

**CITY OF LOS ANGELES  
DEPARTMENT OF PUBLIC WORKS  
LA SANITATION AND ENVIRONMENT**

**30-DAY REPORT  
ON  
UNPLANNED DISCHARGE TO 1-MILE OUTFALL OF  
UNTREATED WASTEWATER ON JULY 11 AND 12, 2021**



**HYPERION TREATMENT PLANT  
12000 VISTA DEL MAR, PLAYA DEL REY, CALIFORNIA  
(NPDES PERMIT NO. CA0109991, ORDER NO. R4-2017-0045)**

**AUGUST 13, 2021**



**This page is intentionally left blank**

# TABLE OF CONTENTS

<b>EXECUTIVE SUMMARY .....</b>	<b>9</b>
<b>INTRODUCTION .....</b>	<b>13</b>
<b>2. BACKGROUND .....</b>	<b>13</b>
2.1. HYPERION SERVICE AREA.....	13
2.2. HYPERION WATER RECLAMATION PLANT OVERVIEW .....	15
2.2.1 Influent.....	15
2.2.2 Preliminary Treatment.....	15
2.2.3 Primary Treatment.....	16
2.2.4 Secondary Treatment.....	16
2.2.5 Effluent Disposal and Reclamation .....	16
2.2.6 Anaerobic Sludge Digestion .....	16
2.2.7 Dewatering .....	17
2.2.8 Energy Recovery .....	17
2.3 TRASH AND DEBRIS REMOVAL PROCESS.....	17
2.3.1 Step 1 – Headworks Barscreen .....	18
2.3.2 Step 2 – Primary Tank Skimmers .....	21
2.3.3 Step 3 – Secondary Clarifier Skimmers .....	22
2.3.4 Storm Drain System .....	23
2.3.5 Secondary Clarifier Effluent Channel Screens.....	26
<b>3. SPILL REPORTING .....</b>	<b>28</b>
3.1. JULY 11, 2021 SPILL INCIDENT AND ACTIONS UNDERTAKEN.....	28
3.2. NOTIFICATION.....	33
3.3. SPILL THROUGH STORM DRAIN SYSTEM TO 1-MILE OUTFALL .....	34
3.4. 1-MILE OUTFALL PUMP-DOWN AFTER THE SPILL .....	39
3.5. SAMPLING AND MONITORING .....	42
3.6. ODOR FENCE LINE MONITORING.....	47
3.7. SCREENINGS .....	47
<b>4. COLLECTION SYSTEM UNTREATED WASTEWATER OVERFLOW.....</b>	<b>49</b>
4.1. INSPECTION .....	49
4.2. UNTREATED WASTEWATER OVERFLOW REVIEW .....	49
<b>5. PREVENTIVE MEASURES TO MITIGATE FUTURE OVERFLOWS TO 1-MILE OUTFALL .....</b>	<b>50</b>
5.1. PROJECTS COMPLETED PRIOR TO THE SPILL.....	50
5.2. FUTURE PROJECTS .....	54
5.3. MITIGATION EFFORTS .....	59
<b>6. CONCLUSION.....</b>	<b>59</b>

## LIST OF FIGURES

Figure 1 – Hyperion Service Area Schematic.....	14
Figure 2 – Hyperion Process Flow Diagram .....	15
Figure 3 – Hyperion Preliminary, Primary, and Secondary Treatment Processes .....	18
Figure 4 – Hyperion Mechanically-Raked Barscreens Installed in June 2019 .....	19
Figure 5 – Barscreen Controls .....	20
Figure 6 – Primary Tank Skimmers .....	22
Figure 7 – Hyperion Secondary Clarifiers .....	23
Figure 8 – North, Central, and South Storm Drain Pump Stations Drainage Area .....	24
Figure 9 – Storm Water Collection and Overflow to 1-Mile Outfall .....	24
Figure 10 – Secondary Channel Screen Installation Points .....	27
Figure 11 – Secondary Channel Screens .....	27
Figure 12 – Secondary Channel Screens Pulled Out for Cleaning.....	28
Figure 13 – Hyperion Headworks Barscreens with Excessive Trash and Debris.....	28
Figure 14 – Flooding at Hyperion Headworks.....	29
Figure 15 – Bypass Sluice Gate (Left) and Bulkhead (Right).....	31
Figure 16 – CSD No. 1 Water Level .....	35
Figure 17 – CSD No. 2 Water Level .....	36
Figure 18 – Hourly Overflow to 1-Mile Outfall Totalizer .....	36
Figure 19 – CSD No. 1 Hourly Overflow Totalizer .....	37
Figure 20 – CSD No. 2 Hourly Overflow Totalizer .....	37
Figure 21 – Catch Basins (Yellow Dots) Affected by the Spill .....	38
Figure 22 – Screen and Grill on Catch Basin.....	38
Figure 23 – CSD No. 4 Pump Room (Left) and Effluent Piping to PBD (Right) .....	39
Figure 24 – Diagram of 1-Mile Surge Chamber Pump-Down to Service Water Facility .....	40
Figure 25 – Pump Located Within 1-Mile Diversion Structure and Surge Chamber .....	40
Figure 26 – Discharge into SWF Backwash Wet Well.....	41
Figure 27 – Santa Monica Bay Offshore Water Quality Stations.....	42
Figure 28 – Hyperion Influent Flow and Level Data Graph.....	49
Figure 29 – Storm Drain System & Catch Basins .....	50
Figure 30 – CSD No. 2 (Left) and Level Sensor (Right) .....	51
Figure 31 – Secondary Effluent Channel Screens.....	51
Figure 32 – Headworks Barscreen Bypass Channel .....	52
Figure 33 – Headworks Barscreen .....	52
Figure 34 – Central Storm Drain Rerouting Project .....	53
Figure 35 – Central Storm Drain Rerouting Project (in Construction) .....	53
Figure 36 – Stormwater Discharge Piping Separation.....	54
Figure 37 – 1-Mile Gates and Secondary Effluent Channel Bulkhead Slot Location .....	55
Figure 38 – 1-Mile Chamber Pump Station P&ID Schematic .....	55
Figure 39 – 1-Mile Chamber Pump Station.....	56
Figure 40 – Primary Tank B0 Piping System .....	56
Figure 41 – Primary Tank B5 Piping System .....	57
Figure 42 – Primary Tank C0 Piping System.....	57
Figure 43 – Primary Tanks Skimmer Improvement .....	58
Figure 44 – Primary Influent Sluice Gates .....	58

## LIST OF TABLES

Table 1. Specifications of Barscreens.....	19
Table 2. Sequence of Operation: 2-Speed Operation .....	21
Table 3. Summary of Storm Drain Pump Station Design Parameters.....	25
Table 4. Pump Station Collection Area and Discharges.....	26
Table 5. Chronological Timeline of Events .....	32
Table 6. Chronological Timeline of Events of Notification .....	33
Table 7. Conductivity Readings at the Start and End of the Pump-Down .....	41
Table 8. 1-Mile Effluent Conductivity Readings throughout Pump-down .....	41
Table 9. Hyperion Overflow Response Sampling on July 12, 2021 .....	43
Table 10. Hyperion Overflow Response Sampling on July 13, 2021 .....	44
Table 11. Hyperion Overflow Response Sampling on July 14, 2021 .....	45
Table 12. Hyperion Overflow Response Sampling on July 15, 2021 .....	46
Table 13. Hyperion Overflow Response Sampling on July 16, 2021 .....	46
Table 14. Hyperion Overflow Response Sampling on July 12, 2021 for Analytes .....	47

## LIST OF APPENDICES

Appendix A	Detailed Maintenance Records for Headworks Barcreens from June 13, 2019 to July 16, 2021
Appendix B	SANI-GRAM for Event of Untreated Wastewater Flows in Santa Monica Bay
Appendix C	5-day Report to LARWQCB dated July 16, 2021
Appendix D	5-day Report to USEPA dated July 16, 2021
Appendix E	Shoreline Monitoring Data
Appendix F	Offshore Monitoring Data
Appendix G	The 5-Mile Outfall Effluent Quality Data
Appendix H	Hyperion Fence Line Monitoring Data and Locations
Appendix I	Critical Process Equipment Status
Appendix J	Wastewater Conveyance System Data prepared by WESD and CWCD

## ABBREVIATIONS AND ACRONYMS

μS/cm	micro Siemens per centimeter
BOD	Biochemical Oxygen Demand
Cal OES	The California Office of Emergency Services
CCTV	Closed Circuit Television
CIP	Capital Improvement Project
CIS	Coastal Interceptor Sewer
COS	Central Outfall Sewer
CSD	Contaminated Storm Drain
CWC	California Water Code
CWCSD	Clean Water Conveyance System Division
DCS	Distributed Control System
DCTWRP	Donald C. Tillman Water Reclamation Plant
EED	Environmental Engineering Division
EPP	Effluent Pumping Plant
FHP	Feminine Hygiene Product

gpm	gallons per minute
HBEF	Hyperion's Bio-Energy Facility
HP	High Pressure
HTP	Hyperion Treatment Plant
LACDPH	Los Angeles County Department of Public Health
LACDPW	Los Angeles County Department of Public Works
LARWQCB	Los Angeles Regional Water Quality Control Board
LASAN	LA Sanitation and Environment
lbs/day	pound per day
LP	Low Pressure
MG	Million Gallons
MGD	Million Gallons per Day
MOSO	Material of Sewage Origin
MSCFD	Million Standard Cubic Feet per Day
MSCFD	Million Standard Cubic Feet per Day
MW	megawatt
NCOS	North Central Outfall Sewer
NORS	North Outfall Relief Sewer
NOS	North Outfall Sewer
NPDES	National Pollutant Discharge Elimination System
NRDC	Natural Resources Defense Council
NTU	Nephelometric Turbidity Unit
OIT	Operator Interface Terminal
OIT	Operator Interface Terminal
P&ID	Piping and Instrumentation Diagram
PBD	Primary Battery D
ppb	part per billion
PSI	Pound per Square Inch
SWF	Service Water Facility
SWRCB	State Water Resources Control Board
TSS	Total Suspended Solids
USEPA	U.S. Environmental Protection Agency
WESD	Wastewater Engineering Services Division
West Basin	West Basin Municipal Water District
WTO	Wastewater Treatment Operator

## REFERENCE FOR RWQCB'S REQUIRED ITEMS IN THE REPORT

ITEM	RWQCB REQUIRED SUBMITTAL	SECTION/APPENDIX
<b>Items Required by NPDES Permit for the Spill</b>		
1	The date and time of each spill, overflow, or bypass	Section 3.1
2	The location of each spill, overflow, or bypass	Section 3.1
3	The cause of each spill, overflow, or bypass	Section 3.1
4	The estimated volume of each spill, overflow, and bypass including gross volume, amount recovered and amount not recovered, monitoring results as required by section VIII.C.6.b	Sections 3.3, 3.4, and 3.5
5	Whether each spill, overflow, or bypass entered a receiving water and, if so, the name of the water body and whether it entered via storm drains or other man-made conveyances;	Section 3.3
6	Any mitigation measures implemented	Section 5.1
7	Any corrective measures implemented or proposed to be implemented to prevent/minimize future occurrences	Sections 5.2 and 5.3
8	The mandatory information included in SSO online reporting for finalizing and certifying the SSO report for each spill, overflow, or bypass under the SSO WDR.	N/A (See Section 3.2)
<b>Items Requested by RWQCB Staff during Inspection at Hyperion on July 21, 2021.</b>		
1	Preventive Maintenance (PM) and Construction Management (CM) history of all Barscreens (BS) and their motors, controls, etc.	Section 2.3.1 and Appendix A
2	Barscreens specifications, such as flow capacity, size, motor horsepower, time of installation	Section 2.3.1
3	Mode of Barscreen operations, manual, auto. Is there a cleaning function programmed such as reversing the motor when the motor senses plugging?	Section 2.3.1
4	<ul style="list-style-type: none"> <li>• Chronology of events at the Barscreens (BS) on July 11, 2021, between 12:00 pm and 3:00 pm; the period when the Plant began to have problems to the time of the spill from the Headworks (HW).</li> <li>• How many BS were online?</li> <li>• How many BS were on standby?</li> <li>• What time did the first BS tripped?</li> <li>• What time did the Plant place a standby BS online, time of the second BS failure, time of attempt to unclog the BS, time of attempted to open the Bypass.</li> <li>• How many operators were at the HW, including any other useful information?</li> </ul>	Section 3.1
5	Best estimate of the amount of debris or screening at the time of the incident. <ul style="list-style-type: none"> <li>• How much debris during normal operation?</li> <li>• How much debris did the Plant get on July 11, 2021 (especially around 12:00 PM).</li> <li>• Has the amount of screening returned to normal after the incident (i.e. the amounts before, during and after the incident)?</li> </ul>	Section 3.7

This page is intentionally left blank

## EXECUTIVE SUMMARY

Pursuant to NPDES No. CA0109991, Order R4-2017-0045, LA Sanitation and Environment (LASAN) is submitting this 30-day report on the unplanned discharge of untreated wastewater to the 1-Mile Outfall into the Pacific Ocean from the Hyperion Treatment Plant (Hyperion) on July 11 and 12, 2021.

Hyperion is the City's oldest and largest wastewater treatment facility located at 12000 Vista del Mar, Playa del Rey across from Dockweiler State Beach. Hyperion treats an average of 260 million gallons per day (MGD) of which 225 MGD is discharged to the 5-Mile Outfall to the Santa Monica Bay and 35 MGD is sent to the Edward C. Little Water Recycling Facility (West Basin) for advanced treatment and reuse.

The first step in the wastewater treatment process is Preliminary Treatment. Preliminary Treatment consists of a screening process and sand/grit removal. The screening process involves the use of eight barscreens (four barscreens spaced 0.75 inch and four spaced 0.375 inch apart) to remove large objects from the wastewater. A large mechanical rake removes unwanted materials (consisting mostly of wipes, grease balls, rags, wood chips, and other non-recyclable/non-beneficial materials) from the barscreens, which are then loaded onto a hauling truck and taken for disposal at a landfill.

The next step in treating wastewater is Primary Treatment. Wastewater enters the plant at an average speed of 2 to 5 feet per second; however, during Primary Treatment, wastewater is slowed to 2 to 3 feet per minute. Underground large primary tanks (roughly 300 feet long and 15 feet deep) hold wastewater for 2 hours allowing heavy solids to settle to the bottom, while oil and grease and other floatable materials float to the top, and are skimmed off. These tanks can remove 60-65% of the suspended solids in wastewater, and about 50-55% of the organic material. The heavy solids are then removed and transported to the solids handling area of the plant for further processing in the digesters. The primary tank helical skimmers collect the floating scum which is pumped into the digesters as well. The digested sludge from the digesters is screened to remove trash and debris that is trucked for disposal at a landfill.

After the wastewater has been processed through Primary Treatment, it is pumped into Hyperion's secondary biological reactors where naturally occurring aerobic microorganisms are cultivated in large quantities, and mixed with mechanical mixers to stir the wastewater and pure oxygen aiding the microorganisms in consuming organic waste. The treated effluent flows to another set of settling tanks (called circular clarifiers) where any remaining solids settle to the bottom. Approximately 35 million gallons per day (MGD) of the final effluent is pumped to West Basin for advanced treatment and reuse, and the remaining secondary effluent (about 225 MGD) is discharged into the Santa Monica Bay through the 5-Mile Outfall. The solids at the bottom of the clarifiers are conveyed to the digesters for further treatment. In the clarifiers, floatable material, including trash and debris, is skimmed off and pumped to the Headworks to go through the treatment processes. This is the third line of defense for removing trash and debris from the wastewater.

The digested sludge, including trash and debris removed from Primary and Secondary Treatment, is screened at the Digester Screening Facility (DSF) before it is dewatered and land applied. Screenings from DSF are hauled to landfill for disposal.

Hyperion's storm drain system is designed to collect and process rainfall on the property as well as any chemical, biosolids or untreated wastewater spill from the treatment processes. The plant

has three drainage areas: north, central and south. Each drainage area drains into a storm drain pump station that returns the collected flow to the Headworks to be treated. Flow in excess of the pump station capacity overflows to the 1-Mile Outfall.

On July 11, 2021, Hyperion received an excessive amount of trash and debris from an unknown origin that was suddenly collected on the barscreens at Hyperion's Headworks Screening Facility (Headworks Facility), resulting in the flooding of the plant and untreated wastewater overflowing to the 1-Mile Outfall. Untreated wastewater from the Headworks Facility flowed via the in-plant storm drain system due to the high water levels in the sump wells. There was no trash or debris discharges to the ocean due to the screens at the entrance of each catch basin throughout the plant. The wastewater overflow was through the 1-Mile Outfall rather than the 5-Mile Outfall because Hyperion's internal storm drains for overflow are connected to the 1-Mile Outfall to ensure stormwater flows do not overwhelm wastewater treatment processes. This resulted in approximately 17 million gallons (MG) of untreated wastewater being discharged as a controlled emergency measure through its 1-Mile Outfall relief system to prevent Hyperion from going completely offline and discharging much more untreated wastewater.

