VOLUME II
Application Parts 1 – 3

Part 1: Basis of the Application

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Part 3: Antidegradation Analysis

City of San Diego
Public Utilities Department

March 2022

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PART 1:
DISCHARGE OVERVIEW AND BASIS OF APPLICATION
NPDES CA0107409

City of San Diego
Public Utilities Department

March 2022

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Acronyms and Abbreviations

BIP	balanced indigenous population
BOD	biochemical oxygen demand
CFR	Code of Federal Regulations
City	City of San Diego
CWA	Clean Water Act
DDT	dichlorodiphenyltrichoroethane
EPA	United States Environmental Protection Agency
JPA	Joint Powers Authority
MBC	Metropolitan Biosolids Center
MER	mass emissions rate
Metro System	San Diego Metropolitan Sewerage System
mg/L	milligrams per liter
mgd	million gallons per day
mt/yr	metric tons per year
NCDPWF	North City Demonstration Pure Water Facility
NCPWF	North City Pure Water Facility
NCWRP	North City Water Reclamation Plant
NPDES	National Pollutant Discharge Elimination System
OPRA	Ocean Pollution Reduction Act
PCBs	polychlorinated biphenyls
PLOO	Point Loma Ocean Outfall
PLWTP	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
SBWRP	South Bay Water Reclamation Plant
TSS	total suspended solids
ZID	zone of initial dilution

SUMMARY

The City of San Diego (City) requests renewal of National Pollutant Discharge Elimination System (NPDES) CA0107409 for the discharge of treated wastewater from the E.W. Blom Point Loma Wastewater Treatment Plant (PLWTP) to the Pacific Ocean via the Point Loma Ocean Outfall (PLOO). 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 TSS and BOD 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 updated information relative to the implementation of the joint water/wastewater facilities plan called "Pure Water San Diego" that was introduced in the last renewal application. Pure Water San Diego has the goal of producing water suitable for potable use for the San Diego Region from wastewater that would otherwise be directed to the PLWTP. The Pure Water San Diego plan envisions producing 83 million gallons per day (mgd) of potable reuse water by December 31, 2035. As a result, it is anticipated that nearly 50% of the City's potable water demand will be supplied by this source of highly purified wastewater by year 2036.

To demonstrate the City's continued commitment to the Pure Water San Diego Program, as well as advancing the State's water recycling goals and the California Regional Water Quality Control Board, San Diego Region (Regional Board) Practical Vision (Practical Vision), this NPDES renewal application presents an updated schedule of activities for the implementation of Pure Water San Diego that will occur during the upcoming NPDES permit term. These activities will focus on the construction and start-up of the initial 30-mgd potable reuse component, as well as planning studies and demonstration plant construction and operation activities necessary to finalize specific plans to complete the final 53-mgd potable reuse component. With implementation of this final 53-mgd component, the City will have achieved an ultimate production of 83 mgd by December 31, 2035. As part of the Pure Water San Diego concept, the PLWTP discharge flow and loads will be significantly reduced due to diversions to the upstream reclamation activities. Ultimately permitted TSS mass emissions can be reduced to 9,942 metric tons per year (mt/yr), which is equivalent to what would be permitted if the PLWTP were operating at its full capacity of 240 mgd and achieving secondary treatment.

Federal legislation has been introduced that recognizes the goal of Pure Water San Diego to significantly reduce the ocean discharge while producing water suitable for potable use. Supported by local environmental groups, citizen and government organizations, as well as scientists from Scripps Institution of Oceanography, the federal legislation would simplify the permitting process by providing a different pathway than the 301(h)/301(J)(5) process. Titled the Ocean Pollution Reduction Act II (OPRA II), the legislation passed the House of Representatives in June 2021 and was forwarded to the Senate for action during this congressional session.

The NPDES application presented herein demonstrates compliance with CWA sections 301(h)and 301(j)(5). The application also provides information necessary to demonstrate compliance with the provisions of OPRA II should it be enacted during the approval process for the application. This includes the reduction of the permitted TSS mass emissions as specified in OPRA II.

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 PLWTP serves as the terminal Metro System treatment facility. The discharge of treated wastewater from the PLWTP to the Pacific Ocean via the PLOO is currently regulated by a joint permit issued by the Regional Board and the United States Environmental Protection Agency (EPA). Regional Board Order No. R9-2017-0007 (NPDES CA0107409) establishes modified secondary treatment requirements for the PLOO discharge in accordance with Sections 301(h) and 301(j)(5) of the CWA.

Order No. R9-2017-0007 was originally adopted by the Regional Board on April 12, 2017. EPA issued final approval of the joint NPDES permit on August 4, 2017 and the permit became effective on October 1, 2017. Order No. R9-2017-0007 expires on September 30, 2022, 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.

The City of San Diego, as the owner of the PLWTP and the operating agency of the Metro System, requests renewal of NPDES CA0107409 and renewal of modified secondary treatment standards for TSS and 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. R9-2017-0007. Additionally, this NPDES application requests continuation of the following TSS and BOD percent removal requirements established in Order No. R9-2017-007 pursuant to requirements of CWA Section 301(j)(5):

- monthly average system-wide removal of TSS of 80%
- annual average system-wide removal of BOD of 58%

COMMITMENT TO PURE WATER SAN DIEGO

In the prior NPDES permit renewal application, the City introduced its goal of implementing a comprehensive water reuse program called Pure Water San Diego. Pure Water San Diego is a long-term program that would provide a safe, reliable and cost-effective potable water supply for San Diego through the application of advanced treatment technology to purify recycled water. As such the Pure Water San Diego Program is a joint water and wastewater facilities plan with the goal of producing water suitable for potable reuse, while significantly reducing and improving the discharge to the ocean from the PLWTP. As part of this plan, wastewater normally directed to the PLWTP will be diverted to upstream treatment facilities where

purified water will be produced. By December 31, 2035, it is anticipated that approximately 50% of San Diego's potable water demand will be met by this system of purifying wastewater. Additionally, the flows and loads to the PLWTP will be reduced resulting in less flow, as well as the associated pollutants, being discharged to the ocean. The City's commitment to implement Pure Water San Diego is reflected in Order No. R9-2017-0007, as the Order includes a schedule of proposed Pure Water San Diego implementation tasks.

Pure Water San Diego is being implemented in two phases: Phase 1, the North City Pure Water Project and Phase 2, the Central Area Project.

Phase 1 advanced treatment facilities, the North City Pure Water Facility (NCPWF), will be co-located with the North City Water Reclamation Plant (NCWRP). Construction of Phase 1 facilities, including pipelines, pump stations, and treatment processes, has begun. Purified water will eventually be delivered to Miramar Reservoir and is regulated under a separate NPDES Permit, Order No. R9-2020-0001. Full operation of Phase 1 is expected to begin by December 31, 2027. At that time, it will remove 52 mgd of wastewater that would otherwise have been directed to the PLWTP and produce 30 mgd of purified water suitable for potable reuse, as well as 12 mgd of recycled water for irrigation and other uses.

Phase 2 (Central Area Project) is in the planning stages. This project includes siting of facilities, selecting the discharge location, determining regulatory requirements and the construction and operation of a demonstration facility. The Central Area Project is being designed to produce up to 53 mgd of purified water, for a cumulative total of 83 mgd by December 31, 2035. This NPDES application package will primarily address the Phase 1 project and its interface with the PLWTP. However, a schedule of tasks that are estimated to occur during the renewed permit period and that will lead to the ultimate production of 83 mgd of water suitable for potable reuse by December 31, 2035, is also included.

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). This regional collaboration was intended 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 PLWTP while also supporting efforts seeking administrative or legislative actions to achieve a streamlined permitting process for the PLOO discharge, such as OPRA II.

Table 1:
Summary of Pure Water San Diego Supporters

Category	Pure Water San Diego Supporters[1,2]
Cities and Districts (Members of the Metro Wastewater JPA)	• City of San Diego • City of Chula Vista • City of La Mesa • City of Del Mar • City of El Cajon • City of Lemon Grove • City of Poway • City of Coronado • City of Imperial Beach • City of National City • Padre Dam Municipal Water District • Otay Water District
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 and others	• 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 • Scientists from Scripps Institution of Oceanography

Table 1 Notes:

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 PLWTP while also supporting efforts seeking administrative or legislative actions to achieve a streamlined permitting process for the PLOO discharge such as OPRA II.

2. Table 1 is not inclusive of all regional supporters as it is a compilation of those providing written correspondence in support of OPRA II. Many others have verbally expressed their support.

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 PLWTP so that ultimate permitted discharge of TSS mass emissions are reduced and capped at levels that would have occurred if the 240-mgd PLWTP were to achieve permitted secondary treatment TSS concentration standards,
- support the City's application for renewed 301(h) modified TSS and BOD limits for the PLWTP, 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 permitting process for the PLOO discharge is streamlined such that arduous 301(h) is no longer required. Legislation (OPRA II) passed the U.S. House of Representatives in June 2021 and at the time of this application is awaiting Senate approval.

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 schedule of tasks for implementation of Pure Water San Diego be incorporated into in the renewed PLWTP 301(h) permit (Table 2). These are tasks that are expected to occur during the period for which it is anticipated that the renewed permit will be effective. Successor permits can contain updated schedules of tasks that will ultimately lead to the full implementation of Pure Water San Diego, resulting in production of 83 mgd of water suitable for potable reuse and a significant reduction in PLOO discharge flows and loads to the ocean.

Table 2:
Pure Water San Diego Potable Reuse Tasks for the Period of 2022-2028

Category	Task	Implementation Date[1,2,3]
Pure Water Phase 1 North City Pure Water Project[4]	Complete construction for North City potable reuse facility and pipelines	June 30, 2027
	Produce a cumulative total of at least 30 mgd of potable reuse	December 31, 2027
Pure Water Phase 2 Central Area Project[5,6]	Complete design of a central area small-scale facility at the PLWTP	June 30, 2023
	Begin Central Area Small-Scale Facility Operation[7]	June 30, 2025
	Issue Notices to Proceed (NTPs) for pre-design of potable reuse facility and pipelines[7]	June 30, 2025
	Issue Notice of Preparation for Central Area Project EIR[7]	December 31, 2026
	Issue NTPs for full design of potable reuse facility and pipelines[7]	June 30, 2027

Table 2 Notes:
1. The listed milestones are those that are expected to occur during the effective period of the renewed permit that is anticipated to potentially extend until the end of 2028.
2. This schedule is based on the current progress as of the date of submission of the permit renewal application.
3. Task completion dates may require modification in the future based on issues related to the regulatory approval schedule, environmental review issues, supply chain interruptions, legal challenges to the proposed program or projects, or other unforeseen circumstances.
4. Phase 1 Pure Water implements an ultimate annual average daily production of 30 mgd of water suitable for potable reuse.
5. Phase 2 Pure Water implements an ultimate annual average daily production of an additional 53 mgd of water suitable for potable reuse resulting in a cumulative total of 83 mgd. The tasks listed in Table 2 represent the work necessary during the renewed permit period to allow for the ultimate production of 83 mgd of water suitable for potable reuse by December 31, 2035.
6. Future permit applications prior to December 31, 2035, may also contain a schedule of tasks necessary to ensure completion and full operation of Phase 2 by December 31, 2035.
7. These tasks are dependent upon future approval by the Mayor and City Council of San Diego.

ALIGNMENT WITH STATE AND LOCAL RECYCLED WATER POLICIES

Consistency with the State Recycled Water Policy

The State Water Resources Control Board adopted Resolution No. 2009-011 on February 3, 2009, which was subsequently amended on December 11, 2018, (becoming effective April 8, 2019) that 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 will help achieve Recycled Water Policy goals by increasing regional recycled water use by 83 mgd by December 31, 2035.

Consistency with the Regional Board's Practical Vision

The San Diego Regional Board on November 13, 2013 adopted Resolution No. R9-2013-0153, which endorsed and supported implementation of the Practical Vision for achieving a sustainable water supply. Excerpts from the 2013 Practical Vision are below.

> "**A Vision for Achieving a Sustainable Local Water Supply**
>
> *In order to maintain and improve water quality and provide sufficient waterto 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 wastewater 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."*

On September 8, 2021, the Regional Board adopted a resolution No. R9-2021-00071 in support of a Regional Board Practical Vision update. Part of the 2021 Practical Vision is intended to "Support a sufficient, 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." Chapter 6 of the 2021 Practical Vision identifies a number of strategies for achieving a resilient local water supply. Among these strategies are:

- Efficiently permit indirect potable reuse projects for potable reuse projects for surface water and groundwater.
- Increase non-potable recycled water reuse.

The 301(h)-application submitted herein and the City of San Diego's commitment to implement the Pure Water San Diego Program align with the Regional Board's 2013 and 2021 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 is implemented by the Pure Water San Diego approach of decreasing future PLOO discharge flows and solids loads by developing upstream potable reuse facilities. In accordance with the 2013 Practical Vision "sustainable water supply" and the 2021 "resilient local water supply" elements, City's proposed reuse program reduces the region's dependence on imported water, improves mineral concentrations in local water supplies, maximizes reuse and resiliency of local water resources, and maintains and promotes the quality of ocean water and environment.

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1 Regional Board, 2021. San Diego Water Board Practical Vision. Available at: https://www.waterboards.ca.gov/sandiego/water_issues/programs/practical_vision/docs/practicalvision_2021_final_09082021.pdf. Last visited 2/12/2022.

METRO SYSTEM FACILITIES AND OPERATIONS

Appendix A presents a detailed description of current 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 1. Figure 2 presents a flow schematic of Metro System facilities and operations. As shown in Figures 1 and 2, primary Metro System facilities include:

- NCWRP
- Metropolitan Biosolids Center (MBC)
- South Bay Water Reclamation Plant (SBWRP)
- South Bay Ocean Outfall (SBOO)
- Pump Station 1
- Pump Station 2
- PLWTP and PLOO

Figure 2 also identifies the modifications to the system that will be completed with the implementation of Pure Water Phase 1. The North City Pure Water Project is identified in red in the figure. Pure Water Phase 1 and its relationship to the PLWTP and the discharge through the PLOO will be discussed in detail later in the new facilities section in this document.

Each of these Metro System facilities plays a key role in PLWTP operations and NPDES permit compliance. To augment system performance, the City has implemented an integrated chemical addition approach 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 PLWTP. The result of this program is that the PLWTP continues to achieve a high level of solids removal. Brief descriptions of primary Metro System facilities are presented below.

Figure 1: Metro System Facilities

North City Water Reclamation Plant

The 30-mgd NCWRP develops recycled water for delivery to customers in the North City region. Excess NCWRP treated wastewater is returned to the system for transport to the PLWTP. Waste solids are directed to the MBC for digestion and dewatering.

Metropolitan Biosolids Center

MBC digests and dewaters waste biosolids from the NCWRP and dewaters digested biosolids received from the PLWTP.

South Bay Water Reclamation Plant and South Bay Ocean Outfall

The 15-mgd SBWRP produces recycled water for customers within the South Bay region. Excess SBWRP treated wastewater is directed to the SBOO. Waste solids are directed to the PLWTP through the South Metro Interceptor and Pump Stations 1 and 2. Discharges of wastewater are regulated by a separate NPDES Permit, Order No. R9-2021-0011. Recycled water at the SBWRP is regulated by Waste Discharge Requirements contained within the SBWRP's Master Recycling Permit, Order No R9-2021-0015. Both renewed permits were adopted by the Regional Board in 2021.

The SBOO discharges wastewater approximately 3.5 miles off the coast of the International Border at a depth of approximately 95 feet.

Pump Stations 1 and 2

Pump Station 1 conveys wastewater from the southern portion of the Metro System through the South Metro Interceptor to Pump Station 2. Pump Station 2 conveys Metro System wastewater to the PLWTP. Pump Station 2 also provides initial screening and chemical addition.

Point Loma Wastewater Treatment Plant

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

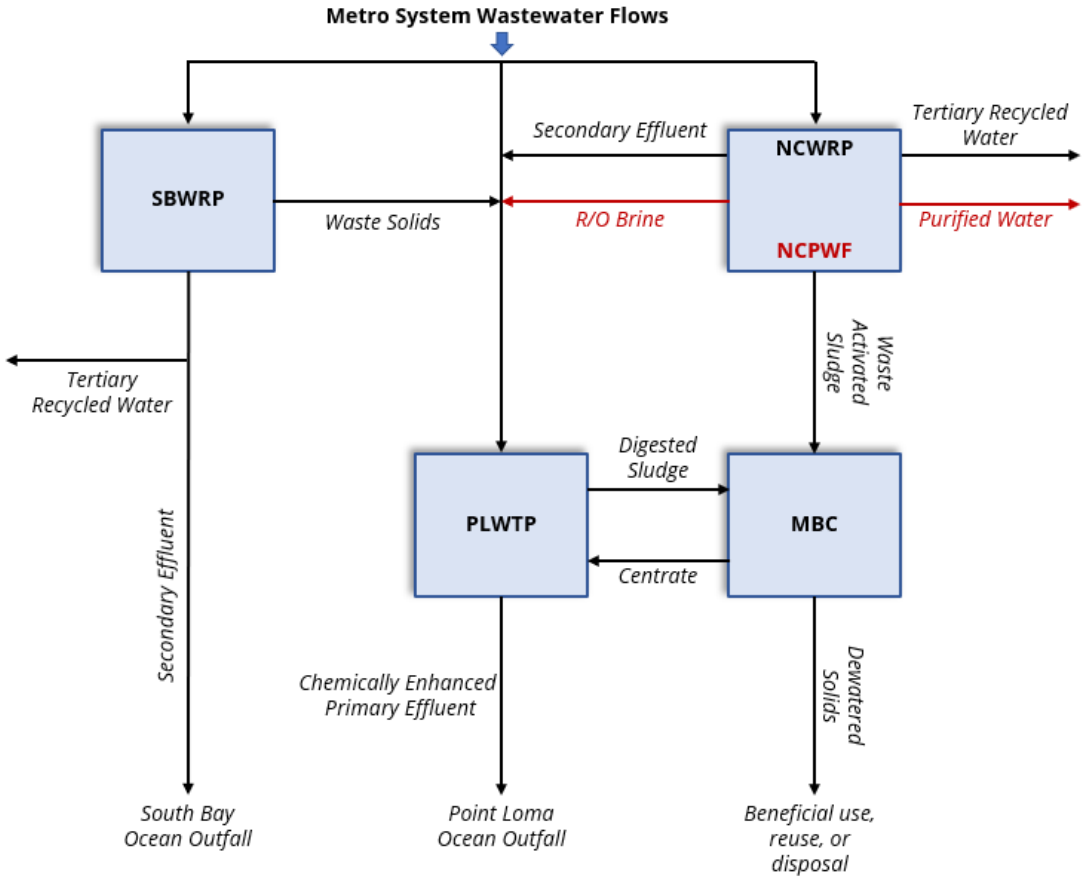
- screening
- grit removal
- chemically enhanced primary treatment to achieve at least 80% removal of influent suspended solids
- partial disinfection using sodium hypochlorite
- final screening

Point Loma Ocean Outfall

Treated wastewater from the PLWTP is discharged to the PLOO. The PLOO discharges wastewater approximately 4.5 statute miles off the coast of Point Loma at an average discharge depth of 310 feet. The PLOO diffuser system includes two diffuser legs each 2,496 feet long and 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 NCWRP to lessen solids loads directed to the PLWTP and to reduce the amount of wastewater discharged to the ocean
- development and marketing of recycled water supplies at the 15-mgd SBWRP to lessen PLWTP hydraulic loads and to reduce the amount of wastewater discharged to the ocean
- chemically enhanced primary treatment at the PLWTP to achieve a minimum of 80% removal (system-wide) of TSS and 58% removal (system-wide) of BOD,
- comprehensive monitoring to assess PLWTP 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
- comprehensive monitoring of ocean receiving waters, sediments, fish, and benthic species

Figure 2: Flow Schematic of Metro System Operations



Note: Red indicates facilities under construction and flows associated with the Phase 1 NCPWF, expected to be in operation by the end of calendar year 2027.

IMPLEMENTATION OF PURE WATER SAN DIEGO PHASE 1

Phase 1 of the Pure Water San Diego Program (North City Pure Water Project) is currently under construction with initiation of full operation anticipated by December 27, 2027. The NCWRP is permitted by Waste Discharge requirements contained in Order No. R9-2015-0091, adopted by the Regional Board on December 16, 2015. This permit will be updated in the future to accommodate the additional flows required to support the NCPWF as well as the recycled water customers. Discharge to Miramar Reservoir from the NCPWF is regulated by Order No. R9-2020-0001, as amended by R9-2020-0183, (NPDES CA0109398) adopted by the Regional Board on May 13, 2020 and amended on August 12, 2020.

The specific projects to be completed to implement Phase 1 include:

- NCWRP expansion of existing facilities nearly doubles the amount of recycled water produced to meet the needs of the NCPWF and the Recycled Water system
- Morena Pump Station: to pump additional wastewater to the NCWRP expansion
- Two 10.5-mile pipelines from the Morena Pump Station to the NCWRP expansion
    - A 48-inch pipeline to convey wastewater to the NCWRP
    - A 36-inch pipeline to convey residuals from the NCWRP to the sewer
- Improvements to MBC to handle the increased biosolids
- NCPWF - Advanced treatment processes to produce purified water, including:
    - Ozonation
    - Biological Activated Carbon Filtration
    - Membrane Filtration
    - Reverse osmosis
    - UV Disinfection and Advanced Oxidation
- Pure Water pipeline, 8 miles, to Miramar Reservoir
- Dechlorination facilities at Miramar Reservoir
- Underwater discharge pipe within the Reservoir
- Miramar Reservoir pump station upgrades

PURE WATER INTERFACE WITH THE PLWTP

As indicated in Figure 2, the northern area water reclamation activities remove flow that is normally influent to the PLWTP. Historically, a small return stream of dewatering and thickening centrate from biosolids processing at MBC, as well as excess secondary effluent from the NCWRP have been returned to the sewer and co-mingled with wastewater influent to the PLWTP. With the implementation of Pure Water Phase 1 these return streams will also include reverse osmosis brine generated at the NCPWF.

San Diego has operated the North City Demonstration Pure Water Facility (NCDPWF) for nearly 10 years, helping to collect data for the design of the Phase 1 facilities and to define regulatory requirements. The NCDPWF has also provided an understanding of the potential characteristics of the treatment process efficiencies, return stream characteristics and how this upstream advanced treatment will improve the PLWTP discharge. A detailed discussion of the interface between Pure Water Phase 1 and the PLWTP is presented in Appendix B.

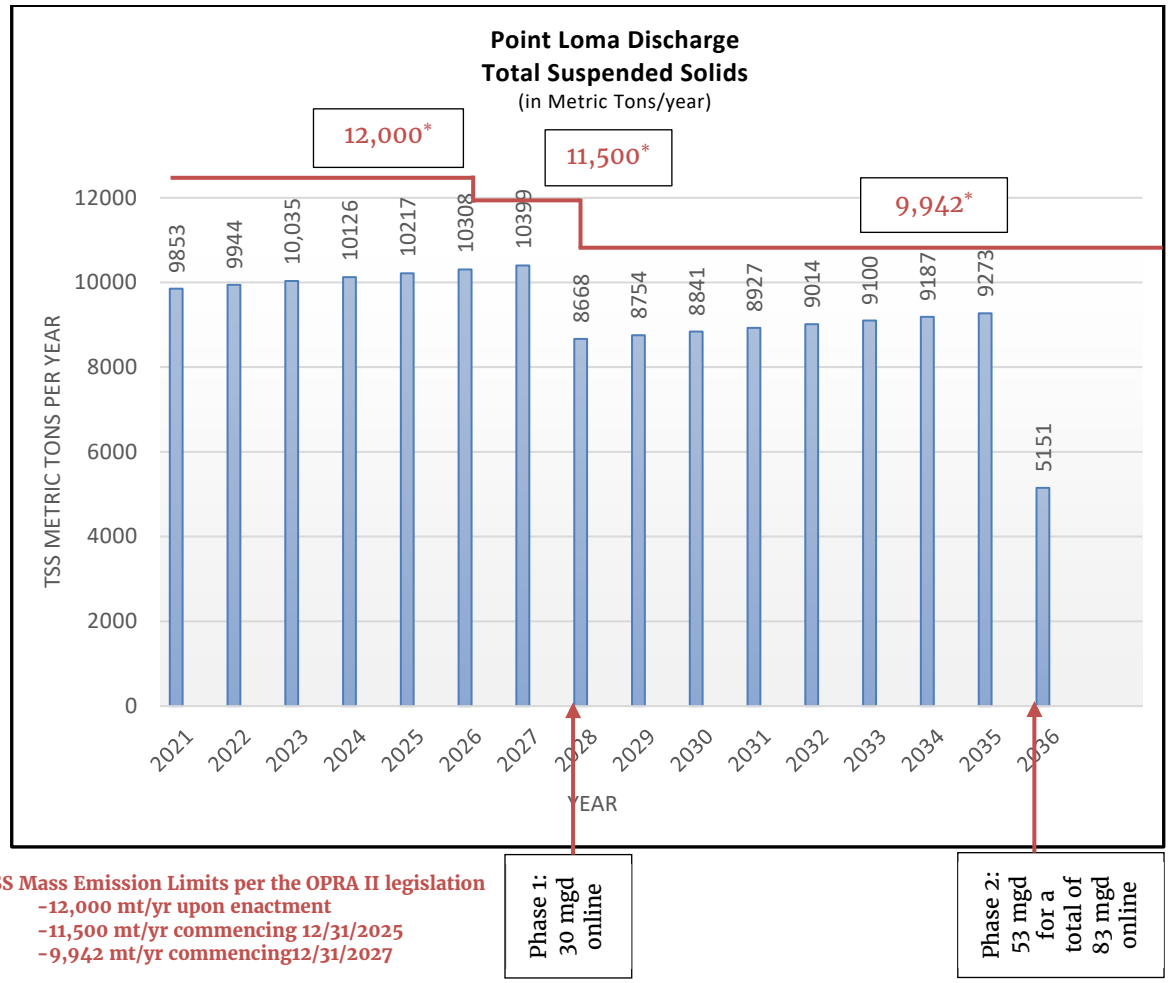
A comprehensive model has been developed to estimate flow and TSS reductions that will occur in the PLWTP discharge as a result of upstream diversions to the reclamation activities. Table 3 presents the reduction in the PLWTP discharge flow and Figure 3 presents TSS mass emission reductions, including demonstrating compliance with the limits established in the proposed OPRA II legislation.

Table 3:
Flow Reductions in PLWTP Discharge*

Phase/Year	Pt. Loma discharge without Pure Water (mgd)	Pt. Loma Discharge with Pure Water (mgd)	Reduction in Flow	
			mgd	percent
Phase 1: 2028	159	129	30	19%
Phase 2: 2036	166	82	84	50%

*Flow estimates based on conservative facilities planning projections and may overstate what is actually observed.

Figure 3: PLWTP Discharge of TSS



*TSS Mass Emission Limits per the OPRA II legislation
-12,000 mt/yr upon enactment
-11,500 mt/yr commencing 12/31/2025
-9,942 mt/yr commencing12/31/2027

Note: These planning projections are conservative and overstate what the actual values are likely to be. This method is used to ensure that planning for future system improvements are initiated such that adequate facilities are always in place to meet the wastewater system needs and regulatory requirements.

The implementation of Pure Water San Diego demonstrates the City's commitment to not only develop a local source of potable drinking water; but to also reverse the historical methodology of disposing of treated wastewater into the ocean.

BASIS OF THE APPLICATION

This application for renewal of 301(h)/301(J)(5) 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). However, as described in this document the current discharge described herein will become significantly improved by the implementation of Pure Water Phase 1 that will occur during the effective period of the renewed permit (see Implementation of Pure Water Phase 1, including Table 3 and Figure 3).

The application will demonstrate compliance with the requirements of 301(h) and 301(J)(5).

It will also demonstrate compliance with the provisions of OPRA II should it be enacted prior to the final action on the renewed permit.

PROPOSED TOTAL SUSPENDED SOLIDS MASS EMISSION RATES

Table 4 presents the proposed permitted TSS mass emissions rates (MER) for the renewed NPDES CA0107409.

Table 4: Proposed TSS MER rates
(Expressed as mt/yr)

Year of NPDES Permit	Existing TSS MER Established in Order No. R9-2017-0007[1] (effective October 1, 2017)	Proposed TSS MER Renewal of NPDES CA0107409[1, 2]	TSS MER Renewal of NPDES CA0107409[1,3] *To Be Effective Upon Enactment of OPRA II*
Year 1	12,000	11,999	11,500 Commencing on December 31, 2025
Year 2	12,000	11,999	
Year 3	12,000	11,999	9,942[4] Commencing on December 31, 2027
Year 4	12,000	11,999	
Year 5	11,999	11,998	

Table 4 Notes:

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) SBWRP flows discharged to the SBOO, and (5) emergency use of the Metro System participating agencies over their capacity allotment

2 PLWTP TSS MERs proposed as part of this application for renewal of NPDES CA0107409. TSS MER limits of 11,999 mt/year are proposed for years 1 through 4 of the renewed NPDES permit, and a TSS MER of 11,998 mt/year is proposed for year 5 of the permit.

3 PLWTP TSS MERs to be effective on the listed dates should the OPRA II or equivalent federal legislation be enacted during the renewal process or effective period of this permit.

4 The 9,942 mt/yr TSS MER rate is equivalent to what the PLWTP would be allowed to discharge at its present full permitted capacity under secondary treatment standards.

DISCHARGE COMPLIANCE

The PLOO discharge has achieved 100% compliance with the 301(h) modified TSS and BOD limits established in Order No. R9-2017-0007.

TSS Percent Removal

The PLOO discharge achieved 100% compliance with the minimum monthly TSS system-wide percent removal requirement of 80% and the facility removal requirement for the minimum monthly removal requirement of 75%. Since Order No. R9-2017-0007 became effective in October 2017, system-wide TSS removal rates have ranged from 85% to more than 90%. In the absence of a 301(h) modification, federal secondary treatment standards (40 CFR 133.102) mandate 85% removal of TSS. To date, the PLWTP has achieved 85% TSS removal or better during each month since Order No. R9-2017-0007 became effective on October 1, 2017. As shown in Tables 5 and 6, 100% compliance was achieved with the 80% system-wide TSS removal requirement and the Ocean Plan2 75% facility removal requirement established in Order No. R9-2017-0007.

Table 5 summarizes monthly average Metro System system-wide TSS removal and Table 6 summarizes the average monthly facility removal during 2017-2020.

Table 5:
System-Wide TSS Removal 2017-2020: Compliance with 80% TSS Removal Requirement

Month	System-Wide TSS Percent Removal[1,2]			
	2017[3]	2018	2019	2020
Jan	90.4	89.8	85.8	90.0
Feb	90.4	89.7	87.6	88.9
Mar	91.0	89.7	88.3	89.5
Apr	91.1	91.2	89.4	89.0
May	90.5	90.1	90.1	91.2
Jun	89.6	86.9	90.3	90.9
Jul	89.7	89.5	90.6	91.1
Aug	88.6	89.3	90.4	90.8
Sep	91.0	89.6	89.9	91.1
Oct	90.7	89.5	87.7	91.1
Nov	89.8	89.6	88.2	89.7
Dec	85.5	86.6	89.8	89.7
Annual Average	89.9	89.3	89.0	90.3
Maximum Month	91.1	91.2	90.6	91.2
Minimum Month	85.5	86.6	85.8	88.9

Table 5 Notes:
1 TSS percent removal computed on a system-wide basis. Data from PLOO annual monitoring reports submitted to theRegional Board for 2017-2020. Calendar year 2020 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 2021 can be electronically transmitted to regulators under separate cover when available in 2022.
2 Permit compliance standards is 80% removal on an average monthly basis.
3 Order No. R9-2017-0007 became effective on October 1, 2017. Data are presented for the entire 2017 calendar year.

2 *Water Quality Control Plan Ocean Waters of California* (State Water Resources Control Board, 2019).

Table 6:
Facility TSS Removal 2017-2020: Compliance with 75% TSS Removal Requirement

Month	Facility TSS Percent Removal[1,2]			
	2017[3]	2018	2019	2020
Jan	90.0	90.0	84.7	89.5
Feb	89.9	90.0	87.1	88.2
Mar	90.7	89.6	87.7	88.9
Apr	90.8	90.8	88.9	88.9
May	90.0	89.6	89.9	90.6
Jun	88.9	87.0	89.8	90.3
Jul	89.2	89.0	90.4	90.6
Aug	88.0	88.9	90.0	90.4
Sep	90.8	89.3	89.6	90.8
Oct	90.2	89.1	87.0	91.1
Nov	89.4	89.2	87.6	89.3
Dec	84.8	85.6	89.3	89.2
Annual Average	89.4	89.0	88.5	89.8
Maximum Month	90.8	90.8	90.4	91.1
Minimum Month	84.8	85.6	84.7	88.2

Table 6 Notes:
1 TSS percent removal computed on a PLWTP basis. Data from PLOO annual monitoring reports submitted to the Regional Board for 2017-2020. Calendar year 2020 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 2021 can be electronically transmitted to regulators when available in 2022.
2 Permit standard is 75% removal for the PLWTP on an average monthly basis.
3 Order No. R9-2017-0007 became effective on October 1, 2017. Data are presented for the entire 2017 calendar year.

TSS Concentration Limit

In addition to establishing percent removal requirements, Order No. R9-2017-0007 established a TSS monthly average effluent concentration limit of 60 milligrams per liter (mg/L). Table 7 summarizes monthly average TSS concentrations during 2017-2020. As shown in the table, the PLWTP attained 100% compliance with the TSS effluent concentration limit. Monthly average PLWTP TSS concentrations during 2017-2020 ranged from 30 mg/L to 52 mg/L.

Table 7:
PLWTP Effluent TSS Concentrations 2017-2020: Compliance with 60 mg/L TSS Effluent Limitation

Month	Monthly Average PLWTP TSS Concentration[1,2]			
	2017[3]	2018	2019	2020
Jan	30	35	48	35
Feb	34	35	41	40
Mar	30	36	42	34
Apr	32	35	42	33
May	34	36	38	32
Jun	40	45	38	33
Jul	40	39	38	33
Aug	42	38	38	34
Sep	34	38	39	32
Oct	34	38	46	31
Nov	37	40	44	36
Dec	52	45	34	36
Annual Average	37	38	41	34
Maximum Month	52	45	48	40
Minimum Month	30	35	34	31

Table 7 Notes:
1 Data from PLOO annual monitoring reports submitted to the Regional Board for 2017-2020. Calendar year 2020 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 2021 can be electronically transmitted to regulators when available in 2022.
2 Permit requirement is not to exceed 60 mg/L on an average monthly basis.
3 Order No. R9-2017-0007 became effective on October 1, 2017. Data are presented for the entire 2017 calendar year.

TSS Mass Emissions

The PLOO effluent discharge has also achieved 100% compliance with TSS mass emission limits established in Order No. R9-2017-0007. Further, TSS mass emissions have been reduced during the period of record for modified 301(h) TSS and BOD requirements (1995 to present). Figure 4 presents the average annual TSS mass emissions during each modified permit period since the approval of the first modified permit, Order No. 95-06, in 1995. Figure 5 further demonstrates the consistent reduction in TSS mass emissions achieved by improvements in PLWTP performance and the diversions to upstream water recycling facilities, as prescribed by the original OPRA legislation.

Figure 4: Average Annual PLOO TSS MERs (mt/yr) During Effective Periods of Current and Prior Modified NPDES Permits

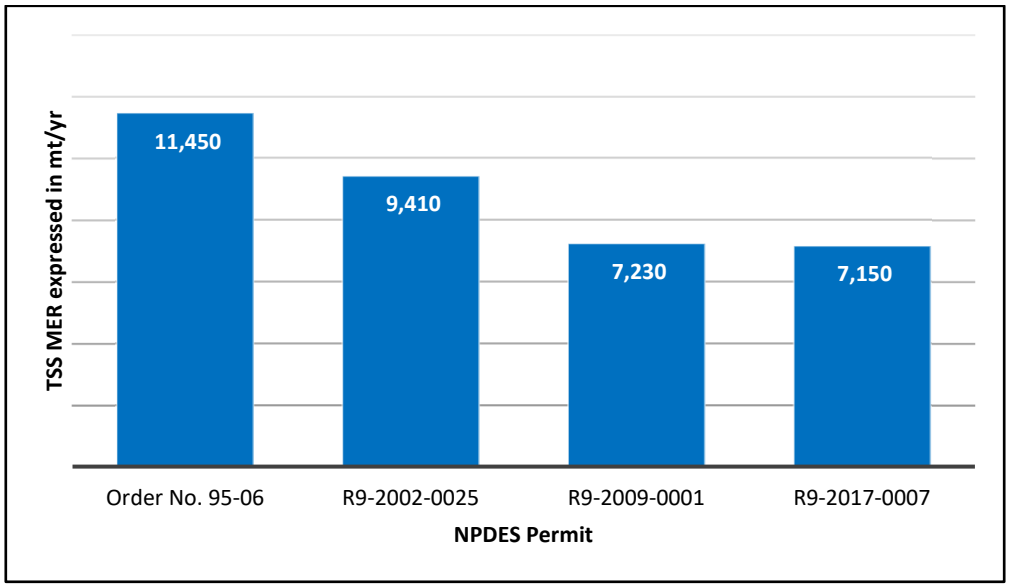
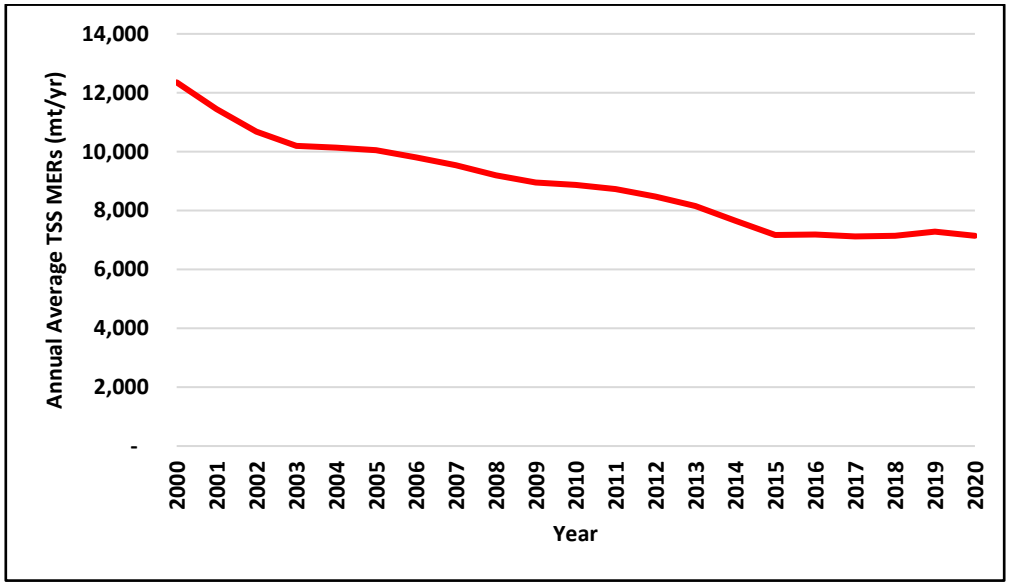


Figure 5: 10-Year Running Average of Annual Average PLOO TSS MERs (mt/yr), 2000-2020



BOD Percent Removal

Table 8 summarizes system-wide BOD removal achieved by Metro System facilities during 2017-2020. As shown in Table 8, 100% compliance was achieved with both the system-wide annual average 58% BOD removal requirement.

Table 8:
System-Wide BOD Removal, 2017-2020: Compliance with 58% BOD Removal Requirement

Month	System-Wide BOD Percent Removal[1]			
	2017[2]	2018	2019	2020
Jan	65.2	60.3	60.6	62.8
Feb	64.4	60.5	57.0	60.4
Mar	65.3	62.1	61.8	62.0
Apr	64.4	62.6	62.0	64.1
May	63.0	61.9	62.5	64.5
Jun	61.3	60.3	61.1	62.9
Jul	60.4	64.4	60.8	63.3
Aug	60.5	61.6	60.5	64.1
Sep	62.9	62.7	61.7	64.7
Oct	64.8	62.9	59.0	63.4
Nov	63.2	63.4	61.7	61.7
Dec	58.3	59.2	63.4	63.4
Annual Average[3]	62.8	61.8	61.0	63.1
Maximum Month	65.3	64.4	63.4	64.7
Minimum Month	58.3	59.2	57.0	60.4

Table 8 Notes:
1 BOD percent removal (5-day BOD) computed on a system-wide basis. Data from PLOO annual monitoring reports submitted to the Regional Board for 2017-2020. Calendar year 2020 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 2021 can be electronically transmitted to regulators when available in 2022.
2 Order No. R9-2017-0009 became effective on October 1, 2017. Data are presented for the entire 2017 calendar year.
3 Permit standard is 58% removal on an annual average basis.

Flow and Load Projections

Table 9 present the flow and loads projections for a future facility planning period of 20 years (2021 – 2041). The table presents both facilities planning projections as well as most probable projections. Facilities planning projections are conservative and overstate what actual values are projected to be. However, this conservative methodology ensures that adequate facilities are always in place. Recent actual values are included to put the projections into perspective with one another.

In either case, both the facilities planning, and the most probable projections presented in Table 9, demonstrate continued and future compliance with the provisions of 301(h), 301(j)(5) (OPRA I), and the potential OPRA II requirements. Table 9 also illustrates the significant improvement in the PLOO discharge as a result of upstream diversion to the Pure Water San Diego Program facilities.

Table 9:
Flow and load Projections for the Point Loma Outfall Discharge[1, 2, 3]

Actual Measured Values[4]									
Year	**Total Metro System[5]**	**PLOO Discharge[6]**							
	Flow[3] (mgd)	Flow[3] (mgd)		Annual TSS MER[3] (mt/yr)		TSS Concentration[3] (mg/L)		Biochemical Oxygen Demand – 5-day (BOD_5) Concentration[3] (mg/L)	
2017	163.3	139.3		7,112		37		124	
2018	163.1	139.0		7,293		38		133	
2019	168.1	143.9		8,155		41		131	
2020	168.6	144.3		6,744		34		132	
2021[3]	163.7	139.7		6,371		33		137	
Projected Values[4,7]									
Year	**Total Metro System[5]**	**PLOO Discharge[6]**							
	Flow[3] (mgd)	Flow[3] (mgd)		Annual TSS MER[3] (mt/yr)		TSS Concentration[3] (mg/L)		BOD_5 Concentration[3] (mg/L)	
		Facilities Planning Based[7]	Most Probable[8]	Facilities Planning Based[7]	Most Probable[8]	Facilities Planning Based[7]	Most Probable[8]	Facilities Planning Based[7]	Most Probable[8]
2021	178.4	154.0	140.0	9,853	7,159	46	37	142	132
2022	179.2	154.7	140.6	9,944	7,192	46	37	143	133
2023	180.0	155.4	144.2	10,035	7,415	47	38	144	134
2024	180.8	156.1	141.8	10,126	7,447	47	38	145	135
2025	181.7	156.8	142.4	10,217	7,664	47	38	145	135
2026	182.5	157.7	143.3	10,308	7,691	47	38	145	135
2027	183.5	158.5	144	10399	7,761	48	39	146	137
2028[9]	184.5	**128.8[9]**	**114.3[9]**	**8,668[9]**	**6,161[9]**	49	39	149	140
2029	185.5	129.7	115.1	8,754	6,204	49	39	149	140
2030	186.4	130.6	115.8	8,841	6,241	49	39	150	141
2031	187.3	131.4	116.6	8,927	6,285	49	39	150	141
2032	188.3	132.3	117.4	9,014	6,490	50	40	151	142
2033	189.3	133.0	118.4	9,100	6,545	50	40	151	141
2034	190.3	134.0	119.0	9,187	6,578	50	40	152	142
2035	191.3	134.9	119.8	9,273	6,623	50	40	152	142
2036[10]	191.8	**81.8[10]**	**66.8[10]**	**5,151[10]**	**3,323[10]**	46	36	130	120
2037	192.4	82.3	67.2	5,199	3,343	46	36	130	120
2038	193.0	82.9	67.7	5,247	3,368	46	36	131	121
2039	193.6	83.4	68.1	5,295	3,383	46	36	131	121
2040	194.3	84.0	68.6	5,343	3,413	46	36	132	122
2041	194.9	84.5	69.0	5,391	3,433	46	36	132	122

Table 9 Notes:
1 These projections cover a 20-year planning period that extends to 2041.
2 Projections based on the SANDAG Series 13 population projections.
3 All flows reported as annual average daily flows; TSS & BOD_5 concentrations as annual daily averages. Actual 2021 data were preliminary at the time this application was compiled and may be subject to change.

4 Actual values are presented for several years preceding the projected values in order to put them into context with the projections. This illustrates the necessity for expressing both planning projections, as well as flows and loads most probable to be realized.
5 Total Metro System flows are all wastewater generated within the Metropolitan Wastewater System Service area.
6 Flows discharged through the PLOO are the remaining total Metro System flows treated at the PLWTP after having been reduced by (1) upstream recycled water production and use, (2) diversion of flows to the SBWRP, City of Del Mar, Otay Water District, Padre Dam Municipal Water District, and (3) upstream production and use of purified water. Projected PLOO flows include reverse osmosis reject (brine) from upstream advanced water purification facilities constructed as part of the Pure Water San Diego Program and centrate from the MBC facilities, and sludge from the SBWRP that are comingled with influent flow to the PLWTP.
7 Planning flow and load projections are conservative and although overstating what the actual flows and loads will be, this method is used to insure that planning for future system improvements are initiated such that adequate facilities are always in place to meet the wastewater system needs and regulatory requirements.
- Planning flow and load projections are expressed as annual average daily flows and include wet weather impacts expressed as an I & I component reflective of 10-year storm events.
- Planning flow projections were determined by the same modeling procedure that has been used for future facilities planning and the Pure Water Program.
- Planning load projections are conservatively based on the highest waste strengths observed during the last 5 years. TSS and BOD_5 concentrations are projected to increase in future years as ongoing conservation reduces per capita flow; but per capita TSS and BOD_5 contributions remain unchanged.
8 Most probable flow projections are derived from the average of recent actual flow and load values and propagated using the same incremental adjustments as the facilities planning flow and load projections.
9 PLOO discharge flows and loads reduced by the implementation of 30 mgd of upstream potable reuse.
10 PLOO discharge flows and loads reduced by the implementation of an additional 53 mgd of upstream potable reuse (for a total of 83 mgd of potable reuse).

COMPLIANCE WITH REQUIREMENTS FOR A MODIFIED DISCHARGE PERMIT

The 301(h)-renewal application demonstrates compliance with the following provisions:

- ***Compliance with 301(h) requirements***

This application is organized to provide significant detail demonstrating compliance with the 301(h) requirements for approval of modified discharge standards for TSS and BOD. See the organization of the application in Table 10 and the summary of findings and the key discharge issues addressed in the application in Table 11.

- ***Compliance with specific 301(J)(5) requirements (OPRA)***
    - ✓ 100% compliance with 80% removal of TSS (monthly average)
    - ✓ 100% compliance with 58% removal of BOD (annual average)
    - ✓ 100% compliance with reducing the emissions of TSS during the period of modification
    - ✓ Completed construction of the 30-mgd NCWRP and the 15-mgd SBWRP by 2010 for a total of 45 mgd.
- ***Compliance with specific OPRA II requirements should it be enacted during the renewal process for this permit***
    - ✓ 100% compliance with 80% removal of TSS (monthly average)
    - ✓ 100% compliance with 58% removal of BOD (annual average)
    - ✓ 100% compliance with the total suspended effluent limit of 60 mg/L
    - ✓ Compliance with current and projected mass emissions of TSS

- ✓ 10 consecutive years of ocean monitoring required of a 301(h) modified permit
- ✓ Continuation of an ocean monitoring program equivalent to what is required of a 301(h) modified permit
- ✓ Continuation of the Urban Area Pretreatment Program as would be required by a 301(h) modified permit
- ✓ Compliance will all appropriate anti-degradation regulations

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. R9-2017-0007. 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 Order No. R9-2009-0001 that was further referenced in R9-2017-0007 (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 these 301(h) applications are summarized in Table 10.

Table 10:
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	Planned Metro System Facilities Improvements
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 Assessments Appendix C.4 Assessment of Macrobenthic Communities Appendix C.5 Bioaccumulation Assessment
Volume VI	Appendix D	2017-2020 Pt. Loma Plume Behavior & Tracking Summary
	Appendix E	2017-2020 Kelp Forest Ecosystem Monitoring Summary
	Appendix F	2017-2020 Coastal Remote Sensing Summary
	Appendix G	Summary of 2017-2020 ROV Surveys for Outfall Integrity
Volume VII	Appendix H	Beneficial Use Assessment
	Appendix I	Endangered Species Assessment
	Appendix J	Essential Fish Habitat Assessment
	Appendix K	Proposed Monitoring Program
Volume VIII	Appendix L	2020 Annual Biosolids Report
Volume IX	Appendix M	2020 Annual Pretreatment program Report
	Appendix N	2020 Pretreatment Program Local Limits Update
Volume X	Appendix O	Re-entrainment
	Appendix P	Oceanography
	Appendix Q	Initial Dilution Simulations Models
	Appendix R	Dissolved Oxygen Demand
	Appendix S	Analysis of Ammonia
	Appendix T	2019 California Ocean Plan
	Appendix U	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 PLWTP has achieved 100% compliance with concentration, percent removal, and mass emission limits for TSS and BOD established in Order No. R9-2017-0007.
- The Point Loma discharge meets the statutory requirements of CWA Sections 301(h) and 301(j)(5) for receiving modified TSS and BOD 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% of the time and maintains the waste field 180 feet below the surface under typical conditions.
- Effluent disinfection at the PLWTP ensures compliance with 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 (BIP) of fish, shellfish, and wildlife exists beyond the zone of initial dilution (ZID).
- 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 (ROVs) 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 polychlorinated biphenyls (PCBs), dichlorodiphenyltrichoroethane (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's Industrial Wastewater Control Program's enhanced source control program complies with the requirements of the Urban Area Pretreatment Program and 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 production at the two water reclamation plants. Additionally, the City is moving forward with the proposed Pure Water San Diego Program, implementing two large-scale potable water reuse projects which create a safe, reliable, and cost-effective source of potable supply while significantly offloading PLWTP inflows and solids loads and further reducing TSS, and associated pollutant mass emissions discharged to the ocean through the PLOO.

Table 11 summarizes the overall findings of the comprehensive scientific studies on which this NPDES and 301(h) application are based. Table 11 also summarizes conclusions and compliance issues addressed in EPA's August 4, 2017 Final Decision on the City's prior 301(h) application.

Table 11:
Summary of Key Discharge Issues Addressed in this Application

Category	Finding from 2017 EPA Final 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 of the 2017 EPA Final 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% 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% and BOD removal of approximately 61% during the effective period of Order No. R9-2017-0007.
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 2017 EPA Final Decision)	Does the outfall discharge discernibly impact receiving water light transmittance or dissolve oxygen?	The Point Loma discharge complies with Ocean Plan requirements that prohibit discharges from reducing light transmittance or dissolved oxygen by more than 10% 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 2017 EPA Final Decision)	Does the discharge comply with applicable water quality standards?	The PLOO discharge complies with all applicable 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.
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 BIP of fish, shellfish and wildlife, and will allow for recreational activities.* (Finding #4 of the 2017 EPA Final Decision)	No public water supplies are endangered.	No impact on existing or planned water supplies. The 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.

Category	Finding from 2017 EPA Final Decision Document[1]	Key Questions Addressed in Attached Application	Conclusions from Attached Application
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 2017 EPA Final 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 BIP is maintained beyond the PLOO 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.

Category	Finding from 2017 EPA Final Decision Document[1]	Key Questions Addressed in Attached Application	Conclusions from Attached Application
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 2017 EPA Final 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. R9-20017-0007, which became effective on October 1, 2017, implemented 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 partially disinfected, and the outfall extends approximately 4.5 miles offshore (outside the three nautical mile state- regulated limit). Receiving water data collected during 2017-2020 indicate no outfall-related exceedances of 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.
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 2017 EPA Final 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 2017 EPA Final 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.

Category	Finding from 2017 EPA Final Decision Document[1]	Key Questions Addressed in Attached Application	Conclusions from Attached Application
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 2017 EPA Final 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 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 2017 EPA Final 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 MERs 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 PLWTP within the renewed 301(h) NPDES permit.

Category	Finding from 2017 EPA Final 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 2017 EPA Final 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 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 Board.
Compliance with Section 301(j)(5) of the Clean Water Act	*12. In its operation of the PLWTP, 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 2017 EPA Final 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% removal of BOD (annual average) and 80% removal of TSS (monthly average) on a system-wide basis. The City has achieved a system-wide average TSS removal of approximately 89% and average BOD removal of approximately 61% during the effective period of Order No. R9-2017-0007. Since the approval of the initial modified permit in 1995 there has been a significant reduction in the quantify of TSS discharged into the marine environment when compared to the previous permit periods. As further required within CWA Section 301(j)(5), the City has constructed 45 mgd of recycled water production capacity.

Table 11 Notes:
1 Findings presented within: Final Decision of the Regional Administrator Pursuant to 40 CFR Part 125, Subpart G, City of San Diego's PLWTP, Application for a Modified NPDES Permit Under Section 301(h) and 301(J)(5) of the CWA. U.S. EPA, Region IX, August 4, 2017. EPA final approval of the City's 301(h) modified permit (NPDES CA0107409) was issued on August 4, 2017 and became effective October 1, 2017.

PART 2:
NPDES APPLICATION FORMS

City of San Diego
Public Utilities Department

March 2022

The City of SAN DIEGO

NPDES Application Forms

Table of Contents

Note: EPA Form 3150 (EPA Form 1) is no longer required for Publicly Owned Treatment Works.

Application Certification Statement

Renewal of NPDES CA0107409

The City of SAN DIEGO

Signatory and Certification Statement to the NPDES CA0107409 Permit Renewal Application

I certify that: I am the principal executive officer or ranking official.

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

Signature	
Name	Juan Guerreiro
Title	Interim Director, Public Utilities Department
Date	3/17/2022
Organization	City of San Diego, Public Utilities Department
Address	9192 Topaz Way, MS 901
	San Diego, CA 92123
Phone Number	858-292-6401

EPA Form 2A

Renewal of NPDES CA0107409

The City of SAN DIEGO

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
	CA0107409	E.W. Blom Point Loma Wastewater Treatment Plant	

Form 2A NPDES

U.S. Environmental Protection Agency
Application for NPDES Permit to Discharge Wastewater
NEW AND EXISTING PUBLICLY OWNED TREATMENT WORKS

SECTION 1. BASIC APPLICATION INFORMATION FOR ALL APPLICANTS (40 CFR 122.21(j)(1) and (9))

Facility Information

1.1 Facility name
E.W. Blom Point Loma Wastewater Treatment Plant

Mailing address (street or P.O. box)
City of San Diego Public Utilities Department; 9192 Topaz Way, MS 901

City or town	State	ZIP code
San Diego	CA	92123

Contact name (first and last)	Title	Phone number	Email address
Juan Guerreiro	Interim Director Public Utilities Department	(858) 292-6401	JGuerreiro@sandiego.gov

Location address (street, route number, or other specific identifier) ☑ Same as mailing address
1902 Gatchell Road

City or town	State	ZIP code
San Diego	CA	92105

1.2 Is this application for a facility that has yet to commence discharge?
☐ Yes ➔ See instructions on data submission requirements for new dischargers. ☑ No

Applicant Information

1.3 Is applicant different from entity listed under Item 1.1 above?
☐ Yes ☑ No ➔ SKIP to Item 1.4.

Applicant name
See above Section 1.1

Applicant address (street or P.O. box)
See above

City or town	State	ZIP code
See above		

Contact name (first and last)	Title	Phone number	Email address
See above			

1.4 Is the applicant the facility's owner, operator, or both? (Check only one response.)
☐ Owner ☐ Operator ☑ Both

1.5 To which entity should the NPDES permitting authority send correspondence? (Check only one response.)
☐ Facility ☐ Applicant ☑ Facility and applicant (they are one and the same)

Existing Environmental Permits

1.6 Indicate below any existing environmental permits. (Check all that apply and print or type the corresponding permit number for each.)

