013. Chronic toxicity monitoring was conducted per Order No. R9-2009-0001, which became effective on August 1, 2010.

2 Table 9 of Order No. R9-2009-0001 establishes a daily maximum chronic toxicity effluent concentration limit of 250 TUc for the Point Loma ocean outfall discharge.

3 Order No. R9-2009-0001 recognizes that a single event may not adequately reflect effluent characteristics. Instead, Provision VI.C.2.d of Order No. R9-2009-0001 requires that, if an exceedance of the effluent limit occurs and the source of the exceedance is unknown, the City is to conduct six additional chronic toxicity tests at two week intervals using the same test species to determine if the toxicity is present in a consistent and persistent manner. If all of the additional chronic toxicity results are within the effluent limit, testing at the normal schedule can be resumed.

4 Exceedance of the chronic toxicity limit occurred in the July 8, 2013 giant kelp chronic toxicity tests for germination and growth. In accordance with Provision VI.C.2.d of Order No. R9-2009-0001, the City collected and analyzed six additional chronic toxicity samples over the ensuing 12 week period. All subsequent chronic toxicity tests were within the effluent limit, and toxicity levels were too low to implement toxicity identification procedures. The cause of the isolated July 8, 2013 exceedance is unknown.

5 Number of chronic toxicity samples for the listed species during 2010 through 2013 that exceeded the 250 TUc effluent limit established in Order No. R9-2009-0001.

6 Percent of chronic toxicity samples for the listed species during 2010 through 2013 that exceeded the 250 TUc effluent limit established in Order No. R9-2009-0001.

Compliance with California Ocean Plan Receiving Water Standards. The *California Ocean Plan* establishes a 6-month median receiving water limit for non-chlorinated phenolic compounds (to be achieved upon completion of initial dilution) of 30 µg/l. The daily maximum receiving water concentration limit for non-chlorinated phenolic compounds (to be achieved upon completion of initial dilution) is 120 µg/l. Based on a minimum month 204 to 1 initial dilution for the PLOO, Table 9 of Order No. R9-2009-0001 establishes 6-month median and daily maximum effluent concentration limits for non-chlorinated phenolic compounds at 6,200 µg/l and 25,000 µg/l, respectively.

As shown in Tables 2-2 and 2-3 (pages 2-6 and 2-7), the Point Loma WWTP has achieved 100 percent compliance with the *California Ocean Plan* standards for non-chlorinated phenolic compounds. The Point Loma WWTP discharge has also (see Tables 2-6 and 2-7 on pages 2-10 and 2-11) achieved consistent compliance with *California Ocean Plan* standards for acute and chronic toxicity.

Compliance with Federal Water Quality Criteria. EPA publishes national water quality criteria for the protection of aquatic life and human health pursuant to Section 304(a) of the Clean Water Act. Current 2014 EPA water quality criteria are established for approximately 150 pollutants. EPA does not establish a criterion for nonchlorinated phenolic compounds for the protection of saltwater aquatic habitat, but EPA establishes a criterion for phenol for the protection of human health (consumption of organisms). In 2014, EPA published a draft update of its water quality criteria for phenol, and proposed lowering the receiving water phenol criterion for the protection of human health (consumption of organisms) from the existing value of 860 mg/l to 100 mg/l. (EPA, 2014) Concentrations of phenolic compounds in the Point Loma WWTP effluent are significantly below the existing and proposed EPA receiving water quality criteria for phenol for the protection of human health (consumption of organisms).

Sources of Phenol. Phenol is a common and prevalent chemical, and is used in both industrial and nonindustrial applications. Phenol also has a variety of uses in the medical and dental professions as a germicide and fungicide. Phenol can be used in industrial or research applications as a solvent, disinfectant, or cleaning compound. In addition, phenol is a constituent in many industrial chemicals, including paints, inks, and photographic chemicals. Phenol may also be found in a variety of household uses, including household disinfectants, antiseptics, cleansers, solvents, and pharmaceuticals.

Prior to 1996, the Metro System enforced a non-chlorinated phenol local limit of 25 mg/l on industries tributary to the Point Loma WWTP. In 1996, a Local Limits Study conducted as part

of developing the City's *Urban Area Pretreatment Program* concluded that phenol was present in domestic and commercial wastewater at an average concentration of 6.5 µg/l.

Phenol in commercial and domestic wastewater was attributed to its ubiquitous presence in home and personal care products. As a result of this finding, the increase in phenol mass emissions to the Metro System was considered to result from increasing population (and perhaps an increase in the per capita commercial/domestic phenol use in homes and commercial establishments).

Additionally, two issues acted to limit potential phenol discharges from industrial sources. First, air quality rules implemented within California phased out the use of industrial organic solvent vapor degreasers (based on phenols) in favor of non-organic solvents. Second, phenol discharges from many industrial sources are subject to phenol regulation through the imposition of requirements for surrogate parameters. For example, electroplating and metal finishing industries are subject to categorical pretreatment standards for Total Toxic Organics (TTO). Other federal categorical dischargers, hospitals, and laboratories are regulated by the City's existing "toxic organic management plans" (TOMPs).

As a result of the findings of increased commercial/domestic contribution and limited industrial contribution, the *Urban Area Pretreatment Program* (approved by EPA on January 1, 1988) recommended that the non-chlorinated phenol local limit be eliminated in favor of local limits for individual phenol compounds where appropriate. Since then, all Metro System industrial permits have been revised to eliminate the specific limit for phenolic compounds.