Per the City's National Pollution Discharge Elimination System (NPDES) permit for Hyperion (the discharge permit required under the Clean Water Act), the State of California Office of Emergency Services (Cal OES) and the National Response Center were notified, respectively, at 8:10 pm and at 8:18 pm on July 11. State Law requires that an unauthorized discharge of untreated wastewater [as defined in 23 California Code of Regulations (CCR) 2250 (b)] into or onto state waters must be reported to Cal OES. Cal OES will then immediately notify the Los Angeles Regional Water Quality Control Board (LARWQCB), the local public health department, and the local Office of Environmental Health. These offices are responsible for determining appropriate public and environmental safety measures. A notice was issued by LASAN at 11:17 pm on July 11 with a distribution that included Heal the Bay, LA Waterkeeper, and the National Resources Defense Council.

Water quality sampling and testing of shoreline (beach) samples was conducted for five days from July 12 to 16, 2021, and our monitoring ocean vessel traveled to both the 1-Mile and 5-Mile Outfalls to make observations and take samples for analyses following regulatory permit protocols. Five days of testing revealed normal bacteria levels.

In addition, LASAN also collected samples for analysis of total suspended solids (TSS), Biochemical Oxygen Demand (BOD), and Settleable Solids concentrations, Nephelometric Turbidity Unit (NTU), and grease for the 1-Mile Outfall receiving water monitoring on July 12, 2021.

On July 16, 2021, Hyperion submitted written preliminary 5-day reports to the LARWQCB and USEPA.

Pursuant to LARWQCB Order, R4-2021-017-A01, Hyperion submits a Daily Report to LARWQCB. The report includes the shoreline and offshore monitoring data, 5-Mile Outfall Effluent Quality data, fence line monitoring data, and critical process equipment status.

On July 21, 2021, the inspection team from the LARWQCB visited Hyperion. The LARWQCB team were accompanied by the Hyperion Operation Managers and staff from LASAN Wastewater Engineering Services Division (WESD) and Clean Water Conveyance Division (CWCD). The information requested by the LARWQCB inspectors during their inspection at Hyperion is provided in this report.

Although it was reported that 17 MG of untreated wastewater was discharged out the 1-Mile Outfall into the Santa Monica Bay, Hyperion was over the course of 15 days able to pump back

4.5 MG that was retained inside the 1-Mile Outfall by utilizing a 250 GPM submersible pump placed in the 1-Mile Surge Chamber. The liquid content of the 1-Mile Outfall was pumped back into the plant for secondary treatment through the Service Water Facility (SWF) Backwash Wet Well and then to the Primary Effluent Channel. The pumping operations continued until the 1-Mile Outfall water conductivity was approximately the same as the conductivity of sea water which was measured at approximately 48,000 micro Siemens per centimeter ( $\mu\text{S}/\text{cm}$ ) on August 10, 2021.

Fence line monitoring data for hydrogen sulfide conducted from July 26 – August 3 indicate that odor emissions are largely from overloaded primary tanks and secondary clarifiers. For almost three weeks after the July 11 flooding incident at Hyperion, there were no viable outlets for sludge handling because of damaged equipment. Since discharging sludge to the ocean or allowing it to back on to streets and homes were not viable options, the only viable option was to find ways to hold on to sludge within treatment processes as the plant worked around the clock to pump water out of facilities, and gain access to repair lots of equipment and build new conveyance systems from scratch. Hyperion began processing sludge in a substantial way on August 1, 2021 and that has resulted in significant improvement to air quality. Air quality monitoring results were also made available to the public at <http://www.lacitiesan.org>.

The amount of trash and debris collected during the spill could not be quantified. Trash and debris collected by the barscreens from the time the problems began at around 1:00 PM on July 11 to the time all barscreens went off line at 4:30 PM could not be quantified. In addition, the amount of trash and debris mixed in with the untreated wastewater that overflowed from the headworks and contained within the plant from 3:30 PM on July 11 to 4:30 AM on July 12, and the amount of trash and debris that accumulated in the treatment process after the barscreen emergency bypass channel was opened for approximately three days from 4:30 AM on July 12 could not be quantified. Finally, the slug load of trash and debris that accumulated behind the barscreens before the problems began on July 11 at 1:00 PM and led to the failure of the barscreens could not be quantified. However, Hyperion will continue to work on quantification of the amount of trash and debris collected during the spill.

Prior to the spill incident, Hyperion has proactively updated all its infrastructure to ensure water quality discharge limits are consistently met. In recent years, many projects have come online which likely reduced other potential impacts due to the spill.

Capital improvement projects and other process improvement completed prior to the spill.

1. Screens were installed in all plant's catch basins in the plant in 2015.
2. New Storm Drain monitoring sensors and level indicator was installed in 2015.
3. Secondary Effluent Channel Screens was installed downstream of the secondary clarifiers in 2015.
4. Headworks Bypass Channel Project was completed in May 2019.
5. Headworks Barscreens Improvement Project was completed in June 2019.
6. Central Storm Drain Rerouting Project was completed in November 2020.

LASAN capital improvement projects to mitigate future overflows to the 1-Mile Outfall are:

1. Storm Discharge Piping Separation Project (CIP 2492). This project improves system performance and eliminates the possibility that materials of sewage origin (MOSO) from Secondary Clarifiers and Primary Tank Dewatering will be discharged into the 1-Mile Outfall. Project completion is expected by December 2022.

2. One-Mile Chamber Pump Station (CIP 2487). This project will install an automated pumping system to pump water out of the 1-Mile surge chamber back to SWF. Project completion is expected by November 2022.
3. Primary Tanks B0, B5 and C0 Upgrades (CIP 2445). This project will modify primary tanks eliminate plugging in the suction piping of Tanks B0, B5, and C0. Project completion is expected by May 2022.
4. Primary Tanks Skimmer Improvements (CIP 2446). This project is to replace the helical skimmers with power skimmers in Batteries A, B, and C to improve solids capture. Project completion is expected by May 2022.
5. Primary Tank "A" Influent Sluice Gates Modifications to Bulkheads (CIP 2477). This project will remove and replace all four primary influent sluice gates and replace two bulkheads in the influent channel and three bulkheads in Primary Battery A influent channel. Project completion is expected by May 2022.

LASAN will conduct further assessment to gain a complete understanding of what happened and why in order to prevent the occurrence of a similar incident. Assessments will include but not limited to the following:

1. Assessment of the mechanically-raked barscreens and improve the design to ensure that the barscreens are be able to handle excessive amounts of trash and debris.
2. Review of Standard Operation Procedures and Hyperion operators' training for operation of the emergency bypass channel. This ensures operators are prepared to handle a similar emergency as needed.
3. Assessment of plant facilities to mitigate the risk of flooding and damage to critical equipment located below ground.
4. Increased public education effort to reduce trash and debris in the sewer system and into the plant

It is our conclusion that the unplanned discharge of approximately 17 million gallons of untreated wastewater into Santa Monica Bay through the 1-Mile Outfall on July 11 and 12, 2021 was caused by inundation of the Headworks barscreens with quantities of unexpected debris. Upon becoming aware of the situation, LASAN addressed the issue with the utmost urgency and immediate response measures were implemented to mitigate the impact of the spill. LASAN will continue to work proactively to maintain its mission of protecting public health and the environment and that includes the precious Santa Monica Bay.

## INTRODUCTION

Hyperion is the oldest and largest wastewater treatment facility. It has been operated since 1894. It was designed to accommodate both dry and wet weather days with a maximum daily flow of 450 MGD and peak wet weather flow of 850 MGD. Hyperion treats an average of 260 MGD of which 225 MGD is discharged to the 5-Mile Outfall to the Santa Monica bay and 35 MGD is sent to Edward C. Little Water Recycling Facility (West Basin) for advanced treatment and reuse.

At Hyperion's Headworks Facility, the largest solids, such as branches, plastics and rags, as well as smaller solids like grease balls, wood chips, sand and other gritty solids are removed. This is the first step of the wastewater treatment process known as Preliminary Treatment. Preliminary Treatment begins with the screening process. The screening process at Hyperion involves the use of eight barscreens (large metal racks of steel bars, four barscreens spaced 0.75-inch and four spaced 0.375-inch apart) to remove large objects from entering wastewater. A large mechanical rake removes unwanted materials from the barscreen and deposits the various items into a water trough where they are then dewatered and stored in large silos. Once dewatered, the materials (consisting mostly wipes, grease balls, rags, wood, and other trash) are then loaded onto a hauling truck and taken to a landfill for disposal.

On the afternoon of Sunday, July 11, 2021, Hyperion became inundated with overwhelming quantities of unexpected debris. The first line of defense for removing debris from the wastewater is the headworks facilities, which contain barscreens to catch debris and remove it from the wastewater flow; however, the large amount of debris overwhelmed the system, causing wastewater to back up at the headworks facility. The plant's relief system was triggered as designed and wastewater overflows were controlled through use of the plant's 1-Mile Outfall system at 7:00 PM, which resulted in the discharge of untreated wastewater into Santa Monica Bay through the 1-Mile Outfall. Normally the discharge of secondary-treated effluent is through the 5-Mile Outfall. During this discharge through the 1-Mile Outfall, approximately 17 million gallons of screened wastewater (representing six percent of an average daily load) was discharged as an emergency measure to prevent the plant from going completely offline and discharging much more untreated wastewater. The untreated wastewater overflowed from Contaminated Storm Drain (CSD) Nos. 1 and 2 into the 1-Mile Outfall for almost 14 hours (from 7:00 PM on July 11, 2021 to 8:41 AM on July 12, 2021).

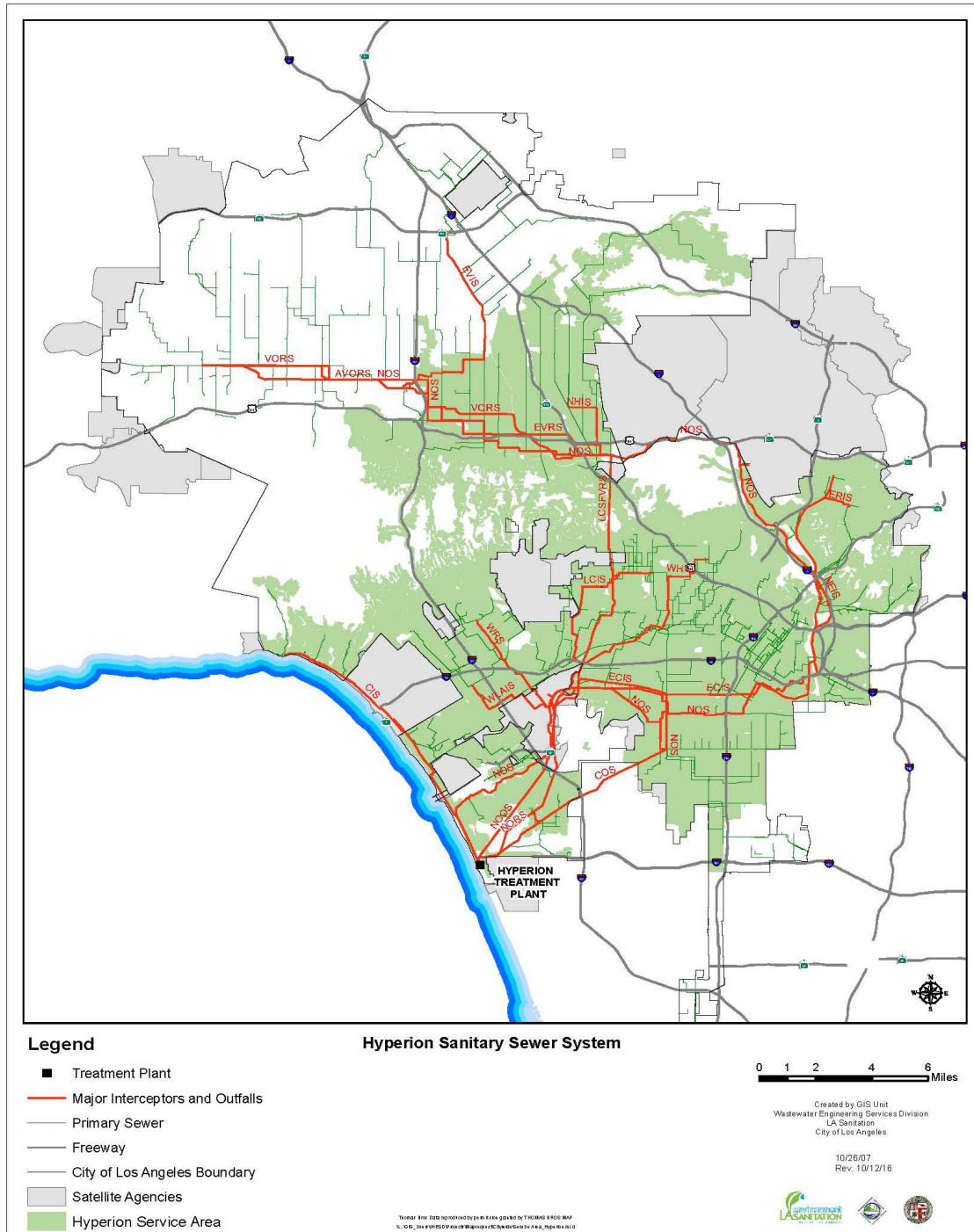
Pursuant to NPDES No. CA0109991, Order R4-2017-0045, LA Sanitation and Environment (LASAN) is submitting this 30-day report on the unplanned discharge of untreated wastewater to the 1-Mile Outfall into the Pacific Ocean from Hyperion on July 11 and 12, 2021. The preliminary 5-day report was submitted to Los Angeles Regional Water Quality Control Board and USEPA on July 16, 2021.

## 2. BACKGROUND

### 2.1. HYPERION SERVICE AREA

Hyperion is owned and operated by LASAN. It is located at 12000 Vista del Mar Boulevard, Playa del Rey, California. Hyperion is part of a joint outfall system commonly known as the Hyperion Treatment System, which consists of 6,700 miles of wastewater conveyance system, Hyperion and three upstream water reclamation plants: Donald C. Tillman Water Reclamation Plant, Los Angeles-Glendale Water Reclamation Plant, Burbank Water Reclamation Plant (owned and operated by a contract city), and their associated outfalls. The Hyperion Treatment

System collects, treats, and disposes of wastewater from the entire City of Los Angeles (except the Wilmington-San Pedro area, the strip north of San Pedro, and Watts) and from a number of cities and agencies under contractual agreements (Refer to Figure 1). HWRP treats wastewater from 26 contract agencies including Beverly Hills, Culver City, El Segundo, Los Angeles County Sanitation Districts, Santa Monica, San Fernando, and West Hollywood. Approximately 85% of the wastewater comes from the City of Los Angeles. The remaining 15% comes from the contract cities and agencies. There are over four million people in the Hyperion Treatment System service area.



**Figure 1 – Hyperion Service Area Schematic**



through, while the heavier inorganic materials settle. The materials removed from the preliminary processes are hauled to landfills for disposal.

### **2.2.3 Primary Treatment**

After preliminary treatment, the wastewater is introduced into primary tanks to remove settleable and floatable materials. The velocity of the wastewater is reduced to settle particulate organic matter and to float oil and grease and other trash and debris. The detention time in the primary tanks is approximately 2 hours. Chemicals, called coagulants, are added to enhance the removal process. The settled and floatable materials are then pumped to the digesters for further processing.

### **2.2.4 Secondary Treatment**

After primary treatment, the wastewater still has soluble and fine particulate organic matter which cannot be removed by the sedimentation or flotation treatment process. In secondary treatment, microorganisms are utilized to remove the organic materials that are left in the water. These aerobic microorganisms thrive and multiply when given oxygen and organic foods in wastewater. Several hundred tons of microorganisms are mixed with wastewater and pure oxygen in reactors for two to three hours. A cryogenic oxygen generation facility is used to separate oxygen from other gasses in the air to provide oxygen for the microorganisms.

Once the organic food is depleted, the mixed liquor from the reactors flows into secondary clarifiers. It stays there for about four hours while the biological solids settle to the bottom. By this time, 90-95% of the organic solids in the wastewater have been removed and the effluent is clean for discharge into Santa Monica Bay or to be recycled. The biological solids that have settled to the bottom are pumped through a separate piping system to their next level of treatment, the anaerobic digesters. Most are recirculated back into the oxygen reactors to continue the biological treatment.