Existing Environmental Permits		
☑ NPDES (discharges to surface water) NPDES CA0107409	☐ RCRA (hazardous waste) Not applicable	☐ UIC (underground injection control) Not applicable
☐ PSD (air emissions) See Attached - Page 1a	☑ Nonattainment program (CAA) See Attached - Page 1a	☑ NESHAPs (CAA) See Attached Page 1a
☐ Ocean dumping (MPRSA) Not applicable	☐ Dredge or fill (CWA Section 404) Not applicable	☐ Other (specify) Not applicable

EPA Form 3510-2A – Section 1, Part 1.6
Air Quality Permits Issued by the San Diego County Air Pollution Control District
Point Loma Wastewater Treatment Plant and Metro Biosolids Center

Type of Permit **Clean Air Act**	**San Diego County Air Pollution Control District (APCD)** **Permit Number**
Non-Attainment Program[1]	• APCD2002-PTO-961008 (Title V permit)[2] • APCD2002-PTO-960190 (Boiler 1) • APCD2002-PTO-960191 (Boiler 2) • APCD2002-PTO-960192 (Boiler 3) • APCD2002-PTO-960193 (Boiler 4) • APCD2008-PTO-961215 (GUF emergency engine) • APCD2004-PTO-961168 (GUF Engine 1 South) • APCD2004-PTO-961169 (GUF Engine 2 North) • APCD2015-PTO-002381 (Five prime diesel engines) • APCD2016-PTO-002650 (Dewatering pump 1) • APCD2016-PTO-002649 (Dewatering pump 2) • APCD2009-PTO-950315 (Flares and Digesters) • APCD2006-PTO-930297 (Odor systems 1, 2, 3, 4, 5, 7, and 8) • APCD2006-PTO-940189 (Odor system 9)
National Emission Standards for Hazardous Air Pollutants (NESHAP) Equipment under 40 CFR Part 63 Subpart ZZZZ (Stationary Reciprocating Internal Combustion Engines)[3]	• APCD2008-PTO-961215 (GUF emergency engine) • APCD2004-PTO-961168 (GUF Engine 1 South) • APCD2004-PTO-961169 (GUF Engine 2 North)
National Emission Standards for Hazardous Air Pollutants (NESHAP) Equipment under 40 CFR Part 63 Subpart DDDDD (Boilers and Process Heaters)[4]	• APCD2002-PTO-960190 (Boiler 1) • APCD2002-PTO-960191 (Boiler 2) • APCD2002-PTO-960192 (Boiler 3) • APCD2002-PTO-960193 (Boiler 4

1 Operating permits issued by the San Diego County Air Pollution Control District (APCD) for reducing pollutant loads in accordance with the Attainment Plan adopted by the APCD.

2 Operating permits issued by the San Diego County APCD pursuant to Title V of the Clean Air Act, which regulates facilities that meet regulatory designations as a major source of pollutants.

3 Permits issued by the San Diego County APCD pursuant to Title 40, Part 63, Subpart ZZZZ (40 CFR 63, Subpart ZZZZ) of the *Code of Federal Regulation*s to implement national emission limitation and standards for hazardous air pollutants (HAPs) emitted from stationary reciprocating internal combustion engines.

4 Permits issued by the San Diego County APCD pursuant to Title 40, Part 63, Subpart DDDDD (40 CFR 63, Subpart DDDDD) of the *Code of Federal Regulation*s to implement national emission limitation and standards for HAPs emitted from industrial, commercial and institutional boilers and process heaters.

Collection System and Population Served

1.7 Provide the collection system information requested below for the treatment works.

Municipality Served	Population Served	Collection System Type (indicate percentage)	Ownership Status
City of San Diego	1.454 million	100 % separate sanitary sewer 0 % combined storm and sanitary sewer ☐ Unknown	☑ Own ☑ Maintain ☐ Own ☐ Maintain ☐ Own ☐ Maintain
Metro System Agencies*	0.849 million*	100 % separate sanitary sewer 0 % combined storm and sanitary sewer ☐ Unknown	☑ Own ☑ Maintain ☐ Own ☐ Maintain ☐ Own ☐ Maintain
*See attached page 2a for a list of Metro System agencies and population projections for future years. The listed populations are based on SANDAG population estimates for 2020. All contributing sewer collection facilities are 100% separate sanitary sewer (0% combined storm/sanitary sewer) for all agencies contributing flow to the Metro System.		____ % separate sanitary sewer ____ % combined storm and sanitary sewer ☐ Unknown	☐ Own ☐ Maintain ☐ Own ☐ Maintain ☐ Own ☐ Maintain
		____ % separate sanitary sewer ____ % combined storm and sanitary sewer ☐ Unknown	☐ Own ☐ Maintain ☐ Own ☐ Maintain ☐ Own ☐ Maintain
Total Population Served	2.303 million		

	Separate Sanitary Sewer System	Combined Storm and Sanitary Sewer
Total percentage of each type of sewer line (in miles)	100 %	0 %

Indian Country

1.8 Is the treatment works located in Indian Country?

☐ Yes ☑ No

1.9 Does the facility discharge to a receiving water that flows through Indian Country?

☐ Yes ☑ No

Design and Actual Flow Rates

1.10 Provide design *and* actual flow rates in the designated spaces.

Design Flow Rate
432 mgd (peak wet weather) 240 mgd (average annual) mgd

Annual Average Flow Rates (Actual)		
Two Years Ago	**Last Year**	**This Year**
2018: 139.0 mgd	2019: 143.9 mgd	2020: 144.3 mgd

Maximum Daily Flow Rates (Actual)		
Two Years Ago	**Last Year**	**This Year**
2018: 216.3 mgd	2019: 230.6 mgd	2020: 298.3 mgd

Discharge Points by Type

1.11 Provide the total number of effluent discharge points to waters of the United States by type.

Total Number of Effluent Discharge Points by Type				
Treated Effluent	**Untreated Effluent**	**Combined Sewer Overflows**	**Bypasses**	**Constructed Emergency Overflows**
1	0	0	0	0

Note: See table on attached page 2b for breakdown of monthly flows during 2018-2020.

EPA Form 3510-2A – Section 1, Part 1.7
Estimated Populations Served by the Metro System, 2020-2025

Portion of Metropolitan Sewerage System Service Area	Estimated Population Served within the Metro System[1] (population in millions)				
	2020	**2021**	**2022**	**2023**	**2025**
Portion of City of San Diego that contributes flows to the Metro System[2]	1.454	1.468	1.482	1.496	1.524
Combined estimated population within the following member agencies served by the Metro System: • City of Chula Vista • City of Coronado • City of Del Mar • City of Imperial Beach • City of La Mesa • City of Lemon Grove • City of National City • City of Poway • County of San Diego • Otay Water District • Padre Dam Municipal Water District	0.849	0.855	0.862	0.888	0.880
Total estimated population served by the Metro System	2.303	2.323	2.344	2.384	2.404
Total population served by the South Bay WRP[3]	0.11	0.11	0.11	0.12	0.12
Estimated Metro System population served by the North City WRP and PLWTP	2.19	2.21	2.23	2.26	2.28

1 Metro System population projections developed by the San Diego Public Utilities Department from adopted SANDAG (San Diego Association of Governments) Series 13 population projections.

2 Excludes portions of the City of San Diego that are served by the City of Escondido Hale Avenue Resource Recovery Facility.

3 Approximate 2020 population tributary to the South Bay WRP was 0.11 million, per 2020 Annual Pretreatment Report for the South Bay Water Reclamation Plant.

4 Includes portions of the Metro System tributary to the North City WRP and PLWTP.

EPA Form 3510-2A – Section 1, Part 1.10
Point Loma Wastewater Treatment Plant
Effluent Flows by Month, 2018-2020[1,2]

Month	Monthly Average Point Loma Effluent Flow [1,2]					
	2018		2019		2020	
	mgd	m^3/sec	mgd	m^3/sec	mgd	m^3/sec
January	138.2	6.06	138.3	6.06	149.8	6.57
February	135.8	5.95	177.0	7.76	148.8	6.52
March	141.4	6.20	157.2	6.89	159.6	7.00
April	135.2	5.93	140.9	6.18	173.0	7.58
M ay	135.4	5.94	140.2	6.15	138.6	6.08
June	133.7	5.86	137.1	6.01	138.2	6.06
July	135.7	5.95	133.1	5.84	136.3	5.98
August	139.2	6.10	132.4	5.80	137.2	6.02
September	138.0	6.05	133.3	5.84	138.5	6.07
October	142.1	6.23	132.5	5.81	138.7	6.08
November	141.4	6.20	142.1	6.23	137.7	6.04
December	151.8	6.66	162.7	7.13	135.6	5.95
Annual Average[3]	139.0	6.09	143.9	6.30	144.3	6.33
Maximum Daily Flow[4]	216.3	8.02	230.6	10.11	298.3	13.08

1 Section 1, Part 1.1 of EPA NPDDS Form 2A requires flow data from within 3 months of the date of application. This table shows Point Loma Wastewater Treatment Plant (PLWTP) effluent flows for calendar years 2018-2020, as calendar year 2020 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 2021 will be electronically transmitted to regulators per reporting requirements of Order No. R9-2017-0007.

2 From monthly monitoring reports submitted to the Regional Board during 2018 through 2020.

3 Average annual PLWTP flows during 2018-2020 were 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.

Outfalls and Other Discharge or Disposal Methods

Outfalls Other Than to Waters of the United States

1.12 Does the POTW discharge wastewater to basins, ponds, or other surface impoundments that do not have outlets for discharge to waters of the United States?

☐ Yes ☑ No ➔ SKIP to Item 1.14.

1.13 Provide the location of each surface impoundment and associated discharge information in the table below.

Surface Impoundment Location and Discharge Data

Location	Average Daily Volume Discharged to Surface Impoundment	Continuous or Intermittent (check one)
Not applicable	Not applicable gpd	☐ Continuous ☐ Intermittent
Not applicable	Not applicable gpd	☐ Continuous ☐ Intermittent
Not applicable	Not applicable gpd	☐ Continuous ☐ Intermittent

1.14 Is wastewater applied to land?

☐ Yes ☑ No ➔ SKIP to Item 1.16.

1.15 Provide the land application site and discharge data requested below.

Land Application Site and Discharge Data

Location	Size	Average Daily Volume Applied	Continuous or Intermittent (check one)
Not applicable	NA acres	NA gpd	☐ Continuous ☐ Intermittent
Not applicable	NA acres	NA gpd	☐ Continuous ☐ Intermittent
Not applicable	NA acres	NA gpd	☐ Continuous ☐ Intermittent

1.16 Is effluent transported to another facility for treatment prior to discharge?

☐ Yes ☑ No ➔ SKIP to Item 1.21.

1.17 Describe the means by which the effluent is transported (e.g., tank truck, pipe).

Not applicable - all Point Loma Wastewater Treatment Plant (PLWTP) treated effluent is discharged to the Point Loma Ocean Outfall.
Note: Digested PLWTP sludge is transported via pipeline to the Metro Biosolids Center for treatment and dewatering.

1.18 Is the effluent transported by a party other than the applicant?

☐ Yes ☑ No ➔ SKIP to Item 1.20.

1.19 Provide information on the transporter below.

Transporter Data

Entity name Not applicable	Mailing address (street or P.O. box) Not applicable	
City or town Not applicable	State	ZIP code
Contact name (first and last) Not applicable	Title Not applicable	
Phone number Not applicable	Email address	

Outfalls and Other Discharge or Disposal Methods Continued

1.20 In the table below, indicate the name, address, contact information, NPDES number, and average daily flow rate of the receiving facility.

Receiving Facility Data

Facility name Not applicable	Mailing address (street or P.O. box) Not applicable	
City or town Not applicable	State	ZIP code
Contact name (first and last) Not applicable	Title Not applicable	
Phone number Not applicable	Email address	
NPDES number of receiving facility (if any) ☐ None	Average daily flow rate NA mgd	

1.21 Is the wastewater disposed of in a manner other than those already mentioned in Items 1.14 through 1.21 that do not have outlets to waters of the United States (e.g., underground percolation, underground injection)?

☐ Yes ☑ No ➔ SKIP to Item 1.23.

1.22 Provide information in the table below on these other disposal methods.

Information on Other Disposal Methods

Disposal Method Description	Location of Disposal Site	Size of Disposal Site	Annual Average Daily Discharge Volume	Continuous or Intermittent (check one)
Not applicable	Not applicable	NA acres	NA gpd	☐ Continuous ☐ Intermittent
Not applicable	Not applicable	NA acres	NA gpd	☐ Continuous ☐ Intermittent
Not applicable	Not applicable	NA acres	NA gpd	☐ Continuous ☐ Intermittent

Variance Requests

1.23 Do you intend to request or renew one or more of the variances authorized at 40 CFR 122.21(n)? (Check all that apply. Consult with your NPDES permitting authority to determine what information needs to be submitted and when.)

☑ Discharges into marine waters (CWA Section 301(h))

☐ Water quality related effluent limitation (CWA Section 302(b)(2))

☐ Not applicable

Contractor Information

1.24 Are any operational or maintenance aspects (related to wastewater treatment and effluent quality) of the treatment works the responsibility of a contractor?

☐ Yes ☑ No ➔SKIP to Section 2.

1.25 Provide location and contact information for each contractor in addition to a description of the contractor's operational and maintenance responsibilities.

Contractor Information

	Contractor 1	Contractor 2	Contractor 3
Contractor name (company name)	Not applicable		
Mailing address (street or P.O. box)	Not applicable		
City, state, and ZIP code	Not applicable		
Contact name (first and last)	Not applicable		
Phone number	Not applicable		
Email address	Not applicable		
Operational and maintenance responsibilities of contractor	Not applicable		

SECTION 2. ADDITIONAL INFORMATION (40 CFR 122.21(j)(1) and (2))

Design Flow

Outfalls to Waters of the United States

2.1 Does the treatment works have a design flow greater than or equal to 0.1 mgd?

☑ Yes ☐ No ➔ SKIP to Section 3.

Sewer system models used by the City currently estimate I&I at 5% of annual flow, but I&I during any given time can vary depending on hydrologic conditions. PLWTP flows during 2018-2020 averaged 14.6 mgd higher on rain days than dry weather days. See tables on attached page 5a.

Inflow and Infiltration

2.2 Provide the treatment works' current average daily volume of inflow and infiltration. Differences between flows on rain and dry days ranged from 4.3 mgd (3.1% higher) in 2018 to 21.7 mgd (15% higher) in 2020. See tables on page 5a.

Average Daily Volume of Inflow and Infiltration		
Based on 2018-2020 flow data. See tables on attached page 5a	14.6	mgd

Indicate the steps the facility is taking to minimize inflow and infiltration.

The City maintains a program for reducing inflow and infiltration (I&I) that includes visual and television inspection of sewer mains and interceptors, ongoing evaluation and prioritization of facilities upgrades, an ongoing program for rehabilitating and upgrading sewers, and a program for inspecting and sealing manholes. Additionally, the City maintains an extensive flow metering and modeling system to assess system flows and capacity needs.

Topographic Map

2.3 Have you attached a topographic map to this application that contains all the required information? (See instructions for specific requirements.)

☑ Yes ☐ No

Flow Diagram

2.4 Have you attached a process flow diagram or schematic to this application that contains all the required information? (See instructions for specific requirements.)

☑ Yes ☐ No

Scheduled Improvements and Schedules of Implementation

2.5 Are improvements to the facility scheduled?

☐ Yes ☑ No ➔ SKIP to Section 3.

Briefly list and describe the scheduled improvements.

Ongoing operations at the Point Loma Wastewater Treatment Plant (PLWTP) include routine replacement and/or rehabilitation of equipment and facilities, but no major changes are proposed that affect the nature of wastewater treatment (e.g., chemically enhanced primary treatment) or solids processing (anaerobic digestion) at the PLWTP. Further, no compliance schedule improvements have been imposed for the PLWTP.

See Appendix B for a description of future Metro System operations and facilities (including North City Water Reclamation Plant improvements and San Diego Pure Water facilities) that are proposed for offloading PLWTP flows to ensure continued compliance with the Point Loma Ocean Outfall concentration and mass emission limits.

2.6 Provide scheduled or actual dates of completion for improvements.

Scheduled or Actual Dates of Completion for Improvements

Scheduled Improvement (from above)	Affected Outfalls (list outfall number)	Begin Construction (MM/DD/YYYY)	End Construction (MM/DD/YYYY)	Begin Discharge (MM/DD/YYYY)	Attainment of Operational Level (MM/DD/YYYY)
1.	Not applicable	NA	NA	NA	NA
2.	Not applicable	NA	NA	NA	NA
3.	Not applicable	NA	NA	NA	NA
4.	Not applicable	NA	NA	NA	NA

2.7 Have appropriate permits/clearances concerning other federal/state requirements been obtained? Briefly explain your response.

☐ Yes ☐ No ☑ None required or applicable

Explanation:

Ongoing operations at the Point Loma Wastewater Treatment Plant (PLWTP) include routine replacement and/or rehabilitation of equipment and facilities, but no major changes are proposed that affect the nature of wastewater treatment (e.g., chemically enhanced primary treatment) or solids processing (anaerobic digestion) at the PLWTP. Further, no compliance schedule improvements have been imposed for the PLWPT.

EPA Form 3510-2A – Section 2, Part 2.2
Summary of Point Loma Wastewater Treatment Plant Flows, 2018-2020
Wet Weather and Dry Weather Conditions

Point Loma Wastewater Treatment Plant (PLWTP) Flow Parameter	Time Period			
	2018	2019	2020	Average 2018-2020
Average Annual PLWTP Flows, mgd	139.0	143.9	144.3	142.3
PLWTP Flows during Dry Weather, mgd[1]	138.3	139.0	140.5	139.3
PLWTP Flows during Wet Weather, mgd[2]	142.6	156.8	162.2	153.9
Difference between wet weather days and dry weather days, mgd	4.3	17.8	21.7	14.6
Percent Difference Wet Weather Flows to Dry Weather Flows	3.1%	12.8%	15.4%	10.5%

1 PLWTP flows from monthly reports submitted to the Regional Water Quality Control Board (RWQCB). Wet weather flows are computed on the basis of average daily PLWTP flows during days on which precipitation is recorded.

2 Dry weather flows are computed on the basis of average daily PLWTP flows during days on which no precipitation is recorded.

EPA Form 3510-2A – Section 2, Part 2.2
Summary of Point Loma Wastewater Treatment Plant Flows, 2018-2020
Breakdown by Time of Week

Point Loma Wastewater Treatment Plant (PLWTP) Flow Parameter	Time Period			
	2018	2019	2020	Average 2018-2020
PLWTP Flows during Weekdays, mgd[1]	139.2	144.0	144.2	142.5
PLWTP Flows during Weekends & Holidays, mgd[2]	138.6	143.0	144.4	142.0
Percent Difference, Weekday to Weekend/Holiday	-0.4%	-0.7%	0.1%	-0.3%

1 PLWTP flows from monthly reports submitted to the RWQCB. Weekday flows are flows during Monday through Friday, excluding major holidays (New Years Day, Memorial Day, Independence Day, Labor Day, Thanksgiving and Christmas).

2 PLWTP flows during weekends (Saturday and Sunday) and major holidays (New Years Day, Memorial Day, Independence Day, Labor Day, Thanksgiving and Christmas).

SECTION 3. INFORMATION ON EFFLUENT DISCHARGES (40 CFR 122.21(j)(3) to (5))

Description of Outfalls

3.1 Provide the following information for each outfall. (Attach additional sheets if you have more than three outfalls.)

	Outfall Number 001	Outfall Number _____	Outfall Number _____
State	California		
County	San Diego		
City or town	San Diego		
Distance from shore	23,472 ft.	ft.	ft.
Depth below surface	306-313 ft.	Note: Listed range of depths represent the depths of diffuser ports. Average depth of the diffuser ports is approximately 310 feet. Depth of water at the end of the diffuser is approximately 320 feet below MLLW.	
Average daily flow rate	144.3 mgd		
Latitude	32° 39′ 55″ N	° ′ ″	° ′ ″
Longitude	117° 19′ 25″ W	° ′ ″	° ′ ″

Seasonal or Periodic Discharge Data

3.2 Do any of the outfalls described under Item 3.1 have seasonal or periodic discharges?

☐ Yes ☑ No ➔ SKIP to Item 3.4.

3.3 If so, provide the following information for each applicable outfall.

	Outfall Number 001	Outfall Number _____	Outfall Number _____
Number of times per year discharge occurs	Not applicable		
Average duration of each discharge (specify units)	Not applicable		
Average flow of each discharge	NA mgd	mgd	mgd
Months in which discharge occurs	Not applicable		

Diffuser Type

3.4 Are any of the outfalls listed under Item 3.1 equipped with a diffuser?

☑ Yes ☐ No ➔ SKIP to Item 3.6.

3.5 Briefly describe the diffuser type at each applicable outfall.

	Outfall Number 001	Outfall Number _____	Outfall Number _____
	Wye (Y-shaped) diffuser with two 2,496-foot-long legs. Each leg has 208 discharge ports that are spaced approximately 7.33 meters (24 feet) apart.		

Waters of the U.S.

3.6 Does the treatment works discharge or plan to discharge wastewater to waters of the United States from one or more discharge points?

☑ Yes ☐ No ➔SKIP to Section 6.

Receiving Water Description

3.7 Provide the receiving water and related information (if known) for each outfall.

	Outfall Number 001	Outfall Number _____	Outfall Number _____
Receiving water name	Pacific Ocean		
Name of watershed, river, or stream system	Not applicable		
U.S. Soil Conservation Service 14-digit watershed code	Not applicable		
Name of state management/river basin	Not applicable		
U.S. Geological Survey 8-digit hydrologic cataloging unit code	Not applicable		
Critical low flow (acute)	NA cfs	cfs	cfs
Critical low flow (chronic)	NA cfs	cfs	cfs
Total hardness at critical low flow	NA mg/L of $CaCO_3$	mg/L of $CaCO_3$	mg/L of $CaCO_3$

Treatment Description

3.8 Provide the following information describing the treatment provided for discharges from each outfall.

	Outfall Number 001	Outfall Number _____	Outfall Number _____
Highest Level of Treatment (check all that apply per outfall)	☑ Primary (chemically enhanced) ☐ Equivalent to secondary ☐ Secondary ☐ Advanced ☐ Other (specify) _____	☐ Primary ☐ Equivalent to secondary ☐ Secondary ☐ Advanced ☐ Other (specify) _____	☐ Primary ☐ Equivalent to secondary ☐ Secondary ☐ Advanced ☐ Other (specify) _____
Design Removal Rates by Outfall			
BOD_5 or $CBOD_5$	> 58 %	%	%
TSS	> 80 %	%	%
Phosphorus	☑ Not applicable %	☐ Not applicable %	☐ Not applicable %
Nitrogen	☑ Not applicable %	☐ Not applicable %	☐ Not applicable %
Other (specify) _____	☑ Not applicable %	☐ Not applicable %	☐ Not applicable %

Treatment Description Continued

3.9 Describe the type of disinfection used for the effluent from each outfall in the table below. If disinfection varies by season, describe below.

Partial disinfection using sodium hypochlorite for purposes of ensuring compliance with applicable receiving water bacteriological standards established within Order No. R9-2017-0007.

	Outfall Number 001	Outfall Number _____	Outfall Number _____
Disinfection type	Chlorination using sodium hypochlorite		
Seasons used	Year-round		
Dechlorination used?	☐ Not applicable ☑ Yes ☐ No	☐ Not applicable ☐ Yes ☐ No	☐ Not applicable ☐ Yes ☐ No

Effluent Testing Data

3.10 Have you completed monitoring for all Table A parameters and attached the results to the application package?

☑ Yes ☐ No

3.11 Have you conducted any WET tests during the 4.5 years prior to the date of the application on any of the facility's discharges or on any receiving water near the discharge points?

☑ Yes ☐ No ➔ SKIP to Item 3.13.

3.12 Indicate the number of acute and chronic WET tests conducted since the last permit reissuance of the facility's discharges by outfall number or of the receiving water near the discharge points.

	Outfall Number 001		Outfall Number _____		Outfall Number _____	
	Acute	Chronic	Acute	Chronic	Acute	Chronic
Number of tests of discharge water	0*	106	* Acute toxicity testing not required per the California Ocean Plan. Order No. R9-2017-0007 requires chronic toxicity testing.			
Number of tests of receiving water	0*	106**	** All effluent tests are compared with reference toxicant samples that are natural seawater (filtered) that is supplied by the Scripps Institution of Oceanography.			

3.13 Does the treatment works have a design flow greater than or equal to 0.1 mgd?

☑ Yes ☐ No ➔ SKIP to Item 3.16.

3.14 Does the POTW use chlorine for disinfection, use chlorine elsewhere in the treatment process, or otherwise have reasonable potential to discharge chlorine in its effluent?

☑ Yes ➔ Complete Table B, including chlorine. ☐ No ➔ Complete Table B, omitting chlorine.

3.15 Have you completed monitoring for all applicable Table B pollutants and attached the results to this application package?

☑ Yes ☐ No

3.16 Does one or more of the following conditions apply?

- The facility has a design flow greater than or equal to 1 mgd.
- The POTW has an approved pretreatment program or is required to develop such a program.
- The NPDES permitting authority has informed the POTW that it must sample for the parameters in Table C, must sample other additional parameters (Table D), or submit the results of WET tests for acute or chronic toxicity for each of its discharge outfalls (Table E).

☑ Yes ➔ Complete Tables C, D, and E as applicable. ☐ No ➔ SKIP to Section 4.

3.17 Have you completed monitoring for all applicable Table C pollutants and attached the results to this application package?

☑ Yes ☐ No

3.18 Have you completed monitoring for all applicable Table D pollutants required by your NPDES permitting authority and attached the results to this application package?

☑ Yes ☐ No additional sampling required by NPDES permitting authority.

Effluent Testing Data Continued

3.19 Has the POTW conducted either (1) minimum of four quarterly WET tests for one year preceding this permit application or (2) at least four annual WET tests in the past 4.5 years?

☑ Yes ☐ No ➔ Complete tests and Table E and SKIP to Item 3.26.

3.20 Have you previously submitted the results of the above tests to your NPDES permitting authority?

☑ Yes ☐ No ➔ Provide results in Table E and SKIP to Item 3.26.

3.21 Indicate the dates the data were submitted to your NPDES permitting authority and provide a summary of the results.

Date(s) Submitted (MM/DD/YYYY)	Summary of Results
	See tables on page 25a-25d for a summary of chronic toxicity test results. Test results submitted monthly per Order No. R9-2017-0007.

3.22 Regardless of how you provided your WET testing data to the NPDES permitting authority, did any of the tests result in toxicity?

☐ Yes ☑ No ➔ SKIP to Item 3.26.

3.23 Describe the cause(s) of the toxicity:

Not applicable. All TST test results during the effective period of Order No. R9-2017-0002 have been "pass".

3.24 Has the treatment works conducted a toxicity reduction evaluation?

☐ Yes ☑ No ➔ SKIP to Item 3.26.

3.25 Provide details of any toxicity reduction evaluations conducted.

Not applicable - all TST test results have been "pass".

3.26 Have you completed Table E for all applicable outfalls and attached the results to the application package?

☑ Yes ☐ Not applicable because previously submitted information to the NPDES permitting authority.

SECTION 4. INDUSTRIAL DISCHARGES AND HAZARDOUS WASTES (40 CFR 122.21(j)(6) and (7))

Industrial Discharges and Hazardous Wastes

4.1 Does the POTW receive discharges from SIUs or NSCIUs?

☑ Yes ☐ No ➔ SKIP to Item 4.7.

4.2 Indicate the number of SIUs and NSCIUs that discharge to the POTW.

Number of SIUs	Number of NSCIUs
38	36

4.3 Does the POTW have an approved pretreatment program?

☑ Yes ☐ No

4.4 Have you submitted either of the following to the NPDES permitting authority that contains information substantially identical to that required in Table F: (1) a pretreatment program annual report submitted within one year of the application or (2) a pretreatment program?

☑ Yes ☐ No ➔ SKIP to Item 4.6.

4.5 Identify the title and date of the annual report or pretreatment program referenced in Item 4.4. SKIP to Item 4.7.

E.W. Blom Point Loma Metropolitan Wastewater Treatment Plant Pretreatment Annual Report, January 1, 2020 - December 31, 2020. Submitted to the Regional Water Quality Control Board on February 26, 2021. Attached as Appendix M.

4.6 Have you completed and attached Table F to this application package?

☑ Yes ☐ No Note: Completion of Part F is not required for 301(h) applicants per 40 CFR 125.59(c)(1), which requires that NPDES permit application forms only be submitted for Section I (Applicant and Facility Description), Section II (Basis of Discharge Information) and Section III (Scheduled Improvements) of the prior EPA Standard Form A. For 301(h) applicants, industrial discharger information is required to be submitted as part of the Large Applicant Questionnaire (LAQ). Descriptions of the Metro System pretreatment program and contributing SIUs and CIUs is presented in Section III.H of the attached LAQ. For review purposes, Metro System SIU/CIU dischargers for calendar year 2020 are also summarized in tables shown on attached pages 29a and 29b of EPA Form 3510-2A.

Industrial Discharges and Hazardous Wastes Continued

4.7 Does the POTW receive, or has it been notified that it will receive, by truck, rail, or dedicated pipe, any wastes that are regulated as RCRA hazardous wastes pursuant to 40 CFR 261?

☐ Yes ☑ No ➔ SKIP to Item 4.9.

4.8 If yes, provide the following information:

Hazardous Waste Number	Waste Transport Method (check all that apply)	Annual Amount of Waste Received	Units
Not applicable	☐ Truck ☐ Rail ☐ Dedicated pipe ☐ Other (specify) _____	Not applicable	
Not applicable	☐ Truck ☐ Rail ☐ Dedicated pipe ☐ Other (specify) _____	Not applicable	
Not applicable	☐ Truck ☐ Rail ☐ Dedicated pipe ☐ Other (specify) _____	Not applicable	

4.9 Does the POTW receive, or has it been notified that it will receive, wastewaters that originate from remedial activities, including those undertaken pursuant to CERCLA and Sections 3004(7) or 3008(h) of RCRA?

☑ Yes See Appendix M for a list of and description of permitted Class 2 dischargers of remedial waste and/or extracted groundwater. ☐ No ➔ SKIP to Section 5.

4.10 Does the POTW receive (or expect to receive) less than 15 kilograms per month of non-acute hazardous wastes as specified in 40 CFR 261.30(d) and 261.33(e)?

☑ Yes ➔ SKIP to Section 5. ☐ No As shown in Appendix M, during 2020 a total of 6 permitted Class 2 dischargers of remedial groundwater contributed flow to the Metro System. See Appendix M for details.

4.11 Have you reported the following information in an attachment to this application: identification and description of the site(s) or facility(ies) at which the wastewater originates; the identities of the wastewater's hazardous constituents; and the extent of treatment, if any, the wastewater receives or will receive before entering the POTW?

☑ Yes See Appendix M for a list of and description of permitted Class 2 dischargers of remedial waste and/or extracted groundwater. ☐ No

SECTION 5. COMBINED SEWER OVERFLOWS (40 CFR 122.21(j)(8))

CSO Map and Diagram

5.1 Does the treatment works have a combined sewer system?

☐ Yes Not applicable ☑ No ➔SKIP to Section 6.

5.2 Have you attached a CSO system map to this application? (See instructions for map requirements.)

☐ Yes Not applicable ☐ No

5.3 Have you attached a CSO system diagram to this application? (See instructions for diagram requirements.)

☐ Yes Not applicable ☐ No

CSO Outfall Description

5.4 For each CSO outfall, provide the following information. (Attach additional sheets as necessary.)

	CSO Outfall Number NA	CSO Outfall Number _____	CSO Outfall Number _____
City or town	Not applicable		
State and ZIP code	Not applicable		
County	Not applicable		
Latitude	° ' "	° ' "	° ' "
Longitude	° ' "	° ' "	° ' "
Distance from shore	NA ft.	ft.	ft.
Depth below surface	NA ft.	ft.	ft.

CSO Monitoring

5.5 Did the POTW monitor any of the following items in the past year for its CSO outfalls?

	CSO Outfall Number NA	CSO Outfall Number _____	CSO Outfall Number _____
Rainfall	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
CSO flow volume	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
CSO pollutant concentrations	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Receiving water quality	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
CSO frequency	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Number of storm events	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No

CSO Events in Past Year

5.6 Provide the following information for each of your CSO outfalls.

	CSO Outfall Number NA	CSO Outfall Number ____	CSO Outfall Number ____
Number of CSO events in the past year	NA events	NA events	events
Average duration per event	NA hours ☐ Actual or ☐ Estimated	hours ☐ Actual or ☐ Estimated	hours ☐ Actual or ☐ Estimated
Average volume per event	NA million gallons ☐ Actual or ☐ Estimated	million gallons ☐ Actual or ☐ Estimated	million gallons ☐ Actual or ☐ Estimated
Minimum rainfall causing a CSO event in last year	NA inches of rainfall ☐ Actual or ☐ Estimated	inches of rainfall ☐ Actual or ☐ Estimated	inches of rainfall ☐ Actual or ☐ Estimated

CSO Receiving Waters

5.7 Provide the information in the table below for each of your CSO outfalls.

	CSO Outfall Number ____	CSO Outfall Number ____	CSO Outfall Number ____
Receiving water name	Not applicable		
Name of watershed/ stream system	Not applicable		
U.S. Soil Conservation Service 14-digit watershed code (if known)	☐ Unknown Not applicable	☐ Unknown	☐ Unknown
Name of state management/river basin	Not applicable		
U.S. Geological Survey 8-Digit Hydrologic Unit Code (if known)	☐ Unknown Not applicable	☐ Unknown	☐ Unknown
Description of known water quality impacts on receiving stream by CSO (see instructions for examples)	Not applicable		

SECTION 6. CHECKLIST AND CERTIFICATION STATEMENT (40 CFR 122.22(a) and (d))

Checklist and Certification Statement

6.1 In Column 1 below, mark the sections of Form 2A that you have completed and are submitting with your application. For each section, specify in Column 2 any attachments that you are enclosing to alert the permitting authority. Note that not all applicants are required to provide attachments.

Column 1	Column 2		
☑ Section 1: Basic Application Information for All Applicants	☑ w/ variance request(s)	☑ w/ additional attachments	
☑ Section 2: Additional Information	☑ w/ topographic map ☑ w/ additional attachments	☑ w/ process flow diagram	
☑ Section 3: Information on Effluent Discharges	☑ w/ Table A ☑ w/ Table B ☑ w/ Table C	☑ w/ Table D ☑ w/ Table E ☑ w/ additional attachments	
☑ Section 4: Industrial Discharges and Hazardous Wastes	☑ w/ SIU and NSCIU attachments ☑ w/ additional attachments	☑ w/ Table F	
☐ Section 5: Combined Sewer Overflows	☐ w/ CSO map ☐ w/ CSO system diagram	☐ w/ additional attachments	
☑ Section 6: Checklist and Certification Statement	☑ w/ attachments		

6.2 **Certification Statement**

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

Name (print or type first and last name)	Official title
Juan Guerreiro	Interim Director Public Utilities Department
Signature 	Date signed 3/17/2022

TABLE A. EFFLUENT PARAMETERS FOR ALL POTWS

Pollutant	Maximum Daily Discharge		Average Daily Discharge			Analytical Method[1]	ML or MDL (include units)
	Value	Units	Value	Units	Number of Samples		
Biochemical oxygen demand ☑ BOD_5 or ☐ $CBOD_5$ (report one)	257	mg/L	132	mg/L	366	SM 5210DS	2.0 ☐ ML ☑ MDL
Fecal coliform	See pages 13b-13e for a summary of Point Loma effluent pathogen indicator organisms during 2020						☐ ML ☐ MDL
Design flow rate	432	mgd	240	mgd		See attached page 13a for a monthly breakdown of pH, temperature, BOD and TSS data for calendar year 2020. See attached pages 13b-13e for a summary of Point Loma effluent pathogen indicator organism data during 2020.	
pH (minimum)	7.0	pH units					
pH (maximum)	7.4	pH units					
Temperature (winter)	27.9	degrees C	27.9	degrees C			
Temperature (summer)	29.4	degrees C	29.4	degrees C			
Total suspended solids (TSS)	59	mg/L	34	mg/L	366	SM 2450D	12.5 ☑ ML ☐ MDL

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

Note: The above data is for 2020, the last complete calendar year available at the time of preparation of this application. Data for 2021 will be transmitted to regulators per requirements of Order No. R9-2017-0007. Sampling of the final PLWTP effluent occurs at Monitoring Location EFF-001. See pages 13a-13e for details.

EPA Form 3510-2A – Table A
Summary of Point Loma Wastewater Treatment Plant Effluent Data
Physical/Chemical Parameters, 2020[1]

Parameter	Point Loma Wastewater Treatment Plant Effluent Quality, 2020					
	pH (pH units)	Effluent Settleable Solids[2] (ml/L)	Effluent BOD[3] (mg/L)	Effluent Total Suspended Solids (mg/L)	Effluent Temperature (° Centigrade)	Effluent Turbidity (NTU)[4]
January	7.19	0.3	129	34	23.6	31
February	7.21	0.2	138	40	23.5	35
March	7.19	0.2	123	34	23.5	30
April	7.21	0.2	102	33	23.4	24
May	7.21	0.1	123	32	25.5	37
June	7.22	0.1	138	33	26.8	45
July	7.24	0.2	143	33	27.8	50
August	7.25	0.1	137	34	28.6	52
September	7.26	0.2	129	32	28.8	52
October	7.23	0.2	137	31	29.5	51
November	7.23	0.2	145	36	26.8	41
December	7.24	0.2	137	36	26.0	44
Annual Average	7.22	0.2	132	34	26.2	41
Maximum Daily Value	7.38	2.2	257	59	29.4	88
Minimum Daily Value	7.01	0.1	53	22	20.6	11
Average - Nov. thru April	7.21	0.24	129	35	24.3	34
Maximum - Nov. thru April	7.38	2.20	222	57	27.9	66
Average - May thru Oct.	7.24	0.16	135	32	27.7	489
Maximum - May thru Oct.	7.35	0.50	257	59	29.4	88

1 Data from monthly effluent monitoring reports submitted to the RWQCB for calendar year 2020, which is the most recent complete year for which data were available at the time of preparation of this application. See Section 5.4 of Appendix M (Annual Pretreatment Report) for monthly PLWTP influent and effluent data for 2020. Data for calendar year 2021 will be electronically submitted to regulators per reporting requirements of Order No. R9-2017-0007.

2 Settleable solids in milliliters per liter (ml/L).

3 Five-day biochemical oxygen demand (BOD_5).

4 Turbidity expressed in Nephelometric Turbidity Units (NTU).

EPA Form 3510-2A – Table A

Point Loma Wastewater Treatment Plant Effluent Bacteriological Monitoring, 2020[1]

Parameter	Total Coliform MPN/100ml	Fecal Coliform MNP/100 ml	Enterococcus CFU/100 ml
Maximum Value	35,000,000	24,000,000	210,000
90th Percentlle	35,000,000	7,900,000	109,000
75th Percentile	22,000,000	7,000,000	60,000
50th Percentile	13,000,000	4,600,000	45,000
25th Percentile	7,900,000	3,025,000	30,000
10th Percentile	4,900,000	1,700,000	5,600
Minimum Value	490,000	68,000	2,100

1 Data collected at Monitoring Location EFF-001 during calendar year 2020. See table on page 13c for 2020 bacteriological sampling data.

EPA Form 3510-2A – Table A

Point Loma Wastewater Treatment Plant Effluent Bacteriological Monitoring, 2020[1]

Date	Time	Total Coliform MPN/100ml	Fecal Coliform MNP/100 ml	Enterococcus CFU/100 ml
01/06/2020	11:45 AM	13,000,000	7,900,000	12,000
01/14/2020	12:45 PM	13,000,000	7,900,000	38,000
01/21/2020	1:45 PM	7,900,000	3,300,000	23,000
01/27/2020	10:55 AM	17,000,000	4,900,000	22,000
02/03/2020	10:56 AM	17,000,000	7,900,000	54,000
02/10/2020	11:50 AM	4,900,000	790,000	5,600
02/18/2020	1:55 PM	9,400,000	3,300,000	59,000
02/24/2020	11:00 AM	35,000,000	4,600,000	39,000
03/02/2020	7:41 AM	22,000,000	7,000,000	100,000
03/09/2020	10:28 AM	13,000,000	4,900,000	60,000
03/16/2020	8:30 AM	6,300,000	1,700,000	30,000
03/23/2020	9:05 AM	13,000,000	940,000	3,600
03/30/2020	8:19 AM	490,000	68,000	2,100
04/06/2020	8:53 AM	3,300,000	3,300,000	70,000
04/13/2020	11:32 AM	3,300,000	2,300,000	2,600
04/20/2020	11:03 AM	2,200,000	490,000	3,000
04/27/2020	9:40 AM	17,000,000	3,300,000	35,000
05/04/2020	12:10 PM	4,900,000	790,000	5,600
05/11/2020	9:37 AM	7,900,000	3,300,000	47,000
05/18/2020	9:05 AM	22,000,000	2,300,000	60,000
05/26/2020	10:30 AM	4,900,000	4,900,000	50,000
06/01/2020	11:54 AM	13,000,000	3,300,000	47,000
06/08/2020	9:10 AM	35,000,000	7,000,000	43,000
06/15/2020	10:38 AM	7,900,000	1,700,000	45,000
06/22/2020	8:42 AM	17,000,000	4,600,000	26,000
06/29/2020	11:23 AM	24,000,000	1,700,000	17,000
07/06/2020	9:32 AM	4,900,000	3,300,000	2,100
07/13/2020	12:35 PM	35,000,000	4,900,000	49,000
07/20/2020	10:35 AM	35,000,000	3,300,000	50,000
07/27/2020	12:40 PM	24,000,000	7,900,000	60,000
08/03/2020	10:15 AM	13,000,000	7,900,000	90,000
08/10/2020	12:22 PM	17,000,000	7,900,000	120,000
08/17/2020	9:42 AM	17,000,000	4,900,000	100,000
08/24/2020	9:45 AM	22,000,000	3,100,000	32,000
08/31/2020	9:10 AM	7,900,000	2,800,000	57,000
09/08/2020	10:30 AM	24,000,000	24,000,000	36,000
09/14/2020	9:15 AM	22,000,000	11,000,000	45,000
09/21/2020	10:19 AM	28,000,000	6,300,000	30,000
09/28/2020	8:30 AM	22,000,000	7,000,000	40,000
10/06/2020	12:55 PM	11,000,000	7,000,000	110,000
10/13/2020	1:50 PM	7,900,000	7,900,000	120,000
10/19/2020	10:30 AM	35,000,000	13,000,000	56,000
10/26/2020	9:30 AM	11,000,000	7,000,000	45,000
11/02/2020	10:05 AM	35,000,000	4,900,000	51,000
11/09/2020	1:30 PM	7,900,000	3,300,000	210,000
11/16/2020	9:05 AM	13,000,000	7,900,000	80,000
11/23/2020	1:35 PM	35,000,000	7,000,000	120,000
11/30/2020	1:05 PM	11,000,000	4,600,000	180,000
12/07/2020	10:54 AM	7,900,000	2,300,000	31,000
12/14/2020	11:25 AM	7,900,000	3,300,000	35,000
12/21/2020	7:53 AM	4,900,000	2,300,000	80,000
12/28/2020	8:59 AM	7,000,000	4,600,000	44,000

1 Data collected at Monitoring Location EFF-001 during calendar year 2020. Data from monthly monitoring reports.

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TABLE B. EFFLUENT PARAMETERS FOR ALL POTWS WITH A FLOW EQUAL TO OR GREATER THAN 0.1 MGD

Pollutant	Maximum Daily Discharge		Average Daily Discharge			Analytical Method[1]	ML or MDL (include units) mg/L
	Value	Units	Value	Units	Number of Samples		
Ammonia (as N)	46.9	mg/L	41.7	mg/L	53	EPA 335.4/SM 4500G	0.3 ☐ ML ☑ MDL
Chlorine (total residual, TRC)[2]	1.4*	mg/L	< 0.008*	mg/L	1464**	SM 4500 Cl G	0.03-0.065 ☐ ML ☑ MDL
Dissolved oxygen	Not sampled	Not sampled	Not sampled	Not sampled	Not sampled	Not sampled	NA ☐ ML ☑ MDL
Nitrate/nitrite	4.0****	mg/L	< 0.9****	mg/L	50	EPA 300.0	0.24-0.93 ☐ ML ☑ MDL
Kjeldahl nitrogen	52.1	mg/L	49.1	mg/L	4	SM 4500 N	1.2 - 1.5 ☐ ML ☑ MDL
Oil and grease	50.6	mg/L	12.4	mg/L	366	EPA 1644A	3.2 ☐ ML ☑ MDL
Phosphorus	7.36	mg/L	4.8	mg/L	3	EPA 200.8	0.25-0.38 ☐ ML ☑ MDL
Total dissolved solids	2,380	mg/L	1,747	mg/L	366	SM 2540C	12 ☐ ML ☑ MDL

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

[2] Facilities that do not use chlorine for disinfection, do not use chlorine elsewhere in the treatment process, and have no reasonable potential to discharge chlorine in their effluent are not required to report data for chlorine.

Note: The above data is for 2020, the last complete calendar year available at the time of preparation of this application. Data for 2021 will be transmitted to regulators electronically per reporting requirements established in Order No. R9-2017-0007. See attached page 15a for monthly breakdown of calendar year 2020 sampling.

* Anomalous instantaneous chlorine residual value at 6:04 am on April 13, 2020 resulted in a daily average chlorine residual on that date of 1.4 mg/L.

** The chlorine residual MDL for PLWTP effluent samples was 0.030 mg/L during January through July 2020 and September 2020, and was 0.065 mg/L during August 2020 and October through December 2020.

*** Four or more chlorine residual grab samples were collected each day throughout 2020 in lieu of continuous chlorine residual sampling, as allowed under Order No. R9-2017-0007.

**** Listed values are for nitrate as N. Nitrate was detected in 8 of 50 PLWTP effluent samples during 2020. Nitrate concentrations exceeded 1 mg/L in 2 of the samples. The nitrate MDL for PLWTP effluent samples ranged from 0.24 mg/L to 0.93 mg/L.

EPA Form 3510-2A – Table B
Summary of Point Loma Wastewater Treatment Plant Effluent Data
Conventional and Nonconventional Compounds, 2020[1]

Parameter	Point Loma Wastewater Treatment Plant Effluent Quality, 2020 Concentrations in mg/L					
	Ammonia (as N) Monthly Average[2]	Total Kjeldahl Nitrogen[3]	Nitrate as Nitrogen[2]	Oil and Grease[4] Monthly Average	Total Chlorine Residual[5] Monthly Average	Total Dissolved Solids[4] Monthly Average
January	39.5	Not sampled	<0.24[7]	13.6	ND	1720
February	43.0	52.1	<0.24[7]	17.5	<0.065[7]	1750
March	39.5	Not sampled	2.0	15.0	<0.065[7]	1520
April	40.3	Not sampled	ND	15.4	0.097[6]	1530
May	44.8	47.9	ND	11.2	ND	1870
June	43.4	Not sampled	ND	11.0	<0.065[7]	1770
July	43.3	Not sampled	ND	10.1	ND	1850
August	41.6	50.1	<0.90[7]	11.8	ND	1840
September	45.0	Not sampled	ND	9.1	ND	1800
October	40.3	46.1	ND	11.2	ND	1810
November	38.9	Not sampled	ND	10.1	ND	1740
December	40.7	Not sampled	ND	12.3	ND	1730
Annual Average Value	41.7	49.1	< 0.17[7]	12.4	0.008	1747[8]
Maximum Observed Value[9]	46.9	52.1	4.0	50.6	1.29[6]	2380

1 Data from monitoring reports submitted to the RWQCB for calendar year 2020, which is the most recent complete year for which data were available at the time of preparation of this application. See Section 5.4 of Appendix M (Annual Pretreatment Report) for monthly PLWTP influent and effluent data for 2020. Data for calendar year 2021 will be electronically submitted to regulators per reporting requirements of Order No. R9-2017-0007.

2 Ammonia as nitrogen and nitrate as nitrogen are sampled on weekly basis. The above values represent monthly averages of samples collected during the listed month.

3 Total Kjeldahl Nitrogen (TKN) is sampled on a quarterly basis.

4 Oil and grease and Total Dissolved Solids (TDS) are sampled on a daily basis. The listed values represent monthly averages of samples collected during the listed month.

5 Order No. R9-2017-0007 provides that chlorine is to be sampled on a continuous basis, but that four grab samples per day may be used in lieu of continuous sampling until a reliable method of continuous chlorine residual analysis is implemented. Chlorine residual data for the Point Loma Wastewater Treatment Plant (PLWTP) during 2020 were collected using this four-grab-samples per day methodology. The above listed values represent monthly averages of all four-times-daily grab samples collected during 2020.

6 Anomalous chlorine residual value of 8.4 mg/L occurred at 6:04 am on April 13, 2020, resulting in a daily average chlorine residual on that date of 1.4 mg/L. The PLOO discharge complied with the instantaneous maximum, daily average and 6-month median chlorine residual limits established in Order No. R9-2017-0007 during all days of 2020.

7 Estimated upper bound monthly average value. Actual monthly average would be less than this upper bound, as concentrations were below detection limits within almost all daily samples collected during the month.

8 Annual average of daily TDS values was 1747 mg/L. Annual average of monthly average TDS values was 1744 mg/L.

9 The listed value represents the maximum PLWTP effluent value observed in any sample collected during calendar year 2020.

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TABLE C. EFFLUENT PARAMETERS FOR SELECTED POTWS

Pollutant	Maximum Daily Discharge		Average Daily Discharge			Analytical Method[1]	ML or MDL (include units)
	Value	Units	Value	Units	Number of Samples		
Metals, Cyanide, and Total Phenols							
Hardness (as $CaCO_3$)	See table on page 17a for PLWTP 2020 effluent data for metals, cyanide, phenolic compounds and hardness						☐ ML ☐ MDL
Antimony, total recoverable							☐ ML ☐ MDL
Arsenic, total recoverable	See table on page 17a for PLWTP 2020 effluent data for metals, cyanide, phenolic compounds and hardness						☐ ML ☐ MDL
Beryllium, total recoverable							☐ ML ☐ MDL
Cadmium, total recoverable	See table on page 17a for PLWTP 2020 effluent data for metals, cyanide, phenolic compounds and hardness						☐ ML ☐ MDL
Chromium, total recoverable							☐ ML ☐ MDL
Copper, total recoverable	See table on page 17a for PLWTP 2020 effluent data for metals, cyanide, phenolic compounds and hardness						☐ ML ☐ MDL
Lead, total recoverable							☐ ML ☐ MDL
Mercury, total recoverable	See table on page 17a for PLWTP 2020 effluent data for metals, cyanide, phenolic compounds and hardness						☐ ML ☐ MDL
Nickel, total recoverable							☐ ML ☐ MDL
Selenium, total recoverable	See table on page 17a for PLWTP 2020 effluent data for metals, cyanide, phenolic compounds and hardness						☐ ML ☐ MDL
Silver, total recoverable							☐ ML ☐ MDL
Thallium, total recoverable	See table on page 17a for PLWTP 2020 effluent data for metals, cyanide, phenolic compounds and hardness						☐ ML ☐ MDL
Zinc, total recoverable							☐ ML ☐ MDL
Cyanide	See table on page 17a for PLWTP 2020 effluent data for metals, cyanide, phenolic compounds and hardness						☐ ML ☐ MDL
Total phenolic compounds							☐ ML ☐ MDL
Volatile Organic Compounds							
Acrolein		See table on page 17b for PLWTP 2020 effluent data for volatile organic compounds					☐ ML ☐ MDL
Acrylonitrile							☐ ML ☐ MDL
Benzene		See table on page 17b for PLWTP 2020 effluent data for volatile organic compounds					☐ ML ☐ MDL
Bromoform							☐ ML ☐ MDL

EPA Form 3510-2A – Table C
Point Loma Wastewater Treatment Plant
Metals, Cyanide, Phenols and Hardness[1]

Constituent	Highest Daily 2020 Value		Average 2020 Value		Maximum 2020 MDL[6] (µg/L)	Total Number of 2020 Samples	Analytical Method
	Concentration[2] (µg/L)	Mass[3] (mt/yr)	Concentration[4] (µg/L)	Mass[5] (mt/yr)			
Antimony	2.52	0.47	0.39	0.08	2.43	53	200.8
Arsenic	1.86	0.36	0.76	0.15	3.21	53	200.8
Barium	41.4	8.0	29.4	5.9	0.095	53	200.8
Beryllium	ND[7]	ND[7]	ND[7]	ND[7]	0.4	53	200.8
Cadmium	3.39	0.74	0.10	0.02	0.484	52	200.8
Chromium, total	1.86	0.35	0.77	0.15	7.17	53	200.8
Cobalt	1.27	0.25	0.7	0.14	0.618	53	200.8
Copper	22.7	4.8	12.7	2.5	9.37	53	200.8
Lead	8.59	1.7	0.7	0.14	5.93	53	200.8
Lithium	56	12	35	7.0	3.0	53	200.8
Mercury	0.034	0.006	0.0076	0.002	0.001	53	1631E
Molybdenum	8.58	1.6	5.3	1.1	0.742	53	200.8
Nickel	5.64	1.2	4.41	0.88	3.35	53	200.8
Selenium	1.79	0.33	0.67	0.13	5.78	53	200.8
Silver	0.123	0.025	0.03	0.006	1.57	52	200.8
Thallium	ND[7]	ND[7]	ND[7]	ND[7]	3.37	53	200.8
Vanadium	1.84	0.45	1.20	0.9	0.18	53	200.8
Zinc	48.1	9.7	26.1	5.2	10.4	53	200.8
Cyanide	ND[7]	ND[7]	ND[7]	ND[7]	4.0	53	335.4
Total phenolic compounds[8]	113	23.7	74.1	14.8	1.93	53	625.1
Hardness[9] (as $CaCO_3$)	457,000	105,000	431,000	86,200	195	53	2340B

1 Data from monitoring reports submitted to the RWQCB for calendar year 2020, which is the most recent complete year for which data were available at the time of preparation of this application. See Section 5.4 of Appendix M (Annual Pretreatment Report) for monthly PLWTP influent and effluent data for 2020. Data for calendar year 2021 will be electronically submitted to regulators per reporting requirements of Order No. R9-2017-0007.

2 Highest daily value during calendar year 2020.

3 Maximum daily mass emission rates (metric tons per year) are computed using the maximum sample value observed during 2020 and the PLWTP flow on the day the maximum value occurred.

4 Arithmetic average of individual daily samples collected during 2020. ND samples are assumed to have concentration of zero, and DNQ samples are presumed to have a concentration of the listed DNQ value. Data are from 2020 annual report (see Section 5.4 of Appendix M).

5 Average mass emissions (metric tons per year) are computed using the average annual concentration and the 2020 average annual PLWTP flow of 144.3 mgd.

6 Maximum Method Detection Limit (MDL) during 2020, as reported in Section 5.4 of Appendix M (Annual Pretreatment Report).

7 ND indicates the constituent was not detected at the listed MDL in any PLWTP effluent sample during 2020. As a result, maximum and average annual mass emissions for the constituent cannot be computed.

8 Sum of total chlorinated phenols and total non-chlorinated phenols.

9 Computed as sum of calcium hardness and magnesium hardness. Totals rounded to three significant figures.

EPA Form 3510-2A – Table C
Point Loma Wastewater Treatment Plant
Volatile Organic Compounds[1]

Constituent	Highest Daily 2020 Value		Average 2020 Value		Maximum 2020 MDL[6] (µg/L)	Number of 2020 Samples	Analytical Method
	Concentration[2] (µg/L)	Mass Emissions[3] (mt/yr)	Concentration[4] (µg/L)	Mass Emissions[5] (mt/yr)			
Acrolein	ND [7]	ND [7]	ND [7]	ND [7]	1.24	12	624.1
Acrylonitrile	ND [7]	ND [7]	ND [7]	ND [7]	0.585	12	624.1
Benzene	0.516 DNQ [8]	ND [9]	0.04 DNQ [10]	ND [11]	0.354	12	624.1
Bromodichloromethane	0.476 DNQ [8]	ND [9]	0.04 DNQ [10]	ND [11]	0.445	12	624.1
Bromoform	ND [7]	ND [7]	ND [7]	ND [7]	0.447	12	624.1
Bromomethane (methyl bromide)	ND [7]	ND [7]	ND [7]	ND [7]	1.02	12	624.1
Carbon tetrachloride	ND [7]	ND [7]	ND [7]	ND [7]	0.442	12	624.1
Chlorobenzene	ND [7]	ND [7]	ND [7]	ND [7]	0.309	12	624.1
Chloroethane	1.12 [12]	0.21 [12]	0.1 DNQ [10]	ND [11]	0.405	12	624.1
Chloroform	4.10 [12]	0.77 [12]	2.7 DNQ [10]	ND [11]	0.446	12	624.1
Chloromethane (methyl chloride)	6.52 [12]	1.2 [12]	1.9 DNQ [10]	ND [11]	0.729	12	624.1
Dibromochloromethane	0.47 DNQ[8]	ND [9]	0.04 DNQ [10]	ND [11]	0.545	12	624.1
1,2-dichlorobenzene	ND [7]	ND [7]	ND [7]	ND [7]	0.327	12	624.1
1,3-dichlorobenzene	ND [7]	ND [7]	ND [7]	ND [7]	0.328	12	624.1
1,4-dichlorobenzene	ND [7]	ND [7]	ND [7]	ND [7]	0.319	12	624.1
1,1-dichloroethane	ND [7]	ND [7]	ND [7]	ND [7]	0.381	12	624.1
1,2-dichloroethane	ND [7]	ND [7]	ND [7]	ND [7]	0.652	12	624.1
1,1-dichloroethylene	ND [7]	ND [7]	ND [7]	ND [7]	0.375	12	624.1
Trans-1,2-dichloroethylene	ND [7]	ND [7]	ND [7]	ND [7]	0.364	12	624.1
1,2-dichloropropane	ND [7]	ND [7]	ND [7]	ND [7]	0.392	12	624.1
Cis-1,3-dichloropropene	ND [7]	ND [7]	ND [7]	ND [7]	0.392	12	624.1
Trans-1,3-dichloropropene	ND [7]	ND [7]	ND [7]	ND [7]	0.526	12	624.1
Ethylbenzene	0.878 DNQ [8]	ND [9]	0.1 DNQ [10]	ND [11]	0.26	12	624.1
Methylene chloride	0.895 DNQ [8]	ND [9]	0.5 DNQ [10]	ND [11]	0.563	12	624.1
1,1,2,2-tetrachloroethane	ND [7]	ND [7]	ND [7]	ND [7]	0.39	12	624.1
Tetrachloroethylene	ND [7]	ND [7]	ND [7]	ND [7]	0.482	12	624.1
Toluene	3.84 [13]	0.75 [13]	1.8 DNQ [10]	ND [11]	0.245	12	624.1
1,1,1-trichloroethane	ND [7]	ND [7]	ND [7]	ND [7]	0.335	12	624.1
1,1,2-trichloroethane	ND [7]	ND [7]	ND [7]	ND [7]	0.363	12	624.1
Trichloroethylene	ND [7]	ND [7]	ND [7]	ND [7]	0.337	12	624.1
Trichlorofluoromethane	ND [7]	ND [7]	ND [7]	ND [7]	0.411	12	624.1
Vinyl chloride	ND [7]	ND [7]	ND [7]	ND [7]	0.948	12	624.1

1 Data from monitoring reports submitted to the RWQCB for calendar year 2020, which is the most recent complete year for which data were available at the time of preparation of this application. See Section 5.4 of Appendix M (Annual Pretreatment Report) for monthly PLWTP influent and effluent data for 2020. Data for calendar year 2021 will be electronically submitted to regulators per reporting requirements of Order No. R9-2017-0007.