Survey of Industrial Sources. To confirm that industrial sources do not represent a significant source of non-chlorinated phenol within the Metro System, the City of San Diego Metropolitan Industrial Wastewater Control Program (IWCP) implemented a comprehensive monitoring program to assessed phenol concentrations within Metro System collection facilities and in industrial discharges from significant industrial users (SIUs). Table 2-8 (page 2-14) summarizes non-chlorinated phenol concentrations in industrial wastewater dischargers from Metro System SIUs during 2007 through mid-2014. As shown in the table, non-chlorinated phenol was not detected in approximately 90 percent of the industrial wastewater samples. Additionally, median concentrations of non-chlorinated phenol in all monitored SIUs were non-detectable.

Data presented within Table 2-8 demonstrate that phenol mass emissions from Metro System SIUs are small compared to Point Loma WWTP influent loads. If the maximum detected concentration at each industry listed in Table 2-8 were to be multiplied by that industry's average flow and converted to a mass emissions rate, the collective mass contributions of phenol from all listed SIUs would be approximately 0.6 pounds per day (0.1 metric tons per year) - a small fraction of the total PLOO phenol mass emissions.

Table 2-8
Summary of Industrial Monitoring for Non-Chlorinated Phenol, 2007-2014[1]

Significant Industrial User (SIU)	Number of Samples[2]	Number of Non-Detect Samples[3]	Average Discharge Flow (gpd)	Non-Chlorinated Phenol Concentration (µg/l)		
				Median Value[4]	90th Percentile[4]	Maximum Observed[4]
A to Z Metal Finishing	13	12	484	< 10	< 10	7.81
Action Powder Coating LLC	8	8	2,089	< 10	< 10	< 10
Advanced Finishing	2	2	265	< 10	< 10	< 10
Anocote Metal Finishing	7	7	87	< 10	< 10	< 10
AP Precision Metals	8	8	182	< 10	< 10	< 10
ATK Space Systems	7	6	55	< 10	< 10	4.86
BAE System San Diego Ship Repair	10	5	55,439	< 10	31	42.4
Chromalloy San Diego	8	7	188	< 10	32	94.3
Coating Services Group LLC	4	4	38	< 3	< 3	< 3
Compucraft Industries Inc.	16	15	230	< 10	< 10	20.6
CP Kelco	72	67	438,955	< 3	< 10	22
Creative Metal Industries	8	7	60	< 10	12	35
Cubic Defense Applications Inc.	23	22	356	< 10	< 10	14.8
Curtis Technology Inc.	8	8	95	< 10	< 10	< 10
Doncasters GCE Industries	12	12	287	< 3	< 10	< 10
Equality Plating Company	5	5	328	< 10	< 10	< 10
Former Teledyne Ryan Aeronautical	1	1	66,000	< 10	< 10	< 10
Garvin Industries	11	10	86	< 10	< 10	24.2
GCE Industries Inc.	2	2	537	< 10	< 10	< 10
General Dynamics NASSCO	27	23	26,462	< 10	12	31
GKN Aerospace Chem-tronics Inc.	64	62	4,156	< 10	< 3	15
Golden State Metal Finishing	8	7	431	< 10	10	26.6
Hallmark Circuits Inc.	8	8	57,454	< 10	< 10	< 10
Hamilton Sundstrand (Pratt & Whitney AeroPower)	4	4	805	< 3	< 3	< 3
Harcon Precision Metals Inc.	4	3	552	< 3	21	29.7
Hydranautics	3	3	39,930	< 10	< 10	< 10
K & R Graphix	6	6	67	< 10	< 10	< 10
Koch Membrane Systems	19	17	140,949	< 10	< 10	29.3
K-Tube Corporation	13	12	946	< 10	< 10	2.1
Kyocera America Inc.	14	14	25,847	< 10	< 10	< 10
L & T Precision Sheet Metal	8	7	35	< 10	< 10	4.86
Major Scientific Industries	8	8	52	< 10	< 10	< 10
Molecular Metallurgy Inc.	5	5	31	< 10	< 10	< 10
National Steel & Shipbuilding Company	1	1	24,037	--	--	< 10
Pacific Gas Turbine Center	1	0	189	--	--	6.6
Pall Filtration & Separations Group Inc.	10	10	49,651	< 10	< 10	< 10
PEP West Inc.	3	3	3298	< 10	< 10	< 10
Polese Company Inc.	7	7	501	< 10	< 10	< 10
Precision Plating Inc.	1	1	673	--	--	< 10
ProtoQwik	3	3	66	< 10	< 10	< 10
Quantum Design Inc.	7	7	12	< 10	< 10	< 10
Rohr Inc dba Goodrich Aerostructures	16	15	19,627	< 10	< 10	10.1
San Diego State University	8	8	102,848	< 10	< 10	< 10
Solar Turbines Inc.	6	5	1,932	< 10	14	22
Southern California Plating Company Inc	8	8	1,282	< 10	< 10	< 10
Spec-Built Systems Inc.	8	7	241	< 10	15	39
Specialized Processing Inc.	2	2	457	< 10	< 10	< 10
Triumph Fabrications - San Diego	29	29	50	< 10	< 10	< 10
TTM Printed Circuit Group Inc.	8	8	6,158	< 10	< 10	< 10
U.S. Navy; Naval Air Station North Island	21	20	305,253	< 10	< 10	94
U.S. Navy; Naval Base Coronado - NASNI	37	32	291,284	< 10	10	42
U.S. Navy; Naval Base San Diego	80	52	90,855	< 10	11	68
U.S. Navy; Naval Submarine Base	18	10	78,008	< 3	27	61
U.S. Navy; NAVFAC Southwest Metal Finishing Shop	1	1	99	--	--	< 10
U.S. Navy; Space & Naval Warfare Systems Center	3	2	74,667	< 3	< 3	3.91
UT; City of San Diego - General Services Dept	9	9	108,540	< 10	< 10	< 10
Valley Metals	8	8	785	< 10	< 10	< 10
Veridiam Inc.	8	8	5,144	< 10	< 10	< 10
Vision Systems Inc.	8	8	331	< 10	< 10	< 10