### **2.2.5 Effluent Disposal and Reclamation**

After secondary treatment, approximate 35 MGD of the final effluent is pumped to the West Basin Municipal Water District (West Basin) in El Segundo for further treatment required for water reclamation. The remaining secondary effluent (approximately 225 MGD) is discharged into the Santa Monica Bay through a 12-ft diameter 5-Mile Outfall.

The 5-Mile Outfall has been the main outfall used for the discharge of Hyperion's effluent since it was placed in service in 1960. Prior to that, the 1-Mile Outfall was in service between 1951 and 1960. After the 5-Mile Outfall was placed in service, the 1-Mile Outfall remained as a backup to the 5-Mile Outfall in case of emergency or planned maintenance on the 5-Mile Outfall. The 5-Mile Outfall is the designated choice of effluent discharge because it discharges the effluent farther from shoreline (5 miles instead of 1 mile), deeper (190 feet instead of 50 feet), and for better mixing of effluent into sea water (8,000 feet of diffuser length instead of 300 feet).

### **2.2.6 Anaerobic Sludge Digestion**

Solids that were removed from primary and secondary treatment are pumped into egg-shaped digesters for anaerobic digestion. Hyperion uses thermophilic digestion to meet EPA's Class A requirements for land application of biosolids. After approximately 15 days of digestion, volatile solids and pathogen levels are greatly reduced. As a byproduct, methane gas is also produced. The digested sludge is screened to remove trash and debris before land application. The removed trash and debris are hauled to landfill for disposal.

### **2.2.7 Dewatering**

The Class A biosolids from digesters goes through a screening process before centrifuge dewatering. The dewatered biosolids are transported for beneficial reuse primarily through land application at the City's Green Acres Farm in Kern County near Bakersfield where crops such as wheat, corn, alfalfa, milo, and Sudan grass are grown for livestock consumption.

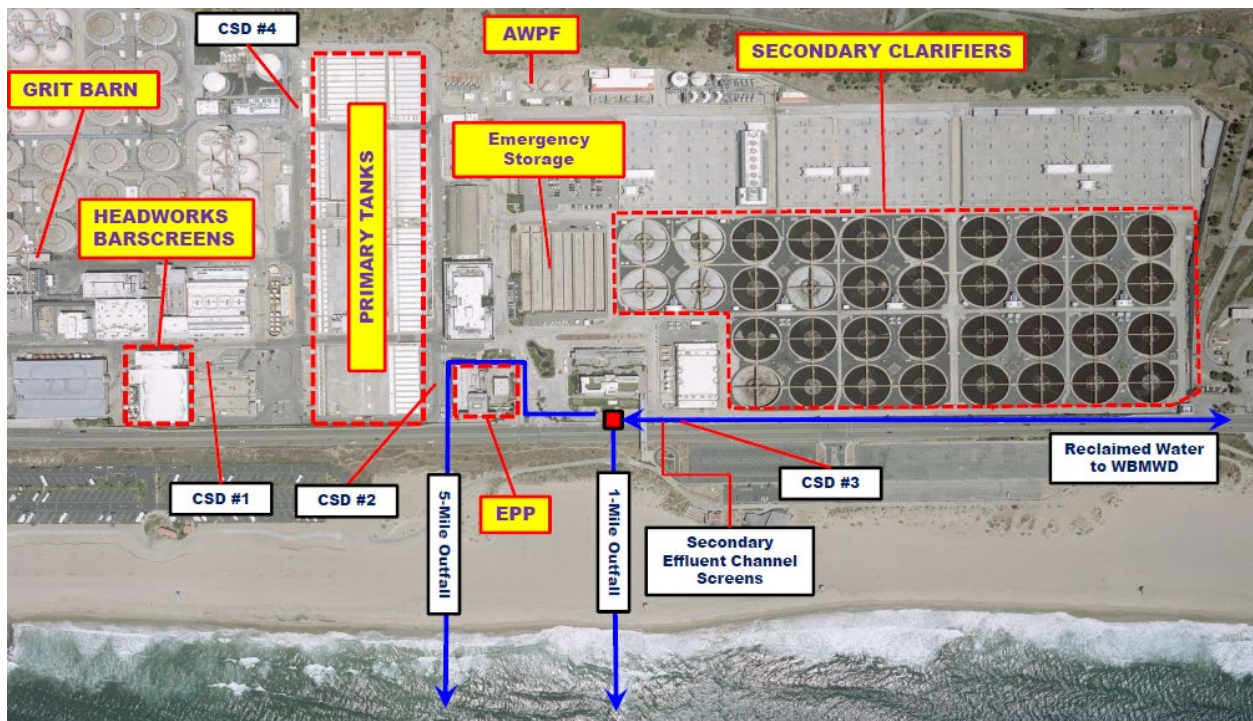
### **2.2.8 Energy Recovery**

Hyperion produces and distributes approximately 6.5 Million Standard Cubic Feet per Day (MSCFD) of digester gas through its extensive network of Low Pressure (LP) and High Pressure (HP) gas pipelines. During normal operations, digester gas exits digesters at a low pressure of approximately 7.0 inches of water column (IWC). Then, it is compressed to 37 - 40 pounds per square inch (PSI), scrubbed for H<sub>2</sub>S removal, and finally sent to the Hyperion's Bio-Energy Facility (HBEF), which is Hyperion's state of the art co-generation facility. HBEF produces an average of 20 megawatt (MW) of electricity. Since April 2017, digester gas, a renewable energy source, is used to generate over 20 megawatts (MW) of power each day from the state-of-the-art HBEF. The 20 MW of power, which is used to meet the plant's power demand including steam needed for digester heating, is enough to power about 30,000 homes and is the equivalent of removing about 95,000 tons/year of greenhouse gases from the environment, and about 20,000-cars equivalent.

## **2.3 TRASH AND DEBRIS REMOVAL PROCESS**

The plant treatment processes are very effective in removing trash and debris. The trash and debris removal process in Hyperion takes place at the following steps of the treatment process as shown in Figure 3:

- STEP 1 - HEADWORKS BARSCREEN
- STEP 2 - PRIMARY TANK SKIMMERS
- STEP 3 - SECONDARY CLARIFIER SKIMMERS



**Figure 3 – Hyperion Preliminary, Primary, and Secondary Treatment Processes**

### 2.3.1 Step 1 – Headworks Barscreen

The Headworks barscreens (Figure 4), located in the Headworks Facility, are the first step of removing trash and debris at Hyperion. The wastewater flows through the barscreens with either four barscreens spaced 0.75-inch or four spaced 0.375-inch apart). There are a total of eight barscreens, with 9-foot wide for each. Screenings caught on the barscreens are collected by mechanical rakes and scraped into the sluiceway. The sluiceway conveys the screenings to grinders and then to the compactors. From the compactors, the screenings are discharged into a truck for landfill disposal.

At Hyperion’s Headworks Facility, the largest solids, such as branches, plastics and rags, as well as smaller solids like grease balls, wipes wood chips, sand and other gritty solids are removed. This is the first step of the wastewater treatment process known as Preliminary Treatment. Preliminary Treatment begins with the screening process. The screening process at Hyperion involves the use of eight barscreens (large metal racks of steel bars, four barscreens spaced 0.375 inch and four spaced 0.75 inch apart) to remove large objects from entering wastewater. A large mechanical rake removes unwanted materials from the barscreen and deposits the various items into a water trough where they are then dewatered and stored in large silos. Once dewatered, the materials (consisting mostly grease, rags, wood, and other trash) are then loaded onto a hauling truck and taken to a landfill for disposal.

In June 2019, the new Mechanically-Raked Barscreens were installed in the existing channels (Figures 4 and 5). Each barscreen has a flow through capacity of 133 MGD of sanitary untreated wastewater with a maximum water depth in the channel of 11.5 feet. Screenings mechanically raised on screen to the dead plate and automatically discharged to a discharge chute and into the sluiceway.

Each barscreen has the following capacity as shown in the following table.

**Table 1. Specifications of Barscreens**

1.	Number of Barscreens	Eight (8)
2.	Channel Width (feet)	10.0
3.	Channel Depth (feet)	14.17
4.	Maximum Upstream Water Depth (feet)	11.5
5.	Maximum Flow per Barscreen (MGD)	133.0
6.	Barscreen Field Width (feet)	9.0
7.	Clear Spacing between Bars (inches) (Four Barscreens)	0.375 (or 3/8)
8.	Maximum Head Loss at 30% blinding (inches)	5.52 (at approach velocity of 4.0 ft/s)
9.	Clear Spacing between Bars (inches) (Four Barscreens)	0.75 (or 3/4)
10.	Maximum Head Loss at 30% blinding (inches)	4.20 (at approach velocity of 4.0 ft/s)
11.	Drive motor (horsepower)	5.0
12.	Incline of Each Barscreen	15 degrees in vertical

All materials (including but not limited to bolts, anchor bolts, nuts, and washers) are Type 316 stainless steel suitable for service in a moist, corrosive environment as encountered in wastewater treatment plants.



**Figure 4 – Hyperion Mechanically-Raked Barscreens Installed in June 2019**

#### MECHANICALLY-RAKED BARSCREEN

Mechanically raked barscreens are used to retain trash and debris with the use of a continuous traveling rake mechanism located on the upstream side of the barscreen. This traveling rake travels from the channel invert to a discharge chute located on the top. The accumulated debris on the rake that has reached the top is removed by a scrapper which then falls through a discharge chute into a sluiceway for eventual disposal.

In the event of a blockage on the barscreen that causes an overload condition, the rake mechanism can automatically reverse direction for a predetermined distance and then resume traveling in its original direction in an attempt to clear the blockage. This motion is repeated a maximum of three times in attempting to clear the blockage. The process of clearing the blockage will be either set at normal speed or high speed, ten second interval or five second interval, respectively.

If the blockage is cleared, the barscreen will reset automatically. If the attempts fail to clear the blockage, the barscreen will trip and set off an alarm.

### BARSCREEN CONTROL SYSTEM

Each barscreen is equipped with Allen Bradley PanelView Plus 600 Operator Interface Terminal (OIT) to allow push button adjustment of counter values, timers and level set points. The barscreen can be set up with upstream and downstream level sensors for automatic on/off operation based on the levels. However, when the barscreens were installed in 2019, Hyperion decided to run the barscreens on manual mode because of risks involved with unreliable level sensors. In manual mode, forward-fast speed, forward-slow speed, reverse rotation can be selected. All the time, operators keep the fast-forward speed for fast raking of the debris collected on the screen. Also there is the unplugging built-in function in the OIT, which reverses the motor rotation when plugging of barscreen is sensed (by high motor torque). When this unplugging function is activated, the motor goes to reverse and forward multiple times before it shuts down. Also, the OIT has the timer, which allows to run the barscreens on the timer.

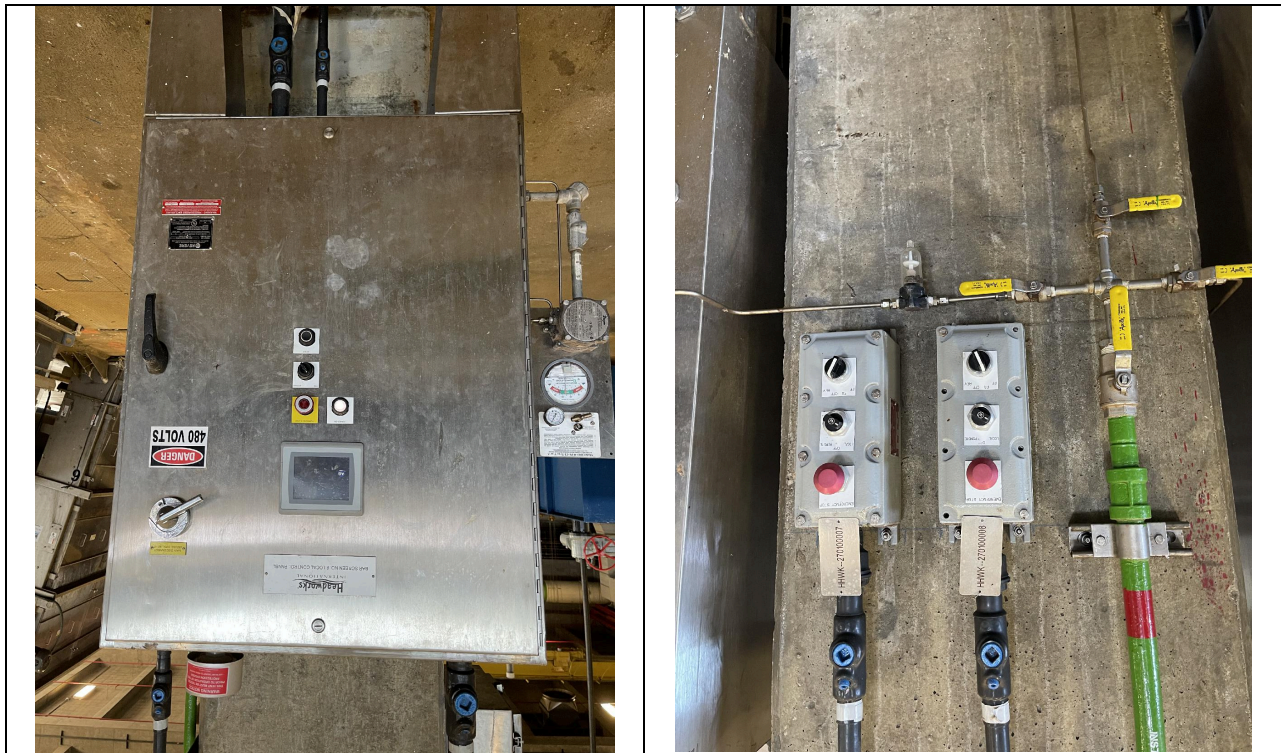


Figure 5 –Barscreen Controls

Table 2 shows Barscreen Control System indicators and sequence of operations.

**Table 2. Sequence of Operation: 2-Speed Operation**

Main Panel On/Off	Local Panel Hand/Off/Auto & Fwd/Off/Rev	Result	Action when Blockage occurs	Comments
On	Auto & Any Position	Screen starts in LSP when the rising water differential reaches set level (Level 1).	Screen performs cleaning shuttle up to 4 times. If no success, screen stops and initiates alarm contact.	LSP - Low Speed Mode. Approx. 10-second cleaning interval
On	Auto & Any Position	Screen starts in HSP when the rising water differential reaches set level (Level 2).	Screen performs cleaning shuttle up to 4 times. If no success, screen stops and initiates alarm contact.	HSP - High Speed Mode. Approx. 5-second cleaning interval.
On	Auto & Any Position	Exercise run	Screen performs cleaning shuttle up to 4 times. If no success, screen stops and initiates alarm signal.	X min in LSP, every Y min. (X & Y are Operator adjustable)
On	Manual & Forward	Screen operates forward in LSP.	Screen stops immediately. No cleaning shuttle.	
On	Manual & Reverse	Screen operates in reverse in LSP.	Screen stops immediately. No cleaning shuttle.	
On	E-Stop Engaged	Screen stops immediately.	N/A	
On	Off & Any Position	Screen will not operate.	N/A	
On	Hand & Off	Screen will not operate.	N/A	
Off	Any Position & Any Position	Screen will not operate.	N/A	

### BARSCREEN MAINTENANCE

Barscreen equipment is repaired and maintained by Hyperion's Maintenance staff on a regular basis. The detailed record of maintenance activities are shown in Appendix A.

#### **2.3.2 Step 2 – Primary Tank Skimmers**

Primary tank skimmers are the second step of removing trash and debris in wastewater at Hyperion. The longitudinal (long) sludge collectors rotate and push settled sludge to the influent end of the hopper. On their return from the influent end of the primary settling tanks, the sludge collection flights rotate to the surface. They travel along the top of water surface, pushing scum from the influent end to the effluent end of the tanks. The helical scum skimmers push the scum up a beach plate and discharge it into the scum trough (Figure 6). Since scum consists of

materials that do not readily flow, flushing water is used to move scum along the scum trough to the scum wet-well. From the wet-well, the scum is pumped to the Primary Sludge Pump Station where it is blended with the primary sludge, and then the mixture is conveyed to the anaerobic digesters. From the digesters, the digested sludge is screened to remove trash and debris at the Digester Screening Facility before land application. The trash and debris in the digested sludge are removed and hauled to landfill for disposal.