2 Highest daily average sample value during calendar year 2020.

3 Maximum mass emission rates (metric tons per year) are computed using the highest daily sample value observed during 2020 and the PLWTP flow on the day the maximum value occurred.

4 Arithmetic average of individual daily samples collected during 2020. ND samples are assumed to have concentration of zero, and DNQ samples are presumed to have a concentration of the listed DNQ value. Data are from 2020 annual report (see Section 5.4 of Appendix M).

5 Average mass emissions (metric tons per year) are computed using the average annual concentration and the average annual 2020 PLWTP flow of 144.3 mgd.

6 Maximum MDL achieved during 2020 for the listed constituent, as reported in Section 5.4 of Appendix M.

7 The constituent was not detected (ND) at the listed MDL in any PLWTP effluent sample during 2020.

8 Highest daily value during 2020 was detected not quantifiable (DNQ).

9 The constituent was never detected above the reporting limit (RL) during 2020 and no average annual mass emission is computed.

10 Data from the PLWTP annual report for 2020 (see Section 5.4 of Appendix M). Average annual value was reported as DNQ.

11 The reported average annual concentration was DNQ and no average annual mass emission is computed.

12 Highest daily value occurred on December 3, 2020 where the PLWTP flow was 136.1 mgd.

13 Highest daily value occurred on May 5, 2020 where the PLWTP flow was 141.5 mgd.

TABLE C. EFFLUENT PARAMETERS FOR SELECTED POTWS

Pollutant	Maximum Daily Discharge		Average Daily Discharge			Analytical Method[1]	ML or MDL (include units)
	Value	Units	Value	Units	Number of Samples		
Carbon tetrachloride		See table on page 17b for PLWTP 2020 effluent data for volatile organic compounds					☐ ML ☐ MDL
Chlorobenzene							☐ ML ☐ MDL
Chlorodibromomethane		See table on page 17b for PLWTP 2020 effluent data for volatile organic compounds					☐ ML ☐ MDL
Chloroethane							☐ ML ☐ MDL
2-chloroethylvinyl ether		See table on page 17b for PLWTP 2020 effluent data for volatile organic compounds					☐ ML ☐ MDL
Chloroform							☐ ML ☐ MDL
Dichlorobromomethane		See table on page 17b for PLWTP 2020 effluent data for volatile organic compounds					☐ ML ☐ MDL
1,1-dichloroethane							☐ ML ☐ MDL
1,2-dichloroethane		See table on page 17b for PLWTP 2020 effluent data for volatile organic compounds					☐ ML ☐ MDL
trans-1,2-dichloroethylene							☐ ML ☐ MDL
1,1-dichloroethylene		See table on page 17b for PLWTP 2020 effluent data for volatile organic compounds					☐ ML ☐ MDL
1,2-dichloropropane							☐ ML ☐ MDL
1,3-dichloropropylene		See table on page 17b for PLWTP 2020 effluent data for volatile organic compounds					☐ ML ☐ MDL
Ethylbenzene							☐ ML ☐ MDL
Methyl bromide		See table on page 17b for PLWTP 2020 effluent data for volatile organic compounds					☐ ML ☐ MDL
Methyl chloride							☐ ML ☐ MDL
Methylene chloride		See table on page 17b for PLWTP 2020 effluent data for volatile organic compounds					☐ ML ☐ MDL
1,1,2,2-tetrachloroethane							☐ ML ☐ MDL
Tetrachloroethylene		See table on page 17b for PLWTP 2020 effluent data for volatile organic compounds					☐ ML ☐ MDL
Toluene							☐ ML ☐ MDL
1,1,1-trichloroethane		See table on page 17b for PLWTP 2020 effluent data for volatile organic compounds					☐ ML ☐ MDL
1,1,2-trichloroethane							☐ ML ☐ MDL

TABLE C. EFFLUENT PARAMETERS FOR SELECTED POTWS

Pollutant	Maximum Daily Discharge		Average Daily Discharge			Analytical Method[1]	ML or MDL (include units)
	Value	Units	Value	Units	Number of Samples		
Trichloroethylene		See table on page 17b for PLWTP 2020 effluent data for volatile organic compounds					☐ ML ☐ MDL
Vinyl chloride		See table on page 17b for PLWTP 2020 effluent data for volatile organic compounds					☐ ML ☐ MDL
Acid-Extractable Compounds							
p-chloro-m-cresol		See table on page 19a for PLWTP 2020 effluent data for acid-extractable compounds					☐ ML ☐ MDL
2-chlorophenol							☐ ML ☐ MDL
2,4-dichlorophenol		See table on page 19a for PLWTP 2020 effluent data for acid-extractable compounds					☐ ML ☐ MDL
2,4-dimethylphenol							☐ ML ☐ MDL
4,6-dinitro-o-cresol		See table on page 19a for PLWTP 2020 effluent data for acid-extractable compounds					☐ ML ☐ MDL
2,4-dinitrophenol							☐ ML ☐ MDL
2-nitrophenol		See table on page 19a for PLWTP 2020 effluent data for acid-extractable compounds					☐ ML ☐ MDL
4-nitrophenol							☐ ML ☐ MDL
Pentachlorophenol		See table on page 19a for PLWTP 2020 effluent data for acid-extractable compounds					☐ ML ☐ MDL
Phenol							☐ ML ☐ MDL
2,4,6-trichlorophenol		See table on page 19a for PLWTP 2020 effluent data for acid-extractable compounds					☐ ML ☐ MDL
Base-Neutral Compounds							
Acenaphthene		See table on page 19b for PLWTP 2020 effluent data for base-neutral compounds					☐ ML ☐ MDL
Acenaphthylene							☐ ML ☐ MDL
Anthracene		See table on page 19b for PLWTP 2020 effluent data for base-neutral compounds					☐ ML ☐ MDL
Benzidine							☐ ML ☐ MDL
Benzo(a)anthracene		See table on page 19b for PLWTP 2020 effluent data for base-neutral compounds					☐ ML ☐ MDL
Benzo(a)pyrene							☐ ML ☐ MDL
3,4-benzofluoranthene		See table on page 19b for PLWTP 2020 effluent data for base-neutral compounds					☐ ML ☐ MDL

EPA Form 3510-2A – Table C
Point Loma Wastewater Treatment Plant
Acid Extractable Compounds[1]

Constituent	Highest Daily 2020 Value		Average 2020 Value		Maximum 2020 MDL[6] (µg/l)	Number of 2020 Samples	Analytical Method
	Concentration[2] (µg/l)	Mass Emissions[3] (mt/yr)	Concentration[4] (µg/l)	Mass Emissions[5] (mt/yr)			
2-chlorophenol	ND [7]	ND [7]	ND [7]	ND [7]	0.451	53	625.1
4-chloro-3-methylphenol	ND [7]	ND [7]	ND [7]	ND [7]	0.443	53	625.1
2,4-dichlorophenol	ND [7]	ND [7]	ND [7]	ND [7]	0.517	53	625.1
2,4-dimethylphenol	ND [7]	ND [7]	ND [7]	ND [7]	1.93	53	625.1
2,4-dinitrophenol	ND [7]	ND [7]	ND [7]	ND [7]	1.72	53	625.1
2-methyl-4,6-dinitro phenol	ND [7]	ND [7]	ND [7]	ND [7]	1.28	53	625.1
2-nitrophenol	ND [7]	ND [7]	ND [7]	ND [7]	0.526	53	625.1
4-nitrophenol	ND [7]	ND [7]	ND [7]	ND [7]	0.603	53	625.1
Pentachlorophenol	ND [7]	ND [7]	ND [7]	ND [7]	0.88	53	625.1
Phenol	47.1 [8]	9.2 [8]	32.8	6.5	0.482	53	625.1
2-methylphenol	ND [7]	ND [7]	ND [7]	ND [7]	0.26	53	625.1
4-methylphenol	70.2 [9]	14.7 [9]	41.3	8.2 [9]	0.398	53	625.1
2,4,5-trichlorophenol	ND [7]	ND [7]	ND [7]	ND [7]	0.608	53	625.1
2,4,6-trichlorophenol	2.21 DNQ [10]	ND [11]	0.04 DNQ [12]	ND [13]	0.583	53	625.1

1 Data from monitoring reports submitted to the RWQCB for calendar year 2020, which is the most recent complete year for which data were available at the time of preparation of this application. See Section 5.4 of Appendix M (Annual Pretreatment Report) for monthly PLWTP influent and effluent data for 2020. Data for calendar year 2021 will be electronically submitted to regulators per reporting requirements of Order No. R9-2017-0007.

2 Maximum sample value during calendar year 2020.

3 Mass emission (metric tons per year) computed using the maximum sample value observed during 2020 and the PLWTP flow on the day the maximum value occurred.

4 Arithmetic average of calendar year 2020 samples. ND samples are assumed to have concentration of zero, and DNQ samples are presumed to have a concentration of the listed DNQ value. Average annual data are from 2020 annual report (see Section 5.4 of Appendix M).

5 Average mass emissions (mt/yr) computed using the average annual concentration and the average annual 2020 PLWTP flow of 144.3 mgd.

6 Maximum Method Detection Limit (MDL) during 2020, as reported in Section 5.4 of Appendix M (Annual Pretreatment Report).

7 ND indicates the constituent was not detected at the listed MDL in any PLWTP effluent sample during 2020 and that no mass emission value can be computed for the non-detected value.

8 Highest daily value occurred on June 29, 2020 where the PLWTP daily flow was 140.8 mgd.

9 Highest daily value occurred on February 24, 2020 where the PLWTP daily flow was 151.2 mgd.

10 Highest daily value during 2020 was detected not quantifiable (DNQ).

11 The constituent was never detected above the reporting limit (RL) during 2020 and no average annual mass emission is computed.

12 Data from the PLWTP annual report for 2020 (see Section 5.4 of Appendix M). Average annual value was reported as DNQ.

13 The reported average annual concentration was DNQ and no average annual mass emission is computed.

EPA Form 3510-2A – Table C
Point Loma Wastewater Treatment Plant
Base Neutral Compounds[1]

Constituent	Highest Daily 2020 Value		Average 2020 Value		Maximum 2020 MDL[6] (µg/l)	Number of 2020 Samples	Analytical Method
	Concentration[2] (µg/l)	Mass[3] (mt/yr)	Concentration[4] (µg/l)	Mass[5] (mt/yr)			
Acenaphthene	ND [7]	ND [7]	ND [7]	ND [7]	0.507	12	625.1
Acenaphthylene	ND [7]	ND [7]	ND [7]	ND [7]	0.62	12	625.1
Anthracene	ND [7]	ND [7]	ND [7]	ND [7]	0.668	12	625.1
Benzidine	ND [7]	ND [7]	ND [7]	ND [7]	2.96	12	625.1
Benzo(a)anthracene	ND [7]	ND [7]	ND [7]	ND [7]	0.728	12	625.1
Benzo(a)pyrene	ND [7]	ND [7]	ND [7]	ND [7]	0.64	12	625.1
3,4-benzo(b) fluoranthene	ND [7]	ND [7]	ND [7]	ND [7]	0.652	12	625.1
Benzo(g,h,i) perylene	ND [7]	ND [7]	ND [7]	ND [7]	0.62	12	625.1
Benzo(k) fluoranthene	ND [7]	ND [7]	ND [7]	ND [7]	0 .675	12	625.1
Bis (2-chloroethoxy) methane	ND [7]	ND [7]	ND [7]	ND [7]	0.44	12	625.1
Bis (2-chloroethyl) ether	ND [7]	ND [7]	ND [7]	ND [7]	0.523	12	625.1
Bis (2-chloroisopropyl) ether	ND [7]	ND [7]	ND [7]	ND [7]	0.568	12	625.1
Bis (2-ethylhexyl) phthalate	9.95 [8]	2.07 [8]	3.95 DNQ [9]	ND [10]	3.58	12	625.1
4-bromophenyl phenyl ether	ND [7]	ND [7]	ND [7]	ND [7]	0.601	12	625.1
Butyl benzyl phthalate	ND [7]	ND [7]	ND [7]	ND [7]	0.723	12	625.1
2-chloronaphthalene	ND [7]	ND [7]	ND [7]	ND [7]	0.577	12	625.1
4-chlorophenyl phenyl ether	ND [7]	ND [7]	ND [7]	ND [7]	0.498	12	625.1
Chrysene	ND [7]	ND [7]	ND [7]	ND [7]	0.57	12	625.1
di-n-butyl phthalate	ND [7]	ND [7]	ND [7]	ND [7]	1.28	12	625.1
di-n-octyl phthalate	ND [7]	ND [7]	ND [7]	ND [7]	0.688	12	625.1
Dibenzo(a,h) anthracene	ND [7]	ND [7]	ND [7]	ND [7]	0.574	12	625.1
3,3-dichlorobenzidene	ND [7]	ND [7]	ND [7]	ND [7]	3.27	12	625.1
Diethyl phthalate	3.83 [11]	0.71 [11]	2.93	0.58 [12]	1.63	12	625.1
Dimethyl phthalate	ND [7]	ND [7]	ND [7]	ND [7]	0.49	12	625.1
2,4-dinitrotoluene	ND [7]	ND [7]	ND [7]	ND [7]	0.526	12	625.1
2,6-dinitrotoluene	ND [7]	ND [7]	ND [7]	ND [7]	0.461	12	625.1
1,2-diphenylhydrazine	ND [7]	ND [7]	ND [7]	ND [7]	0.775	12	625.1
Fluoranthene	ND [7]	ND [7]	ND [7]	ND [7]	0.822	12	625.1
Fluorene	ND [7]	ND [7]	ND [7]	ND [7]	0.568	12	625.1
Hexachlorobenzene	ND [7]	ND [7]	ND [7]	ND [7]	0.666	12	625.1
Hexachlorobutadiene	ND [7]	ND [7]	ND [7]	ND [7]	0.453	12	625.1
Hexachlorocyclopentadiene	ND [7]	ND [7]	ND [7]	ND [7]	0.48	12	625.1
Hexachloroethane	ND [7]	ND [7]	ND [7]	ND [7]	0.424	12	625.1
Ideno(1,2,3-cd) pyrene	ND [7]	ND [7]	ND [7]	ND [7]	0.597	12	625.1
Isophorone	ND [7]	ND [7]	ND [7]	ND [7]	0.489	12	625.1
1-methylnaphthalene	ND [7]	ND [7]	ND [7]	ND [7]	0.767	12	625.1
2-methylnaphthalene	0.575 [13]	0.11 [13]	0.1	0.02 [12]	0.59	12	625.1
Naphthalene	ND [7]	ND [7]	ND [7]	ND [7]	0.513	12	625.1
Nitrobenzene	ND [7]	ND [7]	ND [7]	ND [7]	0.62	12	625.1
n-nitrosodi-n-propylamine	ND [7]	ND [7]	ND [7]	ND [7]	1.0	12	625.1
n-nitrosodi-methylamine	ND [7]	ND [7]	ND [7]	ND [7]	0.512	12	625.1
n-nitrosodi-phenylamine	ND [7]	ND [7]	ND [7]	ND [7]	0.524	12	625.1
Phenanthrene	ND [7]	ND [7]	ND [7]	ND [7]	0.512	12	625.1
Pyrene	ND [7]	ND [7]	ND [7]	ND [7]	0.649	12	625.1
1,2,4-trichlorobenzene	ND [7]	ND [7]	ND [7]	ND [7]	0.561	12	625.1

1 Data from monitoring reports submitted to the RWQCB for calendar year 2020, which is the most recent complete year for which data were available at the time of preparation of this application. See Section 5.4 of Appendix M (Annual Pretreatment Report) for monthly PLWTP influent and effluent data for 2020. Data for calendar year 2021 will be electronically submitted to regulators per reporting requirements of Order No. R9-2017-0007.

2 Maximum sample value during calendar year 2020.

3 Maximum mass emission rates (metric tons per year) are computed using the maximum sample value observed during 2020 and the PLWTP flow on the day the maximum value occurred.

4 Arithmetic average of individual daily samples collected during 2020. ND samples are assumed to have concentration of zero, and DNQ samples are presumed to have a concentration of the listed DNQ value. Data from 2020 annual report (see Section 5.4 of Appendix M.)

5 Average mass emissions (metric tons per year) are computed using the average annual concentration and the average annual 2020 PLWTP flow of 144.3 mgd.

6 Maximum Method Detection Limit (MDL) during 2020, as reported in Section 5.4 of Appendix M (Annual Pretreatment Report).

7 The constituent was not detected (ND) at the listed MDL in any PLWTP effluent sample during 2020.

8 Maximum value occurred on January 6, 2020 where the PLWTP daily flow was 150.6 mgd.

9 Data from the PLWTP annual report for 2020 (see Section 5.4 of Appendix M). Average annual value was reported as DNQ.

10 The reported average annual concentration was DNQ and no average annual mass emission is computed.

11 Maximum value occurred on November 2, 2020 where the PLWTP flow was 134.3 mgd.

12 Average mass emissions (mt/yr) computed using the average annual concentration and the average annual 2020 PLWTP flow of 144.3 mgd.

13 Maximum value occurred on June 1, 2020 where the PLWTP daily flow was 137.0 mgd.

TABLE C. EFFLUENT PARAMETERS FOR SELECTED POTWS

Pollutant	Maximum Daily Discharge		Average Daily Discharge			Analytical Method[1]	ML or MDL (include units)
	Value	Units	Value	Units	Number of Samples		
Benzo(ghi)perylene		See table on page 19b for PLWTP 2020 effluent data for base-neutral compounds					☐ ML ☐ MDL
Benzo(k)fluoranthene							☐ ML ☐ MDL
Bis (2-chloroethoxy) methane		See table on page 19b for PLWTP 2020 effluent data for base-neutral compounds					☐ ML ☐ MDL
Bis (2-chloroethyl) ether							☐ ML ☐ MDL
Bis (2-chloroisopropyl) ether		See table on page 19b for PLWTP 2020 effluent data for base-neutral compounds					☐ ML ☐ MDL
Bis (2-ethylhexyl) phthalate							☐ ML ☐ MDL
4-bromophenyl phenyl ether		See table on page 19b for PLWTP 2020 effluent data for base-neutral compounds					☐ ML ☐ MDL
Butyl benzyl phthalate							☐ ML ☐ MDL
2-chloronaphthalene		See table on page 19b for PLWTP 2020 effluent data for base-neutral compounds					☐ ML ☐ MDL
4-chlorophenyl phenyl ether							☐ ML ☐ MDL
Chrysene		See table on page 19b for PLWTP 2020 effluent data for base-neutral compounds					☐ ML ☐ MDL
di-n-butyl phthalate							☐ ML ☐ MDL
di-n-octyl phthalate		See table on page 19b for PLWTP 2020 effluent data for base-neutral compounds					☐ ML ☐ MDL
Dibenzo(a,h)anthracene							☐ ML ☐ MDL
1,2-dichlorobenzene		See table on page 19b for PLWTP 2020 effluent data for base-neutral compounds					☐ ML ☐ MDL
1,3-dichlorobenzene							☐ ML ☐ MDL
1,4-dichlorobenzene		See table on page 19b for PLWTP 2020 effluent data for base-neutral compounds					☐ ML ☐ MDL
3,3-dichlorobenzidine							☐ ML ☐ MDL
Diethyl phthalate		See table on page 19b for PLWTP 2020 effluent data for base-neutral compounds					☐ ML ☐ MDL
Dimethyl phthalate							☐ ML ☐ MDL
2,4-dinitrotoluene		See table on page 19b for PLWTP 2020 effluent data for base-neutral compounds					☐ ML ☐ MDL
2,6-dinitrotoluene							☐ ML ☐ MDL

TABLE C. EFFLUENT PARAMETERS FOR SELECTED POTWS

Pollutant	Maximum Daily Discharge		Average Daily Discharge			Analytical Method[1]	ML or MDL (include units)
	Value	Units	Value	Units	Number of Samples		
1,2-diphenylhydrazine		See table on page 19b for PLWTP 2020 effluent data for base-neutral compounds					☐ ML ☐ MDL
Fluoranthene							☐ ML ☐ MDL
Fluorene		See table on page 19b for PLWTP 2020 effluent data for base-neutral compounds					☐ ML ☐ MDL
Hexachlorobenzene							☐ ML ☐ MDL
Hexachlorobutadiene		See table on page 19b for PLWTP 2020 effluent data for base-neutral compounds					☐ ML ☐ MDL
Hexachlorocyclo-pentadiene							☐ ML ☐ MDL
Hexachloroethane		See table on page 19b for PLWTP 2020 effluent data for base-neutral compounds					☐ ML ☐ MDL
Indeno(1,2,3-cd)pyrene							☐ ML ☐ MDL
Isophorone		See table on page 19b for PLWTP 2020 effluent data for base-neutral compounds					☐ ML ☐ MDL
Naphthalene							☐ ML ☐ MDL
Nitrobenzene		See table on page 19b for PLWTP 2020 effluent data for base-neutral compounds					☐ ML ☐ MDL
N-nitrosodi-n-propylamine							☐ ML ☐ MDL
N-nitrosodimethylamine		See table on page 19b for PLWTP 2020 effluent data for base-neutral compounds					☐ ML ☐ MDL
N-nitrosodiphenylamine							☐ ML ☐ MDL
Phenanthrene		See table on page 19b for PLWTP 2020 effluent data for base-neutral compounds					☐ ML ☐ MDL
Pyrene							☐ ML ☐ MDL
1,2,4-trichlorobenzene		See table on page 19b for PLWTP 2020 effluent data for base-neutral compounds					☐ ML ☐ MDL

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR Chapter I, Subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

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TABLE D. ADDITIONAL POLLUTANTS AS REQUIRED BY NPDES PERMITTING AUTHORITY

Pollutant (list)	Maximum Daily Discharge		Average Daily Discharge			Analytical Method[1]	ML or MDL (include units)
	Value	Units	Value	Units	Number of Samples		
☐ No additional sampling is required by NPDES permitting authority.							
	See tables on pages 23a-23c for PLWTP 2020 effluent data for pesticides, PCBs, tributyltin and dioxins/furans						☐ ML ☐ MDL
							☐ ML ☐ MDL
	See tables on pages 23a-23c for PLWTP 2020 effluent data for pesticides, PCBs, tributyltin and dioxins/furans						☐ ML ☐ MDL
							☐ ML ☐ MDL
	See tables on pages 23a-23c for PLWTP 2020 effluent data for pesticides, PCBs, tributyltin and dioxins/furans						☐ ML ☐ MDL
							☐ ML ☐ MDL
	See tables on pages 23a-23c for PLWTP 2020 effluent data for pesticides, PCBs, tributyltin and dioxins/furans						☐ ML ☐ MDL
							☐ ML ☐ MDL
	See tables on pages 23a-23c for PLWTP 2020 effluent data for pesticides, PCBs, tributyltin and dioxins/furans						☐ ML ☐ MDL
							☐ ML ☐ MDL
	See tables on pages 23a-23c for PLWTP 2020 effluent data for pesticides, PCBs, tributyltin and dioxins/furans						☐ ML ☐ MDL
							☐ ML ☐ MDL
	See tables on pages 23a-23c for PLWTP 2020 effluent data for pesticides, PCBs, tributyltin and dioxins/furans						☐ ML ☐ MDL
							☐ ML ☐ MDL
	See tables on pages 23a-23c for PLWTP 2020 effluent data for pesticides, PCBs, tributyltin and dioxins/furans						☐ ML ☐ MDL
							☐ ML ☐ MDL
	See tables on pages 23a-23c for PLWTP 2020 effluent data for pesticides, PCBs, tributyltin and dioxins/furans						☐ ML ☐ MDL

[1] Sampling shall be conducted according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR 136 for the analysis of pollutants or pollutant parameters or required under 40 CFR chapter I, subchapter N or O. See instructions and 40 CFR 122.21(e)(3).

EPA Form 3510-2A – Table D
Point Loma Wastewater Treatment Plant
Chlorinated Pesticides and PCBs[1]

Constituent	Highest Daily 2020 Value		Average 2020 Value		Maximum MDL[6] (µg/l)	Number of 2020 Samples	Analytical Method
	Concentration[2] (µg/l)	Mass Emission[3] (mt/yr)	Concentration[4] (µg/l)	Mass Emission[5] (mt/yr)			
Aldrin	ND [7]	ND [7]	ND [7]	ND [7]	0.0068	53	608.3
Dieldrin	ND [7]	ND [7]	ND [7]	ND [7]	0.00517	53	608.3
BHC alpha	ND [7]	ND [7]	ND [7]	ND [7]	0.00608	53	608.3
BHC beta	ND [7]	ND [7]	ND [7]	ND [7]	0.00478	53	608.3
BHC delta	ND [7]	ND [7]	ND [7]	ND [7]	0.00668	53	608.3
BHC gamma (Lindane)	0.103 [8]	0.019 [8]	0.002	0.0004	0.00632	53	608.3
Chlordane (alpha)	ND [7]	ND [7]	ND [7]	ND [7]	0.00648	53	608.3
Chlordane (gamma)	ND [7]	ND [7]	ND [7]	ND [7]	0.00489	53	608.3
2,4' -DDD	ND [7]	ND [7]	ND [7]	ND [7]	0.00615	53	608.3
2,4' -DDE	ND [7]	ND [7]	ND [7]	ND [7]	0.00497	53	608.3
2,4' -DDT	ND [7]	ND [7]	ND [7]	ND [7]	0.00852	53	608.3
4,4' -DDD	ND [7]	ND [7]	ND [7]	ND [7]	0.00728	53	608.3
4,4' -DDE	ND [7]	ND [7]	ND [7]	ND [7]	0.0065	53	608.3
4,4' -DDT	ND [7]	ND [7]	ND [7]	ND [7]	0.00753	53	608.3
Endosulfan (alpha)	ND [7]	ND [7]	ND [7]	ND [7]	0.00763	53	608.3
Endosulfan (beta)	ND [7]	ND [7]	ND [7]	ND [7]	0.0128	53	608.3
Endosulfan Sulfate	ND [7]	ND [7]	ND [7]	ND [7]	0.00868	53	608.3
Endrin	ND [7]	ND [7]	ND [7]	ND [7]	0.00872	53	608.3
Endrin aldehyde	ND [7]	ND [7]	ND [7]	ND [7]	0.00824	53	608.3
Heptachlor	ND [7]	ND [7]	ND [7]	ND [7]	0.00928	53	608.3
Heptachlor epoxide	ND [7]	ND [7]	ND [7]	ND [7]	0.00792	53	608.3
Methoxychlor	ND [7]	ND [7]	ND [7]	ND [7]	0.00881	53	608.3
Nonachlor (cis)	ND [7]	ND [7]	ND [7]	ND [7]	0.00936	53	608.3
Nonachlor (trans)	ND [7]	ND [7]	ND [7]	ND [7]	0.00915	53	608.3
PCB 1016	ND [7]	ND [7]	ND [7]	ND [7]	0.763	53	608.3
PCB 1221	ND [7]	ND [7]	ND [7]	ND [7]	0.763	53	608.3
PCB 1232	ND [7]	ND [7]	ND [7]	ND [7]	0.763	53	608.3
PCB 1242	ND [7]	ND [7]	ND [7]	ND [7]	0.763	53	608.3
PCB 1248	ND [7]	ND [7]	ND [7]	ND [7]	0.763	53	608.3
PCB 1254	ND [7]	ND [7]	ND [7]	ND [7]	0.763	53	608.3
PCB 1260	ND [7]	ND [7]	ND [7]	ND [7]	0.763	53	608.3
PCB 1262	ND [7]	ND [7]	ND [7]	ND [7]	0.763	53	608.3
Toxaphene	ND [7]	ND [7]	ND [7]	ND [7]	0.586	53	608.3

1 Data from monitoring reports submitted to the RWQCB for calendar year 2020, which is the most recent complete year for which data were available at the time of preparation of this application. See Section 5.4 of Appendix M (Annual Pretreatment Report) for monthly PLWTP influent and effluent data for 2020. Data for calendar year 2021 will be electronically submitted to regulators per reporting requirements of Order No. R9-2017-0007.

2 Maximum sample value during calendar year 2020.

3 Maximum mass emission rates (metric tons per year) are computed using the maximum sample value observed during 2020 and the PLWTP flow on the day the maximum value occurred.

4 Arithmetic average of individual daily samples collected during 2020. ND samples are assumed to have concentration of zero, and DNQ samples are presumed to have a concentration of the listed DNQ value. Data are from 2020 annual report (see Section 5.4 of Appendix M).

5 Average mass emissions (metric tons per year) are computed using the average annual concentration and the average annual 2020 PLWTP flow of 144.3 mgd.

6 Maximum Method Detection Limit (MDL) during 2020, as reported in Section 5.4 of Appendix M (Annual Pretreatment Report).

7 The constituent was not detected (ND) at the listed MDL in any PLWTP effluent samples during 2020.

8 Detectable concentrations were observed in one of 53 gamma-BHC samples during 2020. Detectable concentration occurred in PLWTP effluent sample of October 21, 2020 where the daily PLWTP effluent flow was 137.0 mgd.

EPA Form 3510-2A – Table D
Point Loma Wastewater Treatment Plant
Organophosphorus Pesticides/Insectisides[1]

Constituent	Highest Daily 2020 Value		Average 2020 Value		Maximum MDL[6] (µg/l)	Number of 2020 Samples[7]	Analytical Method
	Concentration[2] (µg/l)	Mass Emission[3] (mt/yr)	Concentration[4] (µg/l)	Mass Emission[5] (mt/yr)			
Chlorpyrifos	7.6 DNQ [8]	ND [9]	0.6 DNQ [10]	ND [11]	0.095	12	614
Coumaphos	ND [12]	ND [12]	ND [12]	ND [12]	0.121	12	614
Demeton-O	ND [12]	ND [12]	ND [12]	ND [12]	0.075	12	614
Demeton-S	ND [12]	ND [12]	ND [12]	ND [12]	0.522	12	614
Diazinon	59 DNQ [8]	ND [9]	4.9 DNQ [10]	ND [11]	0.125	12	614
Dichlorvos	ND [12]	ND [12]	ND [12]	ND [12]	0.075	12	614
Disulfoton	ND [12]	ND [12]	ND [12]	ND [12]	0.101	12	614
Guthion	ND [12]	ND [12]	ND [12]	ND [12]	0.532	12	614
Malathion	0.495 [13]	0.12 [13]	0.06	0.012	0.097	12	614
Parathion	ND [12]	ND [12]	ND [12]	ND [12]	0.042	12	614
Stirophos	ND [12]	ND [12]	ND [12]	ND [12]	0.091	12	614

1 Data from monitoring reports submitted to the RWQCB for calendar year 2020, which is the most recent complete year for which data were available at the time of preparation of this application. See Section 5.4 of Appendix M (Annual Pretreatment Report) for monthly PLWTP influent and effluent data for 2020. Data for calendar year 2021 will be electronically submitted to regulators per reporting requirements of Order No. R9-2017-0007.

2 Highest daily value during calendar year 2020.

3 Highest daily mass emission rates (metric tons per year) are computed using the maximum sample value observed during 2020 and the PLWTP flow on the day the maximum value occurred.

4 Arithmetic average of individual daily samples collected during 2020. ND samples are assumed to have concentration of zero, and DNQ samples are presumed to have a concentration of the listed DNQ value. Unofficial computed average values not reported in the 2020 annual report.

5 Average mass emissions (metric tons per year) are computed using the average annual concentration and the average annual 2020 PLWTP flow of 144.3 mgd.

6 Maximum MDL achieved during 2020. See Section 5.4 within Appendix M.

7 Number of monthly samples collected and analyzed in 2020.

8 Highest daily value during 2020 was detected not quantifiable (DNQ).

9 The constituent was never detected above the reporting limit (RL) during 2020 and no average annual mass emission is computed.

10 Data from the PLWTP annual report for 2020 (see Section 5.4 of Appendix M). Average annual value was reported as DNQ.

11 The reported average annual concentration was DNQ and no average annual mass emission is computed.

12 The constituent was not detected (ND) at the listed MDL in any PLWTP effluent samples during 2020.

13 Maximum value occurred on April 15, 2020 where the PLWTP daily flow was 175.8 mgd.

EPA Form 3510-2A – Table D
Point Loma Wastewater Treatment Plant
Tributyltin[1]

Constituent	Highest Daily 2020 Value		Average 2020 Value		Maximum MDL[6] (µg/l)	Number of 2020 Samples	Analytical Method
	Concentration[2] (µg/l)	Mass Emission[3] (mt/yr)	Concentration[4] (µg/l)	Mass Emission[5] (mt/yr)			
Monobutyltin	ND [7]	ND [7]	ND [7]	ND [7]	0.0147	12	In-house
Tributyltin	ND [7]	ND [7]	ND [7]	ND [7]	0.0143	12	In-house

1 Data from monitoring reports submitted to the RWQCB for calendar year 2020, which is the most recent complete year for which data were available at the time of preparation of this application. See Section 5.4 of Appendix M (Annual Pretreatment Report) for monthly PLWTP influent and effluent data for 2020. Data for calendar year 2021 will be electronically submitted to regulators per reporting requirements of Order No. R9-2017-0007.
2 Maximum sample value during calendar year 2020.
3 Maximum mass emission rates (metric tons per year) are computed using the maximum sample value observed during 2020 and the PLWTP flow on the day the maximum value occurred.
4 Arithmetic average of individual daily samples collected during 2020.
5 Average mass emissions (metric tons per year) are computed using the average annual concentration and the average annual 2020 PLWTP flow of 144.3 mgd.
6 Maximum Method Detection Limit (MDL) during 2020, as reported in Section 5.4 of Appendix M (Annual Pretreatment Report).
7 The constituent was not detected (ND) at the listed MDL in any PLWTP effluent samples during 2020.

EPA Form 3510-2A – Table D
Point Loma Wastewater Treatment Plant Dioxins and Furans, 2020[1]
EPA Method 1613

Constituent	Total Number of Samples During 2020[3]	Number of 2020 Samples with Concentrations Less than the MDL[4]	Number of 2020 Samples with Concentrations that are DNQ[5]	Maximum 2020 MDL[6] (picograms per liter)	Toxicity Factor[2]	TCDD Equivalents[2] (picograms per liter)	
						2020 Highest Daily Value[7]	2020 Annual Median[8]
2,3,7,8-tetra CDD	12	12	0	0.448	1.0	ND[9]	ND[9]
1,2,3,7,8-penta CDD	12	12	0	0.575	0.5	ND[9]	ND[9]
1,2,3,4,7,8-hexa CDD	12	12	0	0.687	0.1	ND[9]	ND[9]
1,2,3,6,7,8-hexa CDD	12	12	0	0.715	0.1	ND[9]	ND[9]
1,2,3,7,8,9-hexa CDD	12	12	0	0.663	0.1	ND[9]	ND[9]
1,2,3,4,6,7,8-hepta CDD	12	6	6	0.793	0.01	3.47 DNQ[10]	1.3 DNQ[11]
1,2,3,4,6,7,8,9-octa CDD	12	1	11	0.112	0.001	23.0 DNQ[10]	12.5 DNQ[10]
2,3,7,8-tetra CDF	12	12	0	0.41	0.1	ND[9]	ND[9]
1,2,3,7,8-penta CDF	12	12	0	0.552	0.05	ND[9]	ND[9]
2,3,4,7,8-penta CDF	12	12	0	0.491	0.5	ND[9]	ND[9]
1,2,3,4,7,8-hexa CDF	12	12	0	0.506	0.1	ND[9]	ND[9]
1,2,3,6,7,8-hexa CDF	12	12	0	0.52	0.1	ND[9]	ND[9]
1,2,3,7,8,9-hexa CDF	12	12	0	0.618	0.1	ND[9]	ND[9]
2,3,4,6,7,8-hexa CDF	12	12	0	0.524	0.1	ND[9]	ND[9]
1,2,3,4,6,7,8-hepta CDF	12	12	0	0.548	0.01	ND[9]	ND[9]
1,2,3,4,7,8,9-hepta CDF	12	12	0	0.735	0.01	ND[9]	ND[9]
1,2,3,4,6,7,8,9-octa CDF	12	12	0	0.992	0.001	ND[9]	ND[9]

1 Data from monitoring reports submitted to the RWQCB for calendar year 2020, which is the most recent complete year for which data were available at the time of preparation of this application. See Section 5.4 of Appendix M (Annual Pretreatment Report) for monthly PLWTP influent and effluent data for 2020. Data for calendar year 2021 will be electronically submitted to regulators per reporting requirements of Order No. R9-2017-0007.
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 Attachment A of Order No. R9-2017-0007.
3 Total number of samples during 2020 for the listed constituent.
4 Number of samples during 2020 where the constituent was not detected (ND).
5 Number of samples during 2020 where the constituent was detected but not quantifiable (DNQ), e.g., a concentration above the Method Detection Limit (MDL) but below the Reporting Limit (RL).
6 Maximum Method Detection Limit (MDL) during 2020, as reported in Section 5.4 of Appendix M (Annual Pretreatment Report).
7 Highest daily sample value reported during calendar year 2020.
8 Median value during calendar year 2020.
9 ND indicates the constituent was not detected at the listed MDL in any PLWTP effluent sample during 2020.
10 Value was detected but not quantifiable (DNQ). Mass emissions are not computed for DNQ values.
11 Six of twelve 2002 samples were ND. The median value is between ND and the lowest observed DNQ value.

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TABLE E. EFFLUENT MONITORING FOR WHOLE EFFLUENT TOXICITY

The table provides response space for one whole effluent toxicity sample. Copy the table to report additional test results.

	Test Number _____	Test Number _____	Test Number _____
Test Information			
Test species	See pages 25a-25d for chronic toxicity results		
Age at initiation of test	See pages 25a-25d for chronic toxicity results		
Outfall number	001		
Date sample collected	See attached pages 25a-25d		
Date test started	See attached pages 25a-25d		
Duration			
Toxicity Test Methods			
Test method number Manual title Edition number and year of publication Page number(s)	Point Loma chronic toxicity testing is performed in accordance with: - Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms. U.S. Environmental Protection Agency, Environmental Monitoring and Support Laboratory, Cincinnati, OH, EPA/600/R-95/136. USEPA. 2010. - National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document. U.S. Environmental Protection Agency, Office of Wastewater Management, Washington, DC. EPA 833-R-10-004.		
Sample Type			
Check one:	☐ Grab ☑ 24-hour composite	☐ Grab ☐ 24-hour composite	☐ Grab ☐ 24-hour composite
Sample Location			
Check one:	☐ Before Disinfection ☐ After Disinfection ☑ After Dechlorination	☐ Before Disinfection ☐ After Disinfection ☐ After Dechlorination	☐ Before disinfection ☐ After disinfection ☐ After dechlorination
Point in Treatment Process			
Describe the point in the treatment process at which the sample was collected for each test.	Final Effluent: Monitoring Location EFF-001 as defined within Order No. R9-2017-0007 (NPDES CA0107409). See attached pages 25a-25d for chronic toxicity results		
Toxicity Type			
Indicate for each test whether the test was performed to asses acute or chronic toxicity, or both. (Check one response.)	☐ Acute ☑ Chronic ☐ Both	☐ Acute ☐ Chronic ☐ Both	☐ Acute ☐ Chronic ☐ Both

EPA Form 3510-2A – Table E
Point Loma Ocean Outfall Discharge
Chronic Toxicity Testing - Giant Kelp
January 2017-August 2017
Testing Conducted Pursuant to Order No. R9-2009-0001[1]

Species	Test	Date of Sample	Chronic Toxicity (TUc)[2]	No Observed Effects Level[3] (NOEC)	EC25[4]	EC50[5]
Macrocystis pyrifera (Giant Kelp)	Germ Tube Length (Growth)	1/17/2017	114	32	85.4	278
		2/6/2017	< 64.1	32	138	362
		3/6/2017	< 64.1	32	91.5	338
		4/10/2017	< 64.1	32	122	377
		5/15/2017	< 64.1	10	46.1	193
		6/5/2017	< 64.1	32	90.4	359
		7/17/2017	113.6	32	108	347
		8/7/2017	< 64.1	< 10	56.1	450
		9/18/2017	113.6	10	86.8	331
Macrocystis pyrifera (Giant Kelp)	Germination	1/17/2017	< 64.1	32	NA	156
		2/6/2017	< 64.1	32	NA	91.4
		3/6/2017	< 64.1	10	NA	104
		4/10/2017	113.6	32	NA	165
		5/15/2017	< 64.1	32	NA	143
		6/5/2017	< 64.1	32	NA	156
		7/17/2017	113.6	32	NA	180
		8/7/2017	< 64.1	32	NA	286
		9/18/2017	< 64.1	32	NA	120

1 From monthly toxicity monitoring reports submitted to the Regional Water Quality Control Board through August 2017 pursuant to RWQCB Order No. R9-2009-0001. Order No. R9-2009-0001 required the City to conduct chronic toxicity monitoring of the PLOO effluent in accordance with *Short-term Methods for Estimating the Chronic Toxicity* of *Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms (EPAl600/R-95/136,* 1995). Under this methodology, chronic toxicity results are expressed in terms of chronic toxicity units (TUc). PLOO chronic toxicity testing subsequent to August 2017 was performed in accordance with Test of Significant Toxicity (TST) protocols required under Order No. R9-2017-0007.

2 Order No. R9-2009-0001 established a chronic toxicity limit of 204 TUc for the Point Loma Wastewater Treatment Plant discharge to the PLOO.

3 NOEC (No Observed Effects Concentration) is the maximum percent of effluent that causes no observable effects on the test species.

4 EC25 is the dilution at which 25 percent of test organisms display an observable effect.

5 EC50 is the dilution at which 50 percent of test organisms display an observable effect.

EPA Form 3510-2A – Table E
Point Loma Ocean Outfall Discharge
Biannual Sensitive Species Chronic Toxicity Testing, 2018 and 2020
Testing Conducted using Test of Significant Toxicity (TST) Protocols required under Order No. R9-2017-0007[1]

Species	Test	Date of Sample	TST Result[2]	No Observed Effects Concentration[3] (NOEC)	EC25[4]	EC50[5]	Percent Effect[6]
Red Abalone	Development	1/23/2018	Pass	18	39.3	52.2	-0.2
		1/21/2020	Pass	18	36	48.6	-0.9
Topsmelt	Growth	1/23/2018	Pass	56	67.2	109	-28.4
		1/21/2020	Pass	56	64.6	88.4	-14.8
	Survival	1/23/2018	Pass	32	60.9	100	-7.4
		1/21/2020	Pass	56	86.5	121	-3.5
Macrocystis pyrifera (Giant Kelp)	Germ Tube Length	1/23/2018	Pass	< 10	52.7	273	6.8
		1/21/2020	Pass	10	102	206	7.8
	Germination	1/23/2018	Pass	32	75.2	140	4.0
		1/21/2020	Pass	10	51	110	1.4

1 From monthly toxicity monitoring reports submitted to the Regional Water Quality Control Board pursuant to RWQCB Order No. R9-2017-0007. Order No. R9-2017-0007 requires the City to conduct chronic toxicity monitoring of the PLOO effluent using the Test of Significant Toxicity (TST) statistical t-test approach described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010). Biannual sensitive species screening tests are conducted to identify the most sensitive species which are to be subjected to TST chronic toxicity during the ensuring 24-month period.

2 Under the TST approach, the null hypothesis (Ho) is that the mean discharge "in-stream" waste concentration (IWC) response is less than 75 percent of the response in a control sample. A test result that rejects this null hypothesis is reported as "Pass", and a test result that does not reject this null hypothesis is reported as "Fail".

3 NOEC (No Observed Effects Concentration) is the maximum percent of effluent that causes no observable effects on the test species.

4 EC25 is the dilution at which 25 percent of test organisms display an observable effect.

5 EC50 is the dilution at which 50 percent of test organisms display an observable effect.

6 Percent effect of the effluent sample compared to a control sample.

EPA Form 3510-2A – Table E
Point Loma Ocean Outfall Discharge - Chronic Toxicity Testing, 2017-2020
Giant Kelp (*Macrocystis pyrifera*) Germ Tube Length (Growth)
Testing Conducted using Test of Significant Toxicity (TST) Protocols required under Order No. R9-2017-0007[1]

Date of Sample Giant Kelp Growth	TST Result[2]	No Observed Effects Concentration[3] (NOEC)	EC25[4]	EC50[5]	Percent Effect[6]
10/16/2017	Pass	32	145	254	-6.4
11/6/2017	Pass	23	74.1	312	-0.9
12/4/2017	Pass	< 10	48.5	228	0.8
1/23/2018	Pass	< 10	52.7	273	6.8
2/26/2018	Pass	10	61.5	454	7.0
3/5/2018	Pass	32	152	441	2.2
4/16/2018	Pass	32	77.1	441	-9.6
5/22/2018	Pass	32	114	371	-4.3
6/18/2018	Pass	10	76.7	307	7.3
7/23/2018	Pass	32	87.2	245	0.4
8/6/2018	Pass	23	67.9	364	0.8
9/10/2018	Pass	10	62.1	244	7.2
10/2/2018	Pass	10	47.7	204	-5.9
11/5/2018	Pass	10	58.4	201	-6.1
12/3/2018	Pass	< 10	64.4	256	-2.8
1/17/2019	Pass	10	102	281	-4.8
2/19/2019	Pass	< 10	74.3	366	-7.7
3/4/2019	Pass	32	69.4	203	2.6
4/19/2019	Pass	32	65.3	174	-0.4
5/13/2019	Pass	32	100	236	-2.3
6/3/2019	Pass	10	54.5	226	1.5
7/15/2019	Pass	32	79	245	2.4
8/5/2019	Pass	10	52.2	227	2.7
9/2/2019	Pass	< 10	94.5	189	-5.4
10/7/2019	Pass	10	69.4	198	-0.4
11/4/2019	Pass	10	70.3	162.5	1.1
12/2/2019	Pass	10	59.1	184	-3.1
1/7/2020	Pass	32	55.7	158	-2.3
1/21/2020	Pass	10	102	206	7.8
2/3/2020	Pass	10	85	312	-0.8
3/9/2020	Pass	32	112	266	-3.1
4/5/2020	Pass	10	55.9	236	-2.5
5/5/2020	Pass	10	66	197	-0.8
6/1/2020	Pass	32	70	262	3.7
7/6/2020	Pass	< 10	58.9	193	-3.3
8/3/2020	Pass	32	67.2	238.6	0
9/1/2020	Pass	10	70.5	292	-0.4
11/2/2020	Pass	32	61.3	208	-5.3
12/7/2020	Pass	10	60.9	218	-2.4

1 From monthly toxicity monitoring reports submitted to the Regional Water Quality Control Board pursuant to Order No. R9-2017-0007. Order No. R9-2017-0007 requires the City to conduct chronic toxicity monitoring of the PLOO effluent using the Test of Significant Toxicity (TST) statistical t-test approach described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010). Biannual sensitive species screening tests are conducted to identify the most sensitive species which are to be subjected to TST chronic toxicity during the ensuring 24-month period. This biannual screening determined that giant kelp (*Macrocystis pyrifera*) was the most sensitive of the tested species.

2 Under the TST approach, the null hypothesis (Ho) is that the mean discharge "in-stream" waste concentration (IWC) response is less than 75 percent of the response in a control sample. A test result that rejects this null hypothesis is reported as "Pass", and a test result that does not reject this null hypothesis is reported as "Fail".

3 NOEC (No Observed Effects Concentration) is the maximum percent of effluent that causes no observable effects on the test species.

4 EC25 is the dilution at which 25 percent of test organisms display an observable effect.

5 EC50 is the dilution at which 50 percent of test organisms display an observable effect.

6 Percent effect of the effluent sample compared to a control sample.

EPA Form 3510-2A – Table E
Point Loma Ocean Outfall Discharge - Chronic Toxicity Testing, 2017-2020
Giant Kelp (*Macrocystis pyrifera*) Germination
Testing Conducted using Test of Significant Toxicity (TST) Protocols required under Order No. R9-2017-0007[1]

Date of Sample Giant Kelp Germination	TST Result[2]	No Observed Effects Concentration[3] (NOEC)	EC25[4]	EC50[5]	Percent Effect[6]
10/16/2017	Pass	32	NA	152	-0.7
11/6/2017	Pass	32	NA	115	-1.3
12/4/2017	Pass	32	NA	119	-0.9
1/23/2018	Pass	32	75.2	140	4.0
2/26/2018	Pass	10	67.2	127	-0.9
3/5/2018	Pass	10	65.4	129	-2.6
4/16/2018	Pass	10	75.1	132	-1.9
5/22/2018	Pass	32	107	178	2.1
6/18/2018	Pass	10	51.4	112	-3.7
7/23/2018	Pass	10	64.1	128	-1.9
8/6/2018	Pass	32	103	156	0.7
9/10/2018	Pass	10	48.4	95	-5.1
10/2/2018	Pass	10	58.5	123	-2.8
11/5/2018	Pass	10	74	134	-2.7
12/3/2018	Pass	< 10	53.1	120	-2.3
1/17/2019	Pass	10	59.6	120	-1.8
1/21/2020	Pass	10	51	110	1.4
2/19/2019	Pass	< 10	59.2	125	0
3/4/2019	Pass	32	75	147	-2.0
4/19/2019	Pass	32	65.3	126	-3.6
5/13/2019	Pass	10	52.3	113	-1.8
6/3/2019	Pass	10	59.1	119	0.2
7/15/2019	Pass	< 10	62.4	126	-2.3
8/5/2019	Pass	10	51.8	107	-1.3
9/2/2019	Pass	10	52.9	113	-1.1
10/7/2019	Pass	32	50.3	96.2	-0.5
11/4/2019	Pass	10	49.5	119.6	-1.4
12/2/2019	Pass	10	51.4	102.7	-3
1/7/2020	Pass	32	56.6	114	-1.9
2/3/2020	Pass	10	48.9	131	-0.2
3/9/2020	Pass	< 10	64.1	139	-8.5
4/5/2020	Pass	10	48.6	102	-1.6
5/5/2020	Pass	10	45.6	104	-0.2
6/1/2020	Pass	32	59.4	115	-0.7
7/6/2020	Pass	10	55.9	112	0
8/3/2020	Pass	10	54.9	129.6	0
9/1/2020	Pass	32	61	138	-2.6
10/6/2020	Pass	10	58.5	116	4
10/6/2020	Pass	32	63.6	208	4.2

1 From monthly toxicity monitoring reports submitted to the Regional Water Quality Control Board pursuant to Order No. R9-2017-0007. Order No. R9-2017-0007 requires the City to conduct chronic toxicity monitoring of the PLOO effluent using the Test of Significant Toxicity (TST) statistical t-test approach described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010). Biannual sensitive species screening tests are conducted to identify the most sensitive species which are to be subjected to TST chronic toxicity during the ensuring 24-month period. This biannual screening determined that giant kelp (*Macrocystis pyrifera*) was the most sensitive of the tested species.

2 Under the TST approach, the null hypothesis (Ho) is that the mean discharge "in-stream" waste concentration (IWC) response is less than 75 percent of the response in a control sample. A test result that rejects this null hypothesis is reported as "Pass", and a test result that does not reject this null hypothesis is reported as "Fail".

3 NOEC (No Observed Effects Concentration) is the maximum percent of effluent that causes no observable effects on the test species.

4 EC25 is the dilution at which 25 percent of test organisms display an observable effect.

5 EC50 is the dilution at which 50 percent of test organisms display an observable effect.

6 Percent effect of the effluent sample compared to a control sample.

TABLE E. EFFLUENT MONITORING FOR WHOLE EFFLUENT TOXICITY

The table provides response space for one whole effluent toxicity sample. Copy the table to report additional test results.

	Test Number _____	Test Number _____	Test Number _____
Test Type			
Indicate the type of test performed. (Check one response.)	☐ Static ☐ Static-renewal ☐ Flow-through Order No. R9-2017-002 requires static renewal tests for topsmelt. Static non-renewal tests are required for sand dollar, red abalone, and giant kelp.	☐ Static ☐ Static-renewal ☐ Flow-through	☐ Static ☐ Static-renewal ☐ Flow-through
Source of Dilution Water			
Indicate the source of dilution water. (Check one response.)	☐ Laboratory water ☐ Receiving water	☐ Laboratory water ☐ Receiving water	☐ Laboratory water ☐ Receiving water
If laboratory water, specify type.			
If receiving water, specify source.			
Type of Dilution Water			
Indicate the type of dilution water. If salt water, specify "natural" or type of artificial sea salts or brine used.	☐ Fresh water ☑ Salt water (specify) Natural seawater provided by the Scripps Institution of Oceanography filtered using 1.0 um and 0.2 um filters.	☐ Fresh water ☐ Salt water (specify)	☐ Fresh water ☐ Salt water (specify)
Percentage Effluent Used			
Specify the percentage effluent used for all concentrations in the test series.	Instream waste concentration of 0.49%		

Parameters Tested						
Check the parameters tested.	☑ pH ☑ Salinity ☑ Temperature	☐ Ammonia ☑ Dissolved oxygen	☐ pH ☐ Salinity ☐ Temperature	☐ Ammonia ☐ Dissolved oxygen	☐ pH ☐ Salinity ☐ Temperature	☐ Ammonia ☐ Dissolved oxygen

Acute Test Results			
Percent survival in 100% effluent	Not applicable. Acute toxicity testing not required per California Ocean Plan or Order No. R9-2017-0007, each of which require chronic toxicity testing in lieu of acute testing.	%	%
LC_{50}			
95% confidence interval		%	%
Control percent survival		%	%

TABLE E. EFFLUENT MONITORING FOR WHOLE EFFLUENT TOXICITY

The table provides response space for one whole effluent toxicity sample. Copy the table to report additional test results.

	Test Number _____		Test Number _____		Test Number _____	
Acute Test Results Continued						
Other (describe)	Not applicable. Acute toxicity testing not required per California Ocean Plan or Order No. R9-2017-0007, each of which require chronic toxicity testing in lieu of acute testing.					
Chronic Test Results						
NOEC	See attached pages 25a-25d %		%		%	
IC_{25}	See attached pages 25a-25d %		%		%	
Control percent survival	See attached pages 25a-25d %		%		%	
Other (describe)	TST "pass" for all tests. See attached tables on pages 25a-25d.		Not applicable		Not applicable	
Quality Control/Quality Assurance						
Is reference toxicant data available?	☑ Yes	☐ No	☐ Yes	☐ No	☐ Yes	☐ No
Was reference toxicant test within acceptable bounds?	☑ Yes	☐ No	☐ Yes	☐ No	☐ Yes	☐ No
What date was reference toxicant test run (MM/DD/YYYY)?	Tests conducted both on effluent and reference toxicants. See attached tables for test dates.					
Other (describe)	Not applicable		Not applicable		Not applicable	

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TABLE F. INDUSTRIAL DISCHARGE INFORMATION

Response space is provided for three SIUs. Copy the table to report information for additional SIUs.

	SIU ____	SIU ____	SIU ____
Name of SIU	See Section III.H of the Large Applicant Questionnaire and summary tables on attached pages 29a and 29b		
Mailing address (street or P.O. box)			
City, state, and ZIP code			
Description of all industrial processes that affect or contribute to the discharge.	See Section III.H of the Large Applicant Questionnaire and summary tables on attached pages 29a and 29b		
List the principal products and raw materials that affect or contribute to the SIU's discharge.	See Section III.H of the Large Applicant Questionnaire and summary tables on attached pages 29a and 29b		
Indicate the average daily volume of wastewater discharged by the SIU.	gpd	gpd	gpd
How much of the average daily volume is attributable to process flow?	gpd	gpd	gpd
How much of the average daily volume is attributable to non-process flow?	gpd	gpd	gpd
Is the SIU subject to local limits?	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
Is the SIU subject to categorical standards?	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No

Note: Completion of Part F is not required for 301(h) applicants per 40 CFR 125.59(c)(1), which requires that NPDES permit application forms only be submitted for Section I (Applicant and Facility Description), Section II (Basic Discharge Information) and Section III (Scheduled Improvements) of the prior EPA Standard Form A. For 301(h) applicants, industrial discharger information is required to be submitted as part of the Large Applicant Questionnaire (LAQ). Descriptions of the Metro System pretreatment program and contributing SIUs and CIUs is presented in Section III.H of the attached LAQ. For review purposes, Metro System SIU/CIU dischargers for calendar year 2020 are also summarized in tables shown on attached pages 29a and 29b of EPA Form 3510-2A.