1 SIU sampling data from the City of San Diego Metropolitan Industrial Wastewater Control Program (IWCP).
2 Number of samples collected from the listed SIU during 2007 through mid-2014 as part of an IWCP phenol source assessment effort.
3 Number of samples in which the non-chlorinated phenol concentration was not detected at a Method Detection Limit of 2.43 µg/l.
4 Values of "<x" indicate that non-chlorinated phenol was not detected at a reporting limit of "x" µg/l.

In addition to monitoring phenol concentrations in wastewater from SIUs, the IWCP has monitored concentrations of non-chlorinated phenol at key locations within the Metro System to assess the geographic contribution of non-chlorinated phenol. Table 2-9 (page 2-15) summarizes phenol concentrations within the Metro System during 2007-2014.

Table 2-9
Summary of Collection System Monitoring for Non-Chlorinated Phenol, 2007-2014[1]

Sample Station[2]	Tributary Areas	Number of Samples[3]	Number of Non-Detect Samples[4]	Non-Chlorinated Phenol Concentration (µg/l)		
				Median Value	Average Value[5]	Maximum Value[6]
C301	La Jolla (North Torrey Pines Road)	9	8	< 3[7]	8.5	61.4
C322	Kearney Mesa, Mission Valley, Tierrasanta, El Cajon, Lakeside, Padre Dam, Wintergardens, City of La Mesa (north)	31	17	< 10[8]	9.4	42.8
C332	City of La Mesa (south), Lemon Grove, Gateway, Valencia Park, National City (east)	30	14	7.6	19.1	76.4
C342	National City (west), Paradise Hills, Nestor, San Ysidro, Chula Vista, Otay Mesa, Spring Valley, Otay Water District	31	17	11.9	11.9	61.0
C352	Coronado, U.S. Navy Base Coronado, North Island Naval Air Station	31	24	< 10[8]	6.1	31.6

1 Metro System wastewater samples collected by the City of San Diego Metropolitan Industrial Wastewater Control Program (IWCP) as part of a program to assess sources of non-chlorinated phenol in the Point Loma WWTP influent.
2 Metro Connection Identification Number.
3 Total number of samples collected by the IWCP at the listed location during 2007 through mid-2014.
4 Number of samples in which non-chlorinated phenol was not detected. The Method Detection Limit (MDL) for the phenol analyses was 2.43 µg/l, and Reporting Limits ranged from 3 µg/l to 10 µg/l.
5 Arithmetic average computed assuming that each non-detected sample contains a concentration equal to one-half the Reporting Limit.
6 Maximum observed non-chlorinated phenol concentration during 2007-2014.
7 Phenol was not detected in more than half of the samples at a Reporting Limit of 3 µg/l.
8 Phenol was not detected in more than half of the samples at a Reporting Limit of 10 µg/l.

Collection system sample locations presented in Table 2-9 represent key Metro System tributary areas that contribute industrial and commercial flows. As shown in Table 2-9, median concentrations of non-chlorinated phenol were less than corresponding Point Loma WWTP influent concentrations (see Table 2-5 on page 2-9). While phenol concentrations were not detected in a majority of collection system samples during 2007-2014, significant temporal variation in phenol concentrations occurred. Demonstrating the transitory occurrence of phenol within the Metro System, each sampling location registered at least one occurrence where phenol concentrations exceeded 30 µg/l.

Given the high level of compliance that has been achieved with effluent concentration and mass emission limits established within Table 9 of Order No. R9-2009-0001 (see Tables 2-2 and 2-3), and the limited industrial contributions of non-chlorinated phenol, no need for a phenol Local Limit has been identified in any of the City's recent Local Limits updates. The City, however, continues to assess phenol contributions from Metro System SIUs as part of ongoing IWCP industrial discharge monitoring operations and pollutant source assessment activities.

Relationship to Population. As shown in Table 2-8 and Table 2-9, results from the City's ongoing industrial user and collection system monitoring program appear to confirm the supposition that increases in phenol mass emissions result from Metro System population increases coupled with steady (or slightly increasing) phenol per capita contributions from household and personal care products.

Figure 2-1 graphically depicts phenol mass emissions (three year running average) vs. population during the past 20 years. As shown in the figure, Metro System phenol mass emissions track closely with population. During 2010-2013, Metro System population correlated to phenol mass emissions (three year running average) with a coefficient of determination (r^2) value of 0.956.

As depicted in Table 2-10 (page 2-17), based on flows, population, and influent Point Loma WWTP phenol concentrations during 2010-2013, an average of approximately 5.6 milligrams of phenol is contributed to the Metro System per capita per day.