**Figure 6 – Primary Tank Skimmers**

### **2.3.3 Step 3 – Secondary Clarifier Skimmers**

Secondary clarifiers are the final stage in removing solids. There are 36 circular clarifiers at Hyperion. Each clarifier has three zones: feed, flocculation, and settling zones. The mixed liquor from the secondary reactors enters the clarifier through a vertically-installed feed tube into the feed zone (Figure 7). The main purpose of the feed zone is to minimize short-circuiting of flow through the clarifier. From the feed zone, the mixed liquor is discharged to the flocculation zone through diffuser ports. On the liquid surface, the scum flows through the scum ports. In the flocculation zone, the microorganisms in the mixed liquor cling together to form settleable mass. In the settling zone, the biomass settles to the bottom and scum or floatable float to the surface.

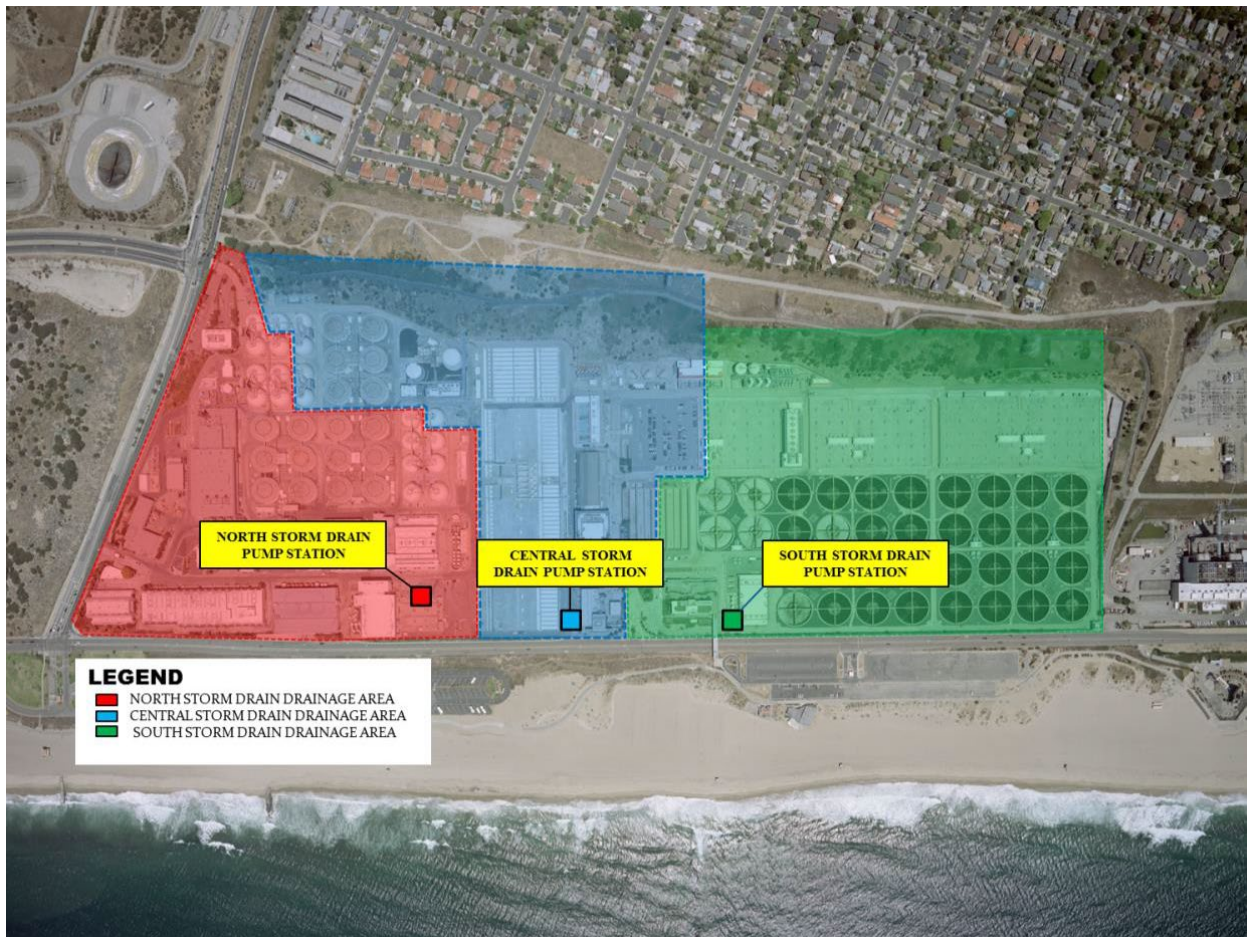
In the flocculation and settling zones of each clarifier, there is a rotating skimmer pipe with opening on the top. The rotating skimmer rotates down each time the skimmer flight passes through the area. The scum flows in the skimmer pipe and discharges to scum wet-well. From the wet-well, the scum is pumped to the Headworks to go through the treatment processes.



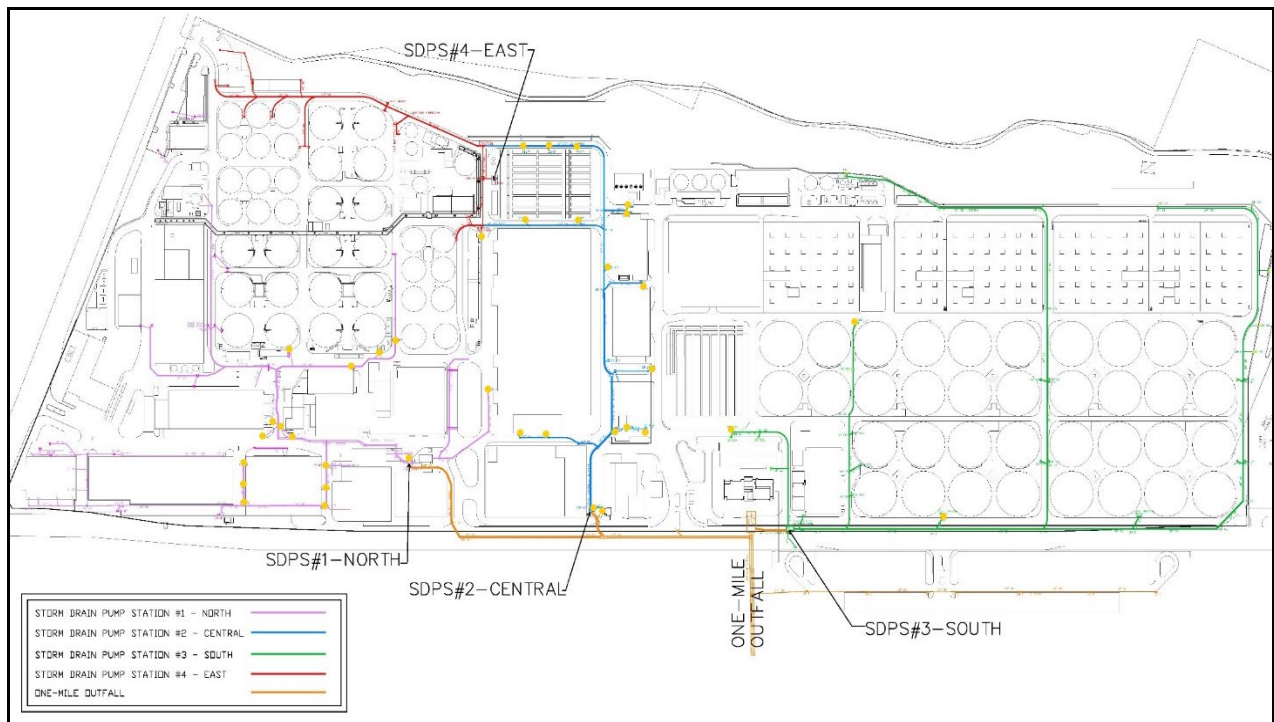
**Figure 7 – Hyperion Secondary Clarifiers**

### **2.3.4 Storm Drain System**

Hyperion’s storm drain system is designed to collect and process rainfall on the property as well as any chemical, biosolids or untreated wastewater spills from the treatment processes. The plant has three drainage areas: north, central and south (Figures 8 and 9). Each drainage area drains into a storm drain pump station that returns the collected flow to the Headworks to be treated. Flow in excess of the pump station capacity overflows to the 1-Mile Outfall. Figure 9 shows the storm collection network and the overflow piping connections to the 1-Mile Outfall.



**Figure 8 – North, Central, and South Storm Drain Pump Stations Drainage Area**



**Figure 9 – Storm Water Collection and Overflow to 1-Mile Outfall**

The north area covers 37 acres of drainage area and includes most of the influent and solids handling processes, such as the headworks, digesters, dewatering and biosolids truck loading. Many of these processes are above ground and have a higher potential for spill of untreated wastewater, sludge and chemicals than process areas that are below ground and contained in channels and tanks.

The North Storm Drain Pump Station, with a wet-well capacity of 313,000 gallons and three pumps, at 6,000 gallons per minute (gpm) capacity each, is sized to process a storm with an intensity of up to one inch per hour or a large spill. The flow enters the forebay and passes through a 3-inch screen to the wet-well pumps. If the flow exceeds the pump capacity, it will overflow a weir, pass through a 3-inch screen, which was replaced in 2015 with a 3/8-inch screen, and discharge to a 48-inch overflow line that connects to the 1-Mile Outfall outside the plant, in Vista del Mar. Per design, the pumps are controlled locally by float switches, and the pump status can be monitored remotely.

The central area covers 34 acres, which include a portion of the digesters, the gas handling facility, primary tanks and the Intermediate Pump Station.

The Central Storm Drain Pump Station consists of a 10,000 gallon wet-well and two pumps, at 500 gpm capacity each. It is sized to process a storm with intensity of less than 1/8 inch per hour or essentially the first flush. When the flow exceeds the pump capacity, it will discharge to a 54-inch overflow line that connects to the 1-Mile Outfall outside the plant in Vista del Mar. The overflow line is not screened. Per design, the pumps are controlled locally by float switches, and the station is not remotely monitored.

The south area covers 31 acres, which include the area around the secondary reactors and clarifiers. The area also receives storm flows from two catch basins on Vista del Mar.

The South Storm Drain Pump Station consists of a 10,000 gallon wet-well and two pumps, at 500 gpm capacity each. Similar to the Central Storm Drain Pump Station, it is sized to process the first flush of a storm. If the flow exceeds the pump capacity, it will discharge to a 54-inch overflow line that connects to the 1-Mile Outfall Surge Chamber. The overflow line is not screened. Per design, the pumps are controlled locally by float switches, and the station is not remotely monitored.

The design parameters for the pump stations for each drainage area are summarized in Table 3.

**Table 3. Summary of Storm Drain Pump Station Design Parameters**

HTP	Pumping Capacity	Wet-well Storage	Drainage Area	Rainfall Intensity	Runoff Rate		Wet-well Fill Up Time	Overflow Rate	
	(gpm)	(gallons)	(acres)	(in/hr)	(gpm)	(mgd)	(min)	(gpm)	(mgd)
North Area	18,000	313000	37	1	16,745	24.1	N/A	0	0.0
				0.5	8,373	12.1	N/A	0	0.0
				0.25	4,186	6.0	N/A	0	0.0
Central Area	1,000	10000	34	1	15,387	22.2	0.7	14,387	20.7

				0.5	7,694	11.1	1.5	6,694	9.6
				0.25	3,847	5.5	3.5	2,847	4.1
South Area	1,000	10000	31	1	14,030	20.2	0.7	13,030	18.8
				0.5	7,015	10.1	1.4	6,015	8.7
				0.25	3,507	5.1	2.9	2,507	3.6

The Central Storm Drain Rerouting Project was initiated in 2017 and completed in September 2020. This project converted the existing sludge wet well to collect and transfer stormwater from North of 7<sup>th</sup> street to the primary influent channel. The collection area for this project was about 14 acres to Contaminated Storm Drain (CSD) No. 4. This project reduced the collection area of CSD No. 2 by 30%. During the spill, 270,000 gallons were collected and pumped to the Primary Battery D (PBD).

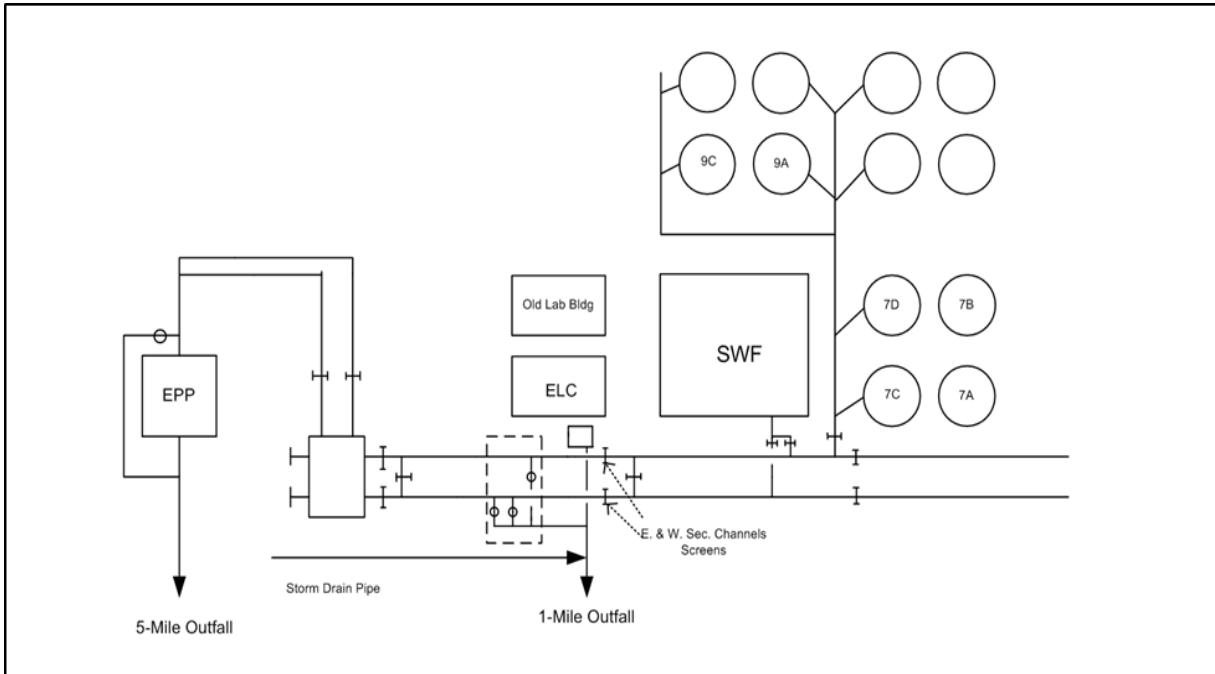
Table 4 is listing the capacity of each storm drain pump station for each collection area shown in Figures 8 and 9 above for overflow.