EPA Form 3510-2A – Table F
Categorical Industrial Users (CIUs) Discharging to the Metro System, 2020[1]

Permit Class[2]	Name of Industry	Discharge Permit Number	Industrial Processes	Applicable Categorical Requirements[3]	Average 2020 Flow (gpd)	Address of Industry
1	Action Powder Coating LLC	03-0717 08-A	Coating and cleaning	40 CFR 433.17	1,949	7949 Stromesa Court Suite D; San Diego
1	Alphacoat Finishing LLC	03-0920 06-A	Metal finishing	40 CFR 433.17	492	9352 Cabot Drive; San Diego
1	Anocote Metal Finishing Inc	03-1017 04-A	Etching, anodizing, cleaning	40 CFR 433.17	110	7550 Trade Street; San Diego
1	AP Precision Metals	12-0144 05-A	Metal coating, iron phosphating	40 CFR 433.17	128	1215 30th Street; San Diego
1	ATK Space Systems Inc	03-0115 07-A	Abrasive jet machining	40 CFR 433.17	190	9603 Distribution Avenue; San Diego
1	Chromalloy San Diego	05-0985 05-A	Fluorescent penetrant testing	40 CFR 433.17	308	7007 Consolidated Way; San Diego
1	Coating Services Group LLC	21-0331 03-A	Metal parts cleaning	40 CFR 433.17	35	11649 Riverside Drive Suite 139; Lakeside
1	Compucraft Industries Inc	21-0252 05-A	Metal finishing, fabrication, machining	40 CFR 433.17	0	8787 Olive Lane; Santee
1	Creative Metal Industries	21-0248 06-A	Silkscreen cleaning	40 CFR 433.17	90	10039 Prospect Avenue Suite E; Santee
1	Garvin Industries	16-0033 06-A	Cleaning, iron phosphating, sealing	40 CFR 433.17	37	316 Millar Avenue; El Cajon
1	General Dynamics NASSCO	11-0051 07-A	Wastewater plant effluent/ship construction	40 CFR 433.17	73,101	2798 Harbor Drive; San Diego
1	GKN Aerospace Chem-tronics Inc	16-0520 06-A	Metal finishing, cleaning, penetrant testing	40 CFR 433.17	35,850	1150 W Bradley Avenue; El Cajon
1	Golden State Metal Finishing	34-0070 04-A	Treated metal finishing	40 CFR 433.17	373	2737 Via Orange Way #104; Spring Valley
1	Harcon Precision Metals Inc	12-0244 03-A	Conversion coating	40 CFR 433.17	70	1790 Dornoch Court; San Diego
1	IriSys LLC	03-0779 05-A	Elixir tank cleaning, equipment cleaning	40 CFR 439.47	285	6828 Nancy Ridge Drive, #100; San Diego
1	Johnson Matthey Medical Products	03-1070 05-A	Parts cleaning and tumbling	40 CFR 433.17	280	12205 World Trade Drive; San Diego
1	K-Tube Corporation	20-0122 05-A	Power washing, tube manufacturing	40 CFR 433.17	911	13400 Kirkham Way; Poway
1	Kyocera International Inc	06-0058 07-A	Nickel plating and cleaning	40 CFR 433.17	23,650	8611 Balboa Avenue; San Diego
1	L & T Precision Corporation	20-0109 06-A	Silkscreen cleaning	40 CFR 433.17	35	12105 Kirkham Road; Poway
1	nVent - Schroff Inc	03-1203 02-A	Tumble deburring, passivation, silk screening	40 CFR 433.17	352	7328 Trade Street; San Diego
1	Otay Mesa Energy Center LLC	36-0001 03-A	Blowdown, turbine washing	40 CFR 423.17	33,375	606 De La Fuente Court; San Diego
1	Pacira Pharmaceuticals Inc	02-0762 06-A	Pharmaceutical manufacturing	40 CFR 439.47	32,690	10450 Science Center Drive; San Diego
1	PrimaPharm Inc	02-0439 03-B	Pharmaceutical manufacturing	40 CFR 439.46	250	3443 Tripp Court; San Diego
1	Rohr Inc a UTC Aerospace Systems Company	13-0161 06-A	Metal finishing	40 CFR 433.17	9,974	850 Lagoon Drive; Chula Vista
1	Santier Incorporated	03-1380 01-A	Metal finishing, surface treatment	433.17/471.45/471.55	139	10103 Carroll Canyon Road; San Diego
1	Somacis Inc	20-0043 07-A	PCB mfg.; gold plating and immersion	40 CFR 433.17	32,108	13500 Danielson Street; Poway
1	Spec-Built Systems Inc	12-0202 04-A	Iron phosphating	40 CFR 433.17	26	2150 Michael Faraday Drive; San Diego
1	Stallergenes Greer dba Allermed Laboratories Inc.	05-0684 06-A	Glassware and tube washing/sterilization	40 CFR 439.26	30	7203 Convoy Court; San Diego
1	Suneva Medical Inc	02-0518 06-A	Pharmaceutical manufacturing	439.27/439.47	979	5870 Pacific Center Blvd.; San Diego
1	Sungear	03-0347 05-B	Etching rinsing	40 CFR 433.17	20	8535 Arjons Drive Suite G; San Diego
1	The Argen Corporation	02-0582 07-A	Precious metals forming	40 CFR 471.45	110	5855 Oberlin Drive San Diego
1	TTM Technologies Inc - San Diego Division	05-0997 06-A	PCB mfg.; gold electroplating and immersion	40 CFR 433.17	10,100	5037 Ruffner Street San Diego
1	USN; Naval Base Coronado - NASN	08-0018 06-A	Test cell/pad cleaning, testing, oil recovery	40 CFR 433.17/433.15	98,410	NAS North Island San Diego
1	Valley Metals	20-0108 06-A	Metal forming/finishing, X-ray processing	433.17/471.35/471.65	897	13125 Gregg Street Poway
1	Veridiam Inc	16-0348 05-A	Metal forming and cleaning	433.15/433.17/468.15 471.35/471/65/471/95	2,378	1717 Cuyamaca Street El Cajon
1	Vision Systems Inc	21-0288 01-B	Etching and chem film	40 CFR 433.17	1,100	11322 N Woodside Avenue Santee

1 Industries subject to federal categorical pretreatment standards under Title 40, Section 403 of the *Code of Federal Regulations* (40 CFR 403) and 40 CFR Chapter I, Subchapter N. See Appendix N details on individual CIUs during 2020, including monitoring, inspection and compliance.

2 Class 1 dischargers are defined as users with industrial processes that are subject to federal categorical pretreatment standards (CIUs). CIUs are regulated under Class 1 permits that require source control, pretreatment, or both in accordance with local regulations and federal technology-based regulations established for individual industrial categories within the *Code of Federal Regulations*.

3 Section within Title 40 of the *Code of Federal Regulations* (40 CFR) where categorical requirements are established that are applicable to the industry.

EPA Form 3510-2A – Table F
Non-Categorical Significant Industrial Users (SIUs) Discharging to the Metro System, 2020[1]

Permit Class[2]	Designation	Name of Industry	Permit No.	Industrial Process/Nature of Discharge	Address of Industry
2	SIU	Cintas Corporation	11-0189 07-A	Industrial laundry	675 32nd Street San Diego
2	SIU	CP Kelco	11-0444 06-A	Pilot plant and cogeneration plant	2025 E Harbor Drive San Diego
2	SIU	Otay Landfill Inc	36-0012 01-A	Landfill leachate	1700 Maxwell Road Chula Vista
2	SIU	Pall Filtration & Separations Group Inc	02-0332 06-A	Membrane manufacturing	4116 Sorrento Valley Blvd. San Diego
2	SIU	Unifirst Corporation	11-0398 07-A	Industrial laundry	4041 Market Street San Diego
2	SIU	University of California San Diego	02-0112 06-B	Medical and research facilities	9500 Gilman Drive 0089 La Jolla
2	SIU	USN; Marine Corps Air Station Miramar	05-1019 05-A	Aircraft maintenance	45249 Miramar Way San Diego
2	SIU	USN; Naval Base San Diego	11-0016 06-B	Medical, piers, maint., oily waste treatment	32nd St @ Harbor Drive San Diego
2	SIU	UT; Ametek Inc	16-0785 06-A	Groundwater remediation	790 Greenfield Drive El Cajon
2	SIU	UT; Brenntag Pacific Inc	13-0549 02-A	Groundwater remediation	1888 Nirvana Avenue Chula Vista
2	SIU	UT; Holland Partner Group	09-1018 01-A	Construction process water	225 W B Street San Diego
2	SIU	UT; Innovative Environmental Solutions	13-0454 07-C	Groundwater remediation	1330 3rd Av Chula Vista
2	SIU	UT; KTA Construction Inc	08-0620 01-A	Construction dewatering	4301 Pacific Hwy San Diego
2	SIU	UT; Ortiz Corporation	04-0513 02-A	Construction dewatering	2750 Grand Avenue San Diego
2	SIU	UT; Phillips 66 Site 1467	07-0170 08-A	Groundwater remediation	7121 Park Ridge Blvd. San Diego
2	SIU	UT; San Diego Gas and Electric	05-1284 01-B	Construction dewatering	9211 Kearny Mesa Road San Diego
2	SIU	UT; SDSU Mission Valley Site Development	06-0414 02-A	Construction dewatering	9449 Friars Road San Diego
2	SIU	UT; Sukut Construction	16-0817 03-A	Construction dewatering	1620 Joe Crosson Drive El Cajon
2	SIU	UT; Thrifty Oil Company # 043	16-0565 11-A	Groundwater remediation	1092 E Washington Avenue El Cajon
2	SIU	UT; Thrifty Oil Company # 420	16-0727 07-A	Groundwater remediation	398 El Cajon Blvd. El Cajon
2	SIU	UT; USN NBPL Defense Fuel Support Point	08-0008 07-A	Groundwater remediation	199 Rosecrans Street San Diego
3	SIU	Ajinomoto Foods North America Inc	12-0220 05-A	Food processing and manufacturing	8411 Siempre Viva Road San Diego
3	SIU	Alsco Inc	09-0001 06-A	Commercial laundry	705 W Grape Street San Diego
3	SIU	Atlas Pumping	33-0069 01-A	Grease dewatering	12740 Vigilante Road Lakeside
3	SIU	Ballast Point Brewery Miramar	03-0270 04-A	Brewing	9045 Carroll Way San Diego
3	SIU	Emerald Textiles LLC	12-0065 05-A	Commercial laundry	1725 Dornoch Court Suite 100 San Diego
3	SIU	JDZ Inc DBA AleSmith Brewing Company	03-1300 02-A	Brewing	9990 AleSmith Court San Diego
3	SIU	Jensen Meat Company Inc	12-0275 03-A	Meat processing; cleansing and cleaning	2550 Britannia Bld. Suite 101 San Diego
3	SIU	Kraft Heinz Foods Company	12-0154 05-A	Food manufacturing	7878 Airway Road San Diego
3	SIU	Pio Pico Energy Center	36-0009 02-A	Gas turbine power plant	7363 Calzada de la Fuente San Diego
3	SIU	RJ Donovan Correctional Facility	12-0038 06-A	Prison wastes	480 Alta Road San Diego
3	SIU	Saint Archer Brewing Company	03-1338 02-A	Brewing	9550 Distribution Avenue San Diego
3	SIU	Spectex Inc dba Specialty Textile Services	12-0283 03-A	Commercial laundry	1333 30th Street Suite A San Diego
3	SIU	Star Laundry Services	11-0321 04-A	Commercial laundry	3410 Main Street San Diego
3	SIU	Tarantino Wholesale Food Distributors	12-0212 02-A	Sausage manufacturing	7651 Saint Andrews Avenue San Diego
3	SIU	US General Services Administration - SYLPOE	12-0285 03-A	Treated and untreated wastewater	720 E San Ysidro Blvd. San Diego
3	SIU	UT; City of San Diego - Storm Water Division	11-0534 04-A	Groundwater dewatering	111 W Harbor Drive San Diego
3	SIU	WC IPA LLC	03-0966 04-A	Brewing	6550 Mira Mesa Blvd. San Diego

1 Industries not subject to federal categorical pretreatment standards under Title 40, of the *Code of Federal Regulations* (40 CFR 126), but subject to designation as Significant Industrial Users (SIUs). This includes (1) industries that discharge more than 25,000 gallons per day (gpd), (2) industries with discharges that comprise more than five percent of the hydraulic or organic loading of public owned treatment works, or (3) industries that have the potential to adversely impact wastewater treatment or have a reasonable potential to violate pretreatment standards or requirements. See Appendix N details on individual SIUs during 2020, including monitoring, inspection and compliance.

2 Class 2 permits are issued by the City of San Diego to industrial sectors which have some toxic constituents in their discharge but are not subject to federal categorical pretreatment standards. Class 2 permits may impose numeric limits or required Best Management Practice requirements (BMPs). Groundwater remediation projects receive Class 2 permits.

3 Class 3 permits are issued to industrial sectors to regulate conventional pollutants. Class 3 permits may impose numeric limits or required BMPs. Construction dewatering projects receive Class 3 permits.

TABLE F. INDUSTRIAL DISCHARGE INFORMATION

Response space is provided for three SIUs. Copy the table to report information for additional SIUs.

	SIU ____	SIU ____	SIU ____
Under what categories and subcategories is the SIU subject? Note: Completion of Part F is not required for 301(h) applicants per 40 CFR 125.59(c)(1), which requires that NPDES permit application forms only be submitted for Section I (Applicant and Facility Description), Section II (Basic Discharge Information) and Section III (Scheduled Improvements) of the prior EPA Standard Form A. For 301(h) applicants, industrial discharger information is required to be submitted as part of the Large Applicant Questionnaire (LAQ). Descriptions of the Metro System pretreatment program and contributing SIUs and CIUs is presented in Section III.H of the attached LAQ. For review purposes, Metro System SIU/CIU dischargers for calendar year 2020 are also summarized in tables shown on attached pages 29a and 29b of EPA Form 3510-2A.			
Has the POTW experienced problems (e.g., upsets, pass-through interferences) in the past 4.5 years that are attributable to the SIU?	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
If yes, describe.			

Click to go back to the beginning of Form

EPA Form 2S

Renewal of NPDES CA0107409

The City of SAN DIEGO

EPA Identification Number	NPDES Permit Number	Facility Name	Form Approved 03/05/19 OMB No. 2040-0004
	CA0107409	E.W. Blom Point Loma Wastewater Treatment Plant and Metro Biosolids Center	

Form 2S NPDES

U.S Environmental Protection Agency
Application for NPDES Permit for Sewage Sludge Management
NEW AND EXISTING TREATMENT WORKS TREATING DOMESTIC SEWAGE

PRELIMINARY INFORMATION

Does your facility currently have an effective NPDES permit or have you been directed by your NPDES permitting authority to submit a full Form 2S permit application?

☑ Yes ➔ Complete Part 2 of application package (begins p. 7). ☐ No ➔ Complete Part 1 of application package (below).

PART 1 — LIMITED BACKGROUND INFORMATION (40 CFR 122.21(c)(2)(ii))

Complete this part only if you are a "sludge-only" facility (i.e., a facility that does not currently have, and is not applying for, an NPDES permit for a direct discharge to a surface body of water).

PART 1, SECTION 1. FACILITY INFORMATION (40 CFR 122.21(c)(2)(ii)(A))

Facility Information

1.1

Facility name Not applicable - See Part 2			
Mailing address (street or P.O. box) Not applicable - See Part 2			
City or town Not applicable - See Part 2		State	ZIP code
Contact name (first and last) Not applicable - See Part 2	Title	Phone number	Email address
Location address (street, route number, or other specific identifier) ☐ Same as mailing address			
City or town		State	ZIP code

1.2 **Ownership Status**

☐ Public—federal ☐ Public—state ☐ Other public (specify)_____

☐ Private ☐ Other (specify) _____

PART 1, SECTION 2. APPLICANT INFORMATION (40 CFR 122.21(c)(2)(ii)(B))

Applicant Information

2.1 Is applicant different from entity listed under Item 1.1 above?

☐ Yes ☐ No ➔ SKIP to Item 2.3 (Part 1, Section 2).

2.2

Applicant name Not applicable - See Part 2			
Applicant address (street or P.O. box) Not applicable - See Part 2			
City or town Not applicable - See Part 2		State	ZIP code
Contact name (first and last) Not applicable - See Part 2	Title	Phone number	Email address

2.3 Is the applicant the facility's owner, operator, or both? (Check only one response.)

☐ Owner ☐ Operator ☑ Both

2.4 To which entity should the NPDES permitting authority send correspondence? (Check only one response.)

☐ Facility ☐ Applicant ☐ Facility and applicant (they are one and the same)

PART 1, SECTION 3. SEWAGE SLUDGE AMOUNT (40 CFR 122.21(c)(2)(ii)(D))

Sewage Sludge Amount

3.1 Provide the total dry metric tons per the latest 365-day period of sewage sludge generated, treated, used, and disposed of:

Practice	Dry Metric Tons per 365-Day Period
Amount generated at the facility	Not applicable
Amount treated at the facility	Not applicable
Amount used (i.e., received from off site) at the facility	Not applicable
Amount disposed of at the facility	Not applicable

PART 1, SECTION 4. POLLUTANT CONCENTRATIONS (40 CFR 122.21(c)(2)(ii)(E))

Pollutant Concentrations

4.1 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 503 for your 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 4.5 years old.

☐ Check here if you have provided a separate attachment with this information.

Pollutant	Concentration (mg/kg dry weight)	Analytical Method	Detection Level for Analysis
Arsenic	Not applicable - See Part 2		
Cadmium			
Chromium	Not applicable - See Part 2		
Copper			
Lead	Not applicable - See Part 2		
Mercury			
Molybdenum	Not applicable - See Part 2		
Nickel			
Selenium	Not applicable - See Part 2		
Zinc			
Other (specify) _____	Not applicable - See Part 2		
Other (specify) _____			
Other (specify) _____			
Other (specify) _____			
Other (specify) _____			
Other (specify) _____			
Other (specify) _____			
Other (specify) _____			
Other (specify) _____			

PART 1, SECTION 5. TREATMENT PROVIDED AT YOUR FACILITY (40 CFR 122.21(c)(2)(ii)(C))

Treatment Provided at Your Facility

5.1 For each sewage sludge use or disposal practice, indicate the amount of sewage sludge used or disposed of, the applicable pathogen class and reduction alternative, and the applicable vector attraction reduction option. Attach additional pages, as necessary.

Use or Disposal Practice (check one)	Amount (dry metric tons)	Pathogen Class and Reduction Alternative	Vector Attraction Reduction Option
☐ Land application of bulk sewage ☐ Land application of biosolids (bulk) ☐ Land application of biosolids (bags) ☐ Surface disposal in a landfill ☐ Other surface disposal ☐ Incineration Not applicable - See Part 2		☐ Not applicable ☐ Class A, Alternative 1 ☐ Class A, Alternative 2 ☐ Class A, Alternative 3 ☐ Class A, Alternative 4 ☐ Class A, Alternative 5 ☐ Class A, Alternative 6 ☐ Class B, Alternative 1 ☐ Class B, Alternative 2 ☐ Class B, Alternative 3 ☐ Class B, Alternative 4 ☐ Domestic septage, pH adjustment	☐ Not applicable ☐ Option 1 ☐ Option 2 ☐ Option 3 ☐ Option 4 ☐ Option 5 ☐ Option 6 ☐ Option 7 ☐ Option 8 ☐ Option 9 ☐ Option 10 ☐ Option 11

5.2 For each of the use and disposal practices specified in Item 5.1, identify the treatment process(es) used at your facility to reduce pathogens in sewage sludge or reduce the vector attraction properties of sewage sludge. (Check all that apply.)

Not applicable - See Part 2

- ☐ Preliminary operations (e.g., sludge grinding and degritting)
- ☐ Stabilization
- ☐ Composting
- ☐ Disinfection (e.g., beta ray irradiation, gamma ray irradiation, pasteurization)
- ☐ Heat drying
- ☐ Methane or biogas capture and recovery
- ☐ Thickening (concentration)
- ☐ Anaerobic digestion
- ☐ Conditioning
- ☐ Dewatering (e.g., centrifugation, sludge drying beds, sludge lagoons)
- ☐ Thermal reduction
- ☐ Other (specify) _____

PART 1, SECTION 6. SEWAGE SLUDGE SENT TO OTHER FACILITIES (40 CFR 122.21(c)(2)(ii)(C))

Sewage Sludge Sent to Other Facilities

6.1 Does the sewage sludge from your facility meet the ceiling concentrations in Table 1 of 40 CFR 503.13, the pollutant concentrations in Table 3 of 40 CFR 503.13, Class A pathogen reduction requirements at 40 CFR 503.32(a), *and* one of the vector attraction reduction requirements at 40 CFR 503.33(b)(1)–(8)?

☐ Yes ➔ SKIP to Part 1, Section 8 (Certification). ☐ No

6.2 Is sewage sludge from your facility provided to another facility for treatment, distribution, use, or disposal?

☐ Yes ☐ No ➔ SKIP to Part 1, Section 7.

6.3

Receiving facility name Not applicable - See Part 2			
Mailing address (street or P.O. box) Not applicable - See Part 2			
City or town Not applicable - See Part 2		State	ZIP code
Contact name (first and last) Not applicable - See Part 2	Title	Phone number	Email address

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

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

Not applicable - See Part 2

PART 1, SECTION 7. USE AND DISPOSAL SITES (40 CFR 122.21(c)(2)(ii)(C))

Use and Disposal Sites

Provide the following information for each site on which sewage sludge from this facility is used or disposed of.

☐ Check here if you have provided separate attachments with this information.

7.1

Site name or number Not applicable - See Part 2			
Mailing address (street or P.O. box) Not applicable - See Part 2			
City or town Not applicable - See Part 2		State	ZIP code
Contact name (first and last) Not applicable - See Part 2	Title	Phone number	Email address
Location address (street, route number, or other specific identifier) Not applicable - See Part 2		☐ Same as mailing address	
City or town Not applicable - See Part 2		State	ZIP code
County Not applicable - See Part 2		County code	☐ Not available

7.2 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 - See Part 2

PART 1, SECTION 8. CHECKLIST AND CERTIFICATION STATEMENT (40 CFR 122.22(a) and (d))

Checklist and Certification Statement

8.1 In Column 1 below, mark the sections of Form 2S, Part 1, that you have completed and are submitting with your application. For each section, specify in Column 2 any attachments that you are enclosing to alert the permitting authority. Note that not all applicants are required to provide attachments.

Column 1	Column 2
☑ Section 1: Facility Information	☑ w/ attachments
☑ Section 2: Applicant Information	☑ w/ attachments
☑ Section 3: Sewage Sludge Amount	☑ w/ attachments
☑ Section 4: Pollutant Concentrations	☑ w/ attachments
☐ Section 5: Treatment Provided at Your Facility	☐ w/ attachments
☐ Section 6: Sewage Sludge Sent to Other Facilities	☐ w/ attachments
☐ Section 7: Use and Disposal Sites	☐ w/ attachments
☐ Section 8: Checklist and Certification Statement	Part 1 is not applicable - See Part 2

Checklist and Certification Statement Continued	8.2	**Certification Statement** *I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*		
		Name (print or type first and last name) Not applicable	Official title	Phone number
		Signature		Date signed

PART 1 APPLICANTS STOP HERE.

Submit completed application package to your NPDES permitting authority.

This page intentionally left blank.

PART 2 — **PERMIT APPLICATION INFORMATION (40 CFR 122.21(q))**

Complete this part if you have an effective NPDES permit or have been directed by the NPDES permitting authority to submit a full permit application. In other words, complete this part if your facility has, or is applying for, an NPDES permit.
Part 2 is divided into five sections. Section 1 pertains to all applicants. The applicability of Sections 2 to 5 depends on your facility's sewage sludge use or disposal practices. See the instructions to determine which sections you are required to complete.

PART 2, SECTION 1. GENERAL INFORMATION (40 CFR 122.21(q)(1 7) AND (q)(13))

General Information

All Part 2 applicants must complete this section.

Facility Information

1.1 Facility name
E.W. Blom Point Loma Wastewater Treatment Plant and Metro Biosolids Center

Mailing address (street or P.O. box)
City of San Diego Public Utilities Department; 9192 Topaz Way, MS 901

City or town	State	ZIP code	Phone number
San Diego	CA	92123	(858) 292-6401

Contact name (first and last)	Title	Email address
Juan Guerreiro	Interim Director, Public Utilities Dept.	JGuerreiro@sandiego.gov

Location Address: Metro Biosolids Center, 5240 Convoy Street, San Diego, CA 92121 — E.W. Blom Point Loma Wastewater Treatment Plant, 1902 Gatchell Road, San Diego, CA 92106

1.2 Is this facility a Class I sludge management facility?
☑ Yes ☐ No

1.3 **Facility Design Flow Rate** (Average annual flow) 240 million gallons per day (mgd)

1.4 **Total Population Served** (based on 2020 SANDAG population estimates) 2.3 million

1.5 **Ownership Status**
☐ Public—federal ☐ Public—state ☑ Other public (specify) Municipality
☐ Private ☐ Other (specify) _____

Applicant Information

1.6 Is applicant different from entity listed under Item 1.1 above?
☐ Yes ☑ No ➔SKIP to Item 1.8 (Part 2, Section 1).

1.7 Applicant name
Not applicable - See Section 1.1 above

Applicant mailing address (street or P.O. box)
Not applicable - See Section 1.1 above

City or town	State	ZIP code
Not applicable - See Section 1.1 above		

Contact name (first and last)	Title	Phone number	Email address

1.8 Is the applicant the facility's owner, operator, or both? (Check only one response.)
☐ Operator ☐ Owner ☑ Both

1.9 To which entity should the NPDES permitting authority send correspondence? (Check only one response.)
☐ Facility ☐ Applicant ☑ Facility and applicant (they are one and the same)

1.10	Facility's NPDES permit number ☐ Check here if you do not have an NPDES permit but are otherwise required to submit Part 2 of Form 2S.	CA0107409
1.11	Indicate all other federal, state, and local permits or construction approvals received or applied for that regulate this facility's sewage sludge management practices below. ✔ California Regional Water Quality Control Board Order No. R9-2015-0091 establishes requirements for the North City Water Reclamation Plant, which (along with the Point Loma Wastewater Treatment Plant) also discharges biosolids to the Metro Biosolids Center	

☐ RCRA (hazardous wastes) Not applicable	☐ Nonattainment program (CAA) Not applicable	☐ NESHAPs (CAA) Not applicable
☐ PSD (air emissions) Not applicable	☐ Dredge or fill (CWA Section 404) Not applicable	☐ Other (specify)
☐ Ocean dumping (MPRSA) Not applicable	☐ UIC (underground injection of fluids) Not applicable	

Indian Country

1.12	Does any generation, treatment, storage, application to land, or disposal of sewage sludge from this facility occur in Indian Country? ☐ Yes ☑ No ➔ SKIP to Item 1.14 (Part 2, Section 1) below.
1.13	Provide a description of the generation, treatment, storage, land application, or disposal of sewage sludge that occurs. Not applicable

Topographic Map

1.14	Have you attached a topographic map containing all required information to this application? (See instructions for specific requirements.) ☑ Yes ☐ No

Line Drawing

1.15	Have you attached a line drawing and/or a narrative description that identifies all sewage sludge practices that will be employed during the term of the permit containing all the required information to this application? (See instructions for specific requirements.) ☑ Yes ☐ No

Contractor Information

1.16	Do contractors have any operational or maintenance responsibilities related to sewage sludge generation, treatment, use, or disposal at the facility? ☑ Yes ☐ No ➔ SKIP to Item 1.18 (Part 2, Section 1) below.
1.17	Provide the following information for each contractor. ☐ Check here if you have attached additional sheets to the application package.

	Contractor 1	Contractor 2	Contractor 3
Contractor company name	Denali Water Solutions, LLC aka Solids Solutions, LLC	Western Express Transporters aka AG Tech, LLC	
Mailing address (street or P.O. box)	3031 Franklin Ave., Suite A	4464 E. 30th Place	
City, state, and ZIP code	Riverside, CA 92507	Yuma, AZ 85365	
Contact name (first and last)	Chris Marks	Cal Mullanix	
Telephone number	(760) 801-3175	(602) 377-7250	
Email address			

General Information Continued

1.17 cont.		Contractor 1	Contractor 2	Contractor 3
	Responsibilities of contractor	Hauling and direct land application at sites in Arizona.	Hauling and direct land application at sites in Arizona.	

Pollutant 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 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 4.5 years old.

☑ Check here if you have attached additional sheets to the application package.

1.18

Pollutant	Average Monthly Concentration (mg/kg dry weight)	Analytical Method	Detection Level
Arsenic	See attached page 9a		
Cadmium			
Chromium	See attached page 9a		
Copper			
Lead	See attached page 9a		
Mercury			
Molybdenum	See attached page 9a		
Nickel			
Selenium	See attached page 9a		
Zinc			

Checklist and Certification Statement

1.19 In Column 1 below, mark the sections of Form 2S, Part 2, that you have completed and are submitting with your application. For each section, specify in Column 2 any attachments that you are enclosing. Note that not all applicants are required to complete all sections or provide attachments. See Exhibit 2S–2 in the Instructions.

Column 1	Column 2
☑ Section 1 (General Information)	☑ w/ attachments
☑ Section 2 (Generation of Sewage Sludge or Preparation of a Material Derived from Sewage Sludge)	☑ w/ attachments
☑ Section 3 (Land Application of Bulk Sewage Sludge)	☑ w/ attachments
☑ Section 4 (Surface Disposal)	☑ w/ attachments
☐ Section 5 (Incineration)	☐ w/ attachments

1.20 **Certification Statement**

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

Name (print or type first and last name)	Official title
Juan Guerreiro	Interim Director, Public Utilities Department
Signature	Date signed 3/17/2022
Telephone number (858) 292-6401	[redacted]

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

EPA Form 3510-2S – Part 2, Section 1.18
Metro Biosolids Center
Summary of Sludge Pollutant Concentrations, Centrifuged Dewatered Sludge
Calendar Year 2020

Constituent	MBC Sludge Concentration during 2020[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]
Antimony	6.37	6.31	6.13	5.83	4.85	4.89	5.41	5.69	6.81	7.36	7.12	6.23	6.08	7.36	41
Arsenic	4.09	2.96	2.23	4.61	< 0.31[5]	<0.31[5]	<0.31[5]	<0.31[5]	<0.31[5]	<0.31[5]	<0.31[5]	<0.31[5]	<1.26[6]	4.61	NS[7]
Barium	256	275	316	273	270	274	265	268	273	313	310	305	283	316	NS[7]
Beryllium	0.03	0.070	0.06	0.120	0.089	0.08	0.069	0.07	<0.01[5]	0.06	0.03	0.047	0.06	0.12	NS[7]
Cadmium	0.27	0.840	<0.04[5]	<0.04[5]	0.761	<0.03[5]	0.626	1.38	<0.04[5]	<0.04[5]	<0.036[5]	0.226	<0.304[6]	1.38	39
Chromium	60.1	50.6	54.1	52.4	52.0	51.3	51.8	51.0	51.0	59.4	57.0	56.9	54.0	60.1	1200
Cobalt	3.19	2.99	3.56	3.13	3.53	80.1	3.06	4.0	3.05	3.83	3.52	3.27	9.77	80.10	NS[7]
Copper	564	556	589	550	569	671	598	610	645	654	609	614	602	671	1500
Lead	9.60	10.6	12.7	11.2	12.4	13.8	12.6	11.4	11.6	11.5	11.2	12.1	11.7	13.8	300
Mercury	0.552	0.695	0.921	0.603	0.618	0.677	0.445	0.95	0.62	0.69	0.67	0.63	0.67	0.95	17
Molybdenum	15.3	14.2	15.2	14.6	15.3	15.9	17.4	17.3	19.3	20.5	17.9	18.5	16.8	20.5	75
Nickel	26.4	22.1	24.1	21.0	24.1	25.1	23.7	24.0	24.0	27.9	26.3	21.1	24.2	27.9	420
Selenium	6.43	6.09	5.99	6.46	6.16	6.42	6.44	3.09	2.82	7.26	6.39	4.24	5.65	7.26	100
Silver	2.98	3.00	3.49	2.94	2.66	18.6	2.56	2.67	2.81	3.22	2.49	2.62	4.17	18.60	NS[7]
Thallium	0.247[8]	<0.2[5]	2.15	<0.2[5]	<0.2[5]	<0.2[5]	<0.2[5]	<0.2[5]	<0.2[5]	<0.2[5]	<0.2[5]	<0.2[5]	0.28[6]	2.15	NS[7]
Vanadium	26.9	22.3	24.2	35.7	34.6	26.4	23.0	21.3	20.9	20.7	21.2	20.8	24.8	35.7	NS[7]
Zinc	913	878	1010	880	904	937	951	936	976	1010	963	944	942	1010	2800
Percent Solids	29.2	29.6	29.2	28.8	28.5	27.3	26.7	26.8	27.2	27.2	27.5	28.4	28.0	29.6	NS[7]
Percent Volatile Solids	60.2	61.6	61.6	58.4	59.5	60.4	61.4	61.4	61.9	62.3	62.3	62.3	61.1	62.3	NS[7]

1 Monthly average values, as listed in *Annual Biosolids Beneficial Use and Disposal Report, Point Loma Wastewater Treatment Plant & Metro Biosolids Center, 2020* (presented as Appendix L to this NPDES application). Calendar year 2020 is the most recent year for which a complete 12-month data set is available. Data for calendar year 2021 will be electronically transmitted to regulators under separate cover in 2022.

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 biosolids standards for arsenic, cadmium, copper, lead, mercury, nickel, selenium and zinc established in Table 2 (Monthly Average Pollutant Concentrations) of Article 10, Title 18, Chapter 9 of the *Arizona Administrative Code.*

5 A "<x" value indicates that the constituent was detected at a Method Detection Limit (MDL) of "x" mg/kg.

6 Average computed assuming that non detected values have a concentration of no more than one half the listed MDL.

7 No federal sludge standard has been established within 40 CFR 503.

8 Estimated value for thallium in January 2020. Listed value is DNQ (detected not quantifiable).

PART 2, SECTION 2. GENERATION OF SEWAGE SLUDGE OR PREPARATION OF A MATERIAL DERIVED FROM SEWAGE SLUDGE (40 CFR 122.21(q)(8) THROUGH (12))

Generation of Sewage Sludge or Preparation of a Material Derived from Sewage Sludge

2.1 Does your facility generate sewage sludge or derive a material from sewage sludge?

☑ Yes ☐ No ➔ SKIP to Part 2, Section 3.

Amount Generated Onsite

2.2 Total dry metric tons per 365-day period generated at your facility:
Total dry metric tons produced at the Metro Biosolids Center (MBC). Total includes digested sludge from the Point Loma Wastewater Treatment Plant (PLWTP) and raw sludge from the City of San Diego North City Water Reclamation Plant (NCWRP).

31,646 dry metric tons*

Amount Received from Off Site Facility

2.3 Does your facility receive sewage sludge from another facility for treatment use or disposal?

☑ Yes In addition to receiving digested sludge piped from the PLWTP, MBC also receives raw sludge piped from the NCWRP ☐ No ➔ SKIP to Item 2.7 (Part 2, Section 2) below.

2.4 Indicate the total number of facilities from which you receive sewage sludge for treatment, use, or disposal: 1**

Provide the following information for each of the facilities from which you receive sewage sludge.

☑ Check here if you have attached additional sheets to the application package.

2.5

Name of facility: City of San Diego North City Water Reclamation Plant			
Mailing address (street or P.O. box): 9192 Topaz Way, MS 901			
City or town: San Diego		State: CA	ZIP code: 92123
Contact name (first and last): Juan Guerreiro	Title: Interim Director, Public Utilities Department	Phone number: (858) 292-6401	Email address: JGuerreiro@sandiego.gov
Location address (street, route number, or other specific identifier): 4949 Eastgate Mall			☐ Same as mailing address
City or town: San Diego		State: CA	ZIP code: 92121
County: San Diego		County code	☐ Not available

2.6 Indicate the amount of sewage sludge received, the applicable pathogen class and reduction alternative, and the applicable vector reduction option provided at the offsite facility.

Amount (dry metric tons)	Pathogen Class and Reduction Alternative	Vector Attraction Reduction Option
See table on page 10a for information on MBC sludge processing flows and tonnage.	☑ Not applicable ☐ Class A, Alternative 1 ☐ Class A, Alternative 2 ☐ Class A, Alternative 3 ☐ Class A, Alternative 4 ☐ Class A, Alternative 5 ☐ Class A, Alternative 6 ☐ Class B, Alternative 1 ☐ Class B, Alternative 2 ☐ Class B, Alternative 3 ☐ Class B, Alternative 4 ☐ Domestic septage, pH adjustment	☑ Not applicable ☐ Option 1 ☐ Option 2 ☐ Option 3 ☐ Option 4 ☐ Option 5 ☐ Option 6 ☐ Option 7 ☐ Option 8 ☐ Option 9 ☐ Option 10 ☐ Option 11

2.7 Identify the treatment process(es) that are known to occur at the offsite facility, including blending activities and treatment to reduce pathogens or vector attraction properties. (Check all that apply.)

☐ Preliminary operations (e.g., sludge grinding and degritting)
☐ Thickening (concentration)
☐ Stabilization
☐ Anaerobic digestion
☐ Composting
☐ Conditioning
☐ Disinfection (e.g., beta ray irradiation, gamma ray irradiation, pasteurization)
☐ Dewatering (e.g., centrifugation, sludge drying beds, sludge lagoons)
☐ Heat drying
☐ Thermal reduction
☐ Methane or biogas capture and recovery
☐ Other (specify) _____

Not applicable. NCWRP raw sludge is piped to the MBC for digestion and dewatering.

* As reported within Enclosure 1 (Solids Production for 2020) of the Annual Biosolids Beneficial Use and Disposal Report, Point Loma Wastewater Treatment Plant and Metro Biosolids Center, a total of 31,646 dry metric tons (34,883 wet metric tons) of biosolids were generated during calendar year 2020. The 2020 Annual Biosolids Report is attached as Appendix L. Also see attached page 10a for a breakdown of calendar year 2020 sludge production at the Point Loma Wastewater Treatment Plant (PLWTP) and Metro Biosolids Center (MBC).

** This permit application addresses the PLWTP and the MBC. In addition to receiving sludge from the PLWTP, MBC also receives sludge from one other facility - the City of San Diego NCWRP.

EPA Form 3510-2S – Part 2
Summary of Facilities Discharging to Metro Biosolids Center (MBC)

Facility[1]	Location	Description of Flow Directed to MBC
Point Loma Wastewater Treatment Plant (PLWTP)	1902 Gatchell San Diego, CA 92106	Anaerobically digested advanced primary sludge
North City Water Reclamation Plant (NCWRP)	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) 292-6441.

EPA Form 3510-2S – Part 2, Section 2.6
Summary of Monthly Solids Reports
Metro Biosolids Center
Calendar Year 2020

Month	Average Monthly Values during 2020[1]								
	Point Loma Digested Sludge[2]			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]	Dry Metric Tons/Month[5]
Jan	1.114	2.3	109	2.140	0.23	20.3	29.6	95.39	2,683
Feb	1.113	2.2	102	2.100	0.26	23.0	29.4	96.64	2,542
Mar	1.120	2.4	113	2.233	0.21	20.0	29.1	91.73	2,580
Apr	1.118	2.4	114	1.961	0.24	19.1	29.2	92.26	2,511
May	1.082	2.3	103	2.191	0.23	21.1	28.6	88.94	2,501
Jun	1.191	2.4	119	2.217	0.26	24.2	27.5	99.03	2,695
Jul	1.182	2.4	115	2.258	0.28	26.4	26.6	96.28	2,708
Aug	1.118	2.3	107	2.198	0.30	27.5	26.9	78.30	2,202
Sep	1.061	2.4	106	2.377	0.31	30.7	26.9	107.87	2,936
Oct	1.189	2.4	117	2.244	0.32	29.6	26.7	101.50	2,854
Nov	1.187	2.3	114	2.295	0.30	28.2	27.2	92.83	2,526
Dec	1.219	2.2	113	2.274	0.30	28.0	28.3	103.96	2,924
Annual Ave.	1.144	2.3	111[5]	2.207	0.27	24.8[6]	28.0	95.39	2,640
Annual Total (dry tons/year)	---	---	40,800[5]	---	---	9,100[5]	---	34,919[6]	31,646[6]

1 Monthly average values, as listed in Enclosure 1 (Solids Production for 2020) within *Annual Biosolids Beneficial Use and Disposal Report, Point Loma Wastewater Treatment Plant & Metro Biosolids Center, 2020*. The 2020 Annual Biosolids Report is presented as Appendix L to this NPDES application. Calendar year 2020 is the most recent year for which a complete 12-month data set is available. Data for calendar year 2021 will be transmitted to regulators per reporting requirements of Order No. R9-2017-0007.

2 Daily average values.

3 Includes digested sludge from PLWTP and biosolids from NCWRP that are digested onsite at MBC. 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). Values rounded to nearest 0.01 ton per day.

5 Estimated value converted from short tons per day to metric tons per month using a conversion factor of 1.10231 and the applicable number of days in each month.

6 Total reported solids production as reported in the 2020 Annual Biosolids Report (presented as Appendix L). Note that this total may vary slightly from the sum monthly totals due to rounding errors, conversion factors and number of days in each month.

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Generation of Sewage Sludge or Preparation of a Material Derived from Sewage Sludge Continued

Treatment Provided at Your Facility

2.8 For each sewage sludge use or disposal practice, indicate the applicable pathogen class and reduction alternative and the applicable vector attraction reduction option provided at your facility. Attach additional pages, as necessary.

Use or Disposal Practice (check one)	Pathogen Class and Reduction Alternative	Vector Attraction Reduction Option
☑ Land application of bulk sewage ☐ Land application of biosolids (bulk) ☐ Land application of biosolids (bags) ☐ Surface disposal in a landfill ☐ Other surface disposal ☐ Incineration Class B solids were produced using Alternative 3, Process 3 (anaerobic digestion for 15 days at a temperature of 15-35 degrees C) for pathogen reduction. Vector attraction requirements were met using Option 1 (reducing volatile solids by a minimum of 38%).	☐ Not applicable ☐ Class A, Alternative 1 ☐ Class A, Alternative 2 ☐ Class A, Alternative 3 ☐ Class A, Alternative 4 ☐ Class A, Alternative 5 ☐ Class A, Alternative 6 ☐ Class B, Alternative 1 ☐ Class B, Alternative 2 ☑ Class B, Alternative 3 ☐ Class B, Alternative 4 ☐ Domestic septage, pH adjustment	☐ Not applicable ☑ Option 1 ☐ Option 2 ☐ Option 3 ☐ Option 4 ☐ Option 5 ☐ Option 6 ☐ Option 7 ☐ Option 8 ☐ Option 9 ☐ Option 10 ☐ Option 11

2.9 Identify the treatment process(es) used at your facility to reduce pathogens in sewage sludge or reduce the vector attraction properties of sewage sludge? (Check all that apply.)

- ☑ Preliminary operations (e.g., sludge grinding and degritting)
- ☐ Stabilization
- ☐ Composting
- ☐ Disinfection (e.g., beta ray irradiation, gamma ray irradiation, pasteurization)
- ☐ Heat drying
- ☐ Methane or biogas capture and recovery
- ☑ Thickening (concentration)
- ☑ Anaerobic digestion
- ☐ Conditioning
- ☐ Dewatering (e.g., centrifugation, sludge drying beds, sludge lagoons)
- ☐ Thermal reduction

2.10 Describe any other sewage sludge treatment or blending activities not identified in Items 2.8 and 2.9 (Part 2, Section 2) above.

☐ Check here if you have attached the description to the application package.

Not applicable

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

2.11 Does the sewage sludge from your facility meet the ceiling concentrations in Table 1 of 40 CFR 503.13, the pollutant concentrations in Table 3 of 40 CFR 503.13, Class A pathogen reduction requirements at 40 CFR 503.32(a), *and* one of the vector attraction reduction requirements at 40 CFR 503.33(b)(1)–(8) and is it land applied?

☐ Yes ☑ No ➔ SKIP to Item 2.14 (Part 2, Section 2) below.

2.12	Total dry metric tons per 365-day period of sewage sludge subject to this subsection that is applied to the land:	0

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

☐ Yes ☑ No

☐ Check here once you have completed Items 2.11 to 2.13, then ➔ SKIP to Item 2.32 (Part 2, Section 2) below.

Generation of Sewage Sludge or Preparation of a Material Derived from Sewage Sludge Continued

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

2.14 Do you place sewage sludge in a bag or other container for sale or give-away for land application?

☐ Yes ☑ No ➔ SKIP to Item 2.17 (Part 2, Section 2) below.

2.15 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: 0

2.16 Attach 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.

☐ Check here to indicate that you have attached all labels or notices to this application package.

☐ Check here once you have completed Items 2.14 to 2.16, then ➔ SKIP to Part 2, Section 2, Item 2.32.

Shipment Off Site for Treatment or Blending

2.17 Does another facility provide treatment or blending of your facility's sewage sludge? (This question does not pertain to dewatered sludge sent directly to a land application or surface disposal site.)

☐ Yes All biosolids are treated at the Point Loma Wastewater Treatment Plant (PLWTP) and/or Metro Biosolids Center (MBC). No biosolids treatment occurs offsite from these two facilities. ☑ No ➔ SKIP to Item 2.32 (Part 2, Section 2) below.

2.18 Indicate the total number of facilities that provide treatment or blending of your facility's sewage sludge. Provide the information in Items 2.19 to 2.26 (Part 2, Section 2) below for each facility. All biosolids are treated at the Point Loma Wastewater Treatment Plant (PLWTP) and/or Metro Biosolids Center (MBC). No biosolids treatment occurs offsite from these two facilities. 0

☐ Check here if you have attached additional sheets to the application package.

2.19 Name of receiving facility
Not applicable - no treatment offsite from the PLWTP and Metro Biosolids Center (MBC)

Mailing address (street or P.O. box)
Not applicable

City or town	State	ZIP code
Not applicable		

Contact name (first and last)	Title	Phone number	Email address
Not applicable			

Location address (street, route number, or other specific identifier) ☐ Same as mailing address
Not applicable

City or town	State	ZIP code
Not applicable		

2.20 Total dry metric tons per 365-day period of sewage sludge provided to receiving facility: Not applicable

2.21 Does the receiving facility provide additional treatment to reduce pathogens in sewage sludge from your facility or reduce the vector attraction properties of sewage sludge from your facility?

☐ Yes Not applicable ☐ No ➔ SKIP to Item 2.24 (Part 2, Section 2) below.

2.22 Indicate the pathogen class and reduction alternative and the vector attraction reduction option met for the sewage sludge at the receiving facility.

Pathogen Class and Reduction Alternative	Vector Attraction Reduction Option
☐ Not applicable ☐ Class A, Alternative 1 ☐ Class A, Alternative 2 ☐ Class A, Alternative 3 ☐ Class A, Alternative 4 ☐ Class A, Alternative 5 ☐ Class A, Alternative 6 ☐ Class B, Alternative 1 ☐ Class B, Alternative 2 ☐ Class B, Alternative 3 ☐ Class B, Alternative 4 ☐ Domestic septage, pH adjustment	☐ Not applicable ☐ Option 1 ☐ Option 2 ☐ Option 3 ☐ Option 4 ☐ Option 5 ☐ Option 6 ☐ Option 7 ☐ Option 8 ☐ Option 9 ☐ Option 10 ☐ Option 11
Not applicable	Not applicable

Generation of Sewage Sludge or Preparation of a Material Derived from Sewage Sludge Continued

2.23 Which treatment process(es) are used at the receiving facility to reduce pathogens in sewage sludge or reduce the vector attraction properties of sewage sludge from your facility? (Check all that apply.)

- ☐ Preliminary operations (e.g., sludge grinding and degritting)
- ☐ Thickening (concentration)
- ☐ Stabilization
- ☐ Anaerobic digestion
- ☐ Composting
- ☐ Conditioning
- ☐ Disinfection (e.g., beta ray irradiation, gamma ray irradiation, pasteurization)
- ☐ Dewatering (e.g., centrifugation, sludge drying beds, sludge lagoons)
- ☐ Heat drying
- ☐ Thermal reduction
- ☐ Methane or biogas capture and recovery
- ☐ Other (specify) _____

Not applicable

2.24 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).

☐ Check here to indicate that you have attached material.

Not applicable

2.25 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 ➔ SKIP to Item 2.32 (Part 2, Section 2) below.

Not applicable

2.26 Attach a copy of all labels or notices that accompany the product being sold or given away.

☐ Check here to indicate that you have attached material.

☐ Check here once you have completed Items 2.17 to 2.26 (Part 2, Section 2), then ➔ SKIP to Item 2.32 (Part 2, Section 2) below.

Land Application of Bulk Sewage Sludge

2.27 Is sewage sludge from your facility applied to the land?

☑ Yes ☐ No ➔ SKIP to Item 2.32 (Part 2, Section 2) below.

See Attachment L. Also see summary tables attached on page 16a-16b.

2.28	Total dry metric tons per 365-day period of sewage sludge applied to all land application sites:	31,646*

2.29 Did you identify all land application sites in Part 2, Section 3 of this application?

☑ Yes ☐ No ➔ Submit a copy of the land application plan with your application.

See Attachment L. Also see summary tables attached on page 16a-16b.

2.30 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 ➔ SKIP to Item 2.32 (Part 2, Section 2) below.

2.31 Describe how you notify the NPDES permitting authority for the states where the land application sites are located. Attach a copy of the notification.

See Appendix L for copies of notifications and monitoring reports submitted to the Arizona Department of Environmental Quality during calendar year 2020.

☑ Check here if you have attached the explanation to the application package.

☐ Check here if you have attached the notification to the application package.

Surface Disposal

2.32 Is sewage sludge from your facility placed on a surface disposal site?

☐ Yes ☑ No ➔ SKIP to Item 2.39 (Part 2, Section 2) below.

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

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

☐ Yes ➔ SKIP to Item 2.39 (Part 2, Section 2) below. ☐ No

2.35	Indicate the total number of surface disposal sites to which you send your sewage sludge. (Provide the information in Items 2.36 to 2.38 of Part 2, Section 2, for each facility.) ☐ Check here if you have attached additional sheets to the application package.	

* As reported in Annual Biosolids Beneficial Use and Disposal Report, Point Loma Wastewater Treatment Plant and Metro Biosolids Center (see Appendix L), a total of 31,646 metric tons of biosolids were applied to land during calendar year 2020. Elsewhere in the 2020 Annual Biosolids Report (e.g., Tables 1B and 1C), annual biosolids land applications during 2020 were reported at 31,655 metric tons per year. Differences between these two numbers (less than 0.03% difference) result from rounding errors and significant figures used for units conversions.

Generation of Sewage Sludge or Preparation of a Material Derived from Sewage Sludge Continued

2.36	Site name or number of surface disposal site you do not own or operate			
	Mailing address (street or P.O. box)			
	City or Town		State	ZIP Code
	Contact Name (first and last)	Title	Phone Number	Email Address
2.37	Site Contact (Check all that apply.) ☐ Owner ☐ Operator			
2.38	Total dry metric tons of sewage sludge from your facility placed on this surface disposal site per 365-day period:			

Incineration

2.39	Is sewage sludge from your facility fired in a sewage sludge incinerator? ☐ Yes ☑ No ➔ SKIP to Item 2.46 (Part 2, Section 2) below.			
2.40	Total dry metric tons of sewage sludge from your facility fired in all sewage sludge incinerators per 365-day period:			0
2.41	Do you own or operate all sewage sludge incinerators in which sewage sludge from your facility is fired? ☐ Yes ➔ SKIP to Item 2.46 (Part 2, Section 2) below. ☐ No			
2.42	Indicate the total number of sewage sludge incinerators used that you do not own or operate. (Provide the information in Items 2.43 to 2.45 directly below for each facility.) ☐ Check here if you have attached additional sheets to the application package.			
2.43	Incinerator name or number Not applicable			
	Mailing address (street or P.O. box) Not applicable			
	City or town Not applicable		State	ZIP code
	Contact name (first and last) Not applicable	Title	Phone number	Email address
	Location address (street, route number, or other specific identifier) Not applicable			☐ Same as mailing address
	City or town Not applicable		State	ZIP code
2.44	Contact (check all that apply) ☐ Incinerator owner ☐ Incinerator operator			
2.45	Total dry metric tons of sewage sludge from your facility fired in this sewage sludge incinerator per 365-day period:			0

Disposal in a Municipal Solid Waste Landfill

2.46	Is sewage sludge from your facility placed on a municipal solid waste landfill? ☑ Yes* See note below ☐ No ➔ SKIP to Part 2, Section 3.	
2.47	Indicate the total number of municipal solid waste landfills used. (Provide the information in Items 2.48 to 2.52 directly below for each facility.) ☐ Check here if you have attached additional sheets to the application package.	0*

* No digested and dewatered Metro System biosolids were hauled to a landfill during 2020 (see table on page 16a), but Otay Landfill represents an alternative site where Metro System biosolids could potentially be applied as alternative daily cover. See Appendix L and the table on page 10a for monthly totals for the disposition of Metro System biosolids during 2020. While no Metro System sludge was disposed of at landfills during 2020, scum, rags and screenings were hauled to Otay Landfill and Copper Mountain Landfill. Additionally, grit was hauled to Miramar Landfill. The table on page 14a summarizes the disposition of Metro System scum, grit, rags and screenings during 2020.

EPA Form 3510-2S – Part 2, Section 2.46-2.59
Disposal of Scum, Grit, Rags/Screenings
Metro Biosolids Center and Point Loma Wastewater Treatment Plant
Calendar Year 2020

Month	Scum, Grit, Rags and Screenings during 2020[1] (wet tons)[2]					
	Scum		Digester Cleanings		Grit	Rags and Screenings
	Copper Mountain Landfill	Otay Landfill	Copper Mountain Landfill	Otay Landfill	Miramar Landfill	Miramar Landfill
January	19.09	0	0	0	847.6	772.7
February	14.37	0	0	0	125.5	693.8
March	17.32	10.19	0	0	126.8	716.9
April	20.61	0	0	0	143.7	668.6
May	32.67	0	0	0	135.3	651.5
June	48.91	0	0	0	156.6	674.1
July	36.74	0	1,229	0	111.8	700.1
August	15.92	0	0	0	137.6	686.7
September	16.49	5.46	1,026	0	131.1	586.7
October	18.31	0	2,766	0	115.0	699.5
November	15.68	0	0	0	121.5	306.6
December	37.75	0	0	0	103.7	380.3
Total	293.9	15.65	5,091	0	2,256.2	7,538.0
Monthly Average	24.49	1.74	1,273[3]	0	188.0	628.2

1 Monthly average values rounded to four significant figures. Data from Table 1D of *Annual Biosolids Beneficial Use and Disposal Report, Point Loma Wastewater Treatment Plant & Metro Biosolids Center, 2020* (presented as Appendix L to this NPDES application). Calendar year 2020 is the most recent year for which a complete 12-month data set is available. Data for calendar year 2021 will be electronically transmitted to regulators under separate cover in 2022.

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

3 Annual total of 5,091 wet tons per year corresponds to a monthly average of approximately 424 tons per month over the 12-month period. During 2020, digester cleanings were disposed of during three months. The monthly average digester cleaning total during this three-month period was 1,273 tons per month. See Appendix L.

Generation of Sewage Sludge or Preparation of a Material Derived from Sewage Sludge Continued

2.48 Name of landfill
Otay Landfill

Mailing address (street or P.O. box)
8514 Mast Boulevard

City or town	State	ZIP code
Santee	CA	92071

Contact name (first and last)	Title	Phone number	Email address
Allied Waste, Inc.		(619) 449-4053	

Location address (street, route number, or other specific identifier) ☐ Same as mailing address
1700 Maxwell Road

County	County code	
San Diego		☑ Not available

City or town	State	ZIP code
Chula Vista	CA	91911

2.49 Total dry metric tons of sewage sludge from your facility placed in this municipal solid waste landfill per 365-day period: See note below* — 0*

2.50 List 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. 90-09 and Addenda 1-4 thereto	State of California Waste Discharge Requirements (Regional Water Quality Control Board)
Order No. 2014-0057-DWQ	State Water Resources Control Board general permit for storm water discharges associated with industrial activities

2.51 Attach to the 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).

☐ Check here to indicate you have attached the requested information.

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

☑ Yes ☐ No

* No digested and dewatered Metro System biosolids were hauled to a landfill during 2020 (see table on page 16a), but Otay Landfill represents an alternative site where Metro System biosolids could potentially be applied as alternative daily cover. See Appendix L and the table on page 10a for monthly totals for the disposition of Metro System biosolids during 2020. While no Metro System sludge was disposed of at landfills during 2020, scum, rags and screenings were hauled to Otay Landfill and Copper Mountain Landfill. Additionally, grit was hauled to Miramar Landfill. The table on page 14a summarizes the disposition of Metro System scum, grit, rags and screenings during 2020.