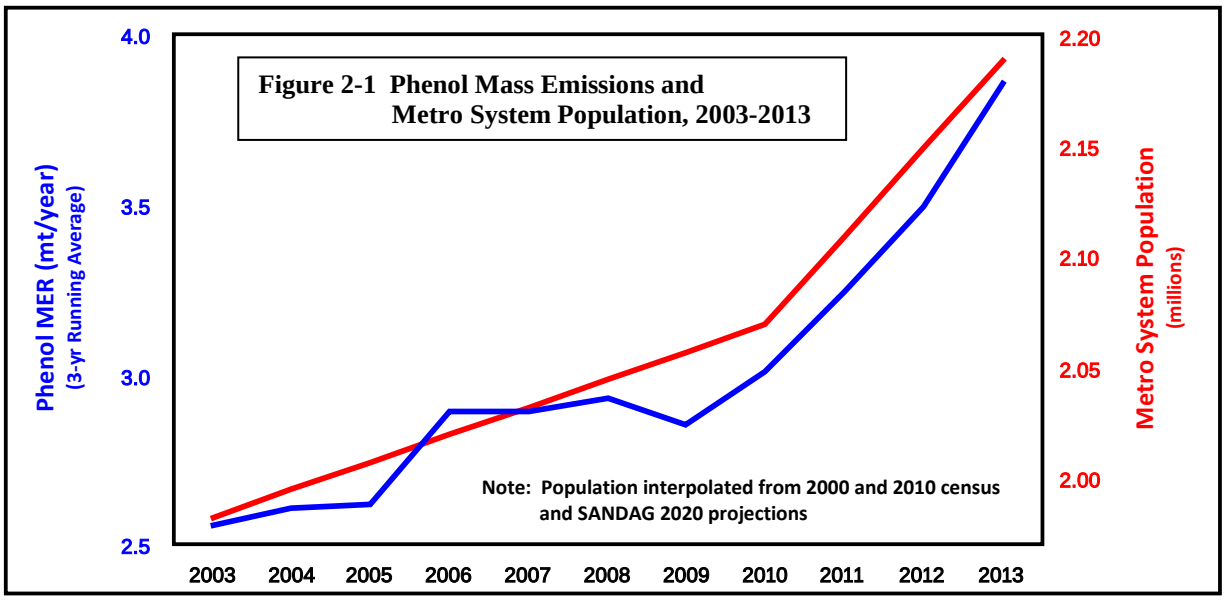

Table 2-10
Per Capita Contribution of Phenolic Compounds, 2010-2013[1]

Year	Point Loma WWTP Flow[1] (mgd)	Estimated Metro System Population[2] (millions)	Influent Point Loma WWTP Phenol Concentration (µg/l)[1]	Per Capita Phenol Contribution[3] (mg/person/day)
2010	156.6	2.07	17.6	5.0
2011	155.8	2.11	20.4	5.7
2012	147.5	2.15	22.8	5.9
2013	143.8	2.19	23.9	5.9
Average	---	---	---	5.6

1 From monthly monitoring reports submitted to the Regional Board during 2010 through 2013.
2 Interpolated from 2010 census and SANDAG population projection for 2020.
3 Computed on the basis of influent phenol mass emissions and population.

Water Conservation Effects on Influent Concentrations. While phenol mass emissions correlate strongly with population, Point Loma influent data (see Table 2-5 on page 2-9) show slight increases in average annual phenol concentrations during the past few years. It is possible that this increase in influent phenol concentrations results from regional water conservation efforts. Such conservation efforts have resulted in Point Loma WWTP influent flows being reduced by approximately 20 percent since 2005 (2005 flow of 183.6 mgd vs. 2013 flow of 143.8 mgd).

Some of these water conservation gains result from increased efficiency of appliances and fixtures, and are likely permanent. It is uncertain whether remaining water conservation gains which result from changes in personal habits will be sustained in future years. As a result, while Point Loma WWTP influent phenol mass emissions are projected to increase proportionally to population, it is uncertain whether the increased phenol concentrations in the Point Loma WWTP influent that occurred during 2010-2013 will be sustained. Additional data will be required to address this issue.

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3. EVALUATION OF SIGNIFICANCE

3.1 APPROACH

Criteria for Compliance with Tier 1 Antidegradation Regulations. As noted in Chapter 1, Order No. R9-2009-0001 requires that a Tier 1 analysis be performed to assess impacts associated with any constituents which exceed performance goals established in Table 11 of Order No. R9-2009-0001. Provision VI.C.2.e of Order No. R9-2009-0001 establishes that water quality impacts are not considered significant and that no further Tier 2 antidegradation analysis is required if either of the following is demonstrated:

(1) a receiving water concentration at the boundary of the zone of initial dilution is less than ten percent above the ambient (farfield) concentration, or

(2) the receiving water concentration at the boundary of the zone of initial dilution is less than 50 percent of the *California Ocean Plan* water quality objectives for phenolic compounds (non-chlorinated).

As also noted in Chapter 1, the City's 2011 Significance Study utilized the second of these assessment methods in evaluating PLOO discharge data for the period 2002-2010 (e.g. demonstrating that receiving water concentrations upon completion of initial dilution were less than 50 percent of the *California Ocean Plan* receiving water standards).

General Approach. To update the City's 2011 Significance Assessment and evaluate Tier 1 antidegradation compliance for the current NPDES permit period, Point Loma WWTP data from 2010-2013 are evaluated using the "level of significance" criteria established within Provision VI.C.2.e of Order No. R9-2009-0001. Additionally, to evaluate future projected Tier 1 compliance, future Point Loma WWTP phenol mass loads and concentrations are projected for the next five-year NPDES permit period and are compared with the Tier 1 "level of significance" criteria.

3.2 UPDATED SIGNIFICANCE ASSESSMENT

2010-2013 Receiving Water Concentrations. As documented in Appendix Q, the PLOO is projected to achieve a median initial dilution of 338 to 1 at the ultimate 240 mgd design flow of the Point Loma WWTP. Order No. R9-2009-0001 assigns a minimum month initial dilution of 204 to 1 for purposes of assessing compliance with *California Ocean Plan* receiving standards.