**Table 4. Pump Station Collection Area and Discharges**

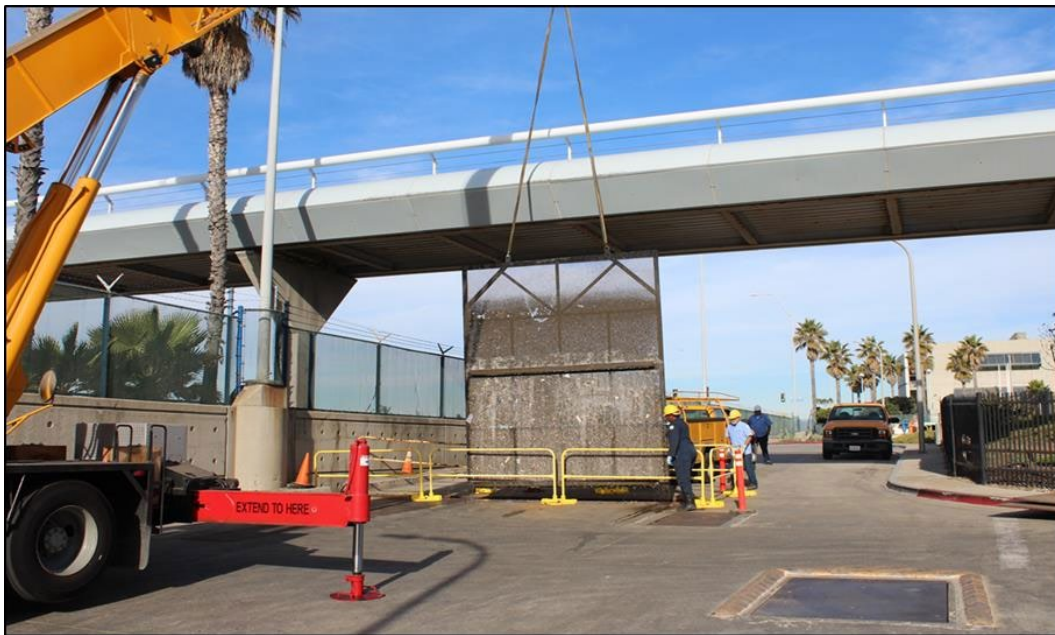
Pump Station	Storage Capacity	Collection area	Overflow
Storm Drain Pump Station (SDPS) No. 1	280,000 gallon	Collects magenta area and pumps to headworks	Overflows to 1-Mile Outfall
Storm Drain Pump Station No. 2	10,000 gallon	Collects blue area and pumps to headworks	Overflows to 1-Mile Outfall
Storm Drain Pump Station No. 3	10,000 gallons	Collects green area and pumps to headworks	Overflows to 1-Mile Outfall
Storm Drain Pump Station No. 4	225,000 gallons	Collects some of blue area and pumps to Primary Battery B	Overflows to SDPS No. 2

### 2.3.5 Secondary Clarifier Effluent Channel Screens

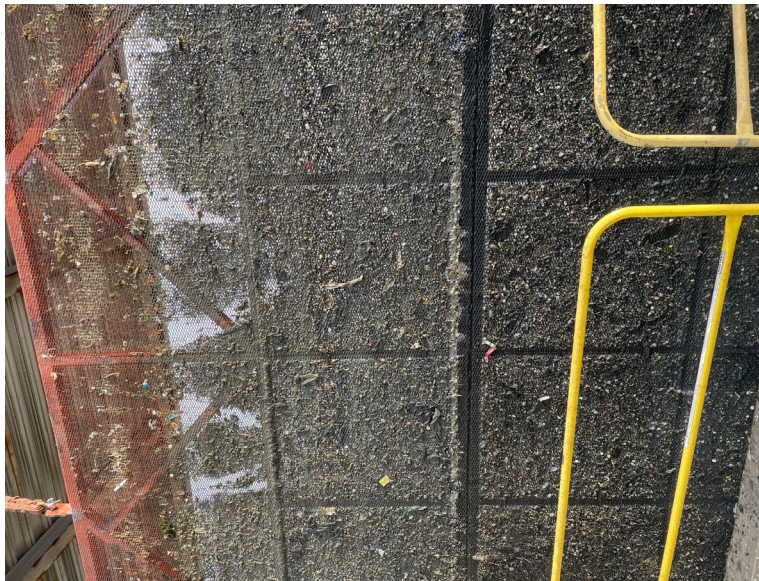
On September 24, 2016, stainless steel screens were installed in existing bulkhead slots in both of the two Hyperion secondary effluent channels to capture any debris before the secondary effluent is discharged into the Santa Monica Bay. The screens provide a fourth line of defense to prevent trash and/or debris from exiting the plant. The screens have 3/8-inch openings (small enough to capture all FHP) and have baskets along the bottom edge to catch any plastics that would dislodge when the screens are pulled out for inspection and cleaning. Hyperion staff clean both channel screens twice per week. Most of debris collected has been stickers only. See Figures 10 to 12 for the location and the cleaning operation of the screens.



**Figure 10 – Secondary Channel Screen Installation Points**



**Figure 11 – Secondary Channel Screens**



**Figure 12 – Secondary Channel Screens Pulled Out for Cleaning**

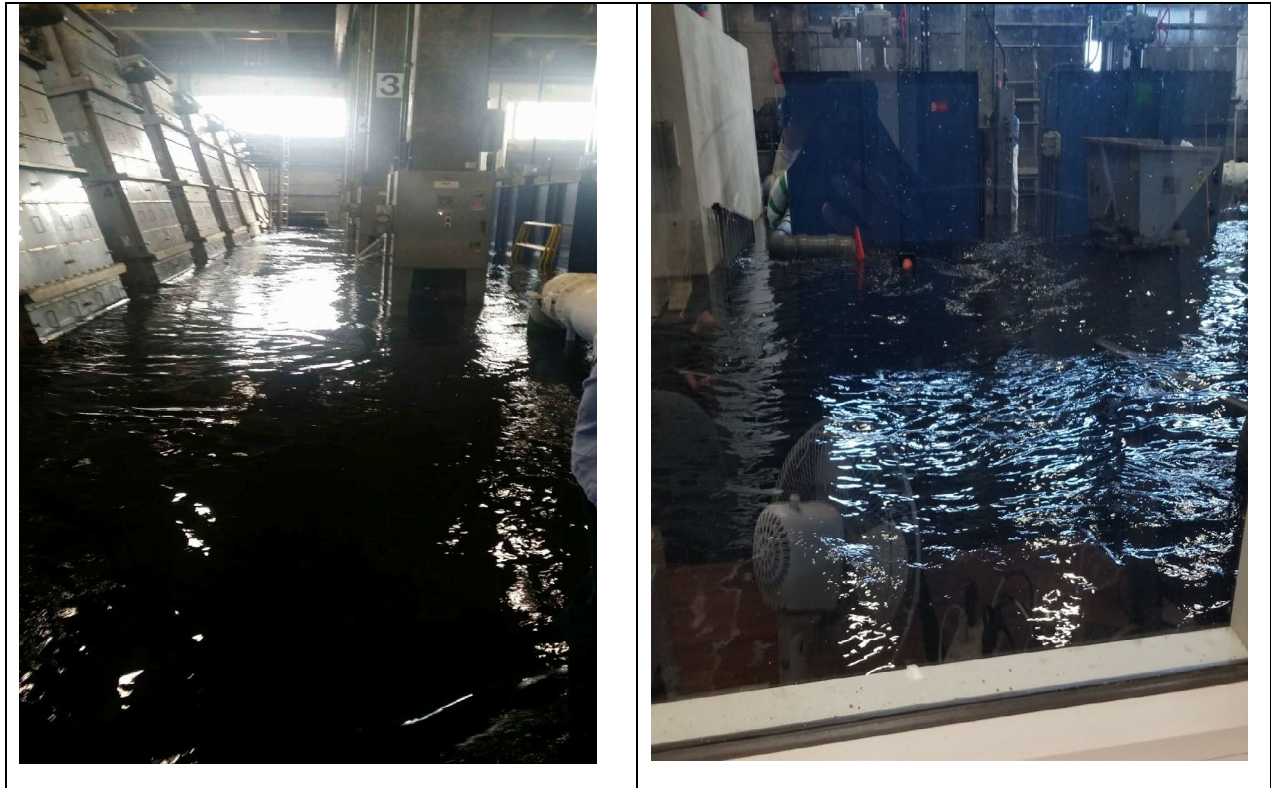
### **3. SPILL REPORTING**

#### **3.1. JULY 11, 2021 SPILL INCIDENT AND ACTIONS UNDERTAKEN**

On July 11, 2021, Sunday, excessive amounts of trash and debris in the untreated wastewater collected on the barscreens at the Headworks Facility (Figure 13), resulting in flooding of Hyperion and untreated wastewater to overflow (Figure 14). This resulted in approximately 17 MG of untreated wastewater reaching the ocean through Hyperion’s emergency 1-Mile Outfall. LASAN staff continue to investigate the source of this debris.



**Figure 13 – Hyperion Headworks Barscreens with Excessive Trash and Debris**



**Figure 14 – Flooding at Hyperion Headworks**

Around 1:00 PM on July 11, 2021, the Headwork Facility began experiencing problems. Headworks water level upstream of the barscreen was rising based on the Distributed Control System's (DCS) historical data and trend line. The unusual rise in the water level may be an indication of plugging of the barscreens as debris accumulates, obstructing the flow of untreated wastewater through the barscreen and into the treatment process. It should be noted that on the 5-Day Report to RWQCB and USEPA, it was first reported that the Headworks Facility began experiencing problems around noon and the operators first noticed Headworks water level upstream of the barscreens was rising. However, after further investigation, it was concluded that the Headworks Facility began experiencing problems around 1:00 PM.

Around 1:45 PM, the day shift field operator (WTO I) assigned at the Headworks Facility made his last rounds of the equipment before the end of shift at 2:00 PM. Four barscreens (#2, #4, #6 and #8 with 0.375-inch spacing) were in service and four barscreens (#3, #5, #7 and #9) with 0.75-inch spacing were on stand-by at that time.

Based on dayshift WTO I last rounds at 1:45 PM and historical trends, it appears that the first barscreen tripped and was offline at 2:00 PM. Swing shift started at 2:00 PM with the same field operator from the day shift covering the swing shift.

Historical alarm data from DCS shows an urgent priority alarm was triggered for Barscreen Influent Channel High Level Alarm (HHWKLAH216) at 2:10:31 PM and low priority alarm for Influent Channel Level (HHWKL1001) at 36.51 feet was triggered at the same time.

While monitoring the screening trough around 2:45 PM, the WTO I noticed there was an intermittent suction problem coming from Chopper Pump #2, which conveys screen debris for compaction. It was at this time that WTO I called the Swing Shift WTO II to submit a Work Request for maintenance to work on the chopper pumps as there no longer had a reliable standby pump. Work Request WR #28199 was submitted at 3:13 PM.

Chopper Pump #1 was placed on line. After Chopper Pump #1 was placed online, the WTO I was monitoring the trough and noticed a level decrease in the trough. It was at this time that it was realized that barscreen #2 was offline. As the barscreens have a 30 second delay before the rakes move at times, WTO I waited approximately 1-2 minutes and then confirmed it was offline. WTO I tried resetting the barscreen, but was unsuccessful. It was at this time that WTO I realized all of the barscreens were offline.

The WTO II was then called on the radio for immediate assistance. During this time, there was no flooding, but noticed there was a water mist coming out of the floor plates and drains. Around 3:15 PM – 3:30 PM, standby barscreens were being placed online.

It should be noted that on 5-Day Report to RWQCB and USEPA, by 3:00 PM, the Headworks facility was overwhelmed and some untreated wastewater began to overflow out of the Headworks building and into the streets within Hyperion, flooding the plant. However, the operators present during the incident stated that the sequence of events of when the problems started to the time untreated wastewater spilled out of the headworks happened very fast and nobody (operators present during the incident) seemed to know what time anything happened. However, based on when the Work Request was submitted at 3:13 PM, the WTO II noticed untreated wastewater coming out of the maintenance hole on the South East driveway of the Headworks Facility as he was approaching to assist at Headworks (estimated 3:30 PM).

By 3:30 PM to 4:00 PM, the Headworks Facility was overwhelmed, and untreated wastewater began overflowing out of the Headworks building and into the street within Hyperion and flooding the plant.

Once the WTO II arrived at the Headworks, all efforts were being utilized to unclog offline barscreens and place them online. At one point, the level of the water on the ground seemed to have been dropping and the operators had six barscreens online, but then all barscreens tripped offline at around 4:30 PM. By this time, all eight available barscreens had stripped on motor load. Seven operators came for assistance during the incident: three WTO I's from the liquids section, one WTO II from the liquids section, one WTO II from the solids section, one WTO I from the solids section, and the Shift Superintendent.

After all efforts were exhausted in getting the barscreens online, the operators attempted to open the headworks emergency bypass gate around 4:30 PM to allow incoming untreated wastewater to bypass the plugged barscreens. However, they had difficulty to remove the bulkhead upstream of the bypass sluice gate (Figure 15) possibly due to accumulation of trash and other debris preventing its removal. Operators were walking around using push brooms and squeegees to make sure they were not going to fall in any open holes.



**Figure 15 –Bypass Sluice Gate (Left) and Bulkhead (Right)**

At around 5:00 PM the level of the overflowing untreated wastewater in the Headworks was knee high. The headworks area was evacuated at around 5:30 PM as a safety measure.

Untreated wastewater from the street within Hyperion flowed into the plant’s storm drain system (CSD No. 1 and CSD No. 2) and into the pipe galleries and pump rooms below ground. Hyperion’s storm drain system normally collects and pumps accumulated storm water back to the Headworks, and excess water passively overflows into the 1-Mile Outfall. Around 7:00 PM on July 11, 2021, excess untreated wastewater from the storm drain system began to overflow to 1-Mile Outfall.

On Monday, July 12, around 1:00 AM to 2:00 AM, cover plates by the aerated grit basins, in front of Primary tanks and Effluent Pumping Plant (EPP) were opened to minimize flooding and allow untreated wastewater to flow to the liquid process for treatment.

Approximately around 4:30 AM, the bulkhead was finally removed allowing incoming untreated wastewater to bypass the barscreens and flow into downstream treatment processes while crews continued to work on the clogged barscreens.

At 8:40 AM, on July 12, 2021, with two barscreens back in service and the emergency bypass channel open, flow to 1-Mile Outfall finally stopped. Initial calculation determined that up to 16.874 MG of untreated wastewater overflowed into the ocean from CSD Nos. 1 and 2, approximately 0.134 MG and 16.74 MG, respectively; and 0.08 MG to the 5-Mile Outfall.

On July 12, 2021 at 3:00 PM, four barscreens were back in service. However, the Headworks emergency bypass channel was still open allowing trash and debris to enter the treatment process.

The emergency bypass channel was closed on July 15, 2021.

Table 5 shows the chronological timeline of series of events took place on July 11 and 12, 2021 when the Headworks barscreen experienced problems and the untreated wastewater flow was diverted to the 1-Mile Outfall.

**Table 5. Chronological Timeline of Events**

DATE	TIME	EVENT
July 11, 2021	1:00 PM	Headworks Barscreen began experiencing problems. Headworks water level upstream of the barscreen was rising as shown in the Digital Control System's (DCS) historical data and trend line.
July 11, 2021	1:45 PM	Around 1:45 PM, the day shift field operator (WTO 1) assigned at the Headworks Screening Facility made his last rounds of the equipment before the end of shift at 2:00 PM. Four barscreens (#2, #4, #6 and #8 with 0.375-inch spacing) were in service and four barscreens (#3, #5, #7 and #9) with 0.75-inch spacing were on stand-by.
July 11, 2021	2:00 PM	First barscreen tripped and went offline.
July 11, 2021	2:10:31 PM	Historical alarm data from DCS shows an urgent priority alarm was triggered for Barscreen Influent Channel High Level Alarm (HHWKL AH216) at 2:10:31 PM and low priority alarm for Influent Channel Level (HHWKL1001) at 36.51 ft was triggered at the same time.
July 11, 2021	2:45 PM (estimated)	<p>While monitoring the trough, the WTO I noticed there was an intermittent suction problem coming from Chopper Pump #2. It was at this time that he called the Swing Shift WTO II to submit a Work Request for maintenance to work on the chopper pumps as there no longer had a reliable standby pump. Work Request WR #28199 was submitted at 3:13 PM.</p> <p>Chopper Pump #1 was placed on line. After Chopper Pump #1 was placed online, the WTO I was monitoring the trough and noticed a level decrease in the trough. It was at this time that it was realized that barscreen #2 was offline. As the barscreens have a 30 second delay before the rakes move at times, WTO I waited approximately 1-2 minutes and then confirmed it was offline. WTO I tried resetting the barscreen, but was unsuccessful. It was this time that WTO I realized all of the barscreens were offline.</p> <p>The WTO II was called on the radio for immediate assistance. During this time, there was no flooding, but noticed there was a water mist coming out of the floor plates and drains.</p>
July 11, 2021	3:15 PM - 3:30 PM	Around 3:15-3:30 PM, standby barscreens were being placed online.
July 11, 2021	3:30 PM	WTO II noticed untreated wastewater coming out of the maintenance hole on the South East driveway of the Headworks facility as he was approaching to assist at Headworks
July 11, 2021	3:30 PM to 4:00 PM	Headworks Screening Facility was overwhelmed, and untreated wastewater began overflowing out of the Headworks building and into the street within Hyperion and flooding the plant.
July 11, 2021	4:30 PM	All barscreens tripped offline at around 4:30 PM. After all efforts were exhausted in getting the barscreens online, the operators attempted to open the headworks emergency bypass gate.
July 11, 2021	5:00 PM	At around 5:00 PM the level of the overflowing untreated wastewater in the Headworks was knee high.

July 11, 2021	5:30 PM	The headworks area was evacuated for safety.
July 11, 2021	7:00 PM	Untreated wastewater from CSD Nos. 1 and 2 overflowed to 1-Mile outfall due to high wastewater level in the sump. Initial calculation indicated up to 17 MG of untreated wastewater went into the ocean: 16.874 MG overflowed to 1-Mile outfall (CSD No. 1 – 0.134 MG and CSD No. 2 – 16.4 MG) and the rest 0.08 MG to the 5-Mile Outfall.
July 12, 2021	4:30 AM	Untreated wastewater overflow from Headworks building stopped. Bulkhead bypass was finally removed and allowed untreated wastewater to bypass the barscreen and flow into the treatment process.
July 12, 2021	8:40 AM	Two barscreens are back in service.
July 12, 2021	8:41 AM	Overflow from CSD Nos. 1 and 2 to 1-Mile Outfall stopped.
July 12, 2021	10:00 AM – 10:30 AM	Three barscreens are back in service.
July 12, 2021	3:00 PM	Four barscreens are back in service. Headworks emergency bypass channel was still open.
July 13, 2021		Pump down of flooded pipe gallery is on-going.
July 14, 2021		Pumping down is still on-going.
July 15, 2021	1:10 AM	Headworks emergency by-pass channel closed.