PART 2, SECTION 3 LAND APPLICATION OF BULK SEWAGE SLUDGE (40 CFR 122.21(q)(9))

Land Application of Bulk Sewage Sludge

3.1 Does your facility apply sewage sludge to land?

☑ Yes ☐ No ➔ SKIP to Part 2, Section 4.

3.2 Do any of the following conditions apply?

- The sewage sludge meets the ceiling concentrations in Table 1 of 40 CFR 503.12, the pollutant concentrations in Table 3 of 40 CFR 503.13, Class A pathogen reduction requirements at 40 CFR 503.32(a), *and* one of the vector attraction reduction requirements at 40 CFR 503.33(b)(1)–(8);
- The sewage sludge is sold or given away in a bag or other container for application to the land; or
- You provide the sewage sludge to another facility for treatment or blending.

☐ Yes ➔ SKIP to Part 2, Section 4. ☑ No

3.3 Complete Section 3 for every site on which the sewage sludge is applied.

☑ Check here if you have attached sheets to the application package for one or more land application sites.

Identification of Land Application Site

3.4 Site name or number
See Appendix L for land application site locations. See table on page 16a-16b for a summary of land application sites.

Location address (street, route number, or other specific identifier) ☐ Same as mailing address
See Appendix L for land application site locations. See table on page 16a-16b for a summary of land application sites.

County See Appendix L	County code ☐ Not available	
City or town See Appendix L	State	ZIP code

Latitude/Longitude of Land Application Site (see instructions)

Latitude	Longitude
° NA′ ″	° ′ ″

Method of Determination

☐ USGS map ☐ Field survey ☐ Other (specify) _____

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

☐ Check here to indicate you have attached a topographic map for this site.

Owner Information

3.6 Are you the owner of this land application site?

☐ Yes ➔ SKIP to Item 3.8 (Part 2, Section 3) below. ☐ No

3.7 Owner name
See Appendix L for land application site locations. See table on page 16a-16b for a summary of land application sites.

Mailing address (street or P.O. box)
See Appendix L for land application site locations. See table on page 16a-16b for a summary of land application sites.

City or town See Appendix L		State	ZIP code
Contact name (first and last) See Appendix L	Title	Phone number	Email address

Applier Information

3.8 Are you the person who applies, or who is responsible for application of, sewage sludge to this land application site?

☐ Yes ➔ SKIP to Item 3.10 (Part 2, Section 3) below. ☐ No

3.9 Applier's name
See Appendix L for land application site locations. See table on page 16a-16b for a summary of land application sites.

Mailing address (street or P.O. box)
See Appendix L for land application site locations. See table on page 16a-16b for a summary of land application sites.

City or town See Appendix L		State	ZIP code
Contact name (first and last) See Appendix L	Title	Phone number	Email address

EPA Form 3510-2S – Part 2, Sections 2.27-2.30
Biosolids Beneficial Use and Landfill Disposal
Metro Biosolids Center and Point Loma Wastewater Treatment Plant[1]
Calendar Year 2020

Month	Otay Landfill (wet tons)[2]		Land Application Beneficial Use (wet tons)[2]			Biosolids Totals for Calendar Year 2020 PLWTP and MBC			
	Alternative Daily Cover Beneficial Use	Landfill Disposal	Yuma County, AZ[3]	Maricopa County, AZ[3]	Totals	Wet Tons[2]	Percent Solids[4]	Dry Tons[2,5]	Dry Metric Tons[5]
January	0	0	9,986	0	9,986	9,986	29.6	2,954	2,677
February	0	0	9,572	0	9,572	9,572	29.4	2,815	2,553
March	0	0	6,543	3,188.12	9,731	9,731	28.9	2,815	2,553
April	0	0	9,511	0	9,511	9,511	29.2	2,777	2,519
May	0	0	9,677	0	9,677	9,677	28.6	2,768	2,511
June	0	0	10,789	0	10,789	10,789	27.5	2,974	2,962
July	0	0	11,273	0	11,273	11,273	26.6	2,999	2,720
August	0	0	8,874	0	8,874	8,874	27.0	2,396	2,174
September	0	0	11,995	0	11,995	11,995	26.9	3,227	2,927
October	0	0	11,792	0	11,972	11,972	26.3	3,149	2,856
November	0	0	10,248	0	10,248	10,248	27.3	2,798	2,538
December	0	0	11,415	0	11,415	11,415	28.3	3,231	2,931
Annual Total	0[6]	0[6]	121,674	3,188	124,863[7]	124,862[7]	27.9	34,893[5]	31,656[5]
Monthly Average[7]	0[6]	0[6]	10,140	266	10,405	10,405	27.5	2,908	2.638

Note: All values short ton and metric ton values are rounded to the nearest wet or dry ton.

1 Monthly average values, as listed in Table 1B (Annual Biosolids Beneficial Use &Landfill Disposal Summary) within *Annual Biosolids Beneficial Use and Disposal Report, Point Loma Wastewater Treatment Plant & Metro Biosolids Center, 2020* (presented as Appendix L to this NPDES application). Calendar year 2020 is the most recent year for which a complete 12-month data set is available. Data for calendar year 2021 will be electronically transmitted to regulators under separate cover in 2022.

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

3 See page 16b for the disposition of land applied biosolids within Arizona during 2020.

4 Monthly average percent solids values are computed from the listed monthly average wet ton and dry ton values.

5 Slight differences (less than 0.03%) exist between the above sludge totals (which are reported in Table 1B of the 2020 Annual Biosolids Report) and sludge production totals reported in Enclosure 1 (Solids Production for 2020) of the 2020 Annual Biosolids Report. These small differences are due to the number of significant figures reported, differences in rounding, and the number of significant figures utilized in units conversions. As shown on page 10a, the total reported Metro System biosolids production and land application during 2020 was 31,646 metric dry tons per year (34,919 dry short dry tons per year).

6 No PLWTP or MBC dewatered biosolids were sent to landfills during 2020, as reported on page 14, (Part 2, Section 2.47 of EPA Form 3510-2S). See page 14a for scum, grit, rags and screenings that were directed to landfills.

7 Monthly average values for calendar year 2020 are computed as the annual total divided by 12 months.

EPA Form 3510-2S – Part 2, Section 2.27-2.30
Distribution of Land Applied Biosolids
Metro Biosolids Center and Point Loma Wastewater Treatment Plant[1]
Calendar Year 2020

Month	Land Applied Biosolids during 2020							
	Dry tons[2]							Dry Metric Tons[4]
	Yuma County, AZ[3]					Maricopa County, AZ[3]	Totals[4]	
	Cullison Farms	Rutgers Farms	Anderson Farms	Skousen Farms	Tule Ranch	Harquahala Valley Farms		
January	0	493	326	456	1,679	0	2,954	2,680
February	0	0	0	0	1,877	937	2,814	2,553
March	100	322	92	0	2,302	0	2,815	2,554
April	71	0	0	0	2,707	0	2,777	2,519
May	0	0	0	0	2,768	0	2,768	2,511
June	0	0	0	0	2,967	0	2,967	2,962
July	0	0	96	0	2,903	0	2,999	2,720
August	0	0	0	0	2,396	0	2,396	2,174
September	0	0	165	0	3,061	0	3,227	2,927
October	0	0	164	0	2,985	0	3,149	2,856
November	0	0	54	0	2,743	0	2,798	2,538
December	0	0	50	0	3,181	0	3,231	2,931
Total	170	814	947	456	31,568	937	34,815[4]	31,655[4]
Monthly Ave.[5]	14.2	67.9	78.9	38.0	2,631	78.1	2,908	2,638

1 Monthly average values, as listed in *Annual Biosolids Beneficial Use and Disposal Report, Point Loma Wastewater Treatment Plant & Metro Biosolids Center, 2020* (presented as Appendix L to this NPDES application). Calendar year 2020 is the most recent year for which a complete 12-month data set is available. Data for calendar year 2021 will be electronically transmitted to regulators under separate cover in 2022. See Appendix L for details.

2 Listed values are short tons (2000 pounds).

3 See Appendix L for a description of individual land disposal sites for Point Loma Wastewater Treatment Plant and Metro Biosolids Center during calendar year 2020.

4 Slight differences (less than 0.03%) exist between the above totals (which are reported in Table 1C (Biosolids Land Application) of the 2020 Annual Biosolids Report) and sludge production totals reported in Enclosure 1 (Solids Production for 2020) of the 2020 Annual Biosolids Report. These small differences are due to the number of significant figures reported, differences in rounding, and the number of significant figures utilized in units conversions. As shown on page 10a, the total Metro System biosolids production and land application during 2020 was 31,646 metric dry tons per year (34,919 dry short tons per year).

5 Monthly average computed as the annual total divided by 12.

Land Application of Bulk Sewage Sludge Continued

Site Type

3.10 Type of land application:

- ☑ Agricultural land
- ☐ Forest
- ☐ Reclamation site
- ☐ Public contact site
- ☐ Other (describe)

Crop or Other Vegetation Grown on Site

3.11 What type of crop or other vegetation is grown on this site?

Alfalfa, sudan grass and other feed crops. See Appendix L for details.

3.12 What is the nitrogen requirement for this crop or vegetation?

Varies from approximately 10 to 500 pounds per acre (depends on the crop). See Appendix L for details.

Vector Attraction Reduction

3.13 Are the vector attraction reduction requirements at 40 CFR 503.33(b)(9) and (b)(10) met when sewage sludge is applied to the land application site?

- ☑ Yes
- ☐ No ➔ SKIP to Item 3.16 (Part 2, Section 3) below.

3.14 Indicate which vector attraction reduction option is met. (Check only one response.)

- ☐ Option 9 (injection below land surface)
- ☐ Option 10 (incorporation into soil within 6 hours)

3.15 Describe any treatment processes used at the land application site to reduce vector attraction properties of sewage sludge.

Not applicable

☐ Check here if you have attached your description to the application package.

Cumulative Loadings and Remaining Allotments

3.16 Is the sewage sludge applied to this site since July 20, 1993, subject to the cumulative pollutant loading rates (CPLRs) in 40 CFR 503.13(b)(2)? All applied biosolids meet 40 CFR 503 requirements for Exceptional Quality (EQ) sludge.

- ☐ Yes
- ☑ No ➔ SKIP to Part 2, Section 4.

3.17 Have you contacted the NPDES 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? All applied biosolids meet 40 CFR 503 requirements for Exceptional Quality (EQ) sludge.

- ☐ Yes Not applicable
- ☐ No ➔ Sewage sludge subject to CPLRs may not be applied to this site. SKIP to Part 2, Section 4.

3.18 Provide the following information about your NPDES permitting authority:

NPDES permitting authority name	
Contact person	
Telephone number	
Email address	

3.19 Based on your inquiry, has bulk sewage sludge subject to CPLRs been applied to this site since July 20, 1993?

- ☑ Yes Not applicable
- ☐ No ➔ SKIP to Part 2, Section 4.

3.20 Provide the following information for every facility other than yours that is sending, or has sent, bulk sewage sludge subject 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.

☐ Check here to indicate that additional pages are attached. Not applicable

Facility name

Not applicable - all applied biosolids meet 40 CFR 503 requirements for Exceptional Quality (EQ) sludge.

Mailing address (street or P.O. box)

Not applicable

City or town	State	ZIP code
Not applicable		

Contact name (first and last)	Title	Phone number	Email address
Not applicable			

PART 2, SECTION 4 SURFACE DISPOSAL (40 CFR 122.21(q)(10))

Surface Disposal

4.1 Do you own or operate a surface disposal site?

☐ Yes ☑ No ➔ SKIP to Part 2, Section 5.

4.2 Complete all items in Section 4 for each active sewage sludge unit that you own or operate.

☐ Check here to indicate that you have attached material to the application package for one or more active sewage sludge units. Not applicable

Information on Active Sewage Sludge Units

4.3

Unit name or number Not applicable			
Mailing address (street or P.O. box) Not applicable			
City or town Not applicable		State	ZIP code
Contact name (first and last) Not applicable	Title	Phone number	Email address
Location address (street, route number, or other specific identifier) Not applicable		☐ Same as mailing address	
County Not applicable		County code ☐ Not available	
City or town Not applicable		State	ZIP code

Latitude/Longitude of Active Sewage Sludge Unit (see instructions)

Latitude	Longitude
Not applicable	Not applicable

Method of Determination

☐ USGS map ☐ Field survey ☐ Other (specify) _____

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

☐ Check here to indicate that you have completed and attached a topographic map.

4.5	Total dry metric tons of sewage sludge placed on the active sewage sludge unit per 365-day period:	Not applicable
4.6	Total dry metric tons of sewage sludge placed on the active sewage sludge unit over the life of the unit:	Not applicable

4.7 Does the active sewage sludge unit have a liner with a maximum permeability of 1×10^{-7} centimeters per second (cm/sec)?

☐ Yes Not applicable ☐ No ➔ SKIP to Item 4.9 (Part 2, Section 4) below.

4.8 Describe the liner.

☐ Check here to indicate that you have attached a description to the application package.

Not applicable

4.9 Does the active sewage sludge unit have a leachate collection system?

☐ Yes Not applicable ☐ No ➔ SKIP to Item 4.11 (Part 2, Section 4) below.

4.10 Describe the leachate collection system and the method used for leachate disposal and provide the numbers of any federal, state, or local permit(s) for leachate disposal.

☐ Check here to indicate that you have attached the description to the application package.

Surface Disposal Continued

4.11	Is the boundary of the active sewage sludge unit less than 150 meters from the property line of the surface disposal site? ☐ Yes Not applicable ☐ No ➔ SKIP to Item 4.13 (Part 2, Section 4) below.	
4.12	Provide the actual distance in meters:	meters
4.13	Remaining capacity of active sewage sludge unit in dry metric tons:	NA NA dry metric tons
4.14	Anticipated closure date for active sewage sludge unit, if known (MM/DD/YYYY):	NA
4.15	Attach a copy of any closure plan that has been developed for this active sewage sludge unit. ☐ Check here to indicate that you have attached a copy of the closure plan to the application package.	

Sewage Sludge from Other Facilities

4.16	Is sewage sludge sent to this active sewage sludge unit from any facilities other than your facility? ☐ Yes Not applicable ☐ No ➔ SKIP to Item 4.21 (Part 2, Section 4) below.	
4.17	Indicate the total number of facilities (other than your facility) that send sewage sludge to this active sewage sludge unit. (Complete Items 4.18 to 4.20 directly below for each such facility.) ☐ Check here to indicate that you have attached responses for each facility to the application package.	NA

4.18	Facility name Not applicable			
	Mailing address (street or P.O. box) Not applicable			
	City or town Not applicable		State	ZIP code
	Contact name (first and last) Not applicable	Title	Phone number	Email address

4.19	Indicate the pathogen class and reduction alternative and the vector attraction reduction option met for the sewage sludge before leaving the other facility.	
	Pathogen Class and Reduction Alternative	**Vector Attraction Reduction Option**
	☐ Not applicable ☐ Class A, Alternative 1 ☐ Class A, Alternative 2 ☐ Class A, Alternative 3 ☐ Class A, Alternative 4 ☐ Class A, Alternative 5 ☐ Class A, Alternative 6 ☐ Class B, Alternative 1 ☐ Class B, Alternative 2 ☐ Class B, Alternative 3 ☐ Class B, Alternative 4 ☐ Domestic septage, pH adjustment Not applicable	☐ Not applicable ☐ Option 1 ☐ Option 2 ☐ Option 3 ☐ Option 4 ☐ Option 5 ☐ Option 6 ☐ Option 7 ☐ Option 8 ☐ Option 9 ☐ Option 10 ☐ Option 11 Not applicable
4.20	Which treatment process(es) are used at the other facility to reduce pathogens in sewage sludge or reduce the vector attraction properties of sewage sludge before leaving the other facility? (Check all that apply.) ☐ Preliminary operations (e.g., sludge grinding and degritting) ☐ Stabilization ☐ Composting ☐ Disinfection (e.g., beta ray irradiation, gamma ray irradiation, pasteurization) ☐ Heat drying ☐ Methane or biogas capture and recovery Not applicable ☐ Thickening (concentration) ☐ Anaerobic digestion ☐ Conditioning ☐ Dewatering (e.g., centrifugation, sludge drying beds, sludge lagoons) ☐ Thermal reduction ☐ Other (specify) _____	

Surface Disposal Continued

Vector Attraction Reduction

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

Not applicable

☐ Option 9 (Injection below and surface)

☐ Option 10 (Incorporation into soil within 6 hours)

☐ Option 11 (Covering active sewage sludge unit daily)

☐ None

4.22 Describe any treatment processes used at the active sewage sludge unit to reduce vector attraction properties of sewage sludge.

☐ Check here if you have attached your description to the application package.

Not applicable

Groundwater Monitoring

4.23 Is groundwater monitoring currently conducted at this active sewage sludge unit, or are groundwater monitoring data otherwise available for this active sewage sludge unit?

☐ Yes Not applicable ☐ No ➔ SKIP to Item 4.26 (Part 2, Section 4) below.

4.24 Provide a copy of available groundwater monitoring data.

☐ Check here to indicate you have attached the monitoring data. Not applicable

4.25 Describe the well locations, the approximate depth to groundwater, and the groundwater monitoring procedures used to obtain these data.

☐ Check here if you have attached your description to the application package.

Not applicable

4.26 Has a groundwater monitoring program been prepared for this active sewage sludge unit?

☐ Yes Not applicable ☐ No ➔ SKIP to Item 4.28 (Part 2, Section 4) below.

4.27 Submit a copy of the groundwater monitoring program with this permit application.

☐ Check here to indicate you have attached the monitoring program. Not applicable

4.28 Have you obtained a certification from a qualified groundwater scientist that the aquifer below the active sewage sludge unit has not been contaminated?

☐ Yes Not applicable ☐ No ➔ SKIP to Item 4.30 (Part 2, Section 4) below.

4.29 Submit a copy of the certification with this permit application.

☐ Check here to indicate you have attached the certification to the application package.

Site-Specific Limits

4.30 Are you seeking site-specific pollutant limits for the sewage sludge placed on the active sewage sludge unit?

☐ Yes Not applicable ☐ No ➔ SKIP to Part 2, Section 5.

4.31 Submit information to support the request for site-specific pollutant limits with this application.

☐ Check here to indicate you have attached the requested information. Not applicable

PART 2, SECTION 5 INCINERATION (40 CFR 122.21(q)(11))

Incineration

Incinerator Information

5.1 Do you fire sewage sludge in a sewage sludge incinerator?

☐ Yes ☑ No ➔ SKIP to END.

5.2 Indicate the total number of incinerators used at your facility. (Complete the remainder of Section 5 for each such incinerator.)

☐ Check here to indicate that you have attached information for one or more incinerators.

5.3 Incinerator name or number
Not applicable

Location address (street, route number, or other specific identifier)
Not applicable

County	County code	☐ Not available
Not applicable		
City or town	State	ZIP code
Not applicable		

Latitude/Longitude of Incinerator (see instructions)

Latitude	Longitude
Not applicable	Not applicable

Method of Determination

☐ USGS map ☐ Field survey ☐ Other (specify) _____

Amount Fired

5.4 Dry metric tons per 365-day period of sewage sludge fired in the sewage sludge incinerator: 0

Beryllium NESHAP

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

☐ Check here to indicate that you have attached this material to the application package.

5.6 Is the sewage sludge fired in this incinerator "beryllium-containing waste" as defined at 40 CFR 61.31?

☐ Yes Not applicable ☐ No ➔ SKIP to Item 5.8 (Part 2, Section 5) below.

5.7 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.

☐ Check here to indicate that you have attached this information. Not applicable

Mercury NESHAP

5.8 Is compliance with the mercury NESHAP being demonstrated via stack testing?

☐ Yes Not applicable ☐ No ➔ SKIP to Item 5.11 (Part 2, Section 5) below.

5.9 Submit 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.

☐ Check here to indicate that you have attached this information.

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

☐ Check here to indicate that you have attached this information. Not applicable

5.11 Do you demonstrate compliance with the mercury NESHAP by sewage sludge sampling?

☐ Yes Not applicable ☐ No ➔ SKIP to Item 5.13 (Part 2, Section 5) below.

5.12 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.

☐ Check here to indicate that you have attached this information. Not applicable

Incineration Continued

Dispersion Factor

5.13	Dispersion factor in micrograms/cubic meter per gram/second:	Not applicable
5.14	Name and type of dispersion model:	Not applicable
5.15	Submit a copy of the modeling results and supporting documentation. ☐ Check here to indicate that you have attached this information.	Not applicable

Control Efficiency

5.16 Provide the control efficiency, in hundredths, for each of the pollutants listed below.

Pollutant	Control Efficiency, in Hundredths
Arsenic	Not applicable
Cadmium	Not applicable
Chromium	Not applicable
Lead	Not applicable
Nickel	Not applicable

5.17 Attach a copy of the results or performance testing and supporting documentation (including testing dates).
☐ Check here to indicate that you have attached this information.

Risk-Specific Concentration for Chromium

5.18	Provide the risk-specific concentration (RSC) used for chromium in micrograms per cubic meter:	Not applicable

5.19 Was the RSC determined via Table 2 in 40 CFR 503.43?
☐ Yes Not applicable ☐ No ➔ SKIP to Item 5.21 (Part 2, Section 5) below.

5.20 Identify the type of incinerator used as the basis.
☐ Fluidized bed with wet scrubber ☐ Other types with wet scrubber
☐ Fluidized bed with wet scrubber and wet electrostatic precipitator ☐ Other types with wet scrubber and wet electrostatic precipitator

5.21 Was the RSC determined via Table 6 in 40 CFR 503.43 (site-specific determination)?
☐ Yes Not applicable ☐ No ➔ SKIP to Item 5.23 (Part 2, Section 5) below.

5.22	Provide the decimal fraction of hexavalent chromium concentration to total chromium concentration in stack exit gas:	Not applicable

5.23 Attach the results of incinerator stack tests for hexavalent and total chromium concentrations, including the date(s) of any test(s), with this application.
☐ Check here to indicate that you have attached this information. ☐ Not applicable

Incinerator Parameters

5.24 Do you monitor total hydrocarbons (THC) in the exit gas of the sewage sludge incinerator?
☐ Yes Not applicable ☐ No

5.25 Do you monitor carbon monoxide (CO) in the exit gas of the sewage sludge incinerator?
☐ Yes Not applicable ☐ No

5.26	Indicate the type of sewage sludge incinerator.	Not applicable
5.27	Incinerator stack height in meters:	Not applicable

5.28 Indicate whether the value submitted in Item 5.27 is (check only one response):
☐ Actual stack height ☐ Creditable stack height

Incineration Continued

Performance Test Operating Parameters

5.29	Maximum performance test combustion temperature:	Not applicable
5.30	Performance test sewage sludge feed rate, in dry metric tons/day	Not applicable
5.31	Indicate whether value submitted in Item 5.30 is (check only one response): ☐ Average use ☐ Maximum design	Not applicable
5.32	Attach supporting documents describing how the feed rate was calculated. ☐ Check here to indicate that you have attached this information.	Not applicable
5.33	Submit information documenting the performance test operating parameters for the air pollution control device(s) used for this sewage sludge incinerator. ☐ Check here to indicate that you have attached this information.	Not applicable

Monitoring Equipment

5.34 List the equipment in place to monitor the listed parameters.

Parameter	Equipment in Place for Monitoring
Total hydrocarbons or carbon monoxide	Not applicable
Percent oxygen	Not applicable
Percent moisture	Not applicable
Combustion temperature	Not applicable
Other (describe)	

Air Pollution Control Equipment

5.35 List all air pollution control equipment used with this sewage sludge incinerator.

☐ Check here if you have attached the list to the application package for the noted incinerator.

Not applicable

END of PART 2

Submit completed application package to your NPDES permitting authority.

Click to go back to the beginning of Form

Figures and Maps

Renewal of NPDES CA0107409

The City of SAN DIEGO


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

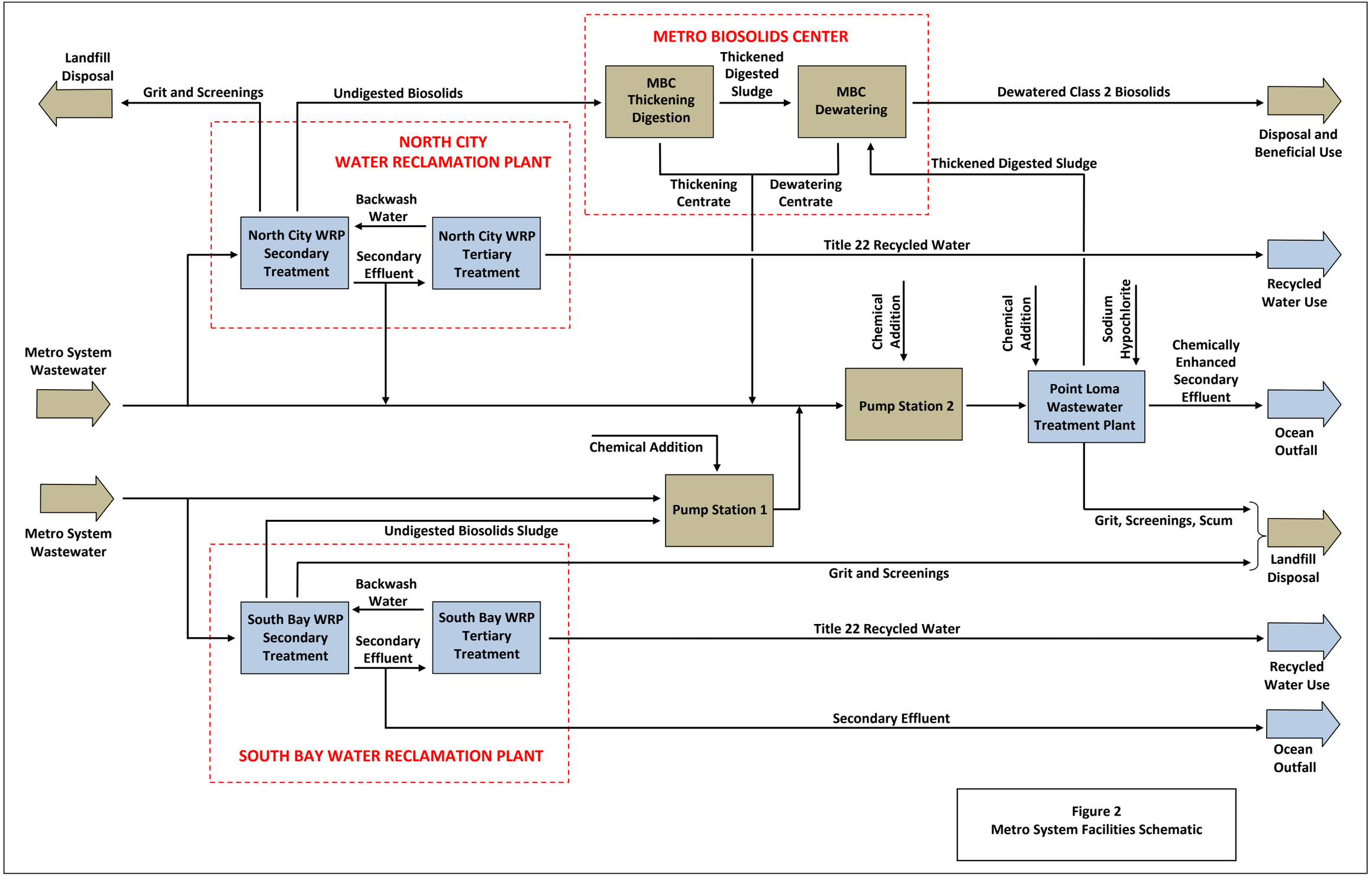


Figure 2
Metro System Facilities Schematic

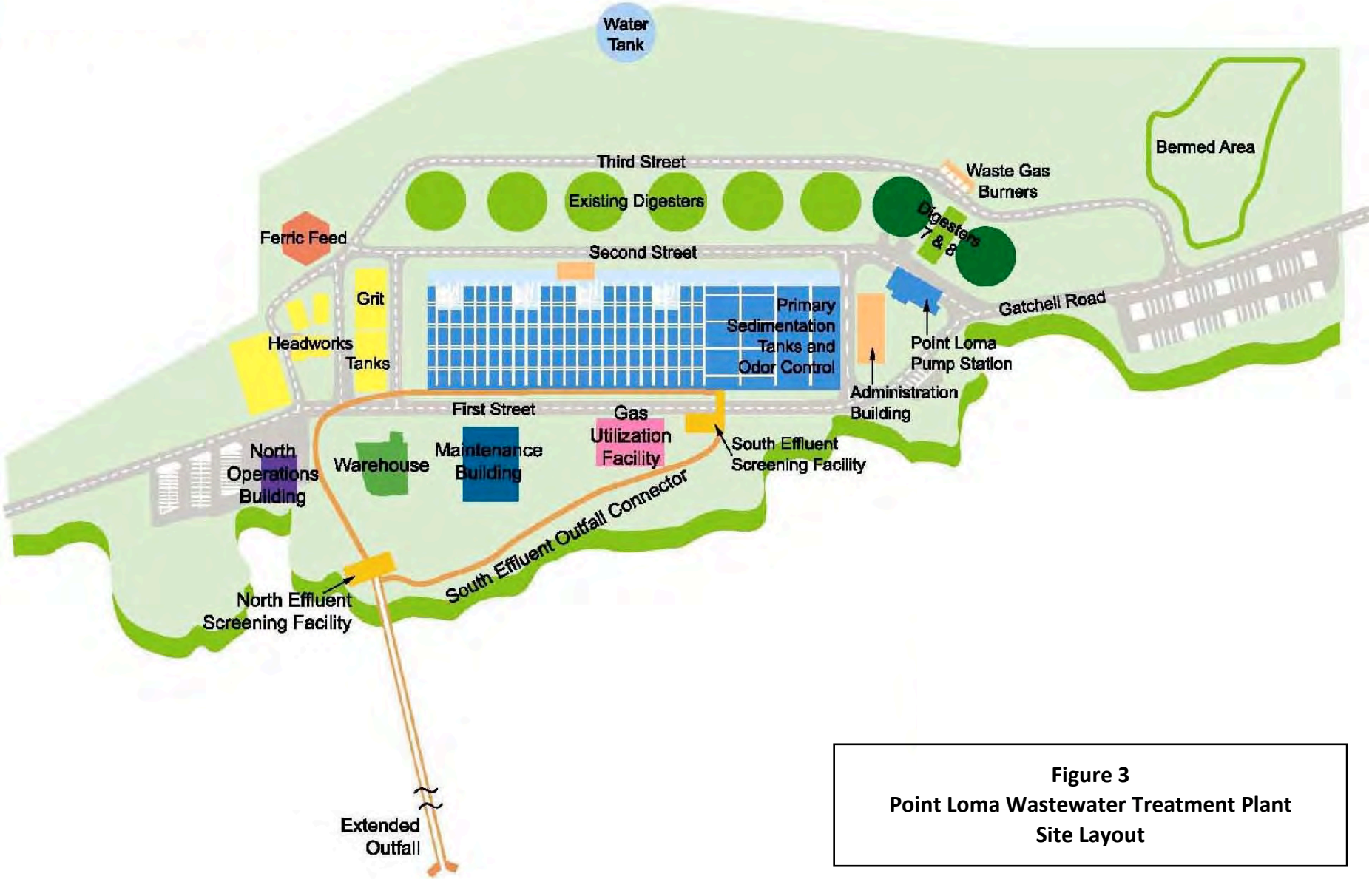


Figure 3
Point Loma Wastewater Treatment Plant
Site Layout

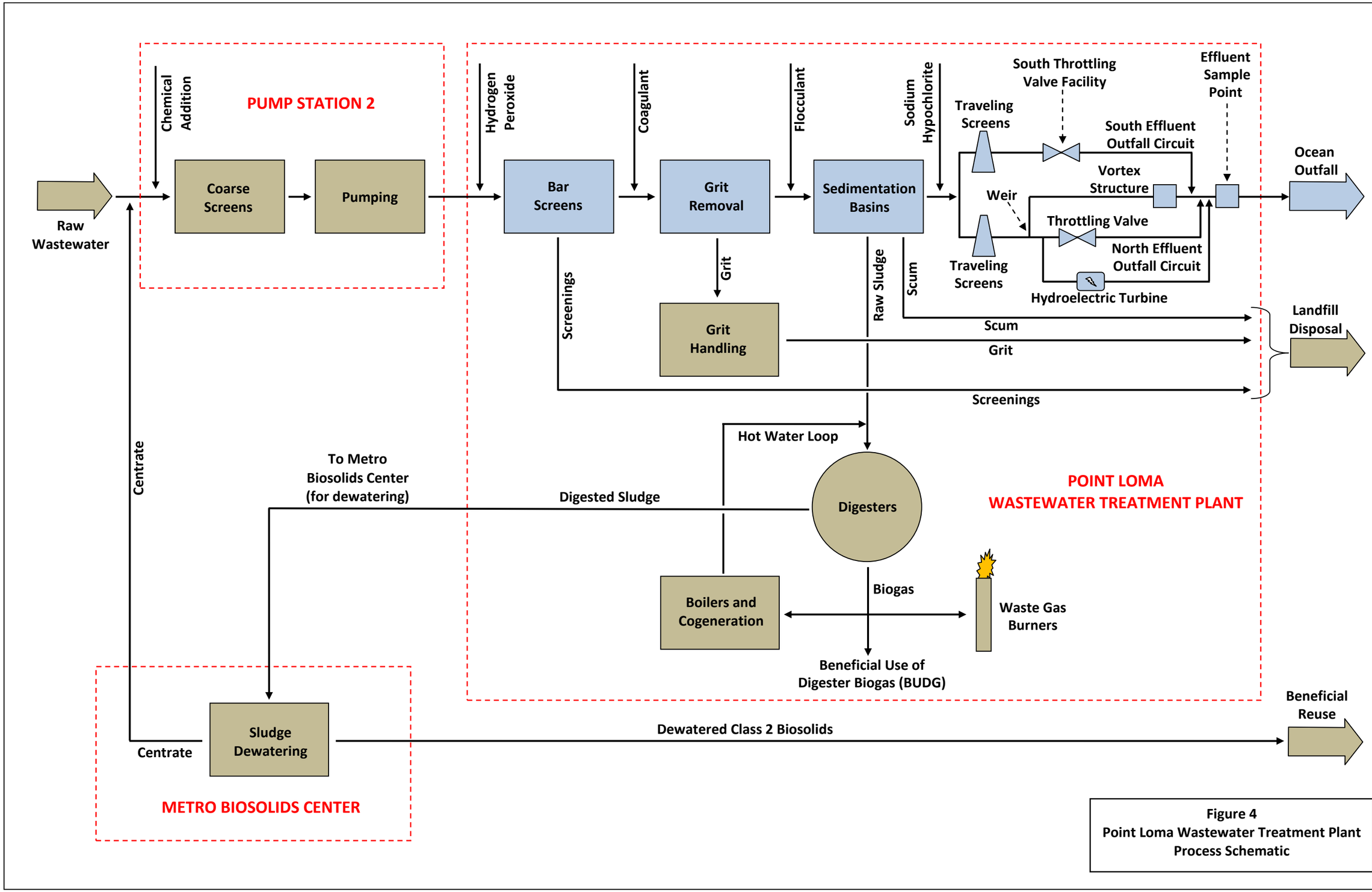


Figure 4
Point Loma Wastewater Treatment Plant
Process Schematic

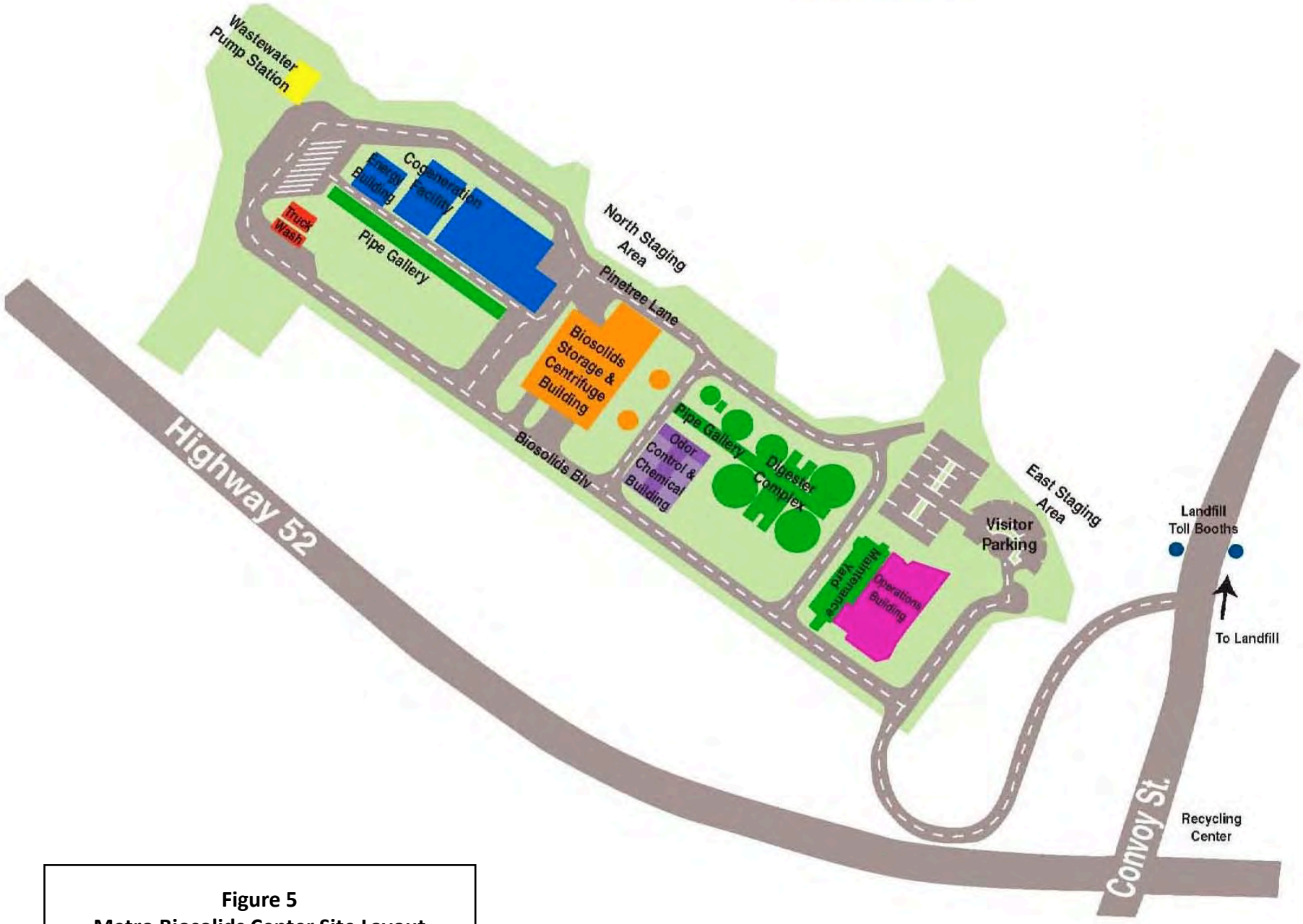
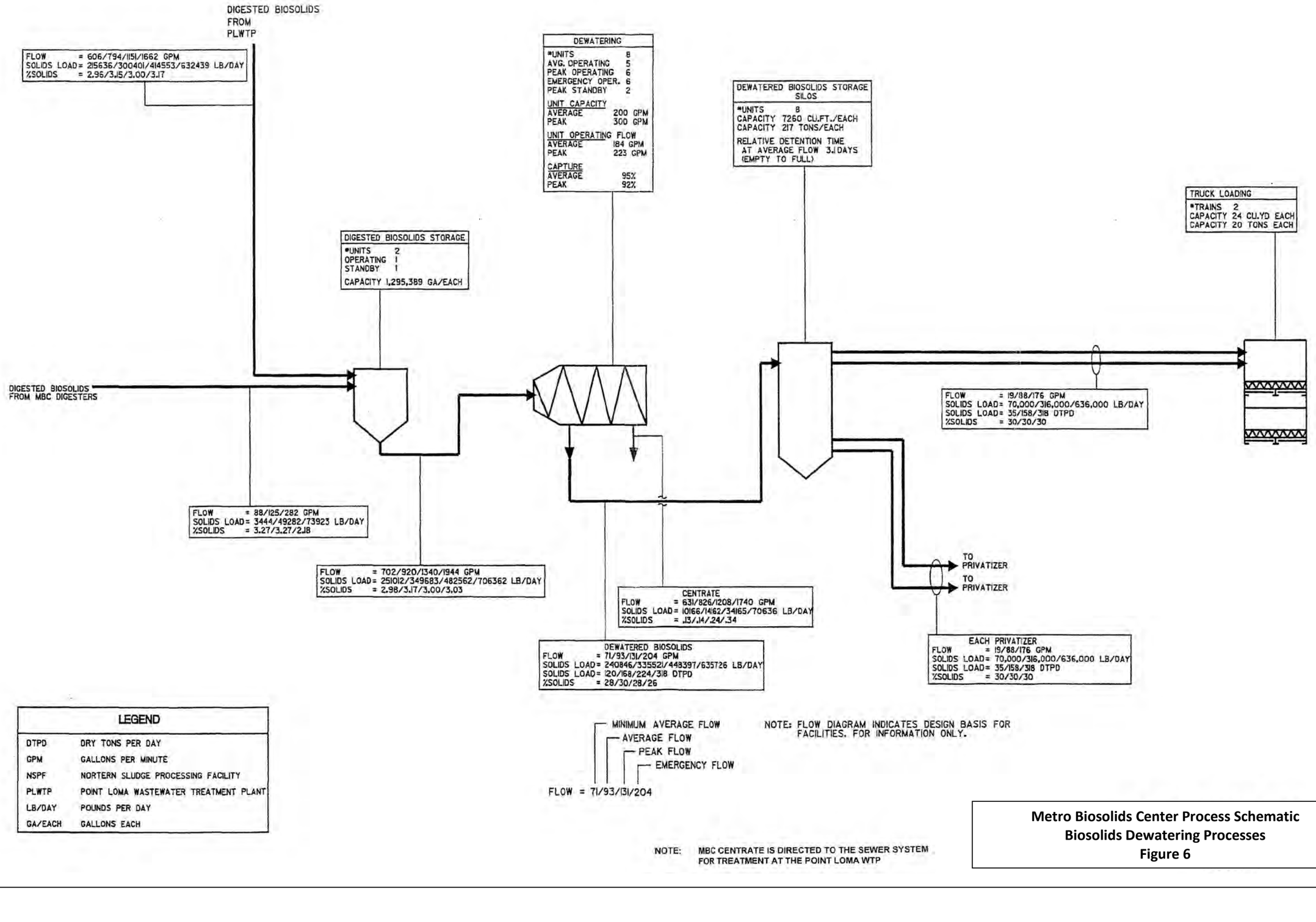
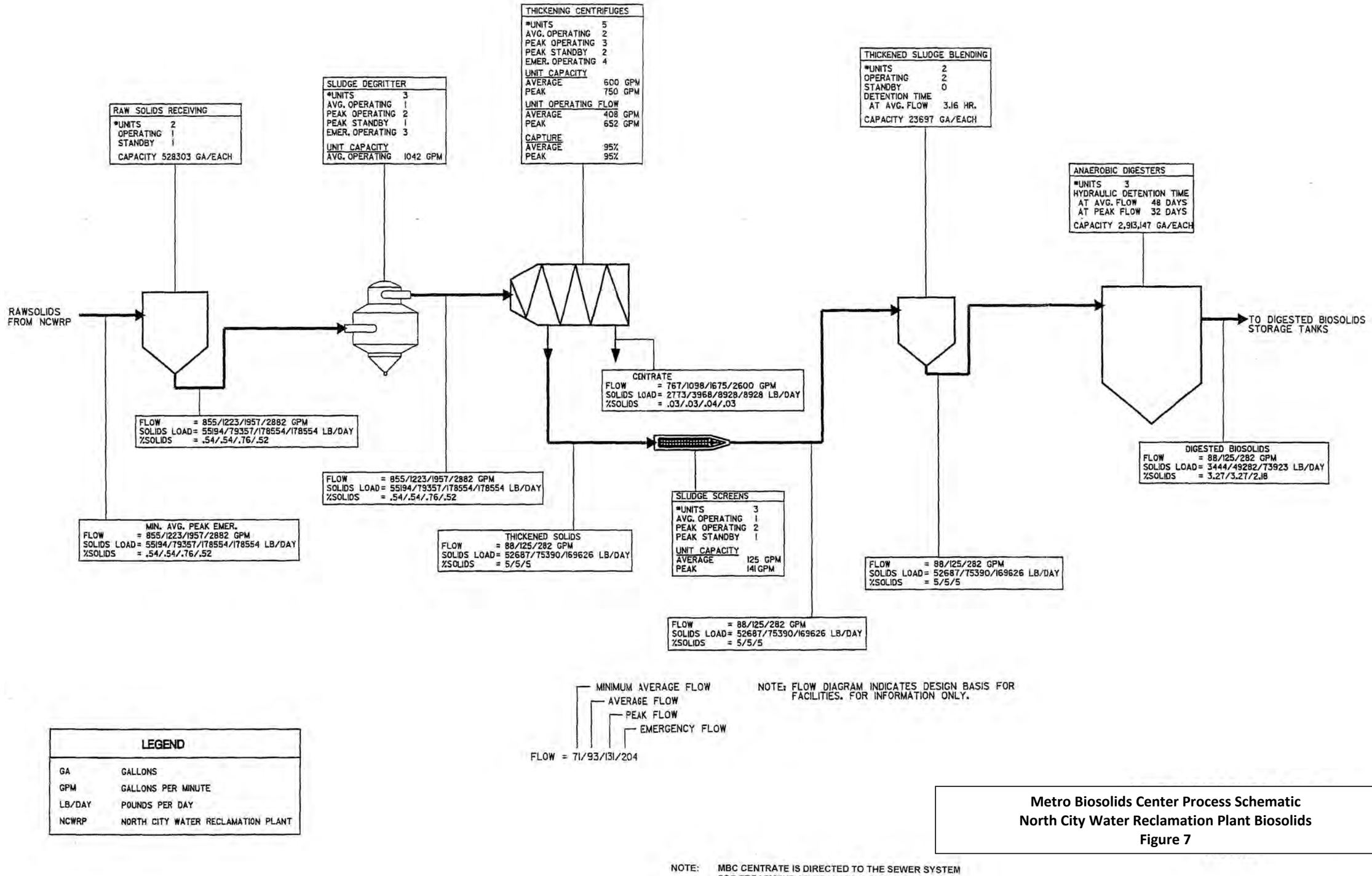


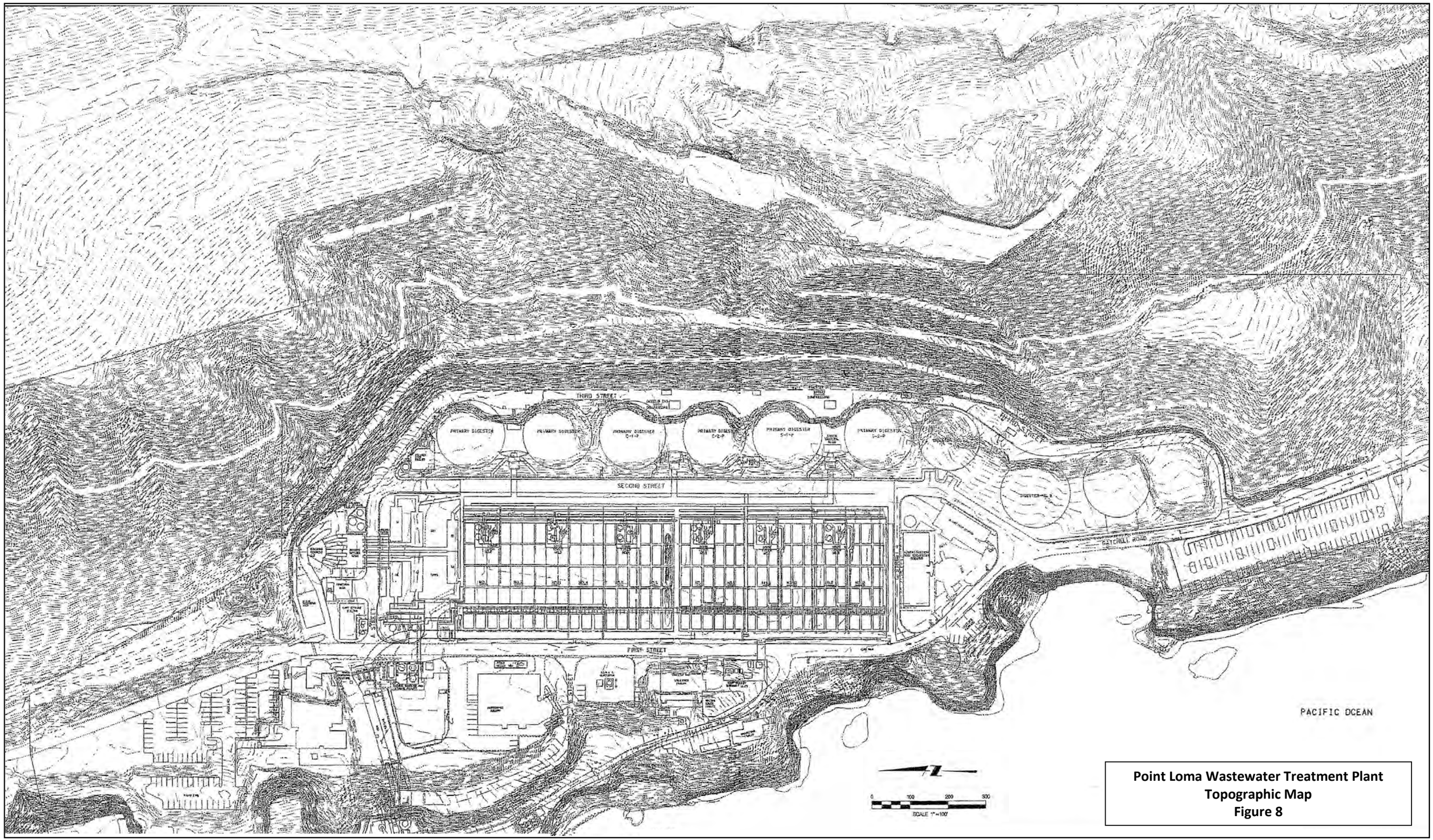
Figure 5
Metro Biosolids Center Site Layout



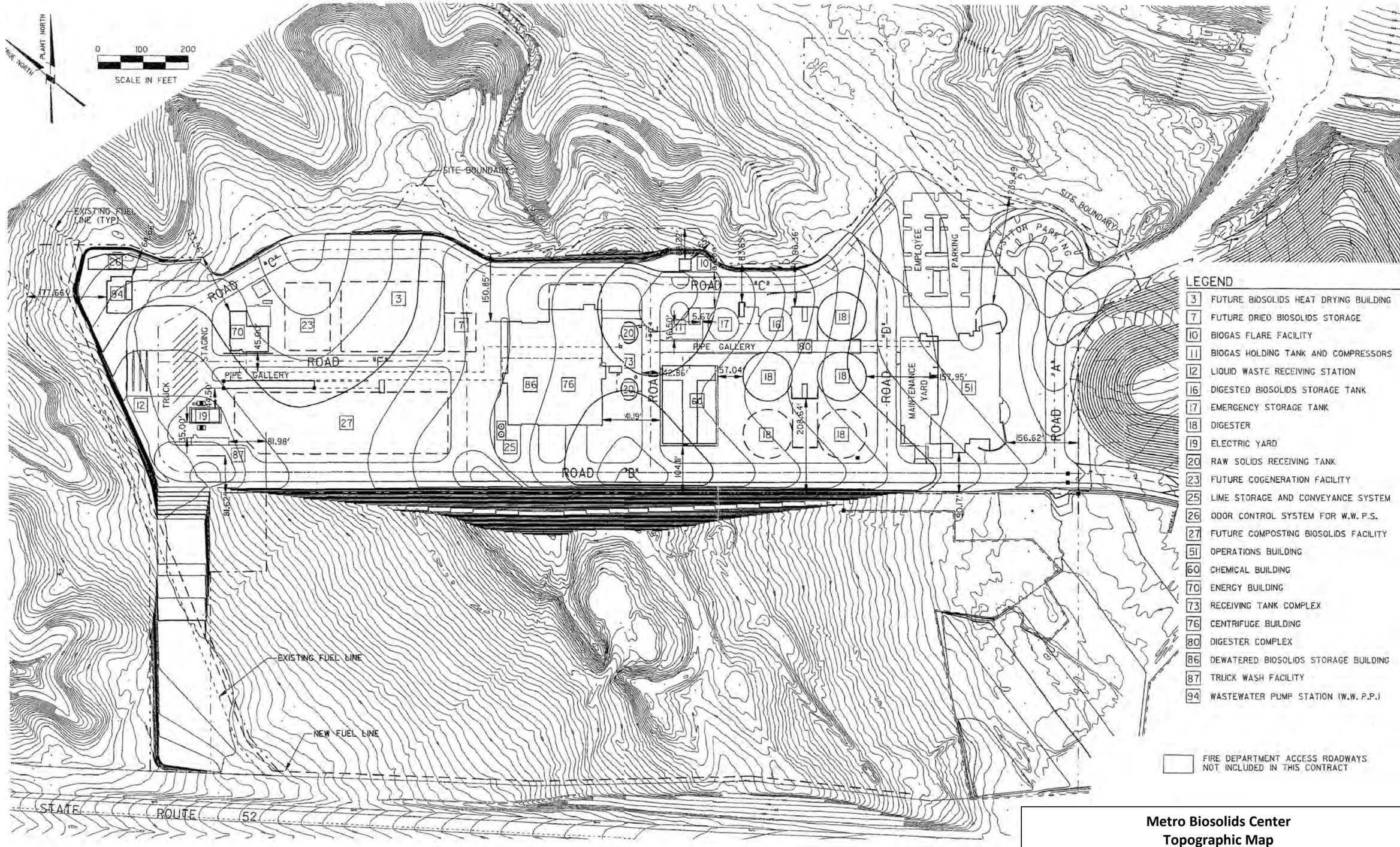
Metro Biosolids Center Process Schematic
Biosolids Dewatering Processes
Figure 6



Metro Biosolids Center Process Schematic
North City Water Reclamation Plant Biosolids
Figure 7



Point Loma Wastewater Treatment Plant
Topographic Map
Figure 8



LEGEND

3	FUTURE BIOSOLIDS HEAT DRYING BUILDING
7	FUTURE DRIED BIOSOLIDS STORAGE
10	BIOGAS FLARE FACILITY
11	BIOGAS HOLDING TANK AND COMPRESSORS
12	LIQUID WASTE RECEIVING STATION
16	DIGESTED BIOSOLIDS STORAGE TANK
17	EMERGENCY STORAGE TANK
18	DIGESTER
19	ELECTRIC YARD
20	RAW SOLIDS RECEIVING TANK
23	FUTURE COGENERATION FACILITY
25	LIME STORAGE AND CONVEYANCE SYSTEM
26	ODOR CONTROL SYSTEM FOR W.W. P.S.
27	FUTURE COMPOSTING BIOSOLIDS FACILITY
51	OPERATIONS BUILDING
60	CHEMICAL BUILDING
70	ENERGY BUILDING
73	RECEIVING TANK COMPLEX
76	CENTRIFUGE BUILDING
80	DIGESTER COMPLEX
86	DEWATERED BIOSOLIDS STORAGE BUILDING
87	TRUCK WASH FACILITY
94	WASTEWATER PUMP STATION (W.W. P.P.)

FIRE DEPARTMENT ACCESS ROADWAYS NOT INCLUDED IN THIS CONTRACT

Metro Biosolids Center
Topographic Map
Figure 9

State of California Form 200

Renewal of NPDES CA0107409

The City of SAN DIEGO

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 (PLWTP) and Metro Biosolids Center (MBC)			
PLWTP Address: 1902 Gatchell Road	**MBC Address:** 5240 Convoy Street, San Diego, CA 92121		
City: San Diego	**County:** San Diego	**State:** CA	**Zip Code:** 92106
Contact Person: Juan Guerreiro, Interim Director, Public Utilities Department		**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, Mail Station 901			3. ☑ Governmental Agency 4. ☐ Partnership
City: San Diego	**State:** CA	**Zip Code:** 92123	5. ☐ Other:
Contact Person: Juan Guerreiro, Interim Director, Public Utilities Department		**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, Mail Station 901			3. ☑ Governmental Agency 4. ☐ Partnership
City: San Diego	**State:** CA	**Zip Code:** 92123	5. ☐ Other:
Contact Person: Juan Guerreiro, Interim Director, Public Utilities Department		**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, Mail Station 901			3. ☑ Governmental Agency 4. ☐ Partnership
City: San Diego	**State:** CA	**Zip Code:** 92123	5. ☐ Other:
Contact Person: Juan Guerreiro, Interim Director, Public Utilities Department		**Telephone Number:** (858) 292-6401	

E. Address Where Legal Notice May Be Served:

Address: 9192 Topaz Way, Mail Station 901		
City: San Diego	**State:** CA	**Zip Code:** 92123
Contact Person: Juan Guerreiro, Interim Director, Public Utilities Department		**Telephone Number:** (858) 292-6401

F. Billing Address:

Address: 9192 Topaz Way, Mail Station 901		
City: San Diego	**State:** CA	**Zip Code:** 92123
Contact Person: Juan Guerreiro, Interim Director, Public Utilities Department		**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)	
Facility:	532-520-06
Discharge Point:	NA

2. Latitude	
Facility:	32 40' 45" N
Discharge Point:	32 39' 55" N

3. Longitude	
Facility:	117 14' 46" W
Discharge Point:	117 19' 25" W

Note: Listed facility location is center of the Point Loma Wastewater Treatment Plant (PLWTP) site. Listed discharge point is intersection of the "Y" diffuser of the Point Loma Ocean Outfall.