Table 3-1 presents maximum observed concentrations of phenolic compounds (non-chlorinated) during 2010-2013 and compares the resulting receiving water concentrations with daily maximum phenol standards established in the *California Ocean Plan*. Table 3-2 (page 3-3) presents maximum observed 6-month median values for phenol in the Point Loma WWTP effluent during 2010-2013 and compares the resulting receiving water concentrations with 6-month median standards of the *California Ocean Plan*. As shown in Table 3-1, maximum PLOO receiving water phenol concentrations during 2010-2013 were approximately one-tenth of one percent of the *California Ocean Plan* daily maximum receiving water standard of 120 µg/l. Maximum 6-month median PLOO receiving water concentrations during 2010-2013 (see Table 3-2) were less than one-half of one percent of the *California Ocean Plan* 6-month median phenol receiving water standard of 30 µg/l.

Table 3-1
PLOO Non-Chlorinated Phenol Compliance with
***California Ocean Plan* Daily Maximum Receiving Water Standard**

Year	Number of Samples[1]	Non-Chlorinated Phenol Concentrations (µg/l)		Receiving Water Concentration as a Percent of *California Ocean Plan* Daily Maximum Receiving Water Phenol Standard of 120 µg/l[4]	Compliance with Tier 1 Requirement that Receiving Water Quality is Less than 50% of California Ocean Plan Standard?[5]
		Maximum Observed Daily Point Loma WWTP Effluent Concentration[1,2]	Projected Receiving Water Concentration After Initial Dilution[3]		
2010	45	20.1	0.098	0.08%	Yes
2011	48	23.6	0.115	0.10%	Yes
2012	48	25.7	0.125	0.10%	Yes
2013	51	30.6	0.149	0.12%	Yes

1 PLOO effluent concentrations monitored at Monitoring Location EFF-001 as reported to the Regional Board for the period 2010-2013. Year 2013 was the last year for which an entire calendar year of data are available at the time of preparation of this report.

2 Maximum sample value observed during the listed year. See Table 2-2 (page 2-6).

3 Computed receiving water concentration upon completion of initial dilution, as computed using a minimum month initial dilution of 204:1 in accordance with *California Ocean Plan* computational procedures (e.g., *California Ocean Plan* Equation No. 1).

4 Projected receiving water concentration after initial dilution as a percent of the *California Ocean Plan* daily maximum phenol receiving water standard of 120 µg/l (to be achieved upon completion of initial dilution).

5 Pursuant to Provision VI.C.2.e of Order No. R9-2009-0001, water quality effects associated with phenol discharges are defined as "non significant" if receiving water concentrations remain 50 percent below the corresponding *California Ocean Plan* receiving water standard. Conformance with the 50 percent criteria is deemed to represent compliance with EPA Tier 1 antidegradation regulations, and no Tier 2 (socioeconomic) analysis is required.

Table 3-2
PLOO Non-Chlorinated Phenol Compliance with
***California Ocean Plan* 6-Month Median Receiving Water Standard**

Year	Number of Samples[1]	Non-Chlorinated Phenol Concentrations (µg/l)		Receiving Water Concentration as a Percent of *California Ocean Plan* 6-Month Median Receiving Water Phenol Standard of 30 µg/l[4]	Compliance with Tier 1 Requirement that Receiving Water Quality is Less than 50% of California Ocean Plan Standard?[5]
		Maximum Observed Daily Point Loma WWTP 6-Month Median Concentration[1,2]	Projected Receiving Water Concentration After Initial Dilution[3]		
2010	45	21.5	0.105	0.35%	Yes
2011	48	23.5	0.115	0.38%	Yes
2012	48	24.3	0.119	0.40%	Yes
2013	51	27.1	0.132	0.44%	Yes

1 PLOO effluent concentrations monitored at Monitoring Location EFF-001 as reported to the Regional Board for the period 2010-2013. Year 2013 was the last year for which an entire calendar year of data are available at the time of preparation of this report.

2 Maximum 6-month median value observed during the listed year. See Table 2-2 (page 2-6).

3 Computed receiving water concentration upon completion of initial dilution, as computed using a minimum month initial dilution of 204:1 in accordance with *California Ocean Plan* computational procedures (e.g., *California Ocean Plan* Equation No. 1).

4 Projected receiving water concentration after initial dilution as a percent of the *California Ocean Plan* 6-month median phenol receiving water standard of 30 µg/l (to be achieved upon completion of initial dilution).

5 Pursuant to Provision VI.C.2.e of Order No. R9-2009-0001, water quality effects associated with phenol discharges are defined as "non significant" if receiving water concentrations remain 50 percent below the corresponding *California Ocean Plan* receiving water standard. Conformance with the 50 percent criteria is deemed to represent compliance with EPA Tier 1 antidegradation regulations, and no Tier 2 (socioeconomic) analysis is required.

PLOO receiving water concentrations during 2010-2013 thus complied with the 50 percent *California Ocean Plan* compliance criterion by a margin of more than two orders of magnitude (10^2). Data for the period 2010-2013 demonstrate that phenol concentrations and mass emissions in the PLOO discharge result in impacts to the ocean environment that are classified as "not significant". As a result, no additional analysis is required to assess compliance with Tier 2 (socioeconomic) antidegradation requirements.