### 3.2. NOTIFICATION

On July 11, 2021 at around 7:00 PM, untreated wastewater from CSD Nos. 1 and 2 overflowed into 1-Mile outfall and into the ocean. In accordance with the requirements of California Water Code (CWC) section 13271, Hyperion notified the California Office of Emergency Services (Cal OES) of the unplanned discharge of untreated wastewater at 7:59 PM. Cal OES notified the Regional Water Board and USEPA on the incident soon after receiving the initial notification from Hyperion. CAL OES also notified the Los Angeles County Department of Public Health at 8:11 PM. Hyperion then notified the National Response Center at 8:18 PM.

On July 11, 2021, around 11:15 PM, LASAN sent out a SANI-GRAM (Appendix B) on the discharge of untreated wastewater to 1-Mile Outfall via email to the City of Los Angeles Board of Public Works with a copy of the email to the Heal the Bay, LA Waterkeeper, National Response Defense Council and other City offices. In the morning of July 12, LASAN called Heal the Bay regarding the incident.

Since the spill was not from the sewer collection system but occurred within the confines of the treatment plant itself, the Sanitary Sewer Overflow (SSO) online report was not submitted. As stated in this section, all necessary notifications were immediately made, including the submission of the 5-day report to the LARWQCB and USEPA (Appendices C and D).

The following table summarizes the timeline of notification of the incident.

**Table 6. Chronological Timeline of Events of Notification**

DATE	TIME	EVENT
July 11, 2021	Around 1:00 PM	Headworks barscreens began experiencing problems. Four barscreens were in service
July 11, 2021	3:30 PM - 4:00 PM	Untreated wastewater started overflowing out of the Headworks building and into the street within the plant. Untreated wastewater from the street overflowed into CSD Nos 1 and 2

<b>July 11, 2021</b>	7:00 PM	Untreated wastewater from CSD Nos. 1 and 2 overflowed to 1-Mile outfall due to high wastewater level in the sump. Initial calculation indicated up to 17 MG of untreated wastewater went into the ocean: 16.874 MG overflowed to 1-Mile Outfall (CSD No. 1 – 0.134 MG and CSD No. 2 – 16.4 MG) and the rest 0.08 MG to the 5-Mile Outfall.
<b>July 11, 2021</b>	7:59 PM	Hyperion notified Cal OES of the release of reportable amounts of untreated wastewater (greater than 1,000 gallons) discharged to 1-Mile Outfall at (800) 852-7550. Case No. 21-3698.
<b>July 11, 2021</b>	Immediately after 7:59 PM	Cal OES notified Regional Water Board and USEPA
<b>July 11, 2021</b>	8:11 PM	Cal OES notified Los Angeles County Department of Public Health (LACDPH).
<b>July 11, 2021</b>	8:18 PM	Hyperion notified National Response Center at (800) 424-8802. Case No. 131-0393
<b>July 11, 2021</b>	9:30 PM	LACDPH inspectors (2 inspectors) visited Hyperion
<b>July 11, 2021</b>	11:15 PM	LASAN Notified the Board of Public Works, Heal the Bay, LA Waterkeeper, National Resource Defense Council along with internal City of Los Angeles offices via SANIGRAM
<b>July 12, 2021</b>	4:30 AM	Opened bypass gate to stop overflow of untreated wastewater out of Headworks building
<b>July 12, 2021</b>	8:41 AM	Untreated wastewater flow to 1-Mile Outfall stopped
<b>July 12, 2021</b>	9:30 AM	1) Hyperion made a follow-up phone call to Cal OES to provide additional information. 2) Hyperion made a follow-up phone call to LACDPH to report the untreated wastewater spill total volume of 17 MG
<b>July 12, 2021</b>	11:30 AM	LARWQCB staff onsite at Hyperion for initial assessment and inspections of the facility.
<b>July 12, 2021</b>	Late in the afternoon	LACDPH issued an advisory that Dockweiler State Beach and El Segundo Beach were closed to the public.
<b>July 15, 2021</b>	Early morning	LACDPH issued an advisory that Dockweiler State Beach and El Segundo Beach were opened to the public.
<b>July 16, 2021</b>		LASAN submitted a written preliminary report five (5) working days after disclosure of the incident to U.S. EPA and LARWQCB. (Refer to Appendices C and D)

Additionally, pursuant to LARWQCB Order, R4-2021-017-A01, the Daily Report was also submitted to LARWQCB. The report includes the following documentation:

1. Shoreline Monitoring Data (Appendix E).
2. Offshore Monitoring Data (Appendix F).
3. The 5-Mile Outfall Effluent Quality Data (Appendix G).
4. Hyperion Fence Line Monitoring Data and Locations (Appendix H).
5. Critical Process Equipment Status (Appendix I).

### **3.3. SPILL THROUGH STORM DRAIN SYSTEM TO 1-MILE OUTFALL**

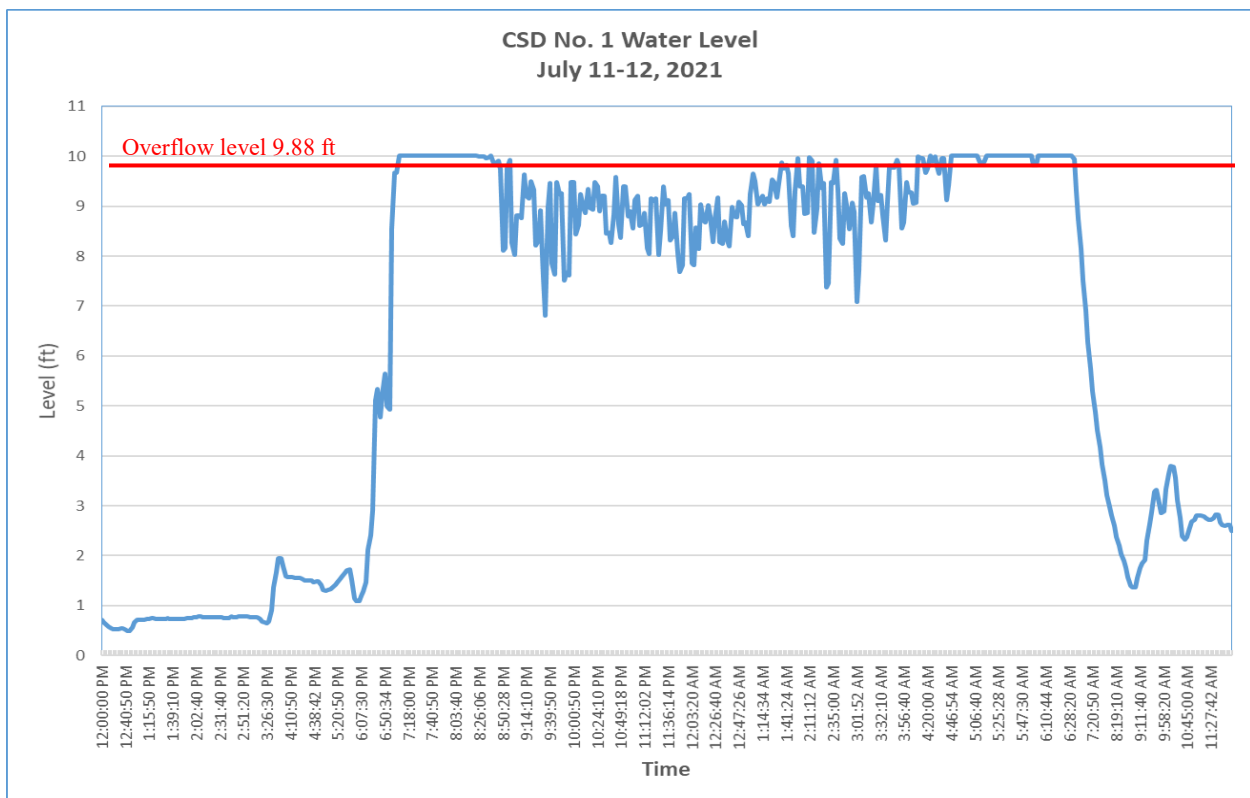
On July 11, 2021, Sunday, excessive amounts of trash and debris in the untreated wastewater inundated barscreens at the Headworks Facility. The Headworks Facility was overwhelmed, and untreated wastewater began overflowing out of the Headworks building into streets within Hyperion and flooded the plant. Untreated wastewater flowing on the street within Hyperion

entered the storm drain system (CSD Nos. 1, 2, 3, and 4), the pipe galleries and the pump rooms below ground. Hyperion’s storm drain system normally collects and pumps accumulated water back to the Headworks and Primary Battery D (PBD). The excess water which cannot be pumped to the Headworks is then directed to the 1-Mile Outfall.

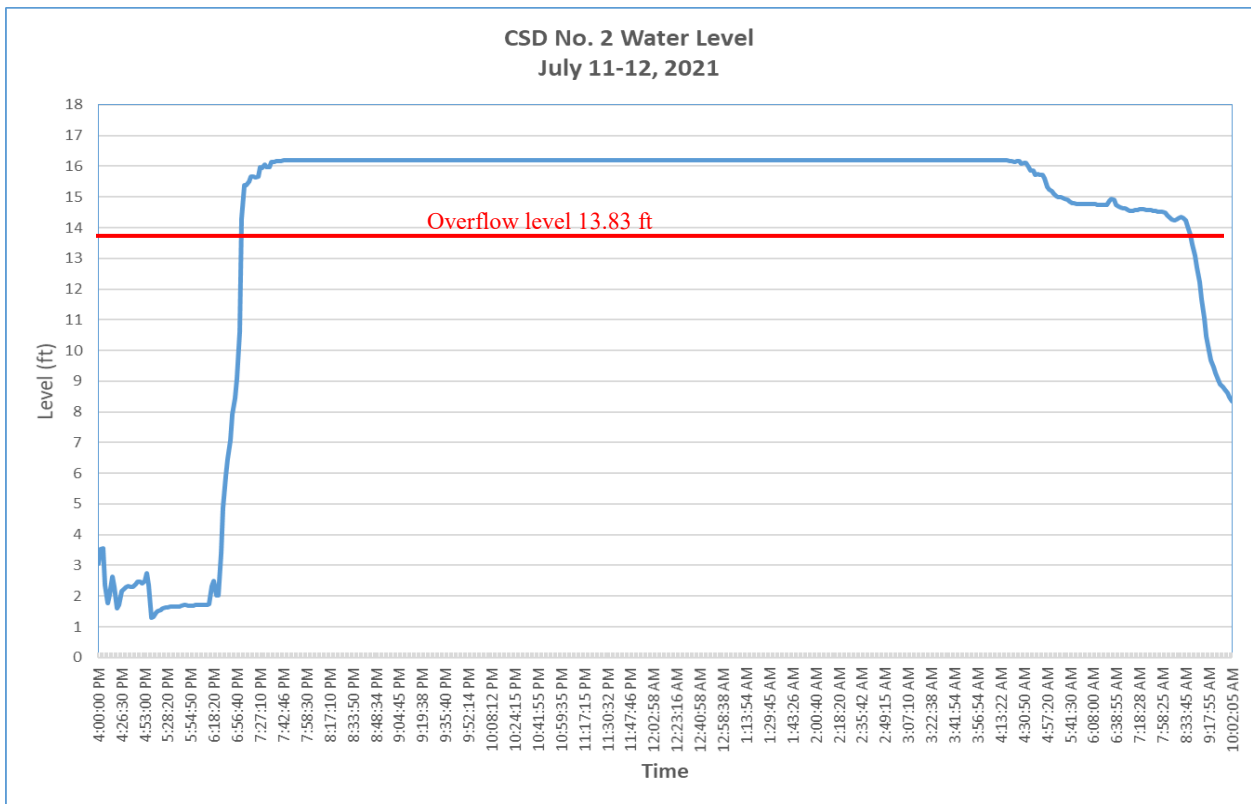
Approximately around 7:00 PM on the same day, excess untreated wastewater from the storm drain system began to overflow to the 1-Mile Outfall. The flow from CSD No. 3 was minimal and was pumped back to Headworks. The flow from CSD No. 4 was collected and as pumped to PBD. On July 12, 2021, approximately 8:40 AM, with two barscreens back in service and the emergency bypass channel open, flow to the 1-Mile Outfall finally stopped.

Untreated wastewater from CSD Nos. 1 and 2 overflowed to the 1-Mile Outfall due to high wastewater levels in the sumps as shown in Figures 16 and 17.

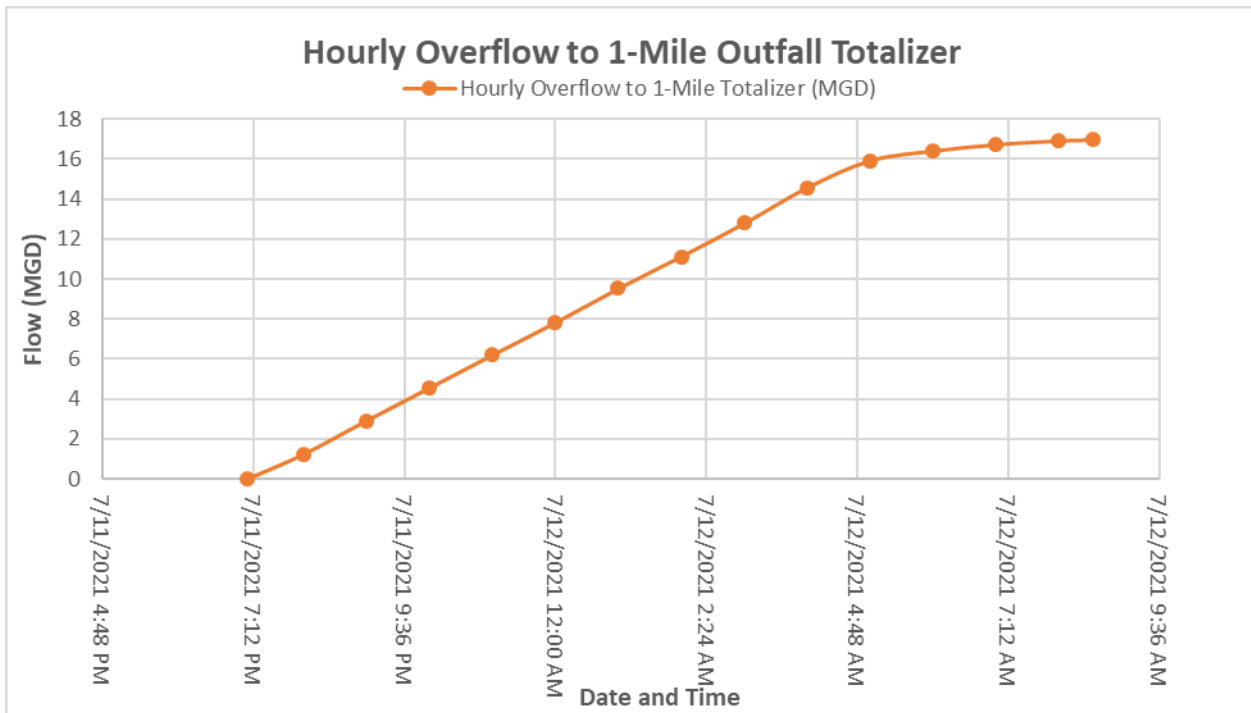
Figures 18, 19, and 20 show that up to 16.874 MGD of untreated wastewater flowed into the ocean with approximately 0.134 MGD and 16.74 MGD, respectively, from CSD Nos 1 and 2; and 0.08 MGD into the 5-Mile Outfall. There were no trash or solid debris discharged into the ocean due to screens at the entrance of catch basins throughout the plant.