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: Juan Guerreiro

Title: Interim Director, Public Utilities Department

Signature: _____

Date: 3/07/2022

FOR OFFICE USE ONLY

Date Form 200 Received:	Letter to Discharger:	Fee Amount Received:	Check #:

Contributions Disclosure Statement

Renewal of NPDES CA0107409

The City of SAN DIEGO

Contributions Disclosure Statement
(per Cal. Gov. Code §84308(d))

Check the appropriate response:

√ I certify that Juan Guerreiro
(name of applicant)
has not made contributions amounting to $250 or more to any of the current Regional Board members within twelve (12) months of the date of this application for use in a federal, state, or local election.

_____ I certify that _____
(name of applicant)
has made contributions amounting to $250 or more to the following current Regional Board members with in twelve (12) months of the date of this application for use in a federal, state, or local election.

Regional Board Member	Amount of Contribution
Celeste Cantú, Chair	$0
Betty Olson, Vice Chair	$0
Henry Abarbanel	$0
Eric Anderson	$0
Henry Abarbanel	$0
Megan Blair	$0
Gary Strawn	$0
Stefanie Warren	$0

Signature _____

Name Juan Guerreiro

Title Interim Director, Public Utilities Department

Date 3/17/2022

Organization City of San Diego, Public Utilities Department

Address 9192 Topaz Way MS 901

San Diego, CA 92123

Phone Number 858-292-6401

PART 3:
ANTIDEGRADATION ANALYSIS

City of San Diego
Public Utilities Department

March 2022

Table of Contents

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Acronyms and Abbreviations

°C	degrees Celsius
APU	Administrative Procedures Update
BMP	Best Management Practice
CFR	Code of Federal Regulations
City	City of San Diego
DNQ	detected not quantifiable
EPA	United States Environmental Protection Agency
IWCP	Industrial Wastewater Control Program
g	grams
gpcd	gallons per capita per day
MDL	method detection limit
MER	mass emission rate
Metro System	San Diego Metropolitan Sewerage System
mg	milligram
mg/L	milligrams per liter
mgd	million gallons per day
mt	metric tons
mt/yr	metric tons per year
NA	not available or not applicable
ND	not detected
NPDES	National Pollutant Discharge Elimination System
Ocean Plan	Water Quality Control Plan Ocean Waters of California
PAHs	polynuclear aromatic hydrocarbons
PCBs	polychlorinated biphenyls
PLOO	Point Loma Ocean Outfall
PLWTP	Point Loma Wastewater Treatment Plant
Pure Water	Pure Water San Diego Program
RWQCB	California Regional Water Quality Control Board, San Diego Region

SANDAG	San Diego Association of Governments
SIU	significant industrial user
SWRCB	California State Water Resources Control Board
TCDD	Tetrachlorodibenzo-p-dioxin
TOMPs	toxic organic management plans
TST	Test of Significant Toxicity
TTO	total toxic organics
TUc	chronic toxicity units
UAPP	Urban Area Pretreatment Program
µg/L	micrograms per liter
WQBEL	water quality-based effluent limitation
ZID	zone of initial dilution

1 INTRODUCTION

1.1 NPDES Requirements

Overview

The City of San Diego (City), as operator of the Metropolitan Sewerage System, discharges treated wastewater from the E.W. Blom Point Loma Wastewater Treatment Plant (PLWTP) to the Pacific Ocean through the Point Loma Ocean Outfall (PLOO). The PLOO discharge is regulated by requirements established in Order No. R9-2017-0007, National Pollutant Discharge Elimination System (NPDES) Permit No. CA0107409. Order No. R9-2017-0007 was jointly issued by the California Regional Water Quality Control Board, San Diego Region (RWQCB) and the United States Environmental Protection Agency (EPA).[1]

Water Quality-Based NPDES Performance Goals

Table 6 of Order No. R9-2017-0007 establishes water quality-based concentration and mass emission performance goals for toxic pollutant loads discharged to the ocean via the PLOO. The performance goals are established for parameters that do not have a reasonable potential to cause or contribute to an exceedance of water quality objectives, or parameters for which the reasonable potential to exceed a water quality objective cannot be determined.[2] The performance goals established in Table 6 of Order No. R9-2017-0007 serve to ensure that existing treatment levels and effluent quality are sufficient to support state and federal antidegradation policies. Additionally, the performance goals provide information regarding the expected levels of pollutants that should not be exceeded in order to implement receiving water standards established within Table 3 of the *Water Quality Control Plan Ocean Waters of California* (Ocean Plan).[3,4]

The performance goals established in Table 6 of Order No. R9-2017-0007 are not water quality-based effluent limitations (WQBELs) and are not enforceable as such.[5] Since the Table 6 performance goals are based on Ocean Plan receiving water quality objectives, exceedance of performance goals established within Table 6 of Order No. R9-207-0007 may indicate the potential for exceedance of Ocean Plan water quality-based receiving water standard.[6,7]

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1 Order No. R9-2017-0007 (NPDES CA0107409) was jointly issued by EPA and the RWQCB, and serves as (1) a federal National Pollutant 1 Discharge Elimination System (NPDES) permit issued by EPA pursuant to the Clean Water Act and (2) State of California Waste Discharge Requirements issued by the RWQCB pursuant to Article 4, Chapter 4, Division 7 of the California Water Code. Although the PLOO discharge point is beyond the 3-nautical-mile limit of marine waters regulated by the State of California, the potential for effluent plume migration into state-regulated waters warrants joint regulation of the discharge by EPA and the RWQCB. The RWQCB adopted Order No. R9-2017-0007 on April 12, 2017. The EPA Final Decision approving Order No. R9-2017-0007 was issued on August 4, 2017. Order No. R9-2017-0007 became effective on October 1, 2017.

2 See Section IV.A.2 (page 8) or Order No. R9-2017-0007.

3 See Section IV.C.4.g (page F-30) of Attachment F to Order No. R9-2017-0007.

4 The current version of the Ocean Plan was adopted by the State Water Resources Control Board (SWRCB) on August 7, 2018 and became effective on February 4, 2019.

5 See Section IV.A.2 (page 8) of Order No. R9-2017-0007.

6 Excluding exceedances caused by laboratory error, sample contamination, or sample collection error.

7 Reopener Provision VI.C.1.a of Order No. R9-2017-0007 provides that the Order may be reopened for modification

Antidegradation-Based NPDES Performance Goals

Table 7 of Order No. R9-2017-0007 establishes EPA Toxics Emission Performance Goals for toxic and carcinogenic parameters that apply to the undiluted PLWTP effluent. Performance goals established within Table 7 of Order No. R9-2017-0007:

- Address uncertainty due to potential increases in toxic pollutant loadings during the NPDES permit term.
- Establish a framework for evaluating the need for antidegradation analysis to determine compliance with water quality standards at the time of permit issuance.[8]

It should be noted that PLWTP mass emissions may exceed a performance goal benchmark within Table 7 of Order No. R9-2017-0007, yet remain significantly below water quality-based effluent standards or the Table 6 performance goals established within Order No. R9-2017-0007 to protect aquatic life or human health.

Mass emission performance goals within Table 7 of Order No. R9-2017-0007 have been carried over from mass emission performance goals originally established for the PLOO discharge within Order No. 95-106 (NPDES CA0107409) which was jointly issued by EPA and the RWQCB in 1995.[9,10] Toxic mass emission performance goals were established within Order No. 95-06 based on 95th percentile performance data from the PLWTP from January 1990 through April 1995. These mass emission goals reflect benchmark mass emissions that occurred during the period 1990-1995, prior to issuance of the original PLWTP 301(h) modified NPDES permit. Exceedance of any of the toxic mass emissions goals established within Table 7 thus indicates that PLOO mass emissions to the ocean have increased compared to the early 1990s. Consistent with state and federal antidegradation policies, the Table 7 benchmarks are intended to serve as triggers for assessing conformance with antidegradation regulations during each renewal cycle of the PLOO NPDES permit.[11]

Historical PLOO Compliance with Performance Goals

The PLOO discharge has complied with all water quality-based NPDES mass emission performance goals since the original PLWTP 301(h) modified NPDES permit was issued in 1995. Additionally, since 1995 the PLOO discharge has complied with all antidegradation-based mass emission performance goals except for non-chlorinated phenolic compounds and

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to include an effluent limitation if monitoring demonstrates that a discharge causes or has reasonable potential to cause an exceedance of performance goals established within Table 6 of Order No. R9-2017-0007.

8 See Section IV.D.3 (page F-41) of Attachment F to Order No. R9-2017-0007.

9 Order No. 95-06 was jointly issued by the RWQCB and EPA in 1995 and represented the initial PLWTP NPDES permit that contained modified secondary treatment standards (pursuant to Section 301(h) of the Clean Water Act) for total suspended solids and biochemical oxygen demand.

10 Toxics mass emission benchmark performance goals from Order No. 95-06 were carried over to subsequent PLOO NPDES permits, including Order Nos. R9-2002-0025, R9-2009-0001 and R9-2017-0007. An exception to this is that mass emission performance goals for copper and selenium were recalculated within Order No. R9-2002-0025 (which replaced Order No. 95-06) using 95th percentile data from calendar year 1994.

11 See page 43 "Toxics Mass Emission Benchmarks and Antidegradation" within the EPA Final Decision Document (EPA, 2017).

ammonia-nitrogen. This is due to the fact that PLOO mass emissions for virtually all regulated toxic compounds (except non-chlorinated phenol and ammonia) have been reduced compared to 1990-1995 levels.

Post-1995 PLOO mass emissions for non-chlorinated phenols have consistently been above the 1990-1995 levels on which the antidegradation-based mass emission performance goals are based.[12] Historically, two non-chlorinated phenolic compounds have been consistently present in the PLWTP influent and effluent: phenol and 4-methylphenol. All other non-chlorinated phenolic compounds[13] are almost never present in the PLWTP influent or effluent, and when detected are at concentrations near the detection limit.

To address this post-1995 increase in mass emissions of non-chlorinated phenolic compounds, in reissuing NPDES CA0107409 in 2009, Provision VI.C.2.e of Order No. R9-2009-0001 established the following requirement:

VI.C.2.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 (non-chlorinated) produces either (1) a receiving water concentration at the boundary of the zone of initial dilution (ZID) that is less than ten percent above the ambient (farfield) concentration, or (2) the receiving water concentration at the boundary of the ZID is less than 50% of the 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

12 The benchmark for non-chlorinated phenolics established in Table 7 of Order No. R9-2017-0007 was computed using 1990-1995 PLWTP data for phenol, but excluding data from 4-methylphenol. As a result, the benchmark (computed only on the basis of phenol) significantly underestimates actual PLOO mass emissions of non-chlorinated phenolic compounds during 1990-1995.

13 Other non-chlorinated phenolic compounds include 2,4-dimethylphenol, 4,6-dinitro-2-methylphenol, 2,4-dinitrophenol, 2-nitrophenol, 4-nitrophenol, and 2-methylphenol. These compounds are rarely detected in the PLWTP influent or effluent.

Board. A final report analyzing "significance" is due within 1 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.[14]

2011 Level of 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 PLWTP 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% of the Ocean Plan receiving water standards for non-chlorinated phenolic compounds). The 2011 Significance Study concluded that:

- A trend of increased PLOO mass emissions of non-chlorinated phenolic compounds has occurred during the past several decades.
- The PLWTP achieved 100% compliance with NPDES water quality-based effluent concentration limits and performance goals for non-chlorinated phenolic compounds during 2002-2010, and the highest observed values were less than one-half of one percent of the NPDES permit requirement or goal.
- The PLWTP effluent achieved 100% compliance with acute and chronic toxicity limits during 2002-2010, and no phenol-related effects were observed on acute or chronic toxicity. Further, bioassay analyses of PLWTP effluent during 2002-2010 did not indicate any increasing trends.
- Commercial/domestic sources were significant contributors to the PLWTP loads of non-chlorinated phenolic compounds, and Metro System phenol loads appeared to be related to population.
- Industrial contributions of phenolic compounds 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 mass emission trends in non-chlorinated phenolic compounds and evaluate the need for a local limit for phenolic compounds.
- During 2002-2010, the PLOO discharge complied with Ocean Plan receiving water standards for non-chlorinated phenolic compounds by a wide margin. Receiving water concentrations after initial dilution were less than one-quarter of one percent of the allowable Ocean Plan receiving water limits for non-chlorinated phenolic compounds.

14 See pages 34-35 of Order No. R9-2009-0001. Order No. R9-2009-0001 (NPDES CA0107409) was the PLOO NPDES permit in effect prior to Order No. R9-2017-0007.

- 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 non-chlorinated phenolic compounds 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.

EPA in the August 4, 2017 Final Decision Document (EPA, 2017) concurred with these conclusions, stating:

Even if future Point Loma WWTP nonchlorinated phenol concentrations were to increase by fifty percent above current values to 30 µg/l, the PLOO discharge would maintain compliance with this Tier 1 fifty percent threshold requirement by two orders of magnitude. This is consistent with Provision VI.C.2.e of Order No. R9-2009-0001 that 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 described immediately above the applicant's antidegradation analysis demonstrated in Chapter 3, the existing PLOO discharge complies with this "significance" test by two orders of magnitude (102) 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).[15]

1.2 Antidegradation Overview

Federal Antidegradation Regulations

Discharge Specifications and Provisions are established in Order No. R9-2017-0007 to implement federal antidegradation regulations, as established within Title 40, Section 131.12 of the *Code of Federal Regulations* (40 CFR 131.2). 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*

15 See page 45 of the EPA Final Decision Document (EPA, 2017).

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 California State Water Resources Control Board (SWRCB) 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. The State of California antidegradation policy 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.

The SWRCB has interpreted Resolution No. 68-16 as incorporating federal antidegradation regulations. Administrative procedures for antidegradation analysis were issued by the SWRCB in 1990 in "Administrative Procedures Update, Antidegradation Policy Implementing for NPDES Permitting" (Administrative Procedures Update (APU) 90-004, July 2, 1990). This SWRCB guidance allows the RWQCBs 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 RWQCB 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 RWQCB 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 RWQCB 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.*[16]

The SWRCB administrative procedures require a complete socioeconomic antidegradation analysis (Tier 2) if the Tier 1 analysis demonstrates water quality necessary to support beneficial uses is not maintained.

16 See Items 1, 2, and 3 on page 2 of SWRCB (1990).

1.3 Purpose of Report

Order No. R9-2017-0007 became effective on October 1, 2017. To address antidegradation issues associated with performance goals established within Order No. R9-2017-0007, this report compares PLWTP mass emissions during 2017-2020 with EPA mass emission performance goals established within Table 7 of Order No. R9-2017-0007 and identifies constituents which exceed the performance goals. For constituents which exceed the Table 7 performance goals, a Tier 1 assessment of the level of significance of water quality impacts is performed to determine if a Tier 2 analysis is required.

To this end, this report evaluates and identifies parameters that exceed (or threaten to exceed) the water quality-based performance goals established within Table 6 of Order No. R9-2017-0007 or the mass emission performance goals established in Table 7 of Order No. R9-2017-0007. For parameters that exceed or threaten to exceed the performance goals, this report:

- Evaluates trends in mass emissions and treatment removal.
- Reviews potential sources of constituents within the PLWTP influent.
- Assesses conformance with applicable water quality standards, objectives and criteria.
- Assesses the compliance of the parameters with a level of significance[17] test where water quality impacts are deemed to be "not significant" if the projected receiving water quality beyond the ZID is less than 50% of the corresponding Ocean Plan water quality objective.
- Presents conclusions regarding compliance with Tier 1 federal antidegradation regulations and the State of California antidegradation policy.

17 Provision VI.C.2.3 of the prior PLOO NPDES permit (Order No. R9-2009-0001, NPDES CA0107409) established a "level of significance" test where water quality impacts are deemed to be "not significant" if the projected receiving water quality beyond the ZID is less than 50% of the corresponding Ocean Plan water quality objective.

2 NPDES PERMIT PERFORMANCE GOALS

2.1 Compliance with Table 6 Performance Goals

As noted in Chapter 1, Table 6 of Order No. R9-2017-0007 establishes concentration and mass emission performance goals that are based on ensuring compliance with receiving water quality objectives that are established in the Ocean Plan. Performance goals are established within Order No. R9-2017-0007 to implement Ocean Plan standards for the protection of:

- Marine aquatic life
- Human health (non-carcinogens)
- Human health (carcinogens)

Data Period Evaluated

Year 2020 represents the most current complete year for which data are available at the time of preparation of this report. As a result, this analysis is based on data from the period 2017-2020 for assessing compliance with the concentration and mass emission performance goals in Table 6 of Order No. R9-2017-0007.[18]

Performance Goals for the Protection of Marine Aquatic Life

Table 1 compares maximum reported PLWTP effluent concentrations during 2017-2020 with concentration performance goals for the protection of marine aquatic life that are established within Table 6 of Order No. R9-2017-0007. As shown in Table 1, the maximum observed PLWTP effluent concentrations during 2017-2020 were less than the corresponding Table 6 performance goal concentrations for the protection of marine aquatic life by a comfortable margin.

Since a number of the maximum observed PLWTP effluent concentrations were outlier values (values which occurred only once and at concentrations significantly above normal values), the PLWTP effluent typically complied with the Table 6 performance goals by a number of orders of magnitude. Copper and ammonia were the only two parameters where maximum daily PLWTP effluent concentrations were within an order of magnitude (factor of ten) of the 6-month median performance goal for the protection of marine aquatic life, but PLWTP copper and ammonia concentrations achieved compliance with the 6-month median water quality-based performance goals by more than a factor of two in 100% of the samples collected during 2017-2020.

18 Order No. R9-2017-0007 (NPDES CA0107409) became effective on August 1, 2017. For purposes of assessing compliance, data for calendar years 2017-2020 are used herein. Year 2020 represents the most complete calendar year of data that were available at the time of preparation of this report. This 2017-2020 data base includes 9 months of data collected in 2017 under the prior NPDES permit (Order No. R9-2009-0001) and 39 months of data collected under Order No. R9-2017-0007.

Table 1:
Comparison of PLWTP Effluent Quality with Water Quality-Based Performance Goals Table 6 of Order No. R9-2017-0007 - Ocean Plan Objectives for the Protection of Marine Aquatic Life

Table 6 Parameter Ocean Plan Objectives for the Protection of Human Health: Noncarcinogens	Concentration (µg/L) 2017-2020			
	Highest Reported Daily Average PLWTP Effluent Concentration [A]	Highest Reported MDL Achieved [B]	6-Month Median Performance Goal [C]	Daily Maximum Performance Goal [C]
Arsenic	2.14	3.21	1,000	5,900
Cadmium	5.05 [D]	0.484	210	820
Chromium VI [E]	5.88 [E,F]	7.17 [E]	410 [E]	1,600 [E]
Copper	30.6	9.37	210	2,100
Lead	13.6	5.93	410	1,600
Mercury	0.1 [G]	0.008	8.1	33
Nickel	7.01	3.35	1,000	4,100
Selenium	2.41	5.78	3,100	12,000
Silver	6.12 [H]	1.57	190	540
Zinc	54.6	10.4	2,500	15,000
Cyanide	4	5	210	820
Ammonia (as nitrogen)	48,100	300	120,000	490,000
Non-Chlorinated Phenolic Compounds [I,J]	141 [I,J]	150 [K]	6,200	25,000
Chlorinated Phenolics	ND [L]	32 [K]	210	820
Endosulfan	ND [L]	0.88 [M]	1.8	3.7
Endrin	ND [L]	0.2 [M]	0.41	0.82
Hexachlorocyclohexane (HCH)	0.103	0.4 [M]	0.82	1.6

Table 1 Notes:

A. Highest daily average PLWTP effluent concentration value reported during the 4-year period 2017-2020. Includes portion of 2017 where the PLWTP was regulated under Order No. R9-2009-0001. Daily average concentrations represent the arithmetic mean concentration of all samples for a given constituent that were collected on a given date.

B. Maximum reported method detection limits (MDLs) achieved during analysis for the listed constituent during 2017-2020.

C. Ocean Plan-based performance goal (concentration in micrograms per liter (µg/L)) established within Table 6 of Order No. R9-2017-0007 for the protection of marine aquatic life.

D. Outlier value that occurred on March 28, 2018. Daily average cadmium concentrations on all other days during 2017-2020 were <0.4 µg/L.

E. Table 6 of Order No. R9-2017-0007 establishes an annual mass emission performance goal for chromium VI (hexavalent chromium). Since chromium VI is a subset of total chromium, Order No. R9-2017-0007 conservatively allows compliance with the chromium VI performance goal to be determined on the basis of data for total chromium.

F. The highest daily average recorded PLWTP effluent concentration for total chromium during 2017-2020 was 5.88 µg/L, which occurred on September 17, 2018. Daily average total chromium concentrations on all other days during were <2.15 µg/L.

G. Outlier value occurred on June 26, 2017. Daily average mercury concentrations on all other sample dates were <0.034 µg/L.

H. Outlier value occurred on May 24, 2017. Daily average silver concentrations on all other sample dates were <0.109 µg/L.

I. Two non-chlorinated phenolic compounds are consistently detected in the PLWTP influent and effluent: 4-methylphenol and phenol. Other non-chlorinated phenolic compounds (i.e., 2,4-dimethylphenol, 2,4-dinitrophenol, 4,6-dinitro-2-methylphenol, 2 -methylphenol, 2-nitrophenol and 4-nitrophenol) are rarely detected in the PLWTP influent or effluent.

J. During the effective period of Order No. R9-2009-0001 (and prior PLOO NPDES permits), PLWTP influent and effluent monitoring was not required for 4-methylphenol. Accordingly, prior to August 1, 2017 (the effective date of Order No. R9-2017-0007), PLWTP concentrations and mass emissions for non-chlorinated phenolic compounds were reported as the sum of 2,4-dimethylphenol, 2,4 dinitrophenol, 4-methyl-4,6-dinitrophenol, 2-nitrophenol, 4-nitrophenol and phenol. Order No. R9-2017-0007 required PLWTP influent and effluent monitoring for 4-methylphenol (a compound not regulated within the Ocean Plan), and defined non-chlorinated phenolics as including 4-methylphenol ("non-chlorinated phenolics" are not specifically defined within the Ocean Plan). As a result, during the effective period of Order No. R9-2017-0007, PLWTP influent and effluent non-chlorinated phenolic compounds have been computed to include detected concentrations of 4-methylphenol. Concentrations of non-chlorinated phenolic compounds reported after August 1, 2017 are thus not comparable to values reported prior to that date.

K. Listed maximum MDLs during 2017-2020 for chlorinated and non-chlorinated phenolic compounds occurred in November 2019 and were atypical. Typical MDLs for non-chlorinated phenols during 2017-2020 were <3 µg/L. Typical MDLs for chlorinated phenols were <2 µg/L.

L. Note: ND indicates that the constituent was not detected during 2017-2020 at the listed range of MDLs.

M. Listed maximum MDLs for endosulfan, endrin and HCH during 2017-2020 were atypical and occurred in October 2017. MDLs for these compounds during 2017-2020 were typically two orders of magnitude less.

PLWTP copper concentrations during 2017-2020 averaged 12.7 µg/L during 2017-2020, which is below the 6-month median performance goal by more than a factor of 15. PLWTP ammonia concentrations during 2017-2020 averaged 41.7 milligrams per liter (mg/L) (41,700 µg/L) which is approximately a factor of three below the corresponding Table 6 performance goal for the protection of marine aquatic life.

Table 6 performance goals also include mass emission limits which are based on a 205 mgd PLWTP effluent flow. PLWTP effluent flows averaged 141.6 mgd during 2017-2020, and flows were in excess of 160 mgd less than 10% of the time during 2017-2020.[19,20] It is evident that the PLOO discharge complied with the Table 6 mass emission performance goals for the protection of marine aquatic habitat by a considerable margin, as:

- Maximum PLWTP effluent concentration values were significantly below the Table 6 performance daily maximum and 6-month median goals for the protection of marine aquatic life (see Table 1).
- Typical PLWTP effluent concentration values were below (and for some constituents significantly below) the maximum values observed during 2017-2020.
- PLWTP flows were consistently less than the 205 mgd flows used to establish the Table 6 EPA mass emission performance goals.

Performance Goals for the Protection of Human Health

Table 2 compares maximum recorded PLWTP effluent concentrations during 2017-2020 with water quality-based performance goals for the protection of human health for non-carcinogens that are established within Table 6 of Order No. R9-2017-0007. As shown in Table 2, none of the maximum recorded PLWTP effluent concentrations during 2017-2020 were remotely close to the Table 6 performance goals for the protection of human health for noncarcinogens.

Table 3 compares maximum reported PLWTP effluent concentrations during 2017-2020 with performance goals established in Table 6 of Order No. R9-2017-0007 for the protection of human health for carcinogens. As shown in Table 3, only a small percentage of the carcinogenic compounds addressed within Table 6 of Order No. R9-2017-0007 were detected in the PLWTP effluent during 2017-2020. Concentrations of all detected toxic inorganic and organic compounds in the PLWTP effluent during 2017-2020 were significantly below (by a number of orders of magnitude) the corresponding Ocean Plan-based performance goals established within Table 6 of Order No. R9-02017-0007. All in all, the PLOO discharge complies with the water quality-based performance goals established in Table 6 of Order No. R9-2017-0007 by a significant margin.

19 PLWTP 90th percentile daily flows during 2017-2020 were 159.4 mgd.

20 For comparison, the 2021 PLOO discharge flow averaged 139.7 mgd. Thus, average PLOO discharge flows during 2017-2021 were 141.2 mgd. As noted, data for 2017-2020 are used throughout this 301(h) application, since a complete set of calendar year 2021 data were not available at the time of preparation of this application.

Table 2:
Comparison of PLWTP Effluent Concentrations with Water Quality-Based Performance Goals Table 6 of Order No. R9-2017-0007 Ocean Plan Objectives for the Protection of Public Health - Noncarcinogens

Table 6 Parameter Ocean Plan Objectives for the Protection of Human Health: Noncarcinogens	Concentration (µg/L) 2017-2020		
	Highest Reported Daily Average PLWTP Effluent Concentration [A]	Highest Reported MDL Achieved [B]	Monthly Average Performance Goal [C]
Acrolein	ND [D]	1.24	45,000
Antimony	2.76	2.44	250,000
Bis (2-chloroethoxy) methane	ND [D]	1.13	900
Bis (2-chloroisopropyl) ether	ND [D]	1.3	45,000
Chlorobenzene	ND [D]	0.46	120,000
Chromium [E]	5.88 [E]	0.332 [E]	3.9 E+07 [F]
Di-n-butyl phthalate	ND [D]	4.43	720,000
Dichlorobenzenes	ND [D]	0.47	1.0 E+06
Diethyl phthalate	47.4 [F]	3.42	6.8 E+06
Dimethyl phthalate	ND [D]	1.61	1.7 E+08
4,6-dinitro-2-methylphenol	ND [D]	14 [G]	45,000
2,4-dinitrophenol	3.0 [H]	19 [G]	820
Ethylbenzene	0.878 DNQ [I]	0.43	840,000
Fluoranthene	ND [D]	1.49	3,100
Hexachlorocyclopentadiene	ND [D]	1.4	12,000
Nitrobenzene	ND [D]	1.79	1,000
Thallium	ND [D]	3.37	410
Toluene	18	0.45	1.7 E+07
Tributyltin	ND [D]	0.0143	0.29
1,1,1-trichloroethane	ND [D]	0.4	1.1 E+08

Table 2 Notes:

A. Highest (maximum) daily average PLWTP effluent concentration value reported during the 4-year period 2017-2020. Includes portion of 2017 where the PLWTP was regulated under Order No. R9-2009-0001. Daily average concentrations represent the arithmetic mean concentration of all samples for a given constituent that were collected on a given date.

B. Maximum reported Method Detection Limits (MDLs) achieved during analysis for the listed constituent during 2017-2020. See Attachment 1 for a summary of monthly PLWTP influent and effluent data for 2017-2020.

C. Ocean Plan-based performance goal (concentration in µg/L) established within Table 6 of Order No. R9-2017-0007 for the protection of human health - noncarcinogens.

D. ND indicates that the constituent was not detected during 2017-2020 at the listed range of MDLs.

E. Table 6 of Order No. R9-2017-0007 establishes an annual mass emission performance goal for chromium III (trivalent chromium). Since chromium III is a subset of total chromium, Order No. R9-2017-0007 conservatively allows compliance with the chromium III performance goal to be determined on the basis of data for total chromium.

F. Outlier Value that occurred on November 6, 2018. All but two diethyl phthalate samples during 2017-2020 were less than 7 µg/L.

G. Listed maximum MDL during 2017-2020 was atypical and is from PLWTP monitoring reports for November 2019. Higher maximum MDLs that were listed in the 2019 annual report appear to be in error. Typical MDLs for 4,6-dinitro-2-methylphenol during 2017-2020 were at or less than 2 µg/L. Typical MDLs for 2,4-dinitrophenol during 2017-2020 were at or less than 1 µg/L.

H. Outlier value that occurred on June 8, 2017. All other 2,4-dinitrophenol results during 2017-2020 were non-detected.

I. Value was detected not quantifiable (DNQ). Concentration was below the reporting limit but above the MDL.

Table 3:
Comparison of PLWTP Effluent Concentrations with Water Quality-Based Performance Goals Table 6 of Order No. R9-2017-0007 Ocean Plan Objectives for the Protection of Public Health - Carcinogens

Table 6 Parameter Ocean Plan Objectives for the Protection of Human Health: Carcinogens	Concentration (µg/L) 2017-2020		
	Highest Reported Daily Average PLWTP Effluent Concentration [A]	Highest Reported MDL Achieved [B]	Monthly Average Performance Goal [C]
Acrylonitrile	ND [D]	0.66	21
Benzene	0.52 DNQ [E]	0.47	1200
Benzidene	ND [D]	11 [F]	0.014
Beryllium	0.085 [G]	0.4	6.8
Bis (2-chloroethyl) ether	ND [D]	1.55 [F]	9.2
Bis (2-ethylhexyl) phthalate	9.95 [H]	10	720
Carbon tetrachloride	ND [D]	0.4	180
Chlordane	ND [D]	0.9 [I,J]	0.0047
Chlorodibromomethane (dibromochloromethane)	1.2	1.55	1800
Chloroform	7.2	0.446	27,000
DDT	ND [D]	0.1 [I]	0.035
1,4-dichlorobenzene	ND [D]	0.46	3700
3,3'-dichlorobenzidene	ND [D]	3.27	1.7
1.2-dichloroethane	ND [D]	0.652	5700
1,1-dichloroethylene	ND [D]	0.39	180
Dichlorobromomethane (bromodichloromethane)	1.6	0.445	1300
Dichloromethane (methylene chloride)	5.69	0.563	92,000
1,3-dichloropropene	ND [D]	0.526	1800
Dieldrin	ND [D]	0.2 [I]	0.0082
2,4-dinitrotoluene	ND [D]	1.52	0.053
1,2-diphenylhydrazine	ND [D]	1.53	3300
Halomethanes [K]	16.2	1.02	27,000
Heptachlor	ND [D]	0.2 [I,J]	0.01
Heptachlor epoxide	ND [D]	0.2 [I,J]	0.0041
Hexachlorobenzene	ND [D]	1.66 [F]	0.043
Hexachlorobutadiene	ND [D]	1.84 [F]	2900
Hexachloroethane	ND [D]	1.48 [F]	510
Isophorone	ND [D]	1.71 [F]	150,000
N-nitrosodimethylamine	ND [D]	1.42	1500
N-nitrosodi-N-propylamine	ND [D]	1.3	78
N-nitrosodiphenylamine	ND [D]	3.9	510
Polynuclear aromatic hydrocarbons (PAHs) [L]	ND [D]	5.5 [F]	1.8

Table 6 Parameter Ocean Plan Objectives for the Protection of Human Health: Carcinogens	Concentration (µg/L) 2017-2020		
	Highest Reported Daily Average PLWTP Effluent Concentration [A]	Highest Reported MDL Achieved [B]	Monthly Average Performance Goal [C]
Polychlorinated biphenyls (PCBs)	ND [D]	2.5 [I]	0.0039
Tetrachlorodibenzo-p-dioxin (TCDD) equivalents	ND [D]	1.12 E-6 [M]	8.0 E-7
1,1,2,2-tetrachloroethane	ND [D]	0.39	470
Tetrachloroethylene	0.6 DNQ [E]	0.5	410
Toxaphene	ND [D]	10 [I,J]	0.043
Trichloroethylene	ND [D]	0.43	5500
1,1,2-trichloroethane	ND [D]	0.363	1900
2,4,6-trichlorophenol	2.2 DNQ [E]	2.2 [F]	59
Vinyl chloride	ND [D]	0.948	7400

Table 3 Notes:

A. Highest (maximum) daily average PLWTP effluent concentration value reported during the 4-year period 2017-2020. Includes portion of 2017 where the PLWTP was regulated under Order No. R9-2009-0001. Daily average concentrations represent the arithmetic mean concentration of all samples for a given constituent that were collected on a given date.
B. Maximum reported Method Detection Limits (MDLs) achieved during analysis for the listed constituent during 2017-2020.
C. Ocean Plan-based performance goal (concentration in µg/L) established within Table 6 of Order No. R9-2017-0007 for the protection of human health - carcinogens.
D. ND indicates that the constituent was not detected during 2017-2020 at the listed range of MDLs.
E. Value was detected not quantifiable (DNQ). Concentration was below the reporting limit but above the MDL.
F. The listed maximum MDL is from monthly PLOO monitoring reports. The 2019 PLOO annual report lists a higher maximum MDL for the constituent than what is listed in the monthly reports. More stringent MDLs were achieved during 2017-2018 and 2020.
G. Beryllium was detected in only 2 samples collected during 2017-2020.
H. Concentrations of bis (2-ethylhexyl) phthalate were less than 5 µg/L in all but three samples during 2017-2020.
I. The listed maximum MDL is from monthly PLOO monitoring reports. The 2017 PLOO annual report lists a higher maximum MDL for the constituent than what is listed in the monthly reports. More stringent MDLs were achieved during 2018-2020.
J. Listed maximum MDL occurred only once during 2017-2020. MDLs for remaining samples were significantly lower.
K. Sum of bromoform, bromomethane (methyl bromide) and chloromethane (methyl chloride).
L. The sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzo fluoranthene, benzo[k]fluoranthene, 1,12-benzo perylene, benzo[a]pyrene, chrysene, dibenzo[ah]anthracene, fluorene, indeno[1,2,3-cd] pyrene, phenanthrene and pyrene.
M. Listed MDL for TCDD equivalents is for hepta CDD and hepta CDF, which have a toxicity equivalence factor of 0.5. Other CDD and CDF isomers have smaller toxicity equivalence factors and less influence on the computation of TCDD equivalents.

2.2 Compliance with Table 7 Mass Emission Performance Goals

EPA Mass Emission Performance Goals

As discussed on page 1-2, Table 7 of Order No. R9-2017-0007 established mass emission rate (MER) performance goals for the PLOO discharge to establish a framework for evaluating the need for antidegradation analysis.[21] Performance goals established in Table 7 of Order No. R9-2017-0007 are based on a PLOO flow of 205 mgd and 95th percentile PLOO effluent concentrations during 1990-1995.[22,23]

The Table 7 performance goals represent a tool for comparing present-day PLOO MERs with MERs allowed under Order No. 95-60, the original 1995 PLOO 301(h) NPDES modified permit. Exceedance of any of the Table 7 MER performance goals for any constituent may indicate the need for an assessment of compliance with state and federal antidegradation requirements.

Detected Constituents with Table 7 MER Performance Goals

MER performance goals are established within Table 7 of Order No. R9-2017-0007 for a variety of toxic inorganic and organic compounds. Toxic inorganic compounds listed within Table 7 that were typically detected in the PLWTP effluent during 2017-2020 included: ammonia, antimony, arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, and zinc. Thallium was never detected in the PLWTP effluent during 2017-2020, and beryllium and cyanide were rarely detected. Few toxic organic compounds listed in Table 7 of Order No. R9-2017-0007 were detected in the PLWTP effluent during 2017-2020. Exceptions to this include:

- Non-chlorinated phenolic compounds (both phenol and 4-methylphenol were detected in 100% of the PLWTP effluent samples)
- Diethyl phthalate (typically detected in the PLWTP effluent)
- 2,4-dinitrophenol (detected only once in the PLWTP effluent during 2017-2020)
- Toluene (occasionally detected in the PLWTP effluent)
- Bis (2-ethylhexyl) phthalate (occasionally detected in the PLWTP effluent)

21 See Section IV.D.3 (page F-41) of Attachment F to Order No. R9-2017-0007.

22 Exceptions to this are the Table 7 performance goals for copper and selenium, which are based on 95th percentile PLOO mass emissions from calendar year 1994.

23 It should be noted that the MER benchmark for non-chlorinated phenol was based on 95th percentile PLWTP effluent concentration values for phenol during the period January 1990 through April 1995. Concentrations of 4-methylphenol were not included in the non-chlorinated phenol MERs for this 1990-1995 period, as (1) the Ocean Plan did not establish a specific receiving water objective for 4-methylphenol, (2) PLOO monitoring for 4-methylphenol was not required at that time, and (3) non-chlorinated compounds were not specifically defined within either the PLOO NPDES permits or the Ocean Plan. In accordance with definitions now specified within Order R9-2017-0007, concentrations of 4-methylphenol (which are typically higher than concentrations of phenol, sometimes by a factor of two) are now included in the reported PLWTP influent and effluent concentrations of non-chlorinated phenolic compounds. Because MERs for non-chlorinated phenolic compounds are (per requirements in Order No. R9-2017-0007) computed differently than the EPA mass emission performance goals established in Table 7 of Order No. R9-2017-0007, direct comparison between present day MERs for non-chlorinated phenolic compounds and the Table 7 MER benchmarks is misleading.

Exceedance of Table 7 MERs for Phenol and Ammonia

Table 4 compares MER performance goals established within Table 7 of Order No. R9-2017-0007 with PLWTP MERs for the period 2017-2020.

As shown Table 4, PLOO MERs during 2017-2020 were substantially below Table 7 MER benchmarks for all constituents except for ammonia and non-chlorinated phenol. The PLOO discharge also exceeded the Table 7 mass emission performance goal for ammonia-nitrogen during years 2018, 2019 and 2020.

Change in Computation of Non-Chlorinated Phenolic Compounds. It should be noted that the MER performance goals established in Table 7 of Order No. R9-2017-0007 are based on historic PLOO MERs from 1990-1995. The intent was to establish a baseline mass emission threshold representative of 1990-1995 conditions against which to compare future PLOO mass emissions. In this way, it could be easily determined if PLOO mass emissions have increased relative to 1990-1995 levels.

Order No. R9-2017-0007, however, implements a significant change in the computation of MERs for non-chlorinated phenolic compounds which does not allow for a direct one-to-one comparison of MERS for non-chlorinated phenolic compounds between present-day and 1990-1995. The Table 7 MER is based on PLWTP data for phenol from 1990-1995, as phenol was the only non-chlorinated phenolic compound commonly detected in the PLWTP effluent for which monitoring was required at that time. During 1990-1995, monitoring for 4-methylphenol was not required and prior PLOO NPDES permits and the Ocean Plan did not define how to compute or report chlorinated phenolics.

Nonetheless, historically the City has monitored the PLWTP influent and effluent for a variety of non-chlorinated phenolic compounds including 4-methylphenol. Until 2019, however, the City did not include concentrations of 4-methylphenol in the computed totals for non-chlorinated phenolic compounds. This allowed computed PLOO MERs for non-chlorinated phenolic compounds to be compared to antidegradation-based MERs that were established using 1990-1995 data that omitted the inclusion of 4-methylphenol.

Attachment A to Order No. R9-2017-0007, however, defines non-chlorinated phenolic compounds as including 4-methylphenol. In accordance with requirements of Order No. R9-2017-0007, the City now includes concentrations of 4-methylphenol in determining total non-chlorinated phenolic compounds. This change in computational procedures has resulted in a significant increase in reported PLOO concentrations and MERs for non-chlorinated phenolic compounds, compared to those reported in prior years and compared to those used to compute the Table 7 mass emission benchmarks. During 2017-2020, for example, concentrations of phenol in the PLWTP effluent averaged 33 µg/L, while concentrations of 4-methylphenol averaged approximately 45 µg/L. As a result of this computational difference, present-day PLOO MERs for non-chlorinated phenolic compounds have more than doubled compared to MERs reported within prior PLOO NPDES permit applications. Direct comparison of present-day PLOO MERS for non-chlorinated phenolic compounds with prior reported values is thus misleading.

Table 4:
Comparison of PLOO Mass Emissions with Performance Goals Established within Table 7 of Order No. R9-2017-0007

Detected Constituents for which Mass Emission Performance Goals are Established in Table 7 of Order No. R9-2017-0007 [A]	Estimated Annual Mass Emissions [B] (metric tons/year)				Annual Mass Emission Benchmark [C] (mt/yr)
	2017 (139.3 mgd)	2018 (139.0 mgd)	2019 (143.9 mgd)	2020 (144.3 mgd)	
Arsenic	0.10	0.26	0.26	0.15	0.88
Cadmium	ND [D]	0.021	ND [D]	0.020	1.4
Chromium VI	< 0.25 [E]	< 0.22 [E]	< 0.22 [E]	< 0.15 [E]	14.2
Copper	2.85	2.05	2.50	2.53	26
Lead	0.137	0.09	0.07	0.139	14.2
Mercury	0.0023	0.0018	0.0017	0.0015	0.19
Nickel	0.883	0.75	0.76	0.879	11.3
Selenium	0.22	0.20	0.14	0.13	0.44
Silver	0.03	0.00	0.00	0.01	2.8
Zinc	5.19	3.38	4.13	5.20	18.3
Cyanide	< 0.04 [F]	< 0.04 [F]	< 0.04 [F]	< 0.04 [F]	1.57
Ammonia	7,750	8,270 [G]	8,290 [G]	8,310 [G]	8,018
Non-chlorinated phenolic compounds [H]	15.3 [G,H]	16.1 [G,H]	15.0 [G,H]	14.8 [G,H]	2.57 [F]
Antimony	0.04	0.12	0.13	0.08	56.6
Diethyl phthalate	1.17	0.94	0.36	0.58	6.23
2,4-dinitrophenol	< 0.21 [I]	ND [D]	ND [D]	ND [D]	11.9
Toluene	< 0.37 [J]	< 0.65 [J]	< 0.32 [J]	< 0.36 [J]	3.31
Beryllium	< 0.005 [K]	ND [D]	ND [D]	ND [D]	1.42
Bis (2-ethylhexyl) phthalate	ND [D]	ND [D]	ND [D]	0.79	2.89

Table 4 Notes:

A. Constituents that were detected in the PLWTP effluent during 2017-2020 for which annual mass emission performance goal benchmarks are established by EPA within Table 7 Order No. R9-2017-0007.

B. The above-listed annual mass emissions are estimated by multiplying the average annual concentration, as reported in PLWTP annual reports, by the listed annual average PLWTP flow. As part of this estimate, any non-detected (ND) results for the listed constituent are assumed to represent a zero concentration for purposes of determining annual mass emissions.

C. Annual mass emission performance goal benchmarks in metric tons per year (mt/yr) established in Table 7.

D. The listed constituent was reported as ND (not detected) as a monthly average value during each month of the listed year and no annual MER can be computed.

E. The listed estimated annual average MER is for total chromium. Chromium VI MERs are less than the listed MER for total chromium.

F. Cyanide was largely undetected during 2017-2020 and when detected was detected a concentration at or near the MDL. The listed upper bound MER is computed assuming an average cyanide concentration of 0.2 µg/L, which is the cyanide MDL achieved during 2017-2020.

G. Red font indicates exceedance of the MER performance goal established in Table 7 of Order No. R9-2017-0007.

H. The Table 7 MER is based on PLWTP data for phenol from 1990-1995, as phenol was the only non-chlorinated phenolic compound commonly detected in the PLWTP effluent for which monitoring was required. During 1990-1995, monitoring for 4-methylphenol was not required and prior NPDES permits (or the Ocean Plan) did not define how to compute or report chlorinated phenolics. In accordance with definitions established in Order No. R9-2017-0007, however, present-day MERs for non-chlorinated phenolic compounds are based on PLWTP effluent concentrations of phenol plus concentrations of 4-methylphenol (the two non-chlorinated phenolic compounds routinely found in the PLWTP influent and effluent). As a result of this difference in computational methods, comparison of present-day PLOO MERs for non-chlorinated phenolic compounds (which include phenol plus 4-methylphenol) with the Table 7 performance goal benchmarks (which were based on 1990-1995 PLWTP concentrations of phenol) are misleading.

I. 2,4-dinitrophenol was detected in only 1 of 96 samples during 2017. The listed MER is computed assuming an annual 2,4-dinitrophenol concentration of less than one-half the 2.16 µg/L MDL.

J. Many of the detected concentrations for toluene were DNQ (detected not quantifiable). The listed estimated MERs for toluene are based on both quantifiable and DNQ values, and are considered to represent upper bound estimates for toluene annual mass emissions.

K. Beryllium was not detected in 80 of 82 samples during 2017. The upper bound annual average MER of < 0.005 mt/yr is computed assuming PLWTP effluent beryllium concentrations averaged less than 0.025 µg/L during 2017.

Estimated annual mass emissions presented in Table 4 were computed on the basis of the average annual concentrations and the average annual flows. A more accurate means of computing MERs is to use daily sample results and daily flows. Table 5 presents a comparison of MERs for non-chlorinated phenolic compounds and ammonia-nitrogen during 2017-2020 using these two methods. As shown in Table 5, ammonia and phenol MERS during 2017-2020 were higher than corresponding 95th percentile PLOO MERS in 1990-1994 using both computational methods, indicating that the mass of both ammonia and non-chlorinated phenolics discharged to the ocean via the PLOO has increased in the past quarter century.

Table 5:
Comparison of Estimated PLOO Mass Emissions Computed Using Daily Average and Annual Average Values

Year	PLOO Mass Emissions (mt/yr)			
	Non-Chlorinated Phenolics		Ammonia-Nitrogen	
	Estimated Using Daily Averages [A]	Estimated Using Annual Averages [B]	Estimated Using Daily Averages [A]	Estimated Using Annual Averages [B]
2017	15.3 [C]	15.3 [C]	7,610	7,750
2018	16.1 [C]	16.1 [C]	8,250 [C]	8,270 [C]
2019	15.6 [C]	15.0 [C]	8,120 [C]	8,290 [C]
2020	14.9 [C]	14.8 [C]	8,250 [C]	8,310 [C]
Table 7 Performance Goal [D]	2.57		8,018	

Table 5 Notes:

A. Average of daily MERs during each sample date of the listed year, converted to units of mt/yr. Daily MERs computed as the product of the average daily PLOO discharge flow for each sampling day and the average daily PLWTP effluent concentration on that day. Values rounded to three significant figures.
B. Annual MER estimated as the product of the average annual PLOO discharge flow and the average annual PLWTP effluent concentration, converted to units of mt/yr. Values rounded to three significant figures. Value from Table 4.
C. Red font indicates exceedance of the MER performance goal established in Table 7 of Order No. R9-2017-0007.
D. EPA Mass emission performance goal established in Table 7 of Order No. R9-2017-0007 on the basis of a permitted PLOO average annual discharge flow of 205 mgd and 95th percentile PLWTP effluent concentration levels from January 1990 to April 1995. The Table 7 performance goal is established to establish a benchmark against which to assess whether mass emissions have increased beyond those permitted in 1990-1995.

As documented in Table 4, non-chlorinated phenolic compounds and ammonia are the only parameters that exceeded benchmark mass emissions established in Order No. R9-2017-0007. PLOO mass emissions for all other parameters (except for non-chlorinated phenolics and ammonia) were within the Table 7 performance goals. Since no increase in mass emissions is requested as part of this NPDES renewal, a Tier 1 antidegradation analysis not required for any of the parameters that remain compliance with mass emission performance goal benchmarks established within Table 7 of Order No. R9-2017-0007. Exceedance of the Table 7 performance goal benchmarks by non-chlorinated phenolics and ammonia, however, indicate that mass emission of these two parameters have increased relative to 1990-1995 levels. Assessment is required to demonstrate that this increase in MERs (compared to 1990-1995 conditions) is

consistent with State of California antidegradation regulations and federal Tier 1 antidegradation regulations.[24]

Conformance with Water Quality-Based Performance Goals

As noted, mass emission performance goals established in Table 7 of Order No. R9-2017-0007 are based on historic PLOO mass emissions and are used as benchmarks for indicating the potential need for antidegradation assessment. Water quality-based performance goals in Table 6 of Order No. R9-2017-0007, on the other hand, are established to ensure compliance with Ocean Plan receiving water quality objectives and to protect beneficial uses.

Water Quality-Based Performance Goals for Phenol. While non-chlorinated phenolic compounds exceeded the mass emission benchmark established within Table 7 of Order No. R9-2017-0007, the Point Loma discharge has consistently complied with the water quality-based effluent concentration and mass emission performance goals established within Table 6 of Order No. R9-2017-0007. Table 6 summarizes non-chlorinated phenol concentrations in the PLWTP effluent during 2017-2020 and compares the data with effluent concentration performance goals established within Table 6 of Order No. R9-2017-0007.

Continuing a historic trend of achieving 100% compliance, the PLOO discharge complied with effluent concentration performance goals for non-chlorinated phenolic compounds by a wide margin during 2017-2020. Table 6 of Order No. R9-2017-0007, for example, establishes a 6-month median non-chlorinated phenol limit of 6,200 µg/L. For comparison, the maximum 6-month median non-chlorinated phenol concentration observed during 2017-2020 was 41.3 µg/L – a value that is only two-thirds of one percent of the 6-month median water quality-based performance goal. Similarly, the maximum observed concentration for non-chlorinated phenol during 2017-2020 was 64.4 µg/L – a value approximately one-quarter of one percent of the corresponding daily maximum Table 6 performance goal for non-chlorinated phenolics.

The PLOO discharge also consistently complied with water quality-based mass emission performance goals established in Table 6 of Order No. R9-2017-0007. The water quality-based MER performance goals for phenol are based on a PLOO discharge flow of 205 mgd. Since PLOO discharge flows were less than this 205 mgd value during 2017-2020, the PLOO discharge complied with Table 6 mass emission performance goals for non-chlorinated phenolics by an even greater margin than with the Table 6 concentration performance goals.[25]

Performance goals for non-chlorinated phenolic compounds established in Table 6 of Order No. R9-2017-0007 implement Ocean Plan water quality receiving water objectives established for the protection of marine aquatic life. By achieving compliance with the water quality-based

24 Antidegradation-based MERs have been established within Order Nos. 95-106, R9-2002-0025, R9-2009-0001 and R9-2017-0007 on the basis of 95th percentile data for 1990-1995. The 1990-1995 data establishes a baseline set of conditions against which to compare future MERs to determine if MERs have risen relative to 1990-1995.

25 PLOO discharge flows averaged 139.3 mgd in 2017, 139.0 mgd in 2018, 143.9 mgd in 2019 and 144.3 mgd in 2020. Maximum daily PLOO discharge flows exceeded 205 mgd on only one sampling day during 2017-2020 (a storm event on January 23, 2017), and non-chlorinated phenol concentrations during this day were the lowest of the year resulting in lower-than-average non-chlorinated phenol MERs on this date. As a result, all computed daily MERS during 2017-2020 were consistently and significantly below the Table 6 MER performance goal.

performance goals for non-chlorinated phenolics (both concentration and mass emission goals) established in Table 6 of Order No. R9-2017-0007, the PLOO discharge complies with all applicable Ocean Plan receiving water objectives for non-chlorinated phenolics for the protection of marine aquatic life.

Table 6:
Non-Chlorinated Phenol Compliance with Water Quality-Based Performance Goal Concentrations Established in Table 6 of Order No. R9-2017-0007

Year	Number of Sampling Dates During Listed Year [B]	PLOO Non-Chlorinated Phenol Effluent Concentrations 2017-2020 [A]						
		Maximum Observed Daily Value [C] (µg/L)	Percent of Daily Maximum Performance Goal [D]	Maximum Observed 6-Month Median [E] (µg/L)	Percent of 6-Month Median Performance Goal [F]	Mean Annual Value [G] (µg/L)	Median Annual Value [H] (µg/L)	Percent of Samples in Compliance [I]
2017 [J]	52	128	0.5%	111	1.8%	80	76	100%
2018	52	141	0.6%	104	1.7%	83	84	100%
2019	43 [K]	130	0.5%	100	1.6%	79	78	100%
2020	53	113	0.5%	105	1.7%	75	78	100%
Table 6 Performance Goal [L]		25,000	---	6,200	---	---	---	---

Table 6 Notes:

A. PLOO effluent concentrations monitored at Monitoring Location EFF-001 as reported in monthly, quarterly and annual monitoring reports submitted to the RWQCB during 2017-2020. Year 2020 was the last year for which an entire calendar year of data are available at the time of preparation of this report. Year 2021 data will be electronically transmitted to regulators when available in 2022.
B. Total number of days during the listed year when samples were collected for non-chlorinated phenolic compounds. Multiple samples may be collected and analyzed on each sampling date.
C. Maximum observed daily concentration value for non-chlorinated phenol during the listed year. See Attachment 1 for daily PLWTP effluent data for non-chlorinated phenolics for the period 2017-2020.
D. 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 Table 6 of Order No. R9-2017-0007.
E. Maximum observed 6-month median non-chlorinated phenol concentration during the listed year. See Attachment 1 for daily PLWTP effluent data for ammonia-nitrogen for the period 2017-2020.
F. 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 Table 6 of Order No. R9-2017-0007.
G. Arithmetic average of daily average non-chlorinated phenol concentrations during the listed year. See Attachment 1 for support data.
H. Median value for daily average non-chlorinated phenol concentrations during the listed year. See attachment 1 for support data.
I. Percent of samples during the year that complied with both the daily maximum and 6-month median effluent concentration performance goals established in Table 6 Order No. R9-2017-0007.
J. Order No. R9-2009-001 became effective on August 1, 2017. The above table presents non-chlorinated phenol data for the entire calendar year 2017.
K. Samples for non-chlorinated phenolic compounds were not analyzed during October and November 2019.
L. Water quality-based performance goal established within Table 6 of Order No. R9-2017-0007. The listed performance goals implement Ocean Plan receiving water standards and are based on an assigned minimum average month initial dilution of 204:1.

Water Quality-Based Performance Goals for Ammonia. Table 7 summarizes ammonia-nitrogen concentrations in the PLWTP effluent during 2017-2020, and compares the data with effluent concentration performance goals established within Table 6 of Order No. R9-2017-0007. As shown in Table 7, the PLOO discharge complied with all water quality-based concentration performance goals established in Table 6 of Order No. R9-2017-0007 by a significant margin.

Maximum PLWTP daily ammonia-nitrogen effluent concentrations were consistently an order of magnitude below the maximum daily concentration performance goal established in Table 7 of Order No. R9-2017-0007. The PLOO discharge during 2017-2020 consistently complied with the water quality-based 6-month median performance goal for ammonia-nitrogen by a factor of nearly three.

Table 7:
Ammonia-Nitrogen Compliance with Water Quality-Based Performance Goal Concentrations Established in Table 6 of Order No. R9-2017-0007

Year	Number of Sampling Dates During the Listed Year [B]	PLOO Ammonia-Nitrogen Effluent Concentrations 2017-2020 [A]						
		Maximum Observed Daily Value [C] (mg/L)	Percent of Daily Maximum Performance Goal [D]	Maximum Observed 6-Month Median [E] (mg/L)	Percent of 6-Month Median Performance Goal [F]	Mean Annual Value [G] (mg/L)	Median Annual Value [H] (mg/L)	Percent of Samples in Compliance [I]
2017 [J]	52	44.5	9.1%	42.2	35%	40.3	41.6	100%
2018	52	48.1	9.8%	43.7	36%	43.0	43.1	100%
2019	52	46.4	9.5%	44.4	37%	41.8	42.9	100%
2020	53	47.1	9.6%	44.1	37%	41.7	42.0	100%
Table 6 Performance Goal [K]		490	---	120	---	---	---	---

Table 7 Notes:

A. PLOO effluent concentrations monitored at Monitoring Location EFF-001 as reported in monthly, quarterly and annual monitoring reports submitted to the RWQCB during 2017-2020. Year 2020 was the last year for which an entire calendar year of data are available at the time of preparation of this report. Year 2021 data will be electronically transmitted to regulators when available in 2022.
B. Total number of days during the listed year when samples were collected for ammonia-nitrogen. Multiple samples may be collected and analyzed on each sampling date.
C. Maximum observed daily concentration value for ammonia-nitrogen during the listed year. See Attachment 1 for daily PLWTP effluent ammonia data for 2017-2020.
D. Maximum observed ammonia-nitrogen concentration during the listed year as a percentage of the 490 mg/L daily maximum effluent concentration performance goal established in Table 6 of Order No. R9-2017-0007.
E. Maximum observed 6-month median ammonia-nitrogen concentration during the listed year. See Attachment 1 for daily ammonia data.
F. Maximum observed 6-month median ammonia-nitrogen concentration during the listed year as a percentage of the 120 mg/L 6-month median effluent concentration performance goal established in Table 6 of Order No. R9-2017-0007.
G. Arithmetic average ammonia-nitrogen concentration during the listed year.
H. Median observed ammonia-nitrogen concentration during the listed year.
I. Percent of samples during the year that complied with both the daily maximum and 6-month median effluent concentration standards established in Table 6 of Order No. R9-2017-0007.
J. Order No. R9-2009-001 became effective on August 1, 2017. As part of the 2017-2020 data base, the above table presents ammonia data for the entire calendar year 2017.
K. Water quality-based performance goal established within Table 6 of Order No. R9-2017-0007. The listed performance goals implement Ocean Plan receiving water standards and are based on an assigned minimum average month initial dilution of 204:1.