Projected Future Phenol Concentrations and Mass Emissions. As shown in Figure 2-1 (page 2-14) future PLOO mass emissions of phenol are projected to mirror population trends within the Metro System. To assess how future PLOO discharges of phenolic compounds comply with Tier 1 antidegradation regulations, future PLOO phenol concentrations and mass emissions are projected and compared with the "level of significance" criteria of Provision Vi.C.2.e of Order No. R9-2009-0001. To be conservative, future Point Loma influent, effluent, and receiving water phenol concentrations are computed for the following worst case conditions:

- Point Loma WWTP phenol removal is projected at 10 percent (the worst year on record to date).
- Metro System phenol contributions are projected at 5.9 mg per capita per day (the highest per capita value on record).

Table 3-3 presents projected PLOO receiving water conditions for the next five years under such worst case conditions. As shown in the table, projected receiving water phenol concentrations under worst case conditions would represent only approximately one-quarter of one percent of the allowable *California Ocean Plan* 6-month median receiving water standard for phenolic compounds (non-chlorinated). Using this worst case methodology, projected receiving water concentrations during the upcoming five-year NPDES period would comply with Tier 1 significance criterion (not exceeding 50 percent of the allowable *California Ocean Plan* standard) by more than two orders of magnitude (10^2). As a result, continued compliance with Tier 1 antidegradation regulations is assured during the next five-year NPDES period.

Table 3-3
PLOO Non-Chlorinated Phenol Compliance with
Tier 1 Level of Significance Criteria - 50% of *California Ocean Plan* Receiving Water Standard
Worst Case Conditions[1]

Year	Estimated Metro System Population[2] (millions)	Projected Point Loma WWTP Dry Weather Inflow[2,3] (mgd)	Projected Non-Chlorinated Phenol Concentration (µg/l)			Receiving Water Concentration as a Percent of *California Ocean Plan* 6-Month Median Receiving Water Phenol Standard of 30 µg/l[7]	Compliance with Tier 1 Requirement that Receiving Water Quality is Less than 50% of California Ocean Plan Standard?[8]
			Point Loma WWTP Influent[4]	Point Loma WWTP Effluent[5]	Receiving Water Concentration after Initial Dilution[6]		
2015	2.27	174	20.3	18.3	0.090	0.27%	Yes
2016	2.30	177	20.3	18.3	0.090	0.27%	Yes
2017	2.34	180	20.3	18.3	0.090	0.27%	Yes
2018	2.37	182	20.3	18.3	0.090	0.27%	Yes
2019	2.41	185	20.3	18.3	0.090	0.30%	Yes

1 Based on a 10 percent Point Loma WWTP phenol removal (worst annual percent removal on record) and a phenol per capita contribution of 5.9 mg per capita per day (highest value on record.)

2 Based on SANDAG population projections within the Metro System service area. See Appendix B.1.

3 Projected dry weather inflow based on SANDAG population projections (see Appendix B). Based on per capita flow contribution of approximately 76.7 gallons per capita per day.

4 Computed on the basis of projected Metro System population, projected dry weather flow, and 5.9 mg per capita per day. Influent phenol concentration would be approximately 15-20 percent higher if year 2013 per capita flow generation rates (approximately 65 gallons per capita per day) were to continue in future years.

5 Based on worst case 10 percent phenol removal (worst observed annual percent removal on record).

6 Computed receiving water concentration upon completion of initial dilution, as computed using a minimum month initial dilution of 204:1 in accordance with *California Ocean Plan* computational procedures (e.g., *California Ocean Plan* Equation No. 1).

7 Projected receiving water concentration after initial dilution as a percent of the *California Ocean Plan* 6-month median phenol receiving water standard of 30 µg/l (to be achieved upon completion of initial dilution).

8 Pursuant to Provision VI.C.2.e of Order No. R9-2009-0001, water quality effects associated with phenol discharges are defined as "non significant" if receiving water concentrations remain 50 percent below the corresponding *California Ocean Plan* receiving water standard. Conformance with the 50 percent criteria is deemed to represent compliance with EPA Tier 1 antidegradation regulations, and no Tier 2 (socioeconomic) analysis is required.

Since the future Metro System flow projections presented in Table 3-3 are proportional to projected population, Point Loma WWTP influent phenol concentrations are projected as being constant, while influent phenol mass emissions proportionally increase with population. It should be noted that, if current water conservation trends continue (e.g. Metro System flow contributions of approximately 65 gallons per capita per day), influent Point Loma WWTP concentrations may be 15 to 20 percent higher than those projected in Table 3-3. Even if Point Loma WWTP influent phenol concentrations were to increase by 50 percent to 30 µg/l, however, receiving water phenol concentrations after initial dilution would still be less than one half of one percent of the *California Ocean Plan* 6-month median standard.

As shown in Table 2-4 (page 2-8) PLOO mass emissions of non-chlorinated phenol were higher during the current permit period (2010-2013) than prior years. Additionally, PLOO mass emissions of phenol have increased during each of the past few years. Figure 3-1 graphically presents PLOO phenol mass emissions during 2010-2013. Assuming this trend of phenol mass emission continues during the upcoming NPDES period, PLOO mass emissions are projected to reach 6.3 mt/year (38.1 pounds per day) by year 2019.