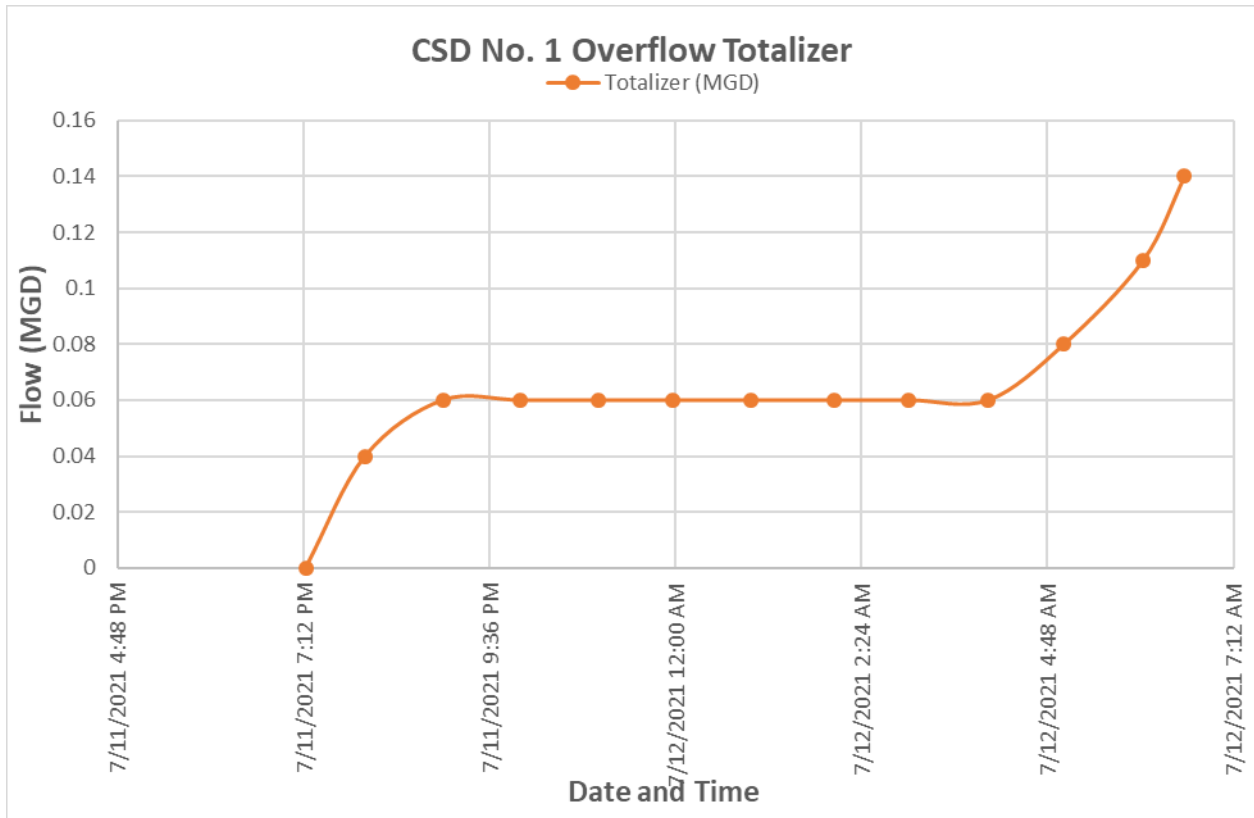
**Figure 16 – CSD No. 1 Water Level**



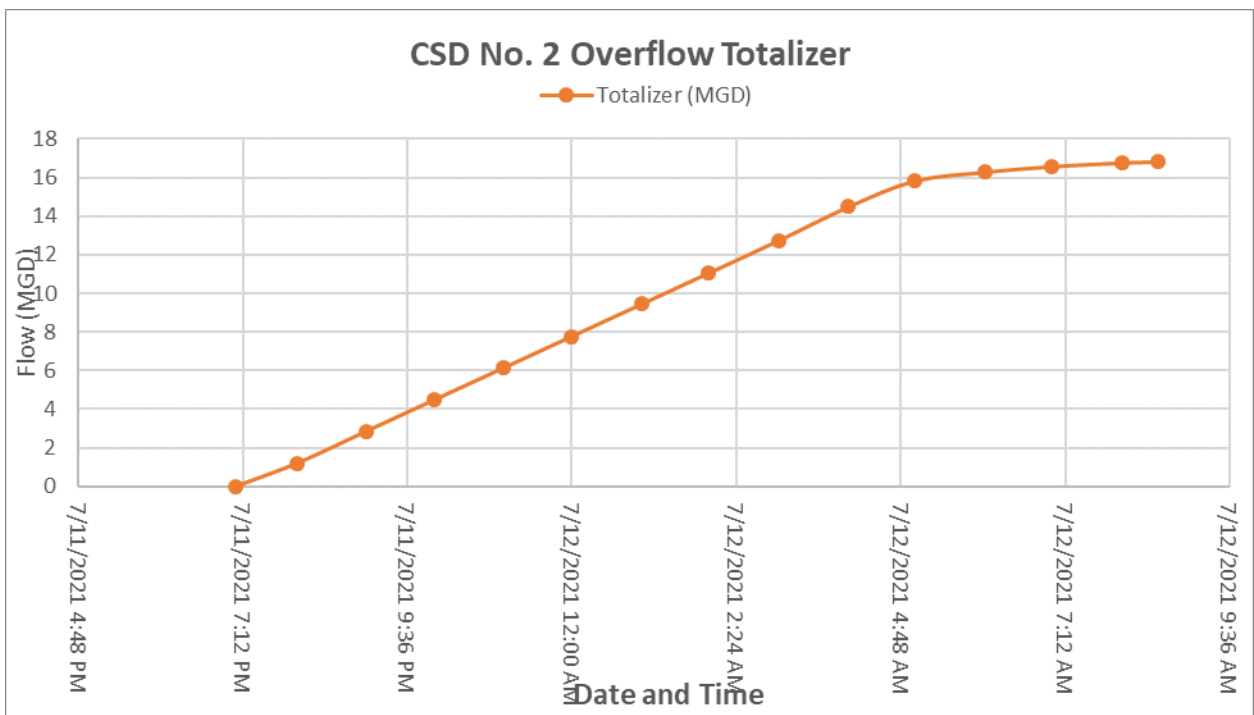
**Figure 17 – CSD No. 2 Water Level**



**Figure 18 – Hourly Overflow to 1-Mile Outfall Totalizer**

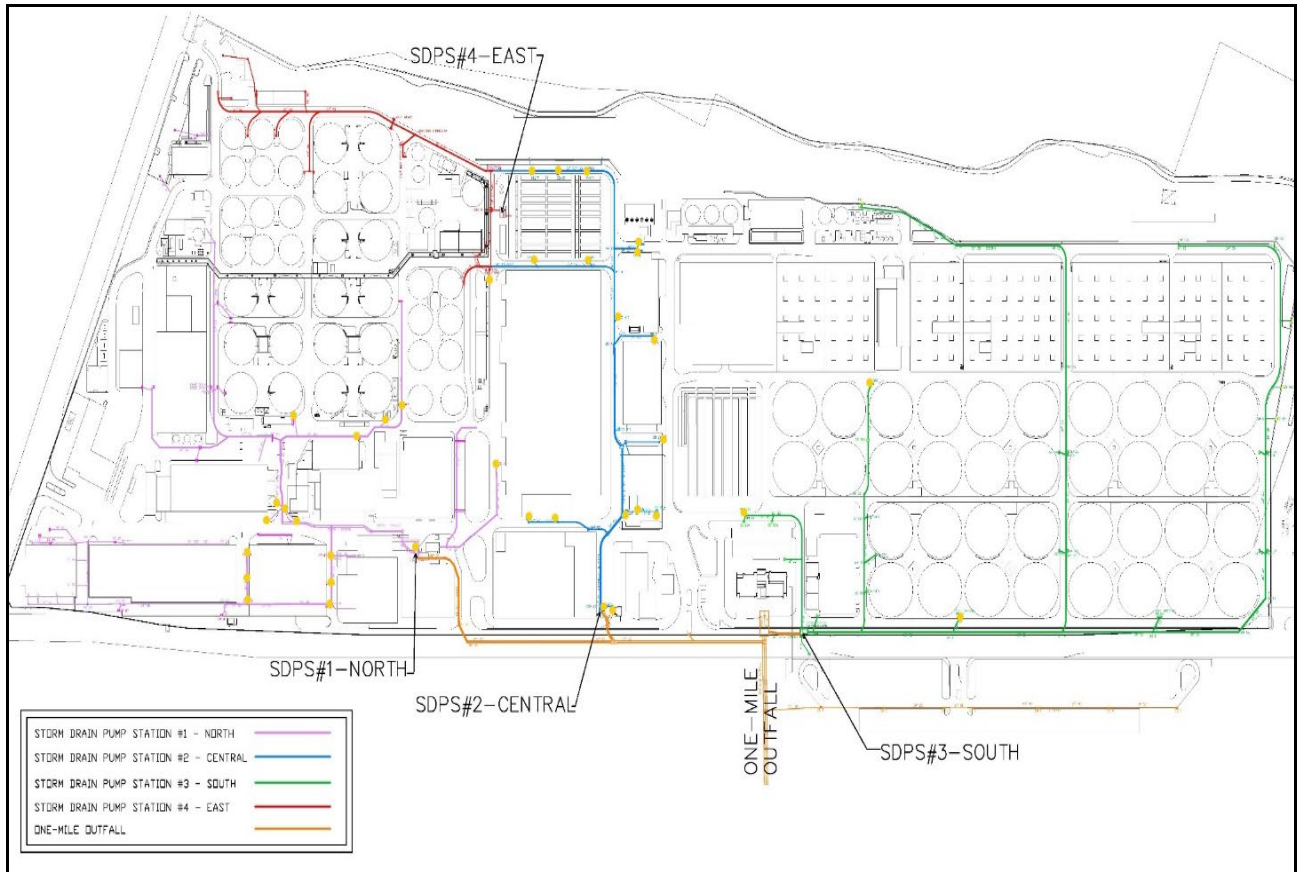


**Figure 19 – CSD No. 1 Hourly Overflow Totalizer**



**Figure 20 – CSD No. 2 Hourly Overflow Totalizer**

During the spill, untreated wastewater entered the storm drain system through 37 catch basins. All the catch basins have curb opening screens with perforations having diameters of 0.5 or 0.375 inch. This prevented trash from entering the system. Figure 21 shows the catch basins that were affected by the spill. Figure 22 is the design of screens installed in 2016 to prevent trash and debris from entering the storm drain system.



**Figure 21 – Catch Basins (Yellow Dots) Affected by the Spill**



**Figure 22 – Screen and Grill on Catch Basin**

The 2017 Central Storm Drain Rerouting Project converted the existing sludge wet well to collect and transfer stormwater from North of 7<sup>th</sup> street to the primary influent channel. This project was completed in September 2020. The resulting drainage area for this project was about 14 acres. This project reduced the drainage area of CSD No. 2 by 30%. During the spill, 270,000 gallons was collected and pumped to PBD. Unfortunately, the pump room flooded and stopped the pumps. More of the water would have been collected and pumped to PBD. Figure 23 show the CSD No. 4 pumps and piping to PBD.



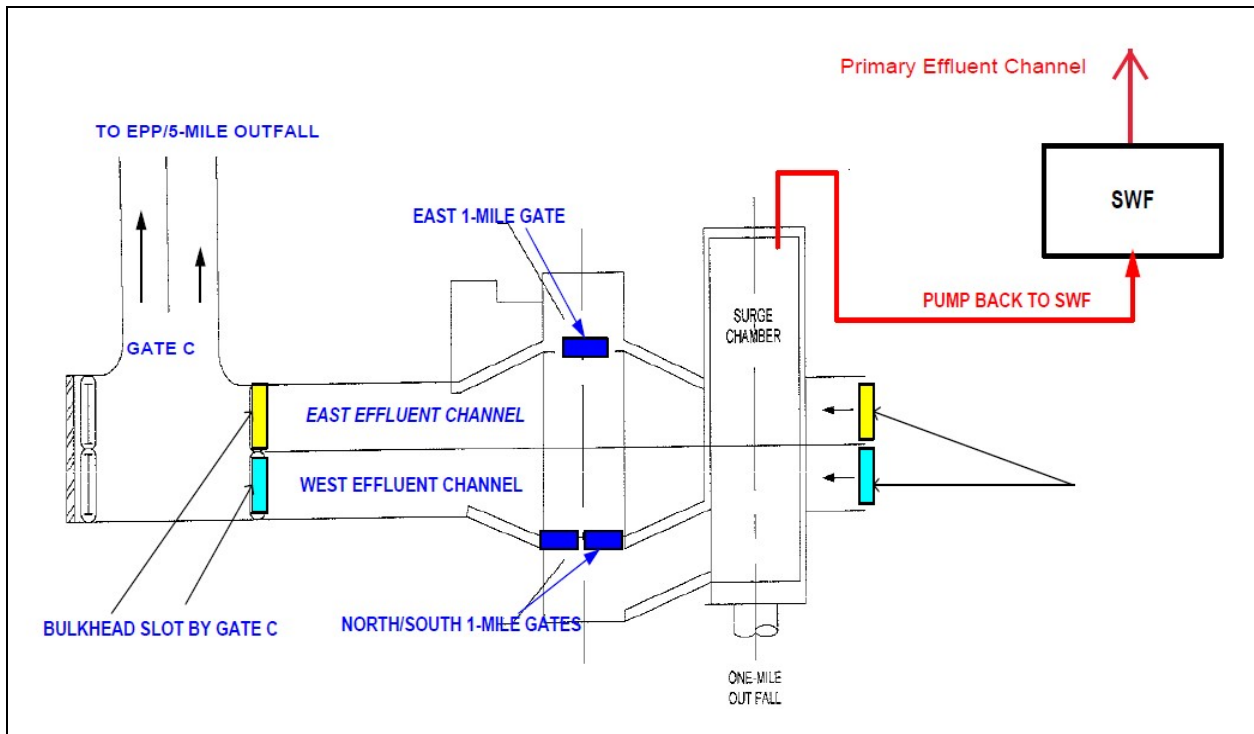
**Figure 23 – CSD No. 4 Pump Room (Left) and Effluent Piping to PBD (Right)**

### **3.4. 1-MILE OUTFALL PUMP-DOWN AFTER THE SPILL**

On July 11, 2021, 7:00 PM, untreated wastewater from CSD Nos. 1 and 2 overflowed into the 1-Mile Outfall and into the ocean. On July 12, 2021, around 8:41 AM, discharge of untreated wastewater to 1-Mile Outfall finally stopped.

As mentioned in the previous section, nearly 17 MG were diverted to the 1-Mile Outfall during this time period. However, of the 17 MG, approximately 4.5 MG of untreated wastewater discharge remained in the 1-Mile Outfall pipe and did not reach the receiving water. The 4.5 MG of untreated wastewater that remained in the 1-Mile Outfall pipe was pumped back to the treatment process. The liquid content in the 1-Mile Outfall was pumped down until the conductivity of the water closely matched that of sea water.

The plant installed a temporary pump-down system to pump untreated wastewater in the 1-Mile Outfall Surge Chamber back into the SWF Backwash Wet Well, diverted and pumped to the Primary Effluent Channel where the untreated wastewater resumed secondary treatment.



**Figure 24 – Diagram of 1-Mile Surge Chamber Pump-Down to Service Water Facility**

A temporary pump-down system was set up between the 1-Mile Surge Chamber and the Service Water Facility Backwash Wet Well. The submersible pump is capable of pumping 250 GPM or 0.36 MGD. Figure 24 illustrates the schematic for the location of the submersible pump and the pipe routing to the SWF. Figures 25 and 26 show the actual deployment of the pumping infrastructure utilized during the pump-down process.



**Figure 25 – Pump Located Within 1-Mile Diversion Structure and Surge Chamber**



**Figure 26 – Discharge into SWF Backwash Wet Well**

The 1-Mile Outfall is roughly 1-mile-long with an inner diameter of about 12 feet and can hold nearly 4.46 million gallons of water. Utilizing a 250 GPM submersible pump in the 1-Mile Surge Chamber, it took 15 days to pump out the 4.5 million gallons of untreated wastewater within the 1-Mile Outfall.

The pump-down was initiated on July 16, 2021 and continued for 15 days. Over the course of the pump-down, visual checks and conductivity tests were conducted to assess the water quality. The conductivity of sea water is approximately 48,000  $\mu\text{S}/\text{cm}$ , and the untreated wastewater conductivity was recorded as 1900  $\mu\text{S}/\text{cm}$  on July 17, 2021.

Table 7 below shows the initial and final conductivity readings of water in the 1-Mile Outfall. It was expected that as untreated wastewater was pumped out from the 1-Mile Outfall, that sea water will enter the Outfall and the recorded conductivity of the water will closely match that of seawater after all the wastewater was pumped out of the 1-Mile Outfall.

**Table 7. Conductivity Readings at the Start and End of the Pump-Down**

Date	July 17, 2021	August 10, 2021
Seawater Conductivity ( $\mu\text{S}/\text{cm}$ )	48,000	48,000
Hyperion Untreated Wastewater Conductivity ( $\mu\text{S}/\text{cm}$ )	1700	1900
1-Mile Conductivity ( $\mu\text{S}/\text{cm}$ )	1900	46,400

Throughout the 1-Mile Outfall pump-down, conductivity readings were taken of the 1-Mile Outfall effluent. The results are shown in Table 8. The pump-down continued until August 13, 2021.