Performance goals for ammonia-nitrogen established in Table 6 of Order No. R9-2017-0007 implement Ocean Plan water quality receiving water objectives established for the protection of marine aquatic life. By achieving compliance with the Table 6 water quality-based

performance concentration and mass emission goals for ammonia-nitrogen, the PLOO discharge complies with all applicable Ocean Plan receiving water standards for ammonia-nitrogen for the protection of marine aquatic life.

Influent and Effluent Trends

Influent and effluent data for non-chlorinated phenolic compounds and ammonia during the past decade are useful in identifying general trends in influent concentrations and treatment effectiveness.

Non-Chlorinated Phenolic Compounds. Table 8 presents influent and effluent concentrations for the two non-chlorinated phenolic compounds (phenol and 4-methylphenol) commonly present in the PLWTP influent and effluent. As shown in Table 8, 4-methylphenol typically comprises roughly two-thirds of the MERs for non-chlorinated phenolic compounds.

Table 8:
PLWTP Influent and Effluent Concentrations Phenol and 4-Methylphenol, 2010-2020 [A]

Year	PLWTP Average Annual Flow (mgd)	Phenol [A]			4-Methylphenol [A]		
		PLWTP Average Annual Influent Concentration (µg/L)	PLWTP Average Annual Effluent Concentration (µg/L)	% Removal [B]	PLWTP Average Annual Influent Concentration (mg/L)	PLWTP Average Annual Effluent Concentration (mg/L)	% Removal [B]
2010	156.6	17.6	14.8	16%	37.5	29.3	22%
2011	155.8	20.3	16.3	20%	45.1	35.9	20%
2012	147.5	22.7	18.7	18%	48.6	43.1	11%
2013	143.8	24.0	21.6	10%	53.2	51.3	4%
2014	139.2	26.3	21.8	17%	54.3	52.3	4%
2015	131.6	34.3	23.0	33%	67.2	47.3	30%
2016	136.1	44.0	29.8	32%	71	51.2	28%
2017	139.3	41.7	32.3	23%	64.9	47.5	27%
2018	139.0	54.4	36.5	33%	75.1	47.2	37%
2019	143.9	41.8	30.5	27%	65.2	44.9	31%
2020	144.3	47.1	32.8	30%	66.0	41.3	37%
Average 2010-2020	143.4	34.0	25.3	26%	58.9	44.7	23%

Table 8 Notes:
A. Average annual concentrations for phenol and 4-methylphenol are from annual PLWTP monitoring reports submitted to the RWQCB for the period 2017-2020. Average annual values are the average of monthly average values reported during each year and may differ slightly from values computed as arithmetic averages of daily values during the year.
B. Percent removals are computed from average annual influent and effluent values, as reported in PLWTP annual reports.

As also shown in Table 8, the PLWTP has achieved varying rates of removal of non-chlorinated phenolics during the past decade. Removal rates, however, have averaged more than 30% for both phenol and 4-methylphenol during the effective period of Order No. R9-2017-0007.

Figures 1 and 2 graphically compare PLWTP effluent MERS for phenol and 4-methylphenol.

As shown in the figures, phenol (on which the Table 7 performance goals are based) comprises approximately one-third of the PLOO MERs for total non-chlorinated phenolic compounds. As also shown in the figures, MERs for phenol appear to exhibit a rising trend during the past decade, where this trend is less evident for 4-methylphenol.

Figure 1:
PLWTP Annual Average Effluent MERs for Phenol, 2010-2020

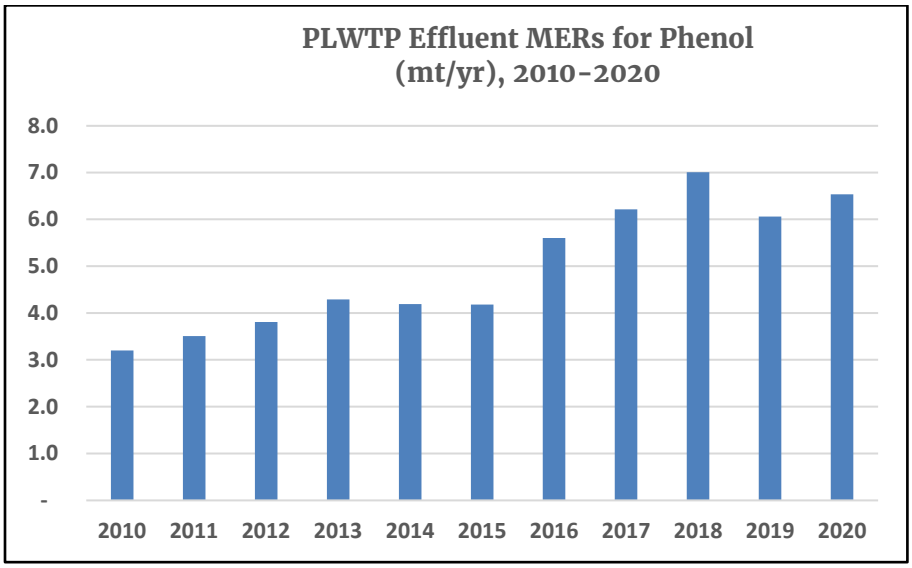


Figure 2:
PLWTP Annual Average Effluent MERs for 4-Methylphenol, 2010-2020

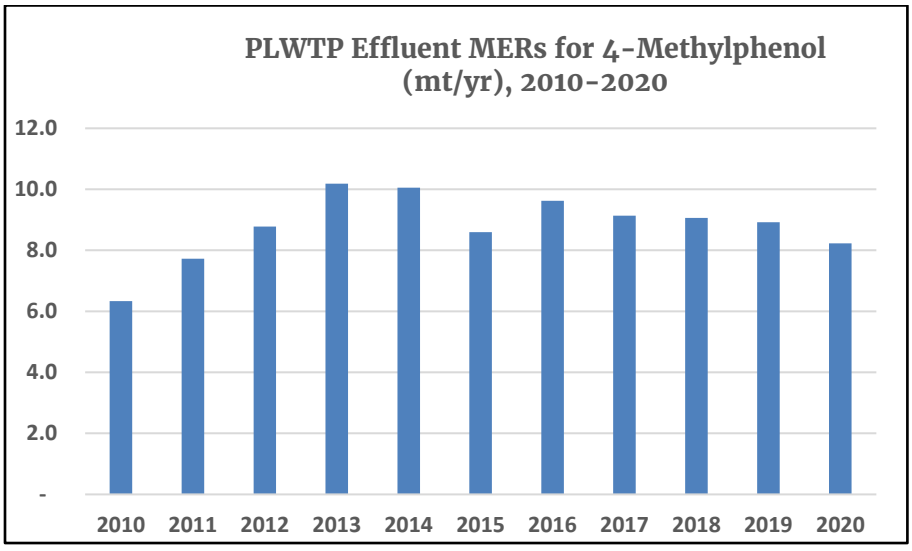
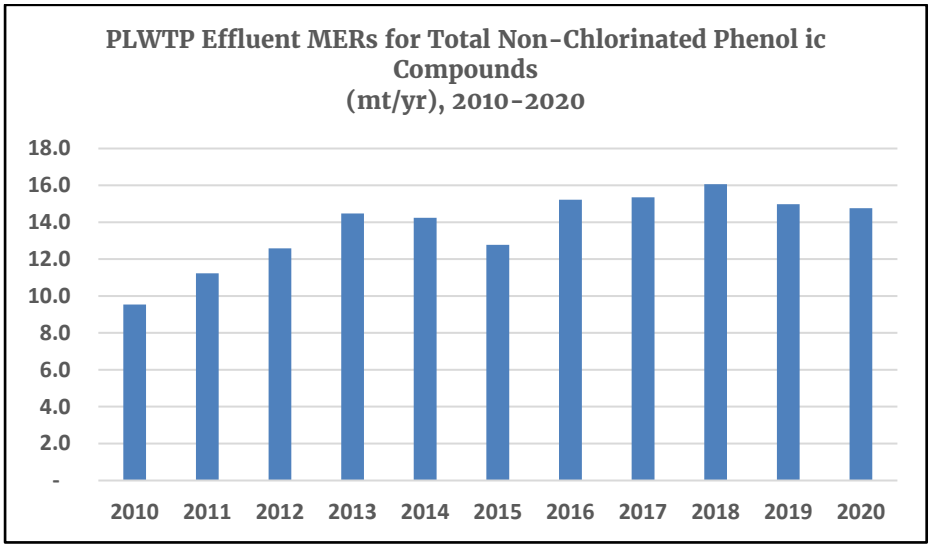


Figure 3 presents average annual PLWTP effluent MERs for total non-chlorinated phenolic compounds. As depicted in Figure 3, the upward trend in PLWTP effluent mass emissions of non-chlorinated phenolic compounds that existed in the early portion of the decade appears to have leveled.

Figure 3:
PLWTP Annual Average Effluent MERs for Non-Chlorinated Phenolic Compounds, 2010-2020



Ammonia-Nitrogen. Table 9 presents average annual PLWTP influent and effluent concentrations for ammonia-nitrogen for the period 2010-2020. As shown in the table, concentrations of ammonia-nitrogen are not significantly reduced through treatment at the PLWTP.

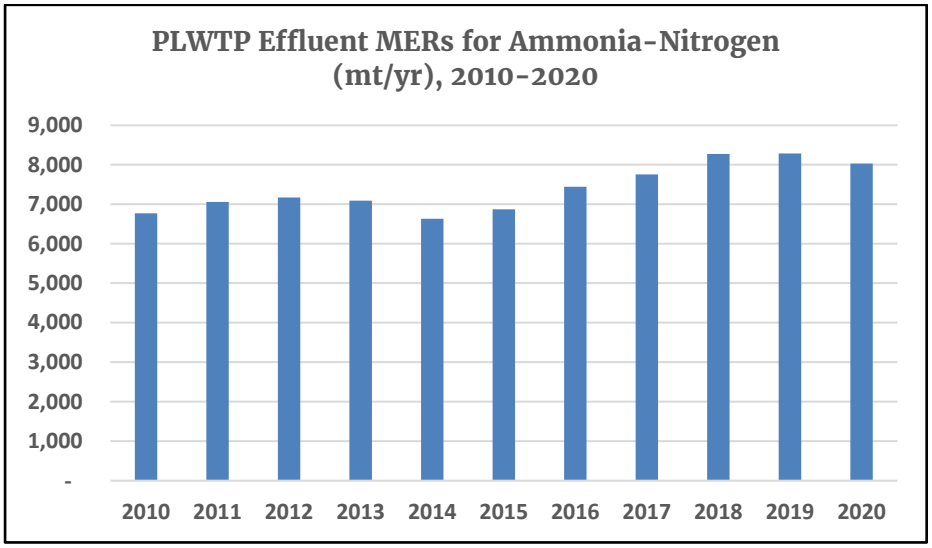
Figure 4 presents average annual PLWTP effluent MERs for ammonia-nitrogen. As shown in Figure 4, average annual MERs for ammonia-nitrogen remained relatively level in the first half of the decade, but have increased slightly in the latter half of the decade. This increase in ammonia-nitrogen MERs appears to correlate with an increase in PLWTP influent ammonia-nitrogen concentrations which is likely resulting from the implementation of successful water conservation efforts within the Metro System service area. MER rates for both non-chlorinated phenolics and ammonia-nitrogen have decreased slightly over the past 2 years but it is not known whether this trend will be sustained.

Table 9:
PLWTP Influent and Effluent Concentrations Non-Chlorinated Phenolic Compounds and Ammonia-Nitrogen, 2010-2020 [A]

Year	PLWTP Average Annual Flow (mgd)	Ammonia-Nitrogen		
		PLWTP Average Annual Influent Concentration (mg/L)	PLWTP Average Annual Effluent Concentration (mg/L)	% Removal [B]
2010	156.6	31.6	31.3	0.9%
2011	155.8	33.7	32.8	2.7%
2012	147.5	36.4	35.2	3.3%
2013	143.8	37.0	35.7	3.5%
2014	139.2	34.9	34.5	1.1%
2015	131.6	37.8	37.8	0.0%
2016	136.1	39.9	39.6	0.8%
2017	139.3	40.9	40.3	1.5%
2018	139	43.9	43.1	1.8%
2019	143.9	42.3	41.7	1.4%
2020	144.3	40.9	40.3	1.5%
Average 2010-2020	143.4	38.1	37.5	1.7%

Table 9 Notes:
A. Average annual concentrations for non-chlorinated phenolic compounds and ammonia-nitrogen are from annual PLWTP monitoring reports submitted to the RWQCB for the period 2019-2020. Percent removals are computed from average annual influent and effluent values.
B. Percent removals are computed from average annual influent and effluent values, as reported in PLWTP annual reports.

Figure 4:
PLWTP Annual Average Effluent MERs for Ammonia-Nitrogen, 2010-2020



Compliance with Toxicity Standards

Since PLWTP effluent concentrations of non-chlorinated phenolic compounds and ammonia-nitrogen consistently comply with Ocean Plan receiving water thresholds for the protection of aquatic habitat, it would be expected that neither compound is contributing to toxicity in the PLWTP effluent. PLWTP effluent toxicity data collected to date support this conclusion. Table 10 presents toxicity monitoring of the PLWTP effluent during 2017-2020. As shown in the table, the PLWTP discharge achieved 100% compliance with the chronic toxicity effluent limitation established within Table 5 of Order No. R9-2017-0007.

Table 10:
Summary of PLWTP Chronic Toxicity Monitoring, 2017-2020 [A]

Test Species	Test Endpoint	Statistical Approach	Number of Tests Conducted during 2017-2020	Percent Compliance with Chronic Toxicity Effluent Limit [B]
Giant Kelp (Macrocystis pyrifera)	Germination	NOEC [C]	9	100%
		TST [D]	39	100%
	Growth Germ Tube Length	NOEC [C]	9	100%
		TST [D]	39	100%
Red abalone (Haliotis rufescens)	Development	TST [D]	2	100%
Topsmelt (Atherinops affinis)	Larval Survival	TST [D]	2	100%
	Growth	TST [D]	2	100%

Table 10 Notes:

A. Tests during January-September 2017 were conducted pursuant to requirements established in Order No. R9-2009-0001. Tests during October 2017 through December 2020 were conducted pursuant to requirements established in Order No. R9-2017-0007. See support tables on pages 25a-25c within EPA Form 2A.
B. Includes compliance with the 205 TUc effluent limit established in Order No. R9-2009-0001 and the Test of Significant Toxicity (TST) "pass" effluent limit established in Order No. R9-2017-0007.
C. Tests and computations conducted pursuant to the No Observed Effects Concentration (NOEC) methodology described in the first edition of *Short-term Methods for Estimating the Chronic Toxicity* of *Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms (EPA 600-R-95/136*, 1995), as required by Order No. R9-2009-0001.
D. Tests and computations conducted pursuant to the TST statistical t-test approach described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010), as required by Order No. R9-2017-0007.

While an increase in PLWTP effluent mass emissions for non-chlorinated phenol and ammonia have occurred during the past decade, chronic toxicity data during this period demonstrate consistent compliance with the effluent limits of Order No. R9-2017-0007. Consequently, it is concluded that neither non-chlorinated phenol or ammonia concentrations present in the PLWTP effluent cause or represent a threat regarding compliance with Ocean Plan receiving water standards for 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 EPA water quality criteria are established for approximately 150 pollutants.

Criteria for Non-Chlorinated Phenol. EPA does not establish criteria for phenol or 4-methylphenol (the two non-chlorinated phenolic compounds found in the PLWTP effluent) for the protection of saltwater aquatic habitat.[26] EPA, however, establishes a criterion for phenol for the protection of human health (consumption of organisms).[27] In 2015, EPA updated the water quality criterion for phenol for the consumption of organisms and lowered the criterion from 860 mg/L to 300 mg/L.[28] Concentrations of phenol in the PLWTP effluent are typically four orders of magnitude (10^4) below this EPA receiving water quality criterion for phenol for the protection of human health (consumption of organisms). As a result, the PLOO discharge has not potential to approach or exceed the federal water quality criterion for phenol for the protection of public health.

Criteria for Ammonia-Nitrogen. EPA water quality criteria for ammonia for the protection of saltwater habitat are dependent on pH and temperature.[29] Maximum and minimum temperatures in receiving waters in the vicinity of the PLOO range from approximately 10 degrees Celsius (°C) to 25 °C, with temperatures typically remaining between 15 °C and 20 °C. Maximum and minimum receiving water pH values range from 7.6 to 8.4 pH units, with pH values typically remaining between 7.8 and 8.0 pH units. Table 11 presents EPA water quality criteria for the protection of marine aquatic life for this range of temperature and pH values.

For comparison, at the assigned minimum average month initial dilution of 204:1, receiving water ammonia-nitrogen concentrations at the edge of the PLOO ZID translate to approximately 0.3 mg/L. Such a 0.3 mg/L receiving water ammonia concentration at the edge of the ZID is well below the corresponding range of federal saltwater ammonia criteria under maximum temperature and pH conditions, and is significantly below the federal saltwater ammonia criterion for typical PLOO temperature and pH conditions.[30,31]

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26 EPA establishes water quality criteria for the protection of aquatic life for two phenolic compounds: nonylphenol and pentachlorophenol. The PLWTP effluent is not monitored for nonylphenol, and pentachlorophenol was not detected in the PLWTP effluent during 2017-2020.

27 The EPA criteria is for phenol (chemical formula C6H6O). EPA also establishes water quality criteria for the protection of human health (consumption of organisms) for a variety of chlorinated and non-chlorinated phenolic compounds typically not present in the PLWTP effluent, including: 2-chlorophenol, 2,4-dichlorophenol, dinitrophenols, 2,4-dimethylphenol, 2,4-dinitrophenol, 2-methyl-4,6-dinitrophenol, 3-methyl-4-chlorophenol, pentachlorophenol, 2,4,5-trichlorophenol and 2,4,6-trichlorophenol.

28 See EPA (2015a, 2015b, 2015c).

29 Total ammonia is speciated into un-ionized ammonia (NH3) and ionized ammonium (NH4+) on basis of pH and temperature. EPA criteria for total ammonia are based on ensuring that concentrations of un-ionized ammonia (which is toxic to fish) are maintained at concentrations not to exceed 0.035 mg/L (4-day average) or 0.233 mg/L (one hour average).

30 The maximum PLWTP effluent concentration of ammonia-nitrogen during 2017-2020 was 48.1 mg/L. This maximum effluent concentration translates to a receiving water concentration of approximately 0.2 mg/L at the assigned PLOO minimum average month initial dilution of 204:1.

31 Receiving water temperatures at depth in the vicinity of the PLOO are almost always between 10 °C and 15 °C,

Table 11:
EPA Ambient Saltwater Criteria for Ammonia-Nitrogen
(Criteria for Salinity of 30 Grams of Salt per Kilogram of Water)

Period	pH	Ammonia Concentration Criteria [A, B] (mg/L NH_3-N)			
		10° C	15° C	20° C	25° C
Criteria Maximum Concentration [C]	7.6	37	25	21	12
	7.8	23	16	11	7.9
	8.0	15	10	7.3	5.0
	8.2	9.6	6.7	4.6	3.3
	8.4	6.0	4.2	2.9	2.1
Criteria Continuous Concentration [D]	7.6	5.6	3.7	3.1	1.7
	7.8	3.4	2.4	1.7	1.0
	8.0	2.2	1.6	1.1	0.66
	8.2	1.4	1.0	0.69	0.44

Table 11 Notes:

A. From EPA (1989). Criteria are listed for the range of pH and temperatures common to the PLOO outfall waste field. Ammonia criteria become more relaxed with increasing salinity. The typical ocean salinity near San Diego is approximately 33 to 34 g/kg, so the above values based on a 30 g/kg salinity are conservative.
B. The above water quality criteria are not enforceable standards but are presented by EPA as guidance to states and tribes in developing enforceable water quality standards.
C. The criteria maximum concentration is the maximum concentration to which an aquatic community can be briefly exposed without an unacceptable impact.
D. The criteria continuous concentration is the maximum concentration that an aquatic community can be continuously and indefinitely exposed to without an unacceptable impact.

with typical mean pH values of 7.8 to 8.0. A PLOO concentration at the edge of the ZID of 0.3 mg/L is approximately a factor of 30 below the ammonia criterion for 15 C and a pH of 8.0, and a factor greater than 30 below the EPA ammonia criterion for lower temperatures and lower pH values.

2.3 Sources of Phenol and Ammonia

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 products, including:

- disinfectants
- antiseptics
- skin lotions
- cosmetics
- shampoos
- mouthwash
- toothpastes
- hand soaps
- cleansers
- solvents
- pharmaceuticals

1996 Urban Area Pretreatment Program. Prior to 1996, the Metro System enforced a non-chlorinated phenol local limit of 25 mg/L on industries tributary to the PLWTP. In 1996, a Local Limits Study conducted as part of developing the City's *Urban Area Pretreatment Program* (UAPP) concluded that phenol was consistently present in domestic and commercial wastewater and that high background levels of phenol were present in the Metro System wastewater.[32]

Wastewater collection system sampling conducted as part of the 1996 UAPP determined that the average concentration of phenol in domestic wastewater was 6.5 µg/L, but that phenol concentrations were highly variable.[33] The presence of phenol (and high background concentration) 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

32 See Table 7-1 of the 1996 UAPP (City of San Diego and Malcolm Pirnie, Inc., 1996)

33 The 1996 UAPP (City of San Diego and Malcolm Pirnie, Inc., 1996) reported (see Table 4.2 of the 1996 UAPP) an average phenol concentration of 6.5 µg/L in Metro System domestic wastewater, but that the standard deviation of domestic wastewater samples for phenol was 16 µg/L.

commercial establishments.

Additionally, two areas of regulation have combined to limit potential phenol contributions 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 1996 UAPP 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.

Assessments 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's Industrial Wastewater Control Program (IWCP) implements comprehensive monitoring within the Metro System collection system and at specific industrial dischargers. Table 12 summarizes the results of this industrial sampling program for phenol during 2015-2021.[34] As shown in Table 12, only 21 significant industrial users (SIUs) have been identified that discharge detectable concentrations of phenol. Further, phenol was not detected in 92% of the SIU samples collected during 2015-2021.

Estimated SIU mass emission projections presented within Table 12 demonstrate that phenol mass emissions from Metro System SIUs (estimated to range from 0.009 to 0.11 mt/yr) represent a small fraction of the total PLOO phenol mass emissions (approximately 15 mt/yr) within the Metro System collection area.[35]

In addition to monitoring non-chlorinated phenol concentrations in wastewater from SIUs, the IWCP monitors concentrations of phenol at key locations within the Metro System to assess the geographic contribution of phenol. A total of 15 locations within the Metro System tributary area are monitored. Demonstrating the transitory occurrence of phenol within the Metro System, each sampling location has historically registered at least one occurrence where phenol concentrations exceeded 30 µg/L.[36]

Annual Local Limits Assessments. Phenol loads within the Metro System continue to be assessed as part of IWCP annual updates to Metro System local limits. As documented within the 2020 annual local limits update (presented as Appendix N), the widely varying phenol analytical

34 Sampling is conducted by the City's IWCP as part of regulating SIUs, assessing compliance, and evaluating sources of discharged pollutants.

35 As shown in Table 12-2, the range of SIU phenol mass loads are estimated on the basis of 1.7 mgd of flow contributed by SIUs that have detectable concentrations of phenol and estimated upper bound (47 µg/L) and lower bound (4 µg/L) phenol concentrations that are based on SIU discharge monitoring data from 2015-2021.

36 As reported within Table 9, Volume II, Antidegradation Analysis, City of San Diego (2015).

results in domestic background flows remains unexplained. Total PLWTP influent loads of non-chlorinated phenolic compounds in 2020 were 89.2 pounds per day (14.8 mt/yr).[37] Phenol loads from industrial sources, however, remain low and all industrial dischargers of phenol remain in compliance with EPA TTO limitations and requirements established in industry TOMPs.

Table 12:
Summary of SIU Sampling for Non-Chlorinated Phenol, 2015-2021

Parameter	Value
Number of SIUs Sampled, 2015-2021	71 [A]
Number of SIUs that had detectable concentrations of phenol	21 [A]
Number of SIU samples collected from SIUs	628 [A]
Percent of SIU samples with non-detected phenol concentrations	92 % [A]
Average annual flows from SIUs, 2015-2021	1.85 mgd [A]
Total annual flows from SIUs with detectable phenol concentrations	1.7 mgd [A]
Median phenol concentration in SIU samples from 2015-2021	ND [B]
Average phenol concentration among SIU samples that have detectable concentrations	47 µg/L [C]
Average phenol concentration in SIU samples if all ND samples are assumed to have a phenol concentration of zero	4 µg/L [C]
Estimated range of annual phenol mass emissions from SIUs, 2015-2021	0.009 – 0.11 mt/yr [D]

Table 12 Notes:
A. SIU sampling results for 2015-2021 provided by the IWCP.
B. Phenol was not detected in approximately 92% of the SIU samples during 2015-2021. The median value is thus ND.
C. Average phenol concentrations among SIU samples with detectable concentrations was 47 ug/L. If all not detected (ND) SIU samples (92% of the samples) were assumed to have a phenol concentration of zero, the average phenol concentration in SIU samples during 2015-2021 is 4 µg/L.
D. Estimated upper bound value is computed on the basis of a 1.7 mgd SIU flow and average phenol concentration of 47 µg/L. Estimated lower bound value is computed on the basis of a 1.7 mgd SIU flow and average phenol concentration of 4 µg/L.

Given the high level of compliance that has been achieved with water quality-based effluent concentration and mass emission limits for phenol established within Table 6 of Order No. R9-2017-0007 (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.[38] 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.

37 Based on an annual average PLWTP flow of 144.3 mgd and an average annual PLWTP influent concentration of non-chlorinated phenolics of 74.1 µg/L, which included an annual average phenol influent concentration of 32.8 µg/L and an average annual 4-methylphenol concentration of 41.3 µg/L.

38 Appendix N of this NPDES application presents the 2020 update to the Metro System local limits.

Sources of Ammonia

Ammonia is a common constituent in domestic wastewater that predominantly occurs as component of urea and other human waste and from the breakdown of organic matter (food and garbage disposal particulates) that are discharged to the sewer. Ammonia is also a component of a number of household cleaning products. No significant industrial sources of ammonia have been identified within the Metro System service area, but ammonia can be used in metals finishing operations and as part of pharmaceutical manufacturing.

As shown in Table 8, PLWTP influent ammonia levels have risen during the past decade. Influent PLWTP ammonia concentrations of 31-32 mg/L were common in the early portion of the decade, while concentrations in excess of 40 mg/L have occurred in the latter portion of the decade. The increase in PLWTP ammonia influent concentrations is attributed to water conservation.[39]

- While ammonia continues to be assessed as part of annual local limits update, no ammonia local limit has been proposed, as:
- Ammonia is a common constituent within domestic wastewater.
- No significant industrial sources of ammonia have been identified within the Metro System.
- The PLOO discharge continues to comply with applicable water quality-based receiving water standards for ammonia.

Per Capita Contributions

In addition to the trends of increased concentrations of PLWTP influent phenol and ammonia, PLWTP phenol and ammonia mass loads may also trend upward as a result of population increase. Table 13 compares Metro System estimated populations with PLWTP influent phenol and ammonia concentrations during the past decade.

Non-Chlorinated Phenolic Compounds. As shown in Table 12, concentrations of non-chlorinated phenolic compounds in the PLWTP influent have increased during the past decade. Increases in the PLWTP influent phenol concentrations can, in part, be attributed to the successful water conservation programs implemented by the City of San Diego and Metro System member agencies within the past decade. As a result of this water conservation, pollutant mass loads are being concentrated in a lower volume of flow. Demonstrating these flow reductions, the per capita flow contributions within the Metro System during 2005 were in excess of 90 gallons per capita per day (gpcd).[40] During 2010, per capital Metro System flow contributions had decreased to approximately 75 gpcd (see Table 14). Per capita Metro System flow contributions were further reduced by year 2020 to approximately 63 gpcd.[41]

39 See Appendix N, page 15.

40 Average annual PLWTP flows during 2005 were 183 mgd from an estimated Metro System population of approximately 2 million.

41 Average annual PLWTP flows during 2020 were 144.3 mgd from an estimated Metro System population of 2.303 million.

Table 13:
Per Capita Contribution of Non-Chlorinated Phenolic Compounds and Ammonia-Nitrogen, 2010-2020

Year	Mean Annual PLWTP Flow (mgd) [A]	Estimated Metro System Population [B] (millions)	Mean Annual PLWTP Influent Concentration (µg/L) [A]		Estimated Per Capita Contribution [D]	
			Non-Chlorinated Phenolic Compounds [C]	Ammonia-Nitrogen	Non-Chlorinated Phenolics (mg/person/day)	Ammonia-Nitrogen (g/person/day)
2010	156.6	2.07	55.1	31,600	15.8	9.0
2011	155.8	2.09	65.4	33,700	18.4	9.5
2012	147.5	2.12	71.3	36,400	18.8	9.6
2013	143.8	2.14	77.2	37,000	19.6	9.4
2014	139.2	2.16	80.6	34,900	19.6	8.5
2015	131.6	2.19	101.5	37,800	23.1	8.6
2016	136.1	2.21	115	39,900	26.8	9.3
2017	139.3	2.23	106.6	40,900	25.2	9.7
2018	139	2.26	129.5	43,900	30.2	10.2
2019	143.9	2.28	107	42,300	25.6	10.1
2020	144.3	2.30	113.1	40,900	26.8	9.7

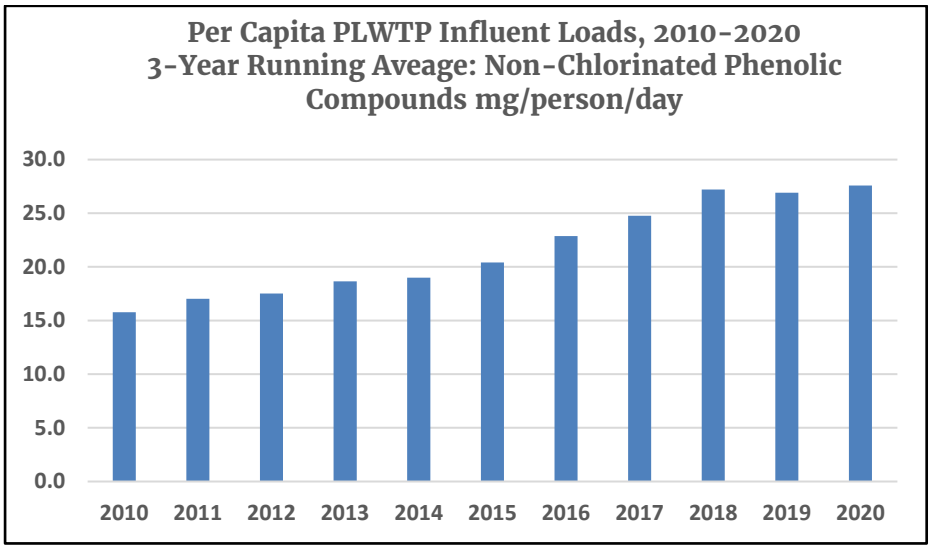
Table 13 Notes:
A. From annual reports submitted to the RWQCB, 2010-2020. Annual averages are the average of monthly average values for the year.
B. Annual population is interpolated from 2010 and 2020 census data and population projections for the Metro System service area that have been developed by the City of San Diego Public Utilities Department using San Diego Association of Governments (SANDAG) population forecasts.
C. Per the requirements of Order No. R9-2017-0007, the above-listed non-chlorinated phenolic compounds are the sum of 2,4 dimethylphenol, 4,6-dinitro 2 methylphenol, 2,4 dinitrophenol, 2 methylphenol, 4 methylphenol and phenol. Of these compounds, phenol and 4 methylphenol are commonly detected in the PLWTP influent and effluent.
D. Computed by dividing the daily computed mass emissions (mass/day) by the population.

During the early part of the past decade, mass emissions of non-chlorinated phenolic compounds appeared to track closely to population increases.[42] PLWTP influent loads of non-chlorinated phenolics appeared, however, to increase at a rate slightly in excess of the population increase. Demonstrating this, Figure 5 presents per capita loads of non-chlorinated phenolic compounds in the PLWTP influent during the past decade. As shown in Figure 5, per capita loads of non-chlorinated phenolic compounds in the PLWTP influent have increased

42 Correlation (r2 values) between population and PLWTP influent loads for non-chlorinated phenolic compounds was approximately 0.95 for 2010-2014.

during the past 10 years.

Figure 5:
Per Capita Loads for Non-Chlorinated Phenolic Compounds - PLWTP Influent, 2010-2020[43]



As noted, data from the City's ongoing industrial user monitoring do not show any significant phenol contributions from SIUs (or any significant increases in the minor industrial loads) during the past 10 years. Given this, it is likely that the per capita increase in phenol loads to the Metro System results from increased per capita household and commercial use of the plethora of personal care and cleansing products that contain phenol. In summary, data from the past decade show three trends regarding non-chlorinated phenolics in Metro System wastewater:

PLWTP influent concentrations of non-chlorinated phenolic compounds have increased and, in part, appear to correlate to the implementation of successful water conservation efforts on the part of the City of San Diego and Metro System member agencies.

Per capita contributions of non-chlorinated phenolic compounds to the sewer system are increasing, and are likely from non-industrial sources (e.g., domestic or commercial).

Slight improvements in treatment removals of non-chlorinated phenolics have been achieved during the past decade, but mass emissions of non-chlorinated phenolic compounds have increased.

It is probable that many of the water conservation gains achieved during the past decade will be permanent.[44] As a result, water conservation-related effects on PLWTP influent phenol concentrations are likely to continue. It is unknown, however, whether the trend of increased

43 Per capita loads for non-chlorinated phenolic compounds are computed as the average daily mass of influent phenol and 4-methylphenol (computed on the basis of the influent PLWTP concentrations and average daily PLWTP influent flows) divided by the estimated Metro System population for the given year.

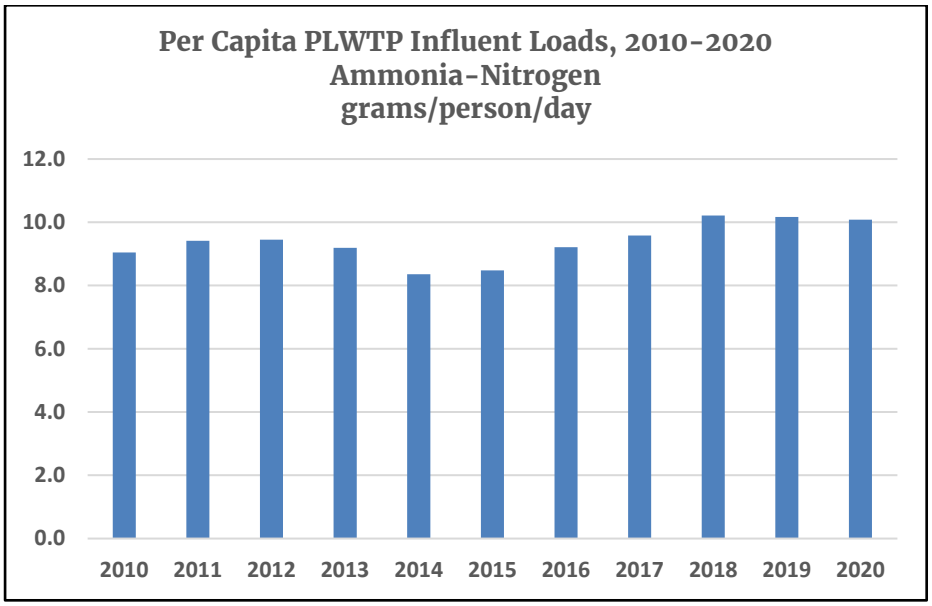
44 Water conservation gains resulting from the installation of water-efficient appliances and fixtures are likely to be permanent. It is also likely that water conservation gains resulting from public education and changes in personal habitats will be sustained.

per capita phenol loads to the Metro System will be sustained in future years. As shown in Table 4, data from 2018-2020 appear to indicate a leveling in the per capita loads of non-chlorinated phenolic compounds.

Ammonia. While concentrations of ammonia-nitrogen in the PLWTP influent have increased during the past decade, per capita contributions of ammonia within the PLWTP influent have remained reasonably consistent during the past decade, and have typically ranged from approximately 9-10 grams of ammonia per person per day.

Figure 6 presents estimated per capita ammonia loads in the PLWTP influent during the past decade. As shown in the figure, per capita ammonia loads remained relatively stable during the decade, although a slight decline in per capita ammonia contributions occurred during 2014 and 2015.

Figure 6:
Per Capita Ammonia Loads - PLWTP Influent, 2010-2020



With these relatively stable per capita ammonia contributions within the Metro System, reasonable correlation (r^2=0.93) exists between population increase and PLWTP influent ammonia loads during the past decade. It is thus projected that PLWTP ammonia-nitrogen influent loads will continue to increase in proportion to population in the near future. As described in Appendix B, however, future planned improvements within the Metro System include:

- Upgrades to treatment facilities at the North City Water Reclamation Plant
- Implementation of Phases 1 and 2 of the Pure Water San Diego Program (Pure Water)
- Upgrades to solids handling facilities and reductions in solids residual flows to the PLWTP

While many of the planned Metro System improvements are to support the Pure Water operations, some of the planned improvements may allow for improved management of system-wide ammonia and nitrogen loads.

3 EVALUATION OF SIGNIFICANCE

3.1 Approach

Criteria for Compliance with Tier 1 Antidegradation Regulations

As noted in Chapter 1, the EPA mass emission performance goals established in Table 7 of Order No. R9-2017-0007 are intended to represent benchmarks against which to compare current PLOO mass emissions to mass emissions allowed during prior PLOO NPDES permits.[45] Specifically, the Table 7 EPA mass emission performance goals were based on PLWTP effluent data from January 1990 through April 1995, and were established below (more stringent than) the levels prescribed for water quality-based effluent limits. The Table 7 benchmarks were designed to provide an early measure of changes in mass emissions and are intended to serve as triggers for antidegradation analysis during renewal of the PLOO NPDES permit.[46]

- In issuing the prior PLOO NPDES permit (Order No. R9-2009-0001), EPA concluded that:
- PLOO mass emission of phenolic compounds exceeded the benchmarks based on PLWTP 1990-1995 effluent data.
- The PLOO discharge was likely to continue to exceed the mass emission benchmarks.
- A Tier 1 antidegradation analysis justifying PLOO mass emissions of non-chlorinated phenolic compounds was necessary.
- A Tier 2 socioeconomic antidegradation is necessary if the water quality degradation is deemed to be "significant".[40]

Antidegradation Findings in Prior NPDES Permit

Provision VI.C.2.e of Order No. R9-2009-0001 set forth criteria for a Tier 1 antidegradation assessment, and established that water quality impacts are not considered significant (thus no Tier 2 antidegradation analysis is required) if either of the following is demonstrated:

1) the receiving water concentration at the boundary of the ZID is less than 10% above the ambient (farfield) concentration, or
2) the receiving water concentration at the boundary of the ZID is less than 50% of the Ocean Plan water quality objectives.

As documented in Order No. R9-2017-0007, PLOO MERs for phenolic compounds during the effective period of Order No. R9-2002-0001 met the criteria for non-significance, as receiving water concentrations at the boundary of the ZID were less than 50% of the Ocean Plan objective. As a result, no Tier II analysis for non-chlorinated phenolic compounds was required.

45 Includes Order No. 95-60, Order No, R9-2002-0025 and Order No. R9-2009-0001.
46 See "Toxics Mass Emissions Benchmarks and Antidegradation" section on pages 43-46 of the 2017 EPA Final Decision Document (EPA, 2017).

Antidegradation-Based MERs in Order No. R9-2017-0007

Order No. R9-2017-0007 carried over the antidegradation-based MERS established in Order No. R9-2009-0001.

Non-Chlorinated Phenolic Compounds. As noted, the EPA antidegradation-based MER benchmark for non-chlorinated phenolic compounds that was established in Table 7 of Order No. R9-2017-0007 is based on 95th percentile PLWTP phenol concentrations from 1990-1995 and PLOO discharge flows of 205 mgd. PLOO discharge flows during the past 25 years have been consistently below 205 mgd, but PLWTP influent and effluent concentrations of non-chlorinated phenolic compounds have increased. As a result, mass emissions of non-chlorinated phenolic compounds have consistently exceeded the Table 7 mass emission benchmark throughout the effective period of Order No. R9-2017-0007.

Additionally, Order No. R9-2017-0007 defines non-chlorinated phenolic compounds as including 4-methylphenol. Since Order No. R9-2017-0007 became effective, the City has included 4-methylphenol in the reported non-chlorinated phenol concentrations. This has resulted in concentrations and mass emissions for non-chlorinated phenolic compounds that significantly exceed the Table 7 mass emission performance goal that was based on 1990-1995 PLWTP effluent phenol concentrations.[47] This consistent level of PLOO mass emissions for non-chlorinated phenolic compounds warrants assessment with federal Tier 1 antidegradation regulations and the State of California antidegradation policy.

Ammonia-Nitrogen. Since 2018, the PLOO discharge has exceeded the EPA mass emission performance goal benchmark established in Table 7 of Order No. R9-2017-0007. As shown in Table 5, this exceedance occurs regardless of whether PLOO ammonia-nitrogen MERs are computed using annual averages or daily sample and flow results. Further, trends in PLOO since mass emissions of ammonia-nitrogen indicate that exceedance of the Table 7 mass emission benchmark is likely to continue to occur in future years. For these reasons, PLOO mass emissions of ammonia-nitrogen warrant an assessment of compliance with federal Tier 1 antidegradation regulations and the State of California antidegradation policy.

General Approach

This chapter assesses compliance for non-chlorinated phenolic compounds and ammonia-nitrogen with federal Tier 1 antidegradation regulations using the PLWTP data from 2017-2020 (the effective period of Order No. R9-2017-0007) and 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 PLWTP mass loads of non-chlorinated phenolic compounds and ammonia-nitrogen are projected for the next 5-year NPDES permit period and are compared with the Tier 1 "level of significance" criteria.

47 During the January 1990 to April 1995 data period used for computing 95th percentile concentrations of non-chlorinated phenolic compounds in the PLWTP effluent, concentrations of 4-methylphenol were not included in the reported values for non-chlorinated phenolic compounds.

The approach presented herein is consistent with the PLOO antidegradation and level of significance assessments presented within:

- The City's 2011 Level of Significance Study
- The City's 2015 antidegradation analysis presented as part of the 2015 301(h) NPDES application for renewal of modified secondary treatment requirements for the PLWTP

Both of these assessments compared receiving water concentrations at the boundary of the ZID with Ocean Plan water quality objectives and demonstrated that receiving water concentrations after initial dilution were less than 50% of the Ocean Plan objectives.

Additionally, the antidegradation assessment approach utilized herein is consistent with findings and conclusions presented by EPA in the 2017 Final Decision Document that granted renewal of the PLOO NPDES permit with 301(h) modified secondary treatment requirements.

3.2 Significance Assessment

As documented in Appendix Q, the PLOO is projected to achieve a median initial dilution of 338:1 at the ultimate 240 mgd design flow of the PLWTP. Order No. R9-2017-0007 assigns a minimum average month initial dilution of 204:1 for purposes of assessing compliance with Ocean Plan receiving water standards, and reassessments conducted to date have confirmed that the 204:1 assigned initial dilution remains applicable and appropriate. The Ocean Plan-based minimum average month initial dilution of 204:1 is thus used herein for assessing receiving water concentrations at the boundary of the PLOO ZID.

Non-Chlorinated Phenolic Compounds

Table 14 presents maximum observed concentrations of non-chlorinated phenolic compounds during 2017-2020 and compares projected receiving water concentrations with daily maximum water quality objectives for non-chlorinated phenolic compounds established in Table 3 of the Ocean Plan. As shown in Table 14, the highest observed concentration of non-chlorinated phenolic compounds in the PLWTP effluent during 2017-2020 was 141 µg/L.[48] This maximum daily concentration corresponds to a receiving water concentration at the edge of the ZID that is less than 0.6% of the Ocean Plan daily maximum receiving water standard of 120 µg/L.

48 This maximum value occurred on May 21, 2018, where two daily samples showed phenol concentrations of 64.4 and 54.0 µg/L (daily average of 59.2 µg/L) and two daily 4-methylphenol samples showed concentrations of 91.1 and 73.2 µg/L (daily average of 82.2 µg/L).

Table 14:
PLOO Non-Chlorinated Phenol Compliance with Ocean Plan Daily Maximum Receiving Water Standard

Year	Non-Chlorinated Phenol Concentration (µg/L)		Receiving Water Concentration as a Percent of the Ocean Plan Daily Maximum Receiving Water Standard of 120 µg/L [D]	Compliance with Tier 1 Requirement that Receiving Water Quality is Less than 50% of Ocean Plan Standard? [E]
	Daily Maximum PLWTP Effluent Concentration [A,B]	Projected Daily Maximum Receiving Water Concentration After Initial Dilution [C]		
2017	128	0.62	0.52%	Yes
2018	141	0.69	0.57%	Yes
2019	130	0.63	0.53%	Yes
2020	113	0.55	0.46%	Yes

Table 14 Notes:
A. PLOO effluent concentrations monitored at Monitoring Location EFF-001 for the period 2017-2020. Year 2020 was the last year for which an entire calendar year of data are available at the time of preparation of this report. The 2017-2020 data base includes days on which two daily samples were collected and analyzed.
B. Maximum sample value observed during the listed year. See Table 6.
C. Computed receiving water concentration upon completion of initial dilution, as computed using a minimum month initial dilution of 204:1 in accordance with Ocean Plan computational procedures (e.g., Ocean Plan Equation No. 1).
D. Projected receiving water concentration after initial dilution as a percent of the Ocean Plan daily maximum phenol receiving water standard of 120 µg/L to be achieved upon completion of initial dilution.
E. Pursuant to Section IV.D.2 (page F-40) of Appendix F to of Order No. R9-2017-0007 and the 2017 EPA Final Decision Document (EPA, 2017), water quality effects are defined as "non-significant" if receiving water concentrations remain 50% below the corresponding Ocean Plan receiving water standard.

Table 15 presents maximum observed 6-month median values for non-chlorinated phenolic compounds in the PLWTP effluent during 2017-2020 and compares the 6-month median receiving water concentrations with 6-month median water quality objectives of the Ocean Plan.

The maximum value for the 6-month median PLWTP effluent concentration for non-chlorinated phenolic compounds during 2017-2020 was 94 µg/L.[49] At a minimum month initial dilution of 204:1, this maximum 6-month median concentration for non-chlorinated phenolic compounds corresponds to a receiving water concentration at the ZID boundary that is a factor of more than 70 below the Ocean Plan 6-month median standard.[50]

49 This maximum 6-month median value occurred on July 2, 2018, and included the 6-month period January 3, 1018 through July 2, 2019. It should be noted that all 6-month median values computed on the basis of complete calendar months (as reported to the RWQCB) were slightly less than this 94 µg/L maximum 6-month median value. Computing the maximum 6-month median value on the basis of daily data (running 6-month median) thus represents a more conservative approach for assessing compliance.

50 It should be noted that minimum PLOO initial dilutions have historically occurred during times when plume trapping depths are greatest in the late fall or early winter. The maximum observed 6-month median

Table 15:
PLOO Non-Chlorinated Phenol Compliance with Ocean Plan 6-Month Median Receiving Water Standard

Year	Non-Chlorinated Phenol Concentration (µg/L)		Receiving Water Concentration as a Percent of the Ocean Plan 6-Month Median Receiving Water Standard of 30 µg/L [D]	Compliance with Tier 1 Requirement that Receiving Water Quality is Less than 50% of Ocean Plan Standard? [E]
	Maximum Observed 6-Month Median PLWTP Effluent Concentration [A, B]	Projected 6-Month Median Receiving Water Concentration After Initial Dilution [C]		
2017	91.5	0.45	1.49%	Yes
2018	94.0	0.46	1.53%	Yes
2019	87.3	0.43	1.42%	Yes
2020	83.1	0.41	1.35%	Yes

Table 15 Notes:
A. PLOO effluent concentrations monitored at Monitoring Location EFF-001 for the period 2017-2020. Year 2020 was the last year for which an entire calendar year of data are available at the time of preparation of this report. The 2017-2020 data base includes days on which two daily samples were collected and analyzed.
B. Maximum 6-month median value observed during the listed year. See Table 7.
C. Computed receiving water concentration upon completion of initial dilution, as computed using a minimum month initial dilution of 204:1 in accordance with Ocean Plan computational procedures (e.g., Ocean Plan Equation No. 1).
D. Projected receiving water concentration after initial dilution as a percent of the *Ocean Plan* 6-month median non-chlorinated phenol receiving water standard of 30 µg/L to be achieved upon completion of initial dilution.
E. Pursuant to Section IV.D.2 (page F-40) of Appendix F to of Order No. R9-2017-0007 and the 2017 EPA Final Decision Document (EPA, 2017), water quality effects are defined as "non-significant" if receiving water concentrations remain 50% below the corresponding Ocean Plan receiving water standard.

Projected Future Concentrations and Mass Emissions. While per capita influent loads of non-chlorinated phenolic compounds appear to have leveled out in the past several years (see Figure 5), it is uncertain whether the current per capita loads for non-chlorinated phenolic compounds will be sustained or will increase. Even if existing per capita influent loads of non-chlorinated phenolic compounds are sustained, future PLOO mass emissions of phenolics are likely to continue to rise as a result of population growth. Annual MERs for non-chlorinated phenolic compounds will also be subject to variation in treatment removal at the PLWTP.

Figure 7 presents estimated future PLOO effluent MERs for non-chlorinated phenolic compounds for two cases:

Most Probable Estimate: This "most probable" estimate is based on future population increases which maintain the approximate 1.0% annual population growth rate that has occurred during the past 5 years. The estimate is also based on an average per capita load for non-chlorinated phenolic compounds of 27 milligrams per person per day, which is the per capita load that

concentration for non-chlorinated phenolic compounds occurred in July, when initial dilutions would be expected to be higher than the 204:1 minimum average month initial dilution assigned within Order No. R9-2017-0007.

occurred during 2018-2020, the most recent 3-year period. The most probable estimate also is based on a treatment removal at the PLWTP of 33%, which is the average PLWTP treatment removal rate for non-chlorinated phenolic compounds achieved during 2018-2020.

Upper Bound Estimate: The upper bound estimate assumes that the annual per capita load factor for non-chlorinated phenolic compounds increases to 30 mg per person per day, and the San Diego Metropolitan Sewerage System (Metro System) population grows at a rate of 1.5% per year. The upper bound estimate is also based on a 25% treatment removal at the PLWTP, which is the lowest annual PLWTP percent removal observed for non-chlorinated phenolic compounds during the past 6 years.

As shown in Figure 7, future PLOO mass emissions of non-chlorinated phenolic compounds during 2022-2028 (which will likely encompass the effective life of the renewed PLOO NPDES permit) are likely to increase. Under most likely conditions, PLOO MERs for non-chlorinated phenolic compounds are projected to increase to over 17 mt/yr by 2028. Under "upper bound" assumed conditions, the PLOO MERs for non-chlorinated phenolic compounds could exceed 21 mt/yr by 2028.

Figure 7:
Projected Range of Future PLOO Mass Emissions of Non-Chlorinated Phenolic Compounds

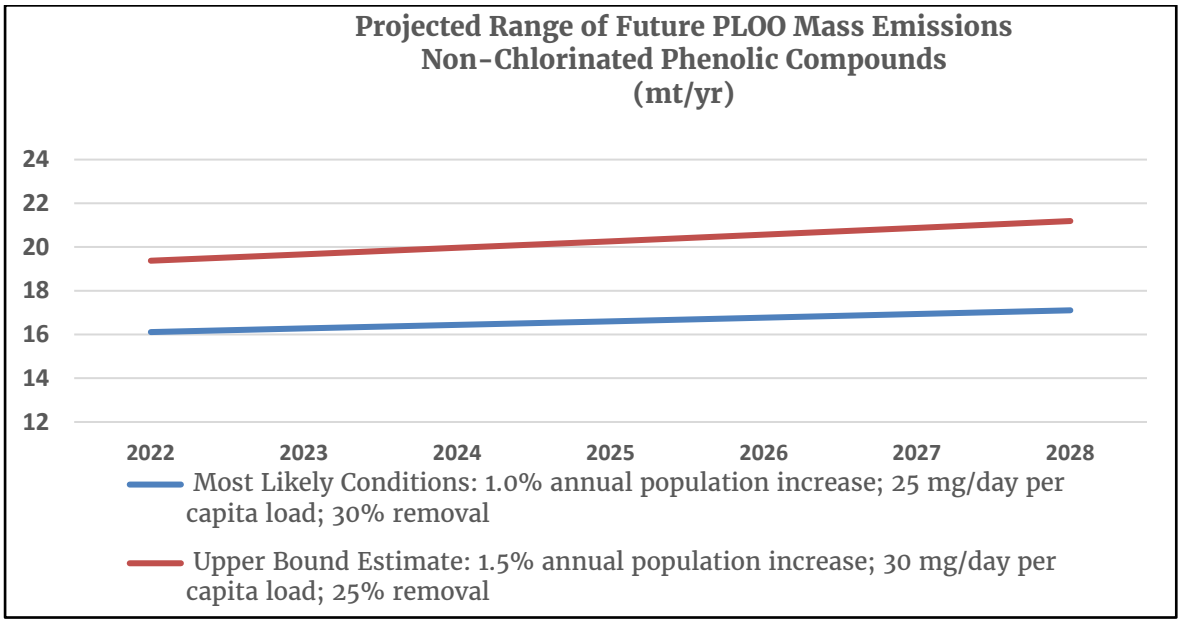


Table 16 presents projected PLOO receiving water conditions for year 2028 (the presumed expiration year for the renewed PLWTP NPDES permit) under for the above-described "most probable" and "upper bound" scenarios. As shown in Table 16, projected year 2028 receiving water non-chlorinated phenol concentrations at the ZID boundary under both scenarios represent less than 2% of the Ocean Plan 6-month median receiving water quality objective for non-chlorinated phenolic compounds.

As a result, receiving water concentrations during the upcoming 5-year NPDES period are projected to comply with Tier 1 Level of Significance criterion of not exceeding 50% of the allowable Ocean Plan water quality objective. Continued compliance with the Tier 1 Level of Significance criteria for non-chlorinated phenolic compounds is thus assured during the next 5-year NPDES period under both the "most probable" and "upper bound" scenarios. As also shown in Table 16, PLWTP effluent concentrations of non-chlorinated phenolic compounds would have to increase by almost two orders of magnitude in order to approach the 50% Level of Significance criterion.

Table 16:
Projected Year 2028 Compliance with Tier 1 Receiving Water Level of Significance Criteria
Non-Chlorinated Phenolic Compounds

Year 2028 Parameter [A]	Scenario	
	Most Probable Conditions [B]	Upper Bound Estimate [C]
Estimated 2028 Metro System population (millions) [D]	2.48 million	2.58 million
Projected 2028 PLWTP annual flow (mgd) [E]	156 mgd	163 mgd
Projected 2028 PLWTP effluent MER for non-chlorinated phenolic compounds [F]	17.1 mt/yr	21.2 mt/yr
Projected 2028 PLWTP effluent concentration of non-chlorinated phenolic compounds [F]	79.3 µg/L	94.5 µg/L
Projected 2028 receiving water concentration at the ZID boundary after 204:1 initial dilution	0.39 µg/L	0.46 µg/L
Projected 2028 receiving water concentration as a percent of the Ocean Plan 6-Month median receiving water quality objective of 30 µg/L	1.3 %	1.5 %
Is the projected receiving water quality within the Tier 1 Level of Significance requirement that receiving water quality concentrations at the boundary of the ZID are less than 50% of the Ocean Plan objective?	Yes	Yes

Table 16 Notes:

A. Year 2028 is used in the above example, as it is presumed that the renewed NPDES 301(h) modified secondary treatment permit for the PLWTP will be adopted in 2023 and the 5-year NPDES permit term will expire in 2028.
B. Most probable conditions estimated for year 2028 are based on future Metro System population increases of 1.0% per year, per capita loads for non-chlorinated phenolic compounds of 27 mg per person per day, and a PLWTP treatment removal rate for non-chlorinated phenolic compounds of 33%.
C. Upper bound estimate for year 2028 is based on future Metro System population increases of 1.5% per year, per capita loads for non-chlorinated phenolic compounds of 30 mg per person per day, and a PLWTP treatment removal rate for non-chlorinated phenolic compounds of 25%.
D. Based on a year 2020 estimated Metro System population of 2.303 million and the listed annual population percent increases for the most probable conditions (1% growth per year) and upper bound conditions (1.5% growth per year). Values rounded to three significant figures.
E. Based on a 63 gpcd flow contribution (which assumes the year 2020 per capita flow contribution will be sustained) and the listed estimated Metro System populations for year 2028. Values rounded to three significant figures.
F. Based on the listed Metro System flows and the above-listed per capita loads and above-listed PLWTP treatment removals for non-chlorinated phenolic compounds.