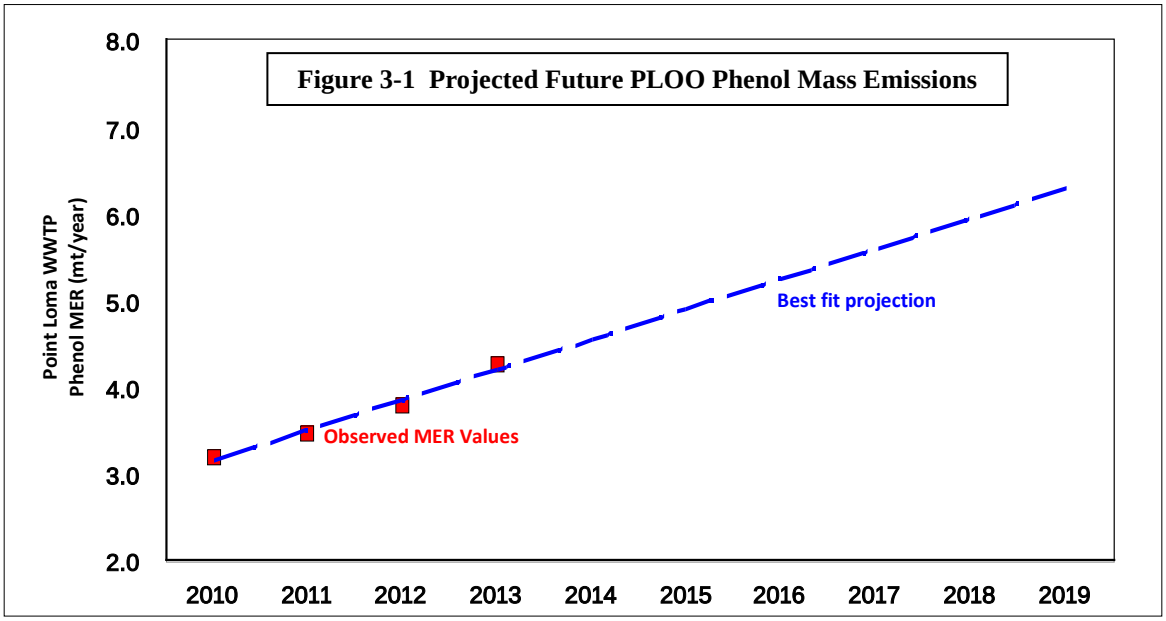

Table 3-4 (Page 3-6) compares this projected 38.1 pound per day (6.3 mt/year) phenol mass emission rate with the enforceable *California Ocean Plan*-based mass emission limits established in Table 9 of Order No. R9-2009-0001. As shown in Table 3-4, this projected 38.1 pound per day phenol mass emission rate represents a tiny fraction of the *California Ocean Plan*-based mass emission limits established within Order No. R9-2009-0001.

Table 3-4
Projected Compliance with NPDES Mass Emission Limits, 2015-2019[1]

Parameter		Non-Chlorinated PLOO Phenol Mass Emission (lbs/day)	Point Loma Phenol MER as a Percent of the Permitted Limit[1]
Projected PLOO Phenol MER in Year 2019[2]		38.1	--
NPDES Phenol Mass Emission Limit[3]	6-month Median[3,4]	11,000[4]	0.35%
	Daily Maximum[3,5]	42,000[5]	0.09%

1 The year 2019 projected PLOO phenol mass emission of 38.1 pounds per day (6.3 mg/year) as a percentage of the NPDES phenol mass emission effluent limitations established in Order No. R9-2009-0001.

2 Projected year 2019 PLOO mass emission on basis of continuation of mass emission trends from 2010-2013. See Figure 3-1 on page 3-5).

3 Enforceable mass emission limit for phenolic compounds (non-chlorinated) established within Table 9 of Order No. R9-2009-0001.

4 The 6-month median phenol mass emission limit of 11,000 lb/day implements the 30 µg/l 6-month median phenol concentration objective established in the *California Ocean Plan*.

5 The daily maximum phenol mass emission limit of 42,000 lb/day implements the 120 µg/l daily maximum phenol concentration objective established in the *California Ocean.*

Effluent Concentration Required to Trigger Tier 1 Analysis. As noted, the *California Ocean Plan* establishes a 6-month median receiving water standard of 30 µg/l for non-chlorinated phenolic compounds (to be achieved upon completion of initial dilution).

As shown in Table 3-5 (page 3-7), at the assigned PLOO minimum month initial dilution of 204:1, the *California Ocean Plan* 6-month median phenol concentration standard of 30 µg/l translates to an effluent standard of 6,120 µg/l. Point Loma WWTP effluent phenol concentrations would need to be maintained below 3,060 µg/l in order to achieve continued compliance with the "level of significance" criteria (not exceeding 50 percent of the allowable *California Ocean Plan* receiving water standard). Even if future Point Loma WWTP non-chlorinated phenol concentrations were to increase by 50 percent above current values to 30 µg/l, the PLOO discharge would maintain compliance with this Tier 1 50 percent threshold requirement by two orders of magnitude.

Table 3-5
Point Loma WWTP Effluent Concentration Required to Exceed Tier 1 Significance Criteria

	Phenolic Compounds (Non-Chlorinated) Concentration (µg/l)		
Time Period	**California Ocean Plan Receiving Water Standard[1]**	**Maximum Potential Point Loma WWTP Effluent Concentration that Still Achieves Compliance with California Ocean Plan Receiving Water Standard[2]**	**Point Loma WWTP Effluent Phenol Concentration Required to Cause Receiving Water to Reach 50 Percent of the Ocean Plan Standard[3]**
6-Month Median	30	6,120[4]	3,060
Daily Maximum	120	24,500[5]	12,240

1 *California Ocean Plan* receiving water standard for phenolic compounds (non-chlorinated) to be achieved upon completion of initial dilution.

2 Point Loma WWTP effluent concentration required to ensure compliance with the *California Ocean Plan* receiving water standard, as computed using a minimum month initial dilution of 204:1 in accordance with *California Ocean Plan* computational procedures (e.g., *California Ocean Plan* Equation No. 1). Value rounded to three significant figures.