Ammonia-Nitrogen

Table 17 presents maximum PLWTP effluent concentrations of ammonia-nitrogen during 2017-2020 and compares projected receiving water concentrations with daily maximum performance goals established in Table 3 of the Ocean Plan. Table 18 presents maximum observed 6-month median values for ammonia-nitrogen in the PLWTP effluent during 2017-2020 and compares projected 6-month median receiving water concentrations with 6-month median standards established in the Ocean Plan.

The highest observed concentration of ammonia-nitrogen in the PLWTP effluent during 2017-2020 was 48.1 mg/L. At a minimum average month dilution of 204:1, this maximum daily concentration corresponds to a receiving water concentration at the edge of the ZID that approximately 235 µg/L – a value that is less than 10% of the Ocean Plan daily maximum receiving water quality objective of 2400 µg/L.

The highest observed 6-month median values for ammonia-nitrogen during 2017-2020 was 44.1 mg/L. At a minimum average month dilution of 204:1, this maximum 6-month median concentration corresponds to a receiving water concentration at the edge of the ZID that approximately 215 µg/L – a value that is roughly one-third of the Ocean Plan 6-month median receiving water quality objective.

Table 17:
PLOO Ammonia-Nitrogen Compliance with Ocean Plan Daily Maximum Receiving Water Standard

Year	Ammonia-Nitrogen Concentration (µg/L)		Receiving Water Concentration as a Percent of the Ocean Plan Daily Maximum Receiving Water Standard of 2400 µg/L [D]	Compliance with Tier 1 Requirement that Receiving Water Quality is Less than 50% of Ocean Plan Standard? [E]
	Daily Maximum PLWTP Effluent Concentration [A,B]	Projected Daily Maximum Receiving Water Concentration After Initial Dilution [C]		
2017	44,500	217	9.0%	Yes
2018	48,100	235	9.8%	Yes
2019	46,400	226	9.4%	Yes
2020	46,900	229	9.5%	Yes

Table 17 Notes:
A. PLOO effluent concentrations monitored at Monitoring Location EFF-001 for the period 2017-2020. Year 2020 was the last year for which an entire calendar year of data are available at the time of preparation of this report. The 2017-2020 data base includes days on which two daily samples were collected and analyzed.
B. Maximum sample value observed during the listed year. See Table 2.
C. Computed receiving water concentration upon completion of initial dilution, as computed using a minimum month initial dilution of 204:1 in accordance with Ocean Plan computational procedures (e.g., Ocean Plan Equation No. 1).
D. Projected receiving water concentration after initial dilution as a percent of the Ocean Plan daily maximum ammonia-nitrogen receiving water standard of 2400 µg/L to be achieved upon completion of initial dilution.
E. Pursuant to Section IV.D.2 (page F-40) of Appendix F to of Order No. R9-2017-0007 and the 2017 EPA Final Decision Document (EPA, 2017), water quality effects are defined as "non-significant" if receiving water concentrations remain 50% below the corresponding Ocean Plan receiving water standard.

Table 18:
PLOO Ammonia-Nitrogen Compliance with Ocean Plan 6-Month Median Receiving Water Standard

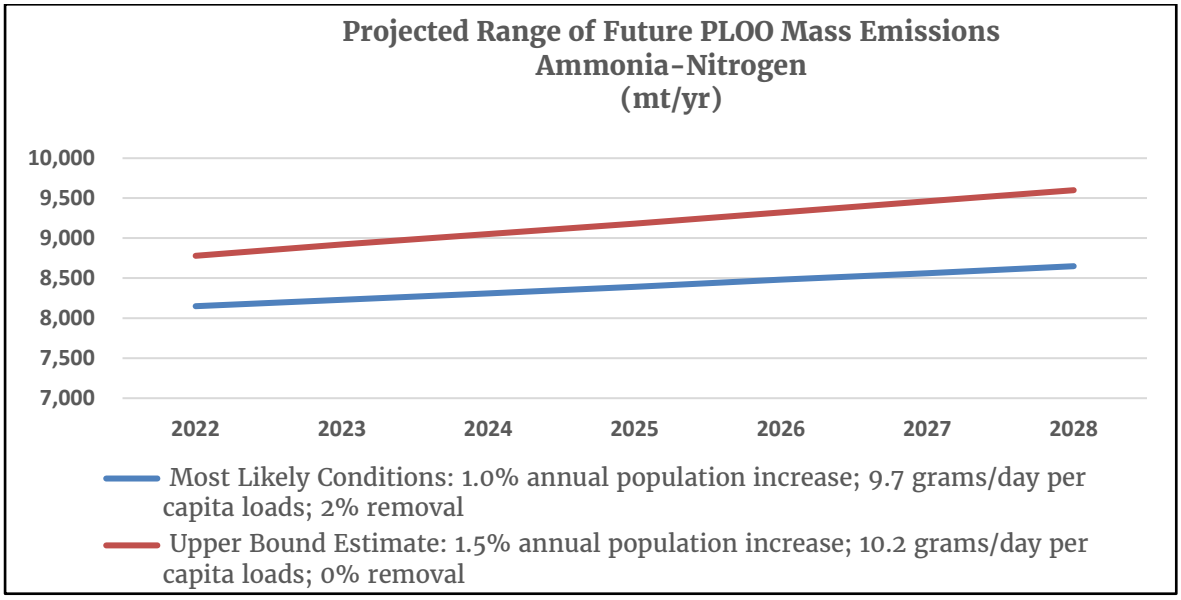
Year	Ammonia-Nitrogen Concentration (µg/L)		Receiving Water Concentration as a Percent of the Ocean Plan 6-Month Median Receiving Water Standard of 600 µg/L [D]	Compliance with Tier 1 Requirement that Receiving Water Quality is Less than 50% of Ocean Plan Standard? [E]
	Maximum Observed 6-Month Median PLWTP Effluent Concentration [A,B]	Projected 6-Month Median Receiving Water Concentration After Initial Dilution [C]		
2017	42,100	205	34%	Yes
2018	43,700	213	36%	Yes
2019	44,100	215	36%	Yes
2020	43,900	214	36%	Yes

Table 18 Notes:

A. PLOO effluent concentrations monitored at Monitoring Location EFF-001 for the period 2017-2020. Year 2020 was the last year for which an entire calendar year of data are available at the time of preparation of this report. The 2017-2020 data base includes days on which two daily samples were collected and analyzed.
B. Maximum 6-month median value observed during the listed year. See Table 6.
C. Computed receiving water concentration upon completion of initial dilution, as computed using a minimum month initial dilution of 204:1 in accordance with Ocean Plan computational procedures (e.g., Ocean Plan Equation No. 1).
D. Projected receiving water concentration after initial dilution as a percent of the *Ocean Plan* 6-month median ammonia-nitrogen receiving water standard of 600 µg/L to be achieved upon completion of initial dilution.
E. Pursuant to Section IV.D.2 (page F-40) of Appendix F to of Order No. R9-2017-0007 and the 2017 EPA Final Decision Document (EPA, 2017), water quality effects are defined as "non-significant" if receiving water concentrations remain 50% below the corresponding Ocean Plan receiving water standard.

Projected Future Concentrations and Mass Emissions. While per capita influent loads of ammonia-nitrogen are relatively stable, future population increases are projected to result in increased Metro System loads of ammonia-nitrogen. Figure 8 presents estimated future PLOO effluent MERs for ammonia-nitrogen for the previously-described “most probable” conditions and “upper bound” conditions.

Figure 8:
Projected Range of Future PLOO Mass Emissions of Ammonia-Nitrogen



As shown in Figure 8, under the "most probable" scenario, PLOO MERs for ammonia-nitrogen are projected to increase to over 8500 mt/yr by 2028. Under "upper bound" assumed conditions, the PLOO MERs for ammonia-nitrogen could exceed 9500 mt/yr by 2028.

Table 19 presents projected ammonia-nitrogen concentrations in PLOO receiving waters for year 2028 under for the above-described "most probable" and "upper bound" scenarios. As shown in Table 19, projected year 2028 receiving water concentrations at the ZID boundary under both scenarios are projected to be within the Tier 1 Level of Significance criterion (e.g., less than 50% of the Ocean Plan water quality objective for ammonia-nitrogen).

Table 19:
Projected Year 2028 Compliance with Tier 1 Receiving Water Level of Significance Criteria
Ammonia-Nitrogen

Year 2028 Parameter [A]	Scenario	
	Most Probable Conditions [B]	Upper Bound Estimate [C]
Estimated 2028 Metro System population (millions) [D]	2.48 million	2.58 million
Projected 2028 PLWTP annual flow (mgd) [E]	156 mgd	163 mgd
Projected 2028 PLWTP effluent MER for ammonia-nitrogen [F]	8,650 mt/yr	9600 mt/yr
Projected 2028 PLWTP effluent concentration of ammonia-nitrogen [F]	40.1 mg/L	42.8 mg/L
Projected 2028 receiving water concentration of ammonia-nitrogen at the ZID boundary after 204:1 initial dilution	196 µg/L	209 µg/L
Projected 2028 receiving water concentration as a percent of the Ocean Plan 6-Month median receiving water quality objective of 600 µg/L	32.6 %	34.8 %
Is the projected receiving water quality within the Tier 1 Level of Significance requirement that receiving water quality concentrations at the boundary of the ZID are less than 50% of the Ocean Plan objective?	Yes	Yes

Table 19 Notes:
A. Year 2028 is used in the above example, as it is presumed that the renewed NPDES 301(h) modified secondary treatment permit for the PLWTP will be adopted in 2023 and the 5-year NPDES permit term will expire in 2028.
B. Most probable conditions estimated for year 2028 are based on future Metro System population growth of 1.0% per year, per capita loads for ammonia-nitrogen of 27 mg per person per day, and a PLWTP treatment removal rate for ammonia-nitrogen of 2%, which is the average ammonia-nitrogen removal rate achieved in 2018-2020.
C. Upper bound estimate for year 2028 is based on future Metro System population increases of 1.5% per year, per capita loads for ammonia-nitrogen of 30 mg per person per day, and a PLWTP treatment removal rate for ammonia-nitrogen of 0%.
D. Based on a year 2020 estimated Metro System population of 2.303 million and the listed annual population percent increases for the most probable conditions (1% growth per year) and upper bound conditions (1.5% growth per year). Values rounded to three significant figures.
E. Based on a 63 gpcd flow contribution (which assumes the year 2020 per capita flow contribution will be sustained) and the listed estimated Metro System populations for year 2028. Values rounded to three significant figures.
F. Based on the listed Metro System flows and the above-listed per capita loads and above-listed PLWTP treatment removals for ammonia-nitrogen.

It should be noted the ammonia-nitrogen mass emission projections depicted in Figure 8 and presented in Table 19 are based on continuation of recent trends in ammonia-nitrogen loads. The projected future increased mass loads of ammonia-nitrogen may, in part, be offset by planned upgrades to Metro System treatment and solids handling operations as part of Pure Water. As documented within Appendix B, improvements associated with Phase 1 of Pure Water includes expansion and upgrades to the North City Water Reclamation Plant and upgrades to Metro System solids handling facilities and operations. Additional Metro System improvements will also be implemented as part of Phase 2 of Pure Water.

Effluent Concentrations Required to Trigger Tier 1 Analysis

As noted, the Ocean Plan establishes daily maximum and 6-month median receiving water quality objectives for non-chlorinated phenolic compounds at 120 µg/L and 30 µg/L, respectively. Ocean Plan receiving water quality objectives for ammonia-nitrogen are established at 2400 µg/L (daily maximum) and 600 µg/L (6-month median). The Ocean Plan objectives apply to state-regulated waters outside of the designated ZID and to be achieved upon completion of initial dilution.

Table 20 compares maximum observed PLWTP effluent concentrations with effluent concentrations required to cause receiving waters at the boundary of the ZID to reach 50% of the Ocean Plan receiving water quality objectives. As shown in the table, at the assigned PLOO minimum month initial dilution of 204:1, a sustained PLWTP effluent concentration for non-chlorinated phenolic compounds of 3,075 µg/L would be required to reach the Tier 1 Level of Significance criterion of 50% of the Ocean Plan 6-month median objective. A sustained PLWTP effluent ammonia-nitrogen concentration of 61.5 mg/L would be required to reach 50% of the Ocean Plan 6-month median objective.

Table 20:
PLWTP Effluent Concentrations Required to Approach Tier 1 Level of Significance Threshold

Parameter	Time Period	Concentration (µg/L)		
		Ocean Plan Receiving Water Quality Objective [A]	PLWTP Effluent Concentration Required to Reach 50% of the Ocean Plan Receiving Water Quality Objective [B]	Maximum Observed PLWTP Effluent Concentration 2017-2020
Non-Chlorinated Phenolic Compounds	Daily Maximum	120	12,300	141 [C]
	6-month Median	30	3,075	94 [D]
Ammonia-Nitrogen	Daily Maximum	2400	246,000	48,100 [E]
	6-month Median	600	61,500	44,100 [F]

Table 20 Notes:

A. Ocean Plan receiving water quality objective to be achieved upon completion of initial dilution. From Table 3 (page 9) of the Ocean Plan (SWRCB, 2019).
B. Based on the 204:1 initial dilution value assigned in Order No. R9-2017-0007 (NPDES CA0107409).
C. Maximum daily PLWTP effluent concentration for non-chlorinated phenolic compounds during 2017-2020. From Table 14.
D. Maximum 6-month median PLWTP effluent concentration for non-chlorinated phenolic compounds during 2017-2020. From Table 15.
E. Maximum daily PLWTP effluent ammonia-nitrogen concentration during 2017-2020. From Table 17.
F. Maximum 6-month median PLWTP ammonia-nitrogen concentration during 2017-2020. From Table 18.

4 TIER 1 CONCLUSIONS

4.1 Tier 1 Compliance – Existing Discharge

Compliance with Performance Goals

As noted, EPA established mass emission performance goals within Table 7 of Order No. R9-2017-0007 to set forth 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 1, the PLOO discharge complied with the EPA Table 7 mass emission performance goals during 2017-2020 for all constituents except non-chlorinated phenolic compounds and ammonia. As a result, no Tier 1 analysis is required for any parameters other than non-chlorinated phenolic compounds and ammonia.

The PLOO discharge exceeded the Table 7 EPA mass emission performance goals for non-chlorinated phenol and ammonia-nitrogen. As a result, a Tier 1 "level of significance" analysis is presented herein (see Chapter 3) to evaluate whether or not the PLOO discharge of non-chlorinated phenolic compounds and ammonia result significant water quality impacts which would require a Tier 2 antidegradation analysis.

While concentrations of non-chlorinated phenolic compounds and ammonia-nitrogen exceeded the EPA mass emission performance goal benchmarks established in Table 7 of Order No. R9-2017-0007, PLOO concentrations and mass emissions of non-chlorinated phenolic compounds and ammonia-nitrogen were significantly less than the water quality-based performance goals established in Table 6 of Order No. R9-2017-0007.

Additionally, PLOO concentration and MERs were such that the PLOO complied with applicable federal water quality criteria for non-chlorinated phenolic compounds and ammonia-nitrogen by a considerable margin. Further, the PLOO discharge during 2017-2020 achieved 100% compliance with chronic toxicity WQBELs established within Table 5 of Order No. R9-2017-0007.

Pollutant Sources

As documented herein, monitoring of Metro System SIUs consistently shows that industrial dischargers are not contributing any significant loads of non-chlorinated phenolic compounds or ammonia-nitrogen. Electroplating and metal finishing industries with the potential to discharge non-chlorinated phenolic compounds are regulated through federal TTO limits, and other potential phenol dischargers are regulated through approved TOMPs. Overall, these existing practices have proven effective in limiting industrial discharges of non-chlorinated phenolic compounds.

Because of the lack of industrial sources, loads of non-chlorinated phenolic compounds and ammonia-nitrogen are predominantly from domestic/commercial sources. PLWTP influent concentrations of each have increased in recent years, in part due to effects of water conservation. Per capita mass loads of ammonia have remained relatively stable over the past decade. A trend of increased per capita loads for non-chlorinated phenolic compounds,

however, has been observed during the past two decades, likely as a result of increased consumer use of the large array of personal care and home products that contain non-chlorinated phenol.

Loads from non-chlorinated phenolic compounds and ammonia-nitrogen are annually assessed as part of Metro System Local Limits assessments. Because of the lack of industrial sources and the existence of existing regulation of potential sources (e.g., TTO limits, TOMPs or Best Management Practices (BMPs)), each of the annual local limits studies have determined that no need exists for establishing a local limit for either non-chlorinated phenolic compounds or ammonia-nitrogen. As part of annual local limits updates, however, the City updates and assesses sewer collection system and industrial user monitoring information to determine if any specific industrial users or groups of dischargers warrant additional monitoring or sewer discharge regulation.

Level of Significance Analysis

Provision VI.C.2.e of Order No. R9-2009-0001 (the PLOO NPDES permit that preceded Order No. R9-2017-0007) establishes a level of significance test where water quality impacts are deemed "not significant" if projected receiving water quality beyond the ZID is less than 50% of the Ocean Plan receiving water objective.

As demonstrated in Chapter 3, the existing PLOO discharge complies with this "significance" test by nearly two orders of magnitude (10^2) for non-chlorinated phenolic compounds. The PLOO discharge also complies with this Level of Significance test for ammonia-nitrogen.

Because existing and projected mass emissions of non-chlorinated phenolic compounds and ammonia-nitrogen conform to the Tier 1 50% threshold criterion, water quality effects associated with the increased mass emissions of non-chlorinated phenolic compounds are deemed not significant. The PLOO discharge complies with all water quality standards to protect beneficial uses and complies with Tier 1 antidegradation requirements in that the discharge ensures that:

- Receiving water quality is better than necessary to fully protect and support beneficial uses, including body contact and non-contact recreation and the propagation of fish, shellfish and wildlife.
- Receiving water quality concentrations of non-chlorinated phenolic compounds and ammonia-nitrogen are maintained at least 50% below applicable Ocean Plan water quality standards.

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 or ammonia-nitrogen.

Conformance with State Antidegradation Provisions

By complying with NPDES permit concentration and mass emission WQBELs and performance goals that implement Ocean Plan receiving water quality objectives, the PLOO discharge is consistent with maintaining the existing high quality of water necessary to support beneficial use. Further, the PLOO discharge will not unreasonably affect present or anticipated beneficial

uses. The PLOO discharge is thus in conformance with antidegradation provisions established within SWRCB Resolution No. 68-16.

4.2 Tier 1 Compliance – Projected Future Conditions

Trends in Mass Loads

As discussed in Chapter 3, per capita mass loads of ammonia-nitrogen appear to remain relatively level, but increases in future Metro System ammonia-nitrogen loads are likely to occur as a result of projected population increase. Per capita mass loads of non-phenolic compounds appear to have increased over the past 10 years, although these per capita loads appear relatively stable during the past 3 years. Even if per capita loads remain level, future Metro System mass loads of non-chlorinated phenolic compounds are likely to increase as a result of population.

While mass emissions of non-chlorinated phenolic compounds and ammonia-nitrogen are projected to increase, the PLOO discharge is projected to continue to comply with applicable water quality objectives. By the end of the next decade, PLOO concentrations of non-chlorinated phenolic compounds (see Table 16) may average 80 to 90 µg/L, but these concentrations would continue to comply with applicable Ocean Plan receiving water quality objectives by nearly two orders of magnitude. As shown in Table 19, sustained PLWTP 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% of the Ocean Plan 6-month median receiving water standard.

Other than a slight increase in the middle of the past decade due water conservation effects, PLWTP effluent concentrations of ammonia-nitrogen have increased only slightly in proportion to estimated population gains. As a result, no significant increase is forecast for PLWTP influent or effluent concentrations of ammonia-nitrogen. Sustained PLWTP effluent ammonia-nitrogen concentrations in excess of 60,000 µg/L would be required to cause receiving water concentrations to reach 50% of the Ocean Plan 6-month median objective for ammonia-nitrogen, and the gradual projected rise in ammonia-nitrogen mass loads at the PLWTP is not projected to near this threshold.

It should be noted that future Metro Systems improvements and upgrades implemented as part of Pure Water, may offer the potential for partially offsetting or reducing PLWTP ammonia loads. Improvements proposed as part of Phase 1 of Pure Water (see Appendix B) may be implemented within the effective period of the renewed PLOO NPDES permit.

Continued Projected Conformance with Tier 1 Thresholds

Projected future increases in PLOO mass emissions of non-chlorinated phenolic compounds and ammonia-nitrogen are projected to remain protective of water quality and ensure that receiving water concentrations remain below 50% of applicable Ocean Plan water quality objectives. Thus, the PLOO discharge is projected to remain in conformance with Tier 1 antidegradation requirements under the anticipated range of future mass loads of non-chlorinated phenolic compounds and ammonia-nitrogen.

As documented herein, both the current and projected future PLWTP effluent concentrations of phenolic compounds (non-chlorinated) and ammonia are projected to remain far below the

Tier 1 threshold of 50% below the Ocean Plan receiving water standard. It is thus concluded that:

1) no realistic potential exists for the PLWTP effluent to approach anywhere near the Tier 1 "level of significance" threshold for non-chlorinated phenolic compounds or ammonia-nitrogen, either on a near-term or long-term basis, and

2) compliance with the Tier 1 "level of significance" criteria is projected to continue throughout all foreseeable future conditions (including future projected population growth and future projected increases in PLOO mass emissions of non-chlorinated phenolic compounds and ammonia-nitrogen).

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U.S. Environmental Protection Agency (EPA) and Regional Water Quality Control Board, San Diego Region (RWQCB). 2009. Order No. R9-2009-0001 (NPDES NO. CA0107409) Waste Discharge Requirements and National Pollutant Discharge Elimination System Permit for the City of San Diego E.W. Blom Point Loma Metropolitan Wastewater Treatment Plant Discharge to the Pacific Ocean through the Point Loma Ocean Outfall, San Diego County.

U.S. Environmental Protection Agency (EPA) and Regional Water Quality Control Board, San Diego Region (RWQCB), 2002. Order No. R9-2002-0025 (NPDES NO. CA0107409) Waste Discharge Requirements and National Pollutant Discharge Elimination System Permit for the City of San Diego E.W. Blom Point Loma Metropolitan Wastewater Treatment Plant Discharge to the Pacific Ocean through the Point Loma Ocean Outfall, San Diego County.

U.S. Environmental Protection Agency (EPA) and Regional Water Quality Control Board, San Diego Region (RWQCB), 1995. Order No. 95-06 (NPDES NO. CA0107409) Waste Discharge Requirements and National Pollutant Discharge Elimination System Permit for the City of San Diego E.W. Blom Point Loma Metropolitan Wastewater Treatment Plant Discharge to the Pacific Ocean through the Point Loma Ocean Outfall, San Diego County.

ATTACHMENT 1:
PLWTP EFFLUENT DATA, 2017-2020
Non-Chlorinated Phenolics and Ammonia-Nitrogen

Summary Table for Daily Non-Chlorinated Phenolic Compounds and Ammonia-Nitrogen, 2017-2020

Year	Number of Sample Dates	Parameter	Average Daily Phenol Concentration (µg/L)	Average Daily 4-Methylphenol Concentration (µg/L)	Average Daily Concentration Total Non-Chlorinated Phenols (µg/L)	Daily MERs for Non-Chlorinated Phenolic Compounds (lbs/day)	Average Daily Ammonia-N Concentration (mg/L)	Daily MERs for Ammonia-N (lbs/day)
2017	52	Maximum Value	46.7	81.0	127.6	153.2	44.5	51,827
		Minimum Value	7.1	21.4	40.6	54.0	24.4	39,491
		Average Value [A]	32.4	47.4	79.9	92.0	40.3	46,088
		Median Value	32.5	47.5	80.2	93.6	41.6	45,991
		Maximum 6-Month Median	---	---	89.7	---	42.2	---
2018	52	Maximum Value	59.5	82.2	141.4	166.5	48.1	58,047
		Minimum Value	15.7	20.7	44.1	51.2	39.6	43,274
		Average Value [A]	36.3	47.0	83.3	96.2	43.0	49,800
		Median Value	36.6	48.2	83.8	95.7	43.1	49,941
		Maximum 6-Month Median	---	---	91.3	---	43.7	---
2019	52 [B]	Maximum Value	53.4	76.1	129.5	142.6	46.4	54,620
		Minimum Value	5.5	20.0	35.2	57.3	27.2	40,309
		Average Value [A]	30.3	45.0	79.1	93.6	41.8	49,011
		Median Value	30.6	44.0	77.7	91.6	42.9	49,632
		Maximum 6-Month Median	---	---	87.3	---	44.1	---

Year	Number of Sample Dates	Parameter	Average Daily Phenol Concentration (µg/L)	Average Daily 4-Methylphenol Concentration (µg/L)	Average Daily Concentration Total Non-Chlorinated Phenols (µg/L)	Daily MERs for Non-Chlorinated Phenolic Compounds (lbs/day)	Average Daily Ammonia-N Concentration (mg/L)	Daily MERs for Ammonia-N (lbs/day)
2020	53	Maximum Value	47.1	70.2	113.0	142.5	47.1	55,660
		Minimum Value	18.4	19.0	40.9	45.8	36.5	42,208
		Average Value [A]	33.4	41.8	75.2	90.1	41.7	49,713
		Median Value	33.9	43.9	77.9	93.1	42.0	50,281
		Maximum 6-Month Median	---	---	85.4	---	44.1	---
2017 -2020	209 [C]	Maximum Value	59.5	82.2	141.4	166.5	48.1	58,047
		Minimum Value	5.5	19.0	40.6	45.8	24.4	39,491
		Average Value [A]	33.1	45.3	79.4	92.9	41.7	48,658
		Median Value	33.0	45.8	78.7	92.9	42.3	48,910
		Maximum 6-Month Median	---	---	91.3	---	44.4	---

Notes:
A. Annual average computed as the arithmetic average of daily values during the listed year. Listed values may differ from annual averages computed as the average of twelve monthly averages.
B. A total of 53 samples for phenol and ammonia-nitrogen were collected and analyzed during 2019. A total of 44 samples during 2019 were analyzed for 4-methylphenol. See following table.
C. Total number of phenol and ammonia-nitrogen samples during 2017-2020. A total of 200 samples during 2017-2020 were analyzed for 4-methylphenol.

Daily PLWTP Effluent Concentrations and Computed Mass Emissions for Non-Chlorinated Phenolic Compounds and Ammonia-Nitrogen, 2017-2020

Sample Date	PLWTP Flow (mgd)	Average Daily Effluent Phenol Concentration (µg/L)	Average Daily Effluent 4-Methylphenol Concentration (µg/L)	Average Daily Effluent Concentration for Non-Chlorinated Phenolics (µg/L)	Running 6-Month Median Concentration for Non-Chlorinated Phenolics (µg/L)	Daily MER for Non-Chlorinated Phenolic Compounds (lbs/day)	Average Daily Effluent Ammonia-N Concentration (mg/L)	Running 6-Month Median Ammonia-N Concentration (mg/L)	Daily MER for Ammonia-N (lbs/day)
3-Jan-17	158.7	31.9	56.0	87.9	85.0 [A]	116 [B]	36.2	39.8	47,913
9-Jan-17	152.4	38.2	72.3	110.5	86.5 [A]	140 [B]	37.9	39.8	48,172
18-Jan-17	153.2	30.9	59	89.9	87.9 [A]	115 [B]	38.3	39.6	48,935
23-Jan-17	231.4	16.6	33.2	49.8	86.5 [A]	96.1 [B]	24.4	39.6	47,089
1-Feb-17	155.6	28.0	47.1	75.1	85.0 [A]	97.5 [B]	38.1	39.3	49,443
7-Feb-17	162.0	27.2	47.1	74.3	80.7 [A]	100 [B]	36.1	39.0	48,774
15-Feb-17	151.2	29.5	45.8	75.3	78.0 [A]	95.0 [B]	37.4	38.8	47,162
20-Feb-17	167.2	23.4	47.9	71.3	75.3 [A]	99.4 [B]	33.1	38.6	46,156
2-Mar-17	189.4	7.1	33.5	40.6	75.2 [A]	64.1 [B]	30.3	38.6	47,862
6-Mar-17	173.1	29.5	60.2	89.7	75.3 [A]	130 [B]	35.9	38.3	51,827
15-Mar-17	153.2	38.0	57.9	95.9	75.3 [A]	123 [B]	38.7	38.2	49,447
20-Mar-17	148.9	40.4	73.3	113.7	78.0 [A]	141 [B]	38.1	38.1	47,314
27-Mar-17	144.0	46.6	81.0	127.6	80.7 [A]	153 [B]	39.6	38.1	47,558
3-Apr-17	144.5	38.6	59.7	98.3	84.3 [A]	119 [B]	40.8	38.1	49,169
12-Apr-17	140.0	34.1	57.4	91.5	88.8 [A]	107 [B]	42.4	38.1	49,506
17-Apr-17	139.8	34.4	58.6	93.0	89.7 [A]	108 [B]	42.2	38.1	49,202
26-Apr-17	138.4	31.5	44.5	76.0	88.8 [A]	87.7 [B]	43.6	38.1	50,326
2-May-17	136.4	28.9	55.3	84.2	87.9 [A]	95.8 [B]	43.5	38.1	49,485
10-May-17	143.8	26.3	38.1	64.4	87.9 [A]	77.2 [B]	39.7	38,1	47,612
15-May-17	141.8	36.8	63.1	99.9	88.8 [A]	118 [B]	40.5	38.1	47,896
24-May-17	135.6	35.4	59.5	94.9	89.7 [A]	107 [B]	43.3	38.2	48,968
1-Jun-17	127.3	25.0	37.2	62.2	88.8 [A]	66.0 [B]	44.5	38.5	47,245
8-Jun-17	127.6	26.5	44.8	74.3 [C]	88.8 [A]	79.1 [B]	42.0	38.5	44,696
14-Jun-17	127.3	27.6	44.2	71.8	87.9 [A]	76.2 [B]	41.6	38.5	44,166
19-Jun-17	125.6	37.9	54.4	92.3	88.8 [A]	96.7 [B]	41.7	39.2	43,681
26-Jun-17	130.8	43.1	58.8	101.9	89.7 [A]	111 [B]	43.1	39.7	47,017

Sample Date	PLWTP Flow (mgd)	Average Daily Effluent Phenol Concentration (µg/L)	Average Daily Effluent 4-Methylphenol Concentration (µg/L)	Average Daily Effluent Concentration for Non-Chlorinated Phenolics (µg/L)	Running 6-Month Median Concentration for Non-Chlorinated Phenolics (µg/L)	Daily MER for Non-Chlorinated Phenolic Compounds (lbs/day)	Average Daily Effluent Ammonia-N Concentration (mg/L)	Running 6-Month Median Ammonia-N Concentration (mg/L)	Daily MER for Ammonia-N (lbs/day)
4-Jul-17	124.8	32.1	48.2	80.3	87.9 [A]	83.6 [B]	42.1	40.1	43,819
12-Jul-17	129.7	26.9	30.9	57.8	84.2 [A]	62.5 [B]	42.6	40.7	46,080
17-Jul-17	126.8	38.5	68.1	106.6	84.2 [A]	113 [B]	43.3	41.2	45,790
26-Jul-17	129.6	26.3	40	66.3	80.3 [A]	71.7 [B]	40.3	41.2	43,559
1-Aug-17	129.9	26.5	36.4	62.9	80.3 [A]	68.1 [B]	42.5	41.7	46,043
9-Aug-17	127.1	28.9	25.1	54.0	78.2 [A]	57.2 [B]	43.0	41.9	45,581
14-Aug-17	126.6	46.7	64.4	111.1	84.2 [A]	117 [B]	41.9	42.0	44,240
23-Aug-17	125.6	30.0	31.9	61.9	84.2 [A]	64.8 [B]	37.7	42.0	39,491
28-Aug-17	132.0	44.8	56.2	101.0	89.7 [A]	111 [B]	40.8	41.9	44,916
5-Sep-17	132.8	32.9	36.3	69.2	89.7 [A]	76.6 [B]	39.5	42.0	43,748
13-Sep-17	130.4	30.5	21.4	51.9	84.2 [A]	56.4 [B]	40.9	42.0	44,480
18-Sep-17	119.3	44.0	48.9	92.9	84.2 [A]	92.4 [B]	41.4	42.0	41,191
28-Sep-17	125.9	31.5	39	70.5	80.3 [A]	74.0 [B]	42.2	41.9	44,310
3-Oct-17	125.9	28.0	40.9	68.9	76.0 [A]	72.3 [B]	42.7	42.2	44,835
9-Oct-17	126.5	41.4	55.6	97.0	78.2 [A]	102 [B]	42.1	42.1	44,416
18-Oct-17	129.3	36.8	27.5	64.3	75.2 [A]	69.3 [B]	42.6	42.1	45,938
23-Oct-17	127.4	34.7	46.4	81.1	75.2 [A]	86.2 [B]	43.1	42.1	45,794
1-Nov-17	122.5	37.8	32.9	70.7	73.1 [A]	72.2 [B]	40.8	42.1	41,683
6-Nov-17	127.8	31.1	23.7	54.8	70.7 [A]	58.4 [B]	41.9	42.1	44,659
15-Nov-17	132.4	21.3	29.9	51.2	70.7 [A]	56.5 [B]	42.8	42.1	47,260
20-Nov-17	125.2	33.2	49.6	82.8	70.7 [A]	86.5 [B]	41.4	42.1	43,229
29-Nov-17	126.7	36.7	68.1	104.8	70.7 [A]	111 [B]	42.1	42.1	44,486
4-Dec-17	128.6	35.4	40.5	75.9	71.8 [A]	81.4 [B]	40.9	42.0	43,866
13-Dec-17	125.7	19.2	32.3	51.5	70.7 [A]	54.0 [B]	41.8	42.0	43,821
18-Dec-17	120.9	31.8	38.3	70.1	70.5 [A]	70.7 [B]	41.6	42.0	41,946
27-Dec-17	129.1	45.2	43.9	89.1	70.5 [A]	95.9 [B]	41.6	41.9	44,790
1-Jan-18	121.8	37.7	65.3	103.0	70.5 [A]	105 [B]	42.6	41.9	43,274
8-Jan-18	133.7	41.6	55.9	97.5	70.5 [A]	109 [B]	42.0	41.9	46,832
17-Jan-18	134.8	38.6	51.1	89.7	70.7 [A]	101 [B]	41.6	41.9	46,768

Sample Date	PLWTP Flow (mgd)	Average Daily Effluent Phenol Concentration (µg/L)	Average Daily Effluent 4-Methylphenol Concentration (µg/L)	Average Daily Effluent Concentration for Non-Chlorinated Phenolics (µg/L)	Running 6-Month Median Concentration for Non-Chlorinated Phenolics (µg/L)	Daily MER for Non-Chlorinated Phenolic Compounds (lbs/day)	Average Daily Effluent Ammonia-N Concentration (mg/L)	Running 6-Month Median Ammonia-N Concentration (mg/L)	Daily MER for Ammonia-N (lbs/day)
22-Jan-18	139.0	39.5	61.3	100.8	70.7 [A]	117 [B]	39.6	41.9	45,907
30-Jan-18	132.0	32.7	49.8	82.5	78.5 [A]	90.8 [B]	43.8	41.9	48,219
6-Feb-18	136.1	32.0	57.8	89.8	81.8 [A]	102 [B]	43.2	41.9	49,035
12-Feb-18	141.6	45.7	58.3	104.0	82.5 [A]	123 [B]	42.5	41.9	50,190
21-Feb-18	139.6	43.1	53.7	96.8	82.5 [A]	113 [B]	44.8	42.0	52,159
26-Feb-18	135.9	53.2	80.7	133.9	82.8 [A]	152 [B]	44.4	42.1	50,323
5-Mar-18	146.0	41.0	46.6	87.6	82.8 [A]	107 [B]	41.3	42.1	50,289
14-Mar-18	144.7	32.2	20.7	52.9	82.8 [A]	63.8 [B]	48.1	42.1	58,047
19-Mar-18	148.1	45.5	61.5	107.0	87.6 [A]	132 [B]	41.2	42.1	50,888
28-Mar-18	141.2	43.4	73.5	116.9	87.6 [A]	138 [B]	43.0	42.1	50,637
2-Apr-18	137.3	36.5	38.6	75.1	88.4 [A]	86.0 [B]	43.5	42.1	49,811
11-Apr-18	133.5	32.2	39.3	71.5	85.2 [A]	79.6 [B]	43.8	42.3	48,766
16-Apr-18	134.7	45.2	70.2	115.4	88.4 [A]	130 [B]	43.7	42.3	49,092
25-Apr-18	152.9	29.6	56.9	86.5	88.4 [A]	110 [B]	44.0	42.3	56,108
2-May-18	135.1	34.8	49.1	83.9	88.4 [A]	94.5 [B]	41.7	42.3	46,985
7-May-18	131.8	42.8	49.9	92.7	89.1 [A]	102 [B]	43.5	42.6	47,816
16-May-18	137.6	31.0	30.2	61.2	89.1 [A]	70.0 [B]	42.1	42.3	48,313
21-May-18	141.2	59.2	82.2	141.4	89.7 [A]	167 [B]	44.0	42.6	51,815
30-May-18	131.0	33.6	35.2	68.8	89.7 [A]	75.2 [B]	41.1	42.6	44,903
4-Jun-18	138.2	43.7	39.9	83.6	89.1 [A]	96.4 [B]	40.8	42.6	47,026
13-Jun-18	134.5	30.3	37	67.3	89.1 [A]	75.5 [B]	41.5	42.6	46,552
18-Jun-18	134.4	52.7	69.1	121.8	89.7 [A]	137 [B]	45.1	42.8	50,552
27-Jun-18	128.2	41.6	55.4	97.0	89.8 [A]	104 [B]	46.1	43.1	49,290
2-Jul-18	131.4	40.5	53.6	94.1	91.3 [A]	103 [B]	44.5	43.4	48,766
10-Jul-18	133.8	20.9	28.6	49.5	89.8 [A]	55.2 [B]	44.9	43.5	50,104
16-Jul-18	137.7	35.4	47.3	82.7	89.7 [A]	95.0 [B]	43.6	43.6	50,071
25-Jul-18	127.3	32.8	45.4	78.2	87.6 [A]	83.0 [B]	44.5	43.7	47,245
30-Jul-18	138.4	15.7	28.7	44.4	86.5 [A]	51.2 [B]	42.1	43.6	48,594
7-Aug-18	140.8	25.3	21.4	46.7	86.5 [A]	54.8 [B]	43.6	43.6	51,198

Sample Date	PLWTP Flow (mgd)	Average Daily Effluent Phenol Concentration (µg/L)	Average Daily Effluent 4-Methylphenol Concentration (µg/L)	Average Daily Effluent Concentration for Non-Chlorinated Phenolics (µg/L)	Running 6-Month Median Concentration for Non-Chlorinated Phenolics (µg/L)	Daily MER for Non-Chlorinated Phenolic Compounds (lbs/day)	Average Daily Effluent Ammonia-N Concentration (mg/L)	Running 6-Month Median Ammonia-N Concentration (mg/L)	Daily MER for Ammonia-N (lbs/day)
13-Aug-18	136.8	29.7	25.4	55.1	83.9 [A]	62.9 [B]	41.6	43.6	47,462
22-Aug-18	139.3	21.3	29.3	50.6	83.6 [A]	58.8 [B]	44.2	43.6	51,350
27-Aug-18	134.5	44.2	50.8	95.0	83.6 [A]	107 [B]	43.3	43.6	48,571
3-Sep-18	136.3	39.8	40.1	79.9	82.7 [A]	90.8 [B]	43.8	43.6	49,789
12-Sep-18	137.2	33.0	37.5	70.5	79.9 [A]	80.7 [B]	42.7	43.6	48,859
17-Sep-18	133.8	36.6	40.3	76.9	79.9 [A]	85.8 [B]	42.4	43.6	47,314
26-Sep-18	143.0	28.9	36.4	65.3	78.2 [A]	77.9 [B]	42.9	43.6	51,163
2-Oct-18	138.7	32.1	42.9	75.0	76.9 [A]	86.8	44.9	43.6	51,938
8-Oct-18	151.3	51.9	60.4	112.3	77.6 [A]	142 [B]	42.6	43.6	53,754
17-Oct-18	150.4	21.1	26.1	47.2	77.6 [A]	59.2 [B]	43.1	43.4	54,062
22-Oct-18	143.1	42.5	50.7	93.2	79.1 [A]	111 [B]	43.1	43.2	51,438
31-Oct-18	139.4	27.0	31.3	58.3	77.6 [A]	67.8 [B]	43.9	43.4	51,038
5-Nov-18	143.5	42.0	57.6	99.6	76.9 [A]	119 [B]	43.8	43.5	52,419
14-Nov-18	133.2	59.5	41.6	101.1	76.9 [A]	112 [B]	43.7	43.6	48,546
18-Nov-18	142.7	15.8	51.0	66.8	76.9 [A]	79.5 [B]	42.9	43.5	51,056
28-Nov-18	146.4	36.3	30.4	66.7	75.0 [A]	81.4 [B]	42.3	43.5	51,647
3-Dec-18	152.7	41.3	54.2	95.5	76.9 [A]	122 [B]	41.3	43.5	52,596
12-Dec-18	155.8	18.7	25.4	44.1	75.0 [A]	57.3 [B]	41.7	43.5	54,184
17-Dec-18	149.3	20.4	31.3	51.7	75.0 [A]	64.4 [B]	42.1	43.2	52,421
26-Dec-18	134.5	37.3	66.7	104.0	75.0 [A]	117 [B]	39.6	43.1	44,421
2-Jan-19	128.7	28.9	56.4	85.3	75.0 [A]	91.6 [B]	40.1	43.0	43,042
7-Jan-19	138.4	30.7	43.7	74.4	74.4 [A]	85.8 [B]	38.7	42.9	44,654
16-Jan-19	153.0	18.4	44.0	62.4	74.4 [A]	79.6 [B]	34.8	42.8	44,411
22-Jan-19	139.3	29.3	41.9	71.2	71.2 [A]	82.7 [B]	38.4	42.7	44,624
30-Jan-19	132.7	32.1	55.2	87.3	71.2 [A]	96.6 [B]	41.3	42.7	45,690
5-Feb-19	195.3	15.2	20.0	35.2	71.2 [A]	57.3 [B]	27.2	42.5	44,303
11-Feb-19	158.1	32.6	56.3	88.9	74.4 [A]	117.2 [B]	38.6	42.5	50,896
20-Feb-19	159.2	18.9	30.8	49.7	74.4 [A]	66.0 [B]	35.7	42.4	47,400
25-Feb-19	172.8	32.5	56.7	89.2	75.0 [A]	129 [B]	37.9	42.3	54,620

Sample Date	PLWTP Flow (mgd)	Average Daily Effluent Phenol Concentration (µg/L)	Average Daily Effluent 4-Methylphenol Concentration (µg/L)	Average Daily Effluent Concentration for Non-Chlorinated Phenolics (µg/L)	Running 6-Month Median Concentration for Non-Chlorinated Phenolics (µg/L)	Daily MER for Non-Chlorinated Phenolic Compounds (lbs/day)	Average Daily Effluent Ammonia-N Concentration (mg/L)	Running 6-Month Median Ammonia-N Concentration (mg/L)	Daily MER for Ammonia-N (lbs/day)
6-Mar-19	155.6	18.5	34	52.5	74.4 [A]	68.1 [B]	39.8	42.1	51,649
11-Mar-19	150.7	36.9	56.4	93.3	74.4 [A]	117 [B]	40.3	41.7	50,651
20-Mar-19	156.1	30.5	42.4	72.9	74.4 [A]	94.9 [B]	41.1	41.3	53,507
26-Mar-19	150.8	25.2	33.2	58.4	72.9 [A]	73.4 [B]	39.2	41.3	49,301
3-Apr-19	141.5	25.9	48.9	74.8	73.7 [A]	88.3 [B]	42.4	41.3	50,044
8-Apr-19	144.6	41.1	60.6	101.7	73.7 [A]	123 [B]	42.3	41.3	51,012
17-Apr-19	139.8	26.6	25.6	52.2	73.7 [A]	60.9 [B]	42.8	41.3	49,902
22-Apr-19	139.4	37.7	59.4	97.1	73.7 [A]	113 [B]	42.8	41.3	49,759
1-May-19	137.1	33.5	45.2	78.7	74.6 [A]	90.0 [B]	43.9	41.3	50,196
7-May-19	142.2	31.6	51.7	83.3	74.6 [A]	98.8 [B]	42.5	41.3	50,403
13-May-19	138.2	45.6	60.3	105.9	74.8 [A]	122 [B]	42.3	41.3	48,754
22-May-19	143.2	28.9	31.8	60.7	74.4 [A]	72.5 [B]	41.2	41.2	49,205
29-May-19	141.3	29.6	35.4	65.0	74.4 [A]	76.6 [B]	44.4	41.2	52,323
3-Jun-19	137.5	53.4	76.1	129.5	74.8 [A]	149 [B]	44	41.2	50,457
12-Jun-19	135.9	39.0	47.7	86.7	74.8 [A]	98.3 [B]	43	41.2	48,736
17-Jun-19	134.2	50.9	64.3	115.2	78.7 [A]	129 [B]	43.7	41.2	48,910
26-Jun-19	136.8	41.2	58.2	99.4	83.3 [A]	113 [B]	44.3	42.3	50,542
1-Jul-19	138.9	45.0	63.5	108.5	83.3 [A]	126 [B]	43.6	42.3	50,507
11-Jul-19	129.6	34.3	38.3	72.6	78.7 [A]	78.5 [B]	45.1	42.3	48,747
15-Jul-19	128.3	45.2	55.8	101.0	83.3 [A]	108 [B]	43.3	42.4	46,332
24-Jul-19	134.7	34.5	36.1	70.6	83.3 [A]	79.3 [B]	42.3	42,4	47,520
29-Jul-19	131.5	40.5	46.8	87.3	86.7 [A]	95.7 [B]	44.1	42.5	48,365
6-Aug-19	133.3	42.0	35.7	77.7	83.3 [A]	86.4 [B]	45.6	42.8	50,695
12-Aug-19	133.0	51.1	47.8	98.9	86.7 [A]	110 [B]	45.7	42.8	50,691
21-Aug-19	133.1	33.0	30.1	63.1	83.3 [A]	70 [B]	46.2	42.9	51,284
26-Aug-19	130.6	46.3	51.3	97.6	86.7 [A]	106 [B]	45.7	43.2	49,777
2-Sep-19	135.5	32.7	25.4	58.1	83.3 [A]	65.7 [B]	44.1	43.3	49,836
11-Sep-19	130.2	24.6	29	53.6	83.3 [A]	58.2 [B]	45.8	43.6	49,733
16-Sep-19	133.4	51.3	47.7	99.0	83.3 [A]	110 [B]	43.3	43.6	48,174

Sample Date	PLWTP Flow (mgd)	Average Daily Effluent Phenol Concentration (µg/L)	Average Daily Effluent 4-Methylphenol Concentration (µg/L)	Average Daily Effluent Concentration for Non-Chlorinated Phenolics (µg/L)	Running 6-Month Median Concentration for Non-Chlorinated Phenolics (µg/L)	Daily MER for Non-Chlorinated Phenolic Compounds (lbs/day)	Average Daily Effluent Ammonia-N Concentration (mg/L)	Running 6-Month Median Ammonia-N Concentration (mg/L)	Daily MER for Ammonia-N (lbs/day)
25-Sep-19	133.6	27.6	36.1	63.7	83.3 [A]	70.9 [B]	43.7	43.7	48,673
1-Oct-19	128.2	5.5	NA	NA	NA	NA	44.4	43.8	47,472
7-Oct-19	134.6	7.7	NA	NA	NA	NA	44.4	44.0	49,842
16-Oct-19	134.6	12.0	NA	NA	NA	NA	46.4	44.1	52,087
21-Oct-19	134.0	15.0	NA	NA	NA	NA	43.9	44.1	49,061
30-Oct-19	134.0	7.5	NA	NA	NA	NA	43.3	44.1	48,390
4-Nov-19	133.7	15.6	NA	NA	NA	NA	46	44.1	51,293
13-Nov-19	125.6	10.2	NA	NA	NA	NA	46	44.2	48,185
18-Nov-19	133.8	19.8	NA	NA	NA	NA	45.2	44.4	50,438
25-Nov-19	140.5	16.3	NA	NA	NA	NA	34.4	44.2	40,309
2-Dec-19	153.0	35.7	43.9	79.6	87.0	102	38.4	44.2	48,999
11-Dec-19	156.7	26.5	41.8	68.2	83.2	89.1	37.9	44.2	49,531
16-Dec-19	148.7	28.7	37	65.7	78.7	81.5	38.1	44.2	47,250
23-Dec-19	179.9	29.8	33.5	63.3	75.2	94.9	33.6	44.1	50,398
1-Jan-20	144.3	20.3	45.8	66.1	63.5	79.5	36.5	44.1	43,911
6-Jan-20	150.6	34.4	54.8	89.2	63.6	112	38.4	44.1	48,215
15-Jan-20	148.0	44.2	38.9	83.1	63.5	103	40.0	44.0	49,359
20-Jan-20	145.7	33.2	56.9	90.1	63.5	109	41.0	44.0	49,814
29-Jan-20	147.8	38.1	65	103	78.7	127	41.6	43.8	51,261
04-Feb-20	146.8	26.2	24.8	51.0	63.2	62.4	42.2	43.5	51,666
10-Feb-20	162.7	31.5	46.4	77.9	63.2	106	39.1	43.3	53,055
19-Feb-20	142.3	36.7	35.3	72.0	63.5	85.4	46.9	43.3	55,660
24-Feb-20	151.2	42.8	70.2	113	63.5	142	43.7	43.3	55,106
02-Mar-20	145.1	39.7	61.3	101	64.7	122	43.1	43.2	52,157
11-Mar-20	156.7	33.1	44.6	77.7	65.9	102	38.2	42.7	49,923
16-Mar-20	168.8	37.0	59.3	96.3	65.9	136	36.9	41.9	51,948
25-Mar-20	156.2	28.5	52.2	80.7	67.2	105	39.9	41.3	51,978
01-Apr-20	153.6	23.4	22.9	46.3	67.2	59.3	42.1	41.3	53,931

Sample Date	PLWTP Flow (mgd)	Average Daily Effluent Phenol Concentration (µg/L)	Average Daily Effluent 4-Methylphenol Concentration (µg/L)	Average Daily Effluent Concentration for Non-Chlorinated Phenolics (µg/L)	Running 6-Month Median Concentration for Non-Chlorinated Phenolics (µg/L)	Daily MER for Non-Chlorinated Phenolic Compounds (lbs/day)	Average Daily Effluent Ammonia-N Concentration (mg/L)	Running 6-Month Median Ammonia-N Concentration (mg/L)	Daily MER for Ammonia-N (lbs/day)
06-Apr-20	157.2	38.8	50.7	89.5	70.1	117	38.8	40.5	50,869
15-Apr-20	175.8	24.5	31.8	56.3	70.1	82.5	37.0	40.0	54,248
20-Apr-20	160.6	32.7	50.3	83.0	74.9	111	41.0	40.0	54,916
29-Apr-20	143.1	35.7	51.9	87.6	77.8	105	42.4	40.0	50,602
05-May-20	141.5	26.4	26.4	52.8	77.8	62.3	46.1	40.0	54,403
11-May-20	142.0	41.0	55.5	96.5	78.8	114	44.0	40.0	52,108
20-May-20	135.4	33.2	29.9	63.1	78.8	71.3	45.6	40.0	51,493
25-May-20	134.3	43.2	59.8	103	80.2	115	43.5	40.5	48,723
01-Jun-20	137.0	38.9	48.8	87.7	81.9	100	42.0	41.0	47,988
10-Jun-20	136.4	23.3	22.7	46.0	81.9	52.3	44.2	41.3	50,281
15-Jun-20	137.9	41.6	48.7	90.3	83.1	104	42.6	41.8	48,994
24-Jun-20	142.7	39.4	38.8	78.2	83.1	93.1	44.2	42.1	52,603
29-Jun-20	140.8	47.1	56.1	103	85.4	121	43.9	42.2	51,551
06-Jul-20	142.0	33.6	42.9	76.5	83.1	90.6	42.8	42.3	50,687
15-Jul-20	134.4	21.9	19.0	40.9	81.9	45.8	45.4	42.5	50,889
20-Jul-20	135.5	38.3	46.8	85.1	81.9	96.2	42.2	42.5	47,689
29-Jul-20	132.4	31.7	34.3	66.0	79.5	72.9	42.9	42.7	47,371
04-Aug-20	139.8	26.4	35.8	62.2	79.5	72.5	43.9	42.9	51,184
10-Aug-20	136.5	35.5	47.7	83.2	81.9	94.7	42.4	42.9	48,269
19-Aug-20	140.9	28.7	29.6	58.3	81.9	68.5	39.8	42.7	46,769
24-Aug-20	140.2	35.4	43.3	78.7	79.7	92.0	40.2	42.5	47,005
02-Sep-20	135.3	26.5	19.2	45.7	78.5	51.6	46.0	42.5	51,906
09-Sep-20	141.7	30.1	20.3	50.4	78.5	59.6	44.4	42.7	52,471
14-Sep-20	139.8	33.9	43.9	77.8	78.0	90.7	42.9	42.9	50,018
23-Sep-20	138.8	27.9	20.8	48.7	77.2	56.4	45.3	42.9	52,439
28-Sep-20	140.6	35.2	46.2	81.4	78.0	95.4	46.2	43.2	54,174
06-Oct-20	137.4	18.7	36.3	55.0	77.2	63.0	38.3	43.2	43,889

Sample Date	PLWTP Flow (mgd)	Average Daily Effluent Phenol Concentration (µg/L)	Average Daily Effluent 4-Methylphenol Concentration (µg/L)	Average Daily Effluent Concentration for Non-Chlorinated Phenolics (µg/L)	Running 6-Month Median Concentration for Non-Chlorinated Phenolics (µg/L)	Daily MER for Non-Chlorinated Phenolic Compounds (lbs/day)	Average Daily Effluent Ammonia-N Concentration (mg/L)	Running 6-Month Median Ammonia-N Concentration (mg/L)	Daily MER for Ammonia-N (lbs/day)
12-Oct-20	144.6	27.5	35.7	63.2	77.2	76.2	41.9	43.2	50,530
21-Oct-20	137.0	29.1	23.7	52.8	71.3	60.3	41.0	43.2	46,846
26-Oct-20	139.2	37.6	48.4	86.0	71.3	99.8	40.0	43.2	46,437
02-Nov-20	134.3	43.3	23.4	66.7	71.6	74.7	41.1	42.9	46,035
09-Nov-20	145.3	35.4	27.7	63.1	66.4	76.5	37.5	42.9	45,443
18-Nov-20	132.8	30.6	28.6	59.2	66.4	65.6	39.3	42.7	43,527
23-Nov-20	134.6	38.7	53.2	91.9	66.4	103	37.6	42.5	42,208
02-Dec-20	136.0	18.4	30.9	49.3	64.6	55.9	42.2	42.5	47,865
07-Dec-20	133.9	44.9	62.8	108	66.0	120	41.3	42.3	46,121
16-Dec-20	131.1	30.0	31.5	61.5	64.6	67.2	41.5	42.2	45,375
21-Dec-20	135.9	37.4	57.8	95.2	63.2	111	41.2	42.1	46,696
28-Dec-20	148.4	35.5	55.5	91.0	63.2	113	37.3	41.7	46,165

Notes:

A Estimated 6-month median concentration value. Prior to October 2019, City monitoring reports did not include 4-methylphenol concentrations as part of the computed totals for non-chlorinated phenolic compounds. The above-listed 6-month means are unofficial (i.e., not shown in any submitted PLOO/PLWTP monitoring reports submitted by the City during 2017-2019) and are presented above for purposes of showing estimated 6-month median concentration values for this time period.

B Estimated 6-MERs are based on reported PLWTP phenol and 4-methylphenol concentrations and daily PLWTP flow values for the respective sampling dates. The listed estimated MERS are unofficial and (i.e., not shown in any submitted PLOO/PLWTP monitoring reports submitted by the City during 2017-2019) and are presented above for purposes of showing estimated MERs for this time period. Values rounded to three significant figures.

C Total computed non-chlorinated phenolic compounds during June 8, 2017 includes a 3.0 mg/L concentration for 2,4-dinitrophenol in addition to the 26.5 mg/L concentration of phenol and 44.8 mg/L concentration of 4-methylphenol.