3 Computed as 50 percent of the allowable *California Ocean Plan* receiving water standard. Value rounded to three significant figures.

4 The corresponding Point Loma WWTP effluent concentration limit established within Table 9 of Order No. R9-2009-0001 is rounded to two significant figures (e.g. 6200 µg/l).

5 The corresponding Point Loma WWTP effluent concentration limit established within Table 9 of Order No. R9-2009-0001 is rounded to two significant figures (e.g. 25,000 µg/l).

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4. TIER 1 CONCLUSIONS

4.1 TIER 1 COMPLIANCE - EXISTING DISCHARGE

Compliance with Mass Emission Performance Goals. As noted, EPA established mass emission performance goals within Table 11 of Order No. R9-2009-0001 to establish a framework for evaluating the need to assess compliance with federal antidegradation requirements at the time of permit reissuance. Tier 1 antidegradation compliance is presumed for constituents that comply with the EPA mass emission performance goals.

As documented in Table 2-1 (page 2-2), the PLOO discharge complied with the EPA mass emission performance goals during 2010-2013 for all constituents except non-chlorinated phenolic compounds. Except for non-chlorinated phenolic compounds, no further Tier 1 analysis is required. A Tier 1 "level of significance" analysis, however, is required to evaluate whether or not the PLOO discharge of non-chlorinated phenolic compounds result significant water quality impacts, which would in turn require a Tier 2 antidegradation analysis.

Phenol Compliance with Effluent Limitations. While concentrations of non-chlorinated phenolic compounds exceeded the non-enforceable EPA mass emission performance goal, PLOO concentrations of non-chlorinated phenolic compounds (see Table 2-2 on page 2-6) were significantly less than enforceable effluent concentration limits established within Table 9 of Order No. R9-2009-0001. Additionally, PLOO mass emissions of non-chlorinated phenolic compounds (see Table 2-3 on page 2-7) were significantly below the enforceable effluent mass emission limits established within Table 9 of Order No. R9-2009-0001.

Further, the PLOO discharge during 2010-2013 achieved 100 percent compliance with acute toxicity standards established within Order No. R9-2009-0001. Only one chronic toxicity sample exceedance occurred during 2010-2013, and this exceedance was not related to concentrations of phenolic compounds.

Phenolic Compounds - Level of Significance Analysis. Provision VI.C.2.e of Order No. R9-2009-0001 establishes a level of significance test where water quality impacts are deemed "not significant" if projected receiving water quality beyond the zone of initial dilution is less than 50 percent of the *California Ocean Plan* receiving water standard. As demonstrated in Chapter 3, the existing PLOO discharge complies with this "significance" test by two orders of magnitude (10^2) or more for non-chlorinated phenolic compounds. In addition to complying with *California Ocean Plan* receiving water standards, the PLOO discharge ensures compliance with federal water quality criteria for the protection of human health (consumption of organisms).

On this basis, the existing PLOO discharge complies with Tier 1 antidegradation regulations, and no Tier 2 socioeconomic analysis is required for non-chlorinated phenolic compounds.

Conformance with State Antidegradation Provisions. By complying with NPDES permit concentration and mass emission limits and *California Ocean Plan* receiving water standards, the PLOO discharge is consistent with maintaining the existing high quality of water necessary to support beneficial use, and the PLOO discharge will not unreasonably affect present or anticipated beneficial uses. The PLOO discharge is thus in conformance with antidegradation provisions established within State Board Resolution No. 68-16.

4.2 TIER 1 COMPLIANCE - PROJECTED FUTURE CONDITIONS

Trends in Phenol Mass Emissions. The City's 2011 Significance Study (which evaluated data from 2002-2010) concluded that commercial/domestic sources are significant contributors to the Point Loma WWTP phenol load, and that PLOO mass emissions of non-chlorinated phenolic compounds are related to population and per capita contributions from commercial and household and personal care products. Recent data confirm these trends and demonstrate (see Figure 2-1 on page 2-14) that strong correlation exists between PLOO phenol mass emissions and Metro System population. On this basis, future PLOO mass emissions (see Figure 3-1 on page 3-5) are likely to increase commensurate with Metro System population.

While mass emissions of non-chlorinated phenolic compounds are projected to increase, the PLOO discharge is projected to comply with applicable water quality standards for non-chlorinated phenolic compounds by a wide margin. As shown in Table 3-5 (page 3-7), Point Loma WWTP effluent concentrations of non-chlorinated phenolic compounds of more than 3,000 µg/l would be required to cause receiving water concentrations to reach 50 percent of the *California Ocean Plan* 6-month median receiving water standard.

Future PLOO concentrations of non-chlorinated phenolic compounds (see Table 3-3 on page 3-4) are projected to be sustained at approximately 20 µg/l, a value that is more than two orders of magnitude less than the Tier 1 threshold limit of 50 percent of the *California Ocean Plan* receiving water standard.

As documented herein, both the current and projected future Point Loma WWTP effluent concentrations of phenolic compounds (non-chlorinated) are projected to remain far below the Tier 1 threshold of 50 percent below the *California Ocean Plan* receiving water standard. It is thus concluded that:

(1) no realistic potential exists for the Point Loma WWTP effluent to approach anywhere near the Tier 1 "level of significance" threshold, either on a near-term or long-term basis, and

(2) phenol compliance with the Tier 1 "level of significance" criteria is projected to continue throughout all foreseeable future conditions (including future projected population and future projected PLOO mass emissions of non-chlorinated phenolic compounds).

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