**Table 8. 1-Mile Effluent Conductivity Readings throughout Pump-down**

Date	July 17	July 19	July 21	July 26	July 30	Aug 2	Aug 6	Aug 10
Conductivity	1900	1842	1800	1800	44,000	43,300	45,000	46,400

### 3.5. SAMPLING AND MONITORING

On July 12 and 13, 2021, daily water quality sampling and testing of shoreline (beach) samples were conducted by LASAN’s Environmental Monitoring Division, and LASAN’s monitoring ocean vessel traveled to both the 1-Mile and 5-Mile Outfalls shown in Figure 27, to make observations and take samples for analyses following regulatory permit protocols. Ocean samples were collected at 13 different locations including the 1-Mile Outfall, the 5-Mile Outfall, and the local beaches to monitor bacteria levels for total coliform, *E. coli*, Enterococcus. Typically, results were obtained within a day. Results for fecal indicator bacteria (FIB) from samples taken on both consecutive days from the time of the spill did not exceed the state water quality standards established by the State Water Resources Control Board (SWRCB) and the Los LARWQCB. Tables 9 and 10 showed results from samples collected. Sample results were shared with LACDPW, LA County Lifeguard, Surfrider Foundation, Heal the Bay, City of El Segundo and the LARWQCB. Samples results were also available to the public at <http://www.lacitysan.org>.

In addition, LASAN also performed additional daily water quality sampling and testing of the shoreline, the 1-Mile and 5-Mile Outfalls on July 14, 2021, and then sampling and testing of the shoreline on July 15 and 16, 2021. Results were shown in Tables 11, 12, and 13 for these three days.

The five days of testing revealed normal bacteria levels for total coliform, *E. coli*, and Enterococcus.

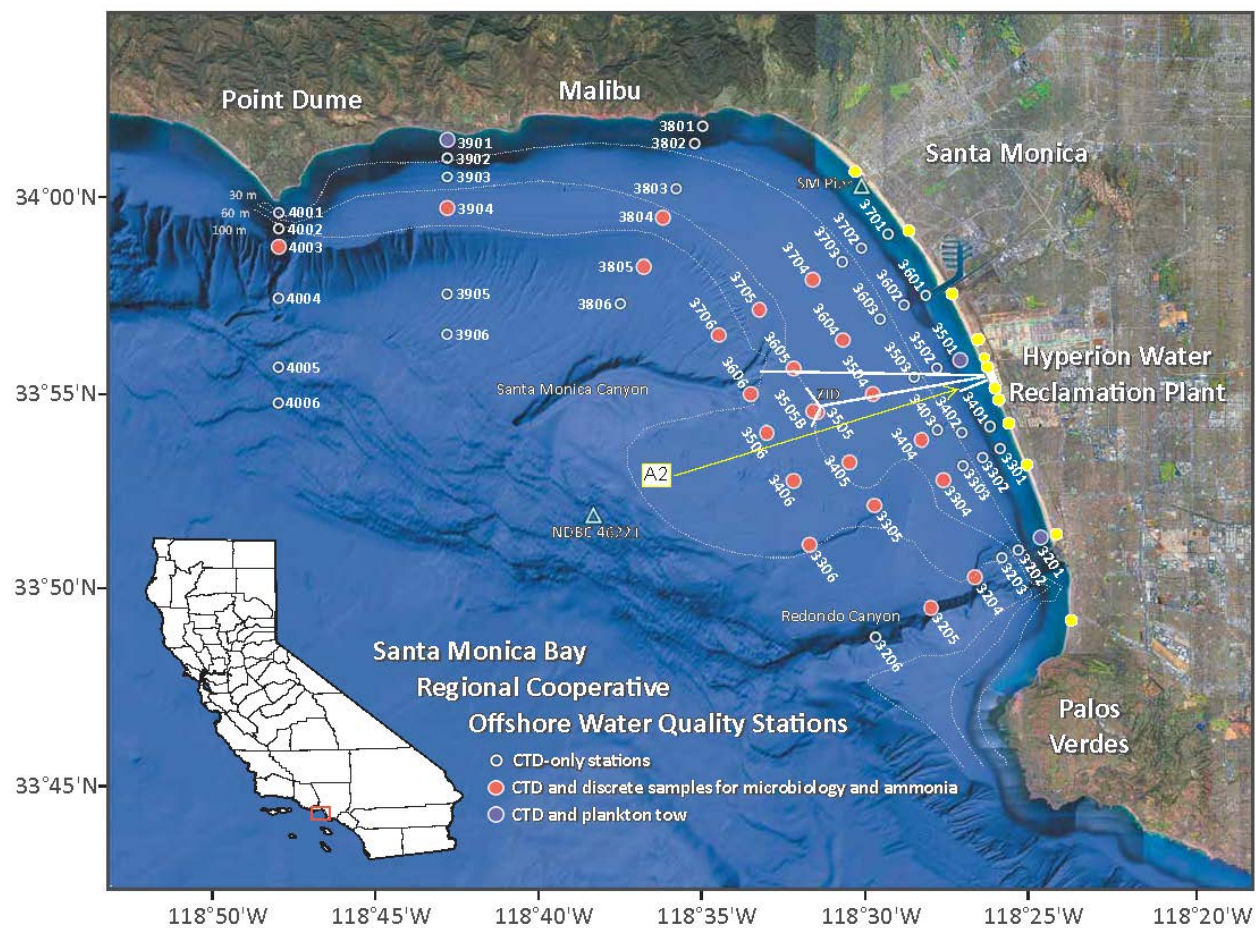


Figure 27 – Santa Monica Bay Offshore Water Quality Stations

**Table 9. Hyperion Overflow Response Sampling on July 12, 2021**

Sample Date	Sample Time	Sample Location	Total Coliforms MPN/100 mL	<i>E. coli</i> MPN/100 mL	Enterococcus MPN/100 mL
<b>Water Quality Standard:</b>			<b>10,000</b>	<b>400</b>	<b>104</b>
<b>1-Mile Outfall</b>					
7/12/21	12:02 PM	A2-Surface	97	<10	41
7/12/21	12:02 PM	A2-Depth	640	96	74
7/12/21	12:39 PM	A2-Surface (50m Upcoast)	20	<10	63
7/12/21	12:39 PM	A2-Depth (50m Upcoast)	960	310	74
7/12/21	12:57 PM	A2-Surface (50m Downcoast)	41	<10	62
7/12/21	12:57 PM	A2-Depth (50m Downcoast)	200	31	41
<b>5-Mile Outfall</b>					
7/12/21	1:58 PM	3506-Surface	<10	<10	<10
7/12/21	1:58 PM	3506-Depth	<10	<10	<10
7/12/21	2:24 PM	3505B-Surface	<10	<10	<10
7/12/21	2:24 PM	3505B-Depth	<10	<10	<10
7/12/21	2:55 PM	3504-Surface	<10	<10	<10
7/12/21	2:55 PM	3504-Depth	<10	<10	<10
<b>Shoreline</b>					
7/12/21	11:25 AM	7 miles up coast/north*	640	390	10
7/12/21	11:08 AM	5 miles up coast/north	52	<10	10
7/12/21	10:39 AM	3 miles up coast/north	1800	31	20
7/12/21	10:28 AM	1 miles up coast/north	31	<10	10
7/12/21	10:23 AM	0.5 miles up coast/north	460	63	74
7/12/21	10:17 AM	100 meters up coast/north	230	31	10
7/12/21	9:50 AM	Shoreline at the 1-Mile Outfall pipe	63	10	52
7/12/21	9:56 AM	100 meters down coast/south	<10	<10	<10
7/12/21	10:04 AM	0.5 miles down coast/south	<10	<10	10
7/12/21	10:23 AM	1 miles down coast/south	<10	<10	<10
7/12/21	10:37 AM	3 miles down coast/south	<10	<10	<10
7/12/21	11:00 AM	5 miles down coast/south	160	20	<10
7/12/21	11:20 AM	7 miles down coast/south	86	<10	10

\*location north of Santa Monica Pier known to have high counts

\*Note: Based on the historical data, Santa Monica Pier (just north of the Plant) has a history of high counts of bacteria.

**Table 10. Hyperion Overflow Response Sampling on July 13, 2021**

Sample Date	Sample Time	Sample Location	Total Coliforms MPN/100 mL	<i>E. coli</i> MPN/100 mL	Enterococcus MPN/100 mL
<b>Water Quality Standard:</b>			<b>10,000</b>	<b>400</b>	<b>104</b>
<b>1-Mile Outfall</b>					
7/13/21	9:19 AM	A2-Surface	<10	<10	<10
7/13/21	9:25 AM	A2-Depth	31	<10	<10
7/13/21	9:52 AM	A2-Surface (50m Upcoast)	<10	<10	10
7/13/21	9:55 AM	A2-Depth (50m Upcoast)	<10	<10	<10
7/13/21	9:40 AM	A2-Surface (50m Downcoast)	20	<10	10
7/13/21	9:45 AM	A2-Depth (50m Downcoast)	110	52	<10
<b>5-Mile Outfall</b>					
7/13/21	10:41 AM	3506-Surface	<10	<10	<10
7/13/21	10:45 AM	3506-Depth	<10	<10	<10
7/13/21	11:04 AM	3505B-Surface	<10	<10	<10
7/13/21	11:10 AM	3505B-Depth	<10	<10	<10
7/13/21	11:29 AM	3504-Surface	<10	<10	<10
7/13/21	11:34 AM	3504-Depth	<10	<10	<10
<b>Shoreline</b>					
7/13/21	10:02 AM	7 miles up coast/north*	640	540**	86
7/13/21	9:08 AM	5 miles up coast/north	20	<10	<10
7/13/21	8:00 AM	3 miles up coast/north	1400	<10	<10
7/13/21	8:02 AM	1 miles up coast/north	20	10	10
7/13/21	7:52 AM	0.5 miles up coast/north	85	20	10
7/13/21	8:45 AM	100 meters up coast/north	210	20	10
7/13/21	8:52 AM	Shoreline at the 1-Mile Outfall pipe	250	160	10
7/13/21	8:55 AM	100 meters down coast/south	63	<10	<10
7/13/21	9:03 AM	0.5 miles down coast/south	41	10	<10
7/13/21	9:10 AM	1 miles down coast/south	10	10	<10
7/13/21	9:28 AM	3 miles down coast/south	<10	<10	<10
7/13/21	9:41 AM	5 miles down coast/south	<10	<10	<10
7/13/21	10:04 AM	7 miles down coast/south	20	<10	<10

\*location at Santa Monica Pier (just north of) and known to have high counts

\*Note: Based on the historical data, Santa Monica Pier (just north of the Plant) has a history of high counts of bacteria.

**Table 11. Hyperion Overflow Response Sampling on July 14, 2021**

Sample Date	Sample Time	Sample Location	Total Coliforms MPN/100 mL	<i>E. coli</i> MPN/100 mL	Enterococcus MPN/100 mL
<b>Water Quality Standard:</b>			<b>10,000</b>	<b>400</b>	<b>104</b>
<b>1-Mile Outfall</b>					
7/14/21	8:21 AM	A2-Surface	280	230	<10
7/14/21	8:32 AM	A2-Depth	41	<10	<10
7/14/21	9:20 AM	A2-Surface (50m Upcoast)	<10	<10	<10
7/14/21	9:37 AM	A2-Depth (50m Upcoast)	<10	<10	<10
7/14/21	8:40 AM	A2-Surface (50m Downcoast)	10	<10	<10
7/14/21	8:46 AM	A2-Depth (50m Downcoast)	20	<10	<10
<b>5-Mile Outfall</b>					
7/14/21	10:32 AM	3506-Surface	<10	<10	<10
7/14/21	10:41 AM	3506-Depth	<10	<10	<10
7/14/21	10:58 AM	3505B-Surface	<10	<10	<10
7/14/21	11:13 AM	3505B-Depth	<10	<10	<10
7/14/21	11:30 AM	3504-Surface	<10	<10	<10
7/14/21	11:38 AM	3504-Depth	<10	<10	<10
<b>Shoreline</b>					
7/14/21	9:05 AM	7 miles up coast/north	230	320	41
7/14/21	8:32 AM	5 miles up coast/north	10	10	<10
7/14/21	12:18 PM	3 miles up coast/north*	20000	340	<10
7/14/21	7:57 AM	1 miles up coast/north	20	10	<10
7/14/21	8:03 AM	0.5 miles up coast/north	20	10	10
7/14/21	8:09 AM	100 meters up coast/north	110	<10	<10
7/14/21	8:15 AM	Shoreline at the 1-Mile Outfall pipe	41	10	<10
7/14/21	8:25 AM	100 meters down coast/south	41	20	20
7/14/21	8:32 AM	0.5 miles down coast/south	20	<10	<10
7/14/21	8:40 AM	1 miles down coast/south	10	<10	<10
7/14/21	8:58 AM	3 miles down coast/south	20	10	<10
7/14/21	9:12 AM	5 miles down coast/south	<10	<10	<10
7/14/21	9:33 AM	7 miles down coast/south	300	<10	<10

\*located on the shoreline next to the jetty where Ballona Creek flows into Santa Monica Bay

**Table 12. Hyperion Overflow Response Sampling on July 15, 2021**

Sample Date	Sample Time	Sample Location	Total Coliforms MPN/100 mL	<i>E. coli</i> MPN/100 mL	Enterococcus MPN/100 mL
<b>Water Quality Standard:</b>			<b>10,000</b>	<b>400</b>	<b>104</b>
<b>Shoreline</b>					
7/15/21	9:05 AM	7 miles up coast/north	680	680	10
7/15/21	8:24 AM	5 miles up coast/north	74	<10	<10
7/15/21	7:50 AM	3 miles up coast/north	3400	31	<10
7/15/21	8:04 AM	1 miles up coast/north	31	<10	<10
7/15/21	8:10 AM	0.5 miles up coast/north	31	20	10
7/15/21	8:17 AM	100 meters up coast/north	10	<10	<10
7/15/21	8:22 AM	Shoreline at the 1-Mile Outfall pipe	<10	<10	<10
7/15/21	8:28 AM	100 meters down coast/south	<10	<10	<10
7/15/21	8:35 AM	0.5 miles down coast/south	10	10	<10
7/15/21	8:42 AM	1 miles down coast/south	<10	<10	<10
7/15/21	8:57 AM	3 miles down coast/south	<10	<10	<10
7/15/21	9:16 AM	5 miles down coast/south	20	<10	<10
7/15/21	9:42 AM	7 miles down coast/south	220	41	10

**Table 13. Hyperion Overflow Response Sampling on July 16, 2021**

Sample Date	Sample Time	Sample Location	Total Coliforms MPN/100 mL	<i>E. coli</i> MPN/100 mL	Enterococcus MPN/100 mL
<b>Water Quality Standard:</b>			<b>10,000</b>	<b>400</b>	<b>104</b>
<b>Shoreline</b>					
7/16/21	9:42 AM	7 miles up coast/north	550	550	<10
7/16/21	9:16 AM	5 miles up coast/north	10	<10	<10
7/16/21	7:40 AM	3 miles up coast/north	290	<10	<10
7/16/21	7:52 AM	1 miles up coast/north	10	<10	<10
7/16/21	7:58 AM	0.5 miles up coast/north	10	10	10
7/16/21	8:05 AM	100 meters up coast/north	<10	<10	<10
7/16/21	8:08 AM	Shoreline at the 1-Mile Outfall pipe	41	10	10
7/16/21	8:13 AM	100 meters down coast/south	20	<10	<10
7/16/21	8:20 AM	0.5 miles down coast/south	10	<10	<10
7/16/21	8:25 AM	1 miles down coast/south	31	<10	10
7/16/21	8:40 AM	3 miles down coast/south	10	10	<10
7/16/21	8:51 AM	5 miles down coast/south	<10	<10	<10
7/16/21	9:20 AM	7 miles down coast/south	570	140	10

Furthermore, LASAN also collected samples for analysis of TSS, BOD, and Settleable Solids concentrations, NTU, and grease for the offshore receiving water monitoring on July 12, 2021. Results for these analytes are shown in the following table:

**Table 14. Hyperion Overflow Response Sampling on July 12, 2021 for Analytes**

Analyte	Units	5-Mile Outfall LIMS 7851701	1-Mile Outfall (A2) LIMS 7851702	1-Mile Outfall (Upstream A2-50N) LIMS 7851703	1-Mile Outfall (Downstream A2-50S) LIMS 7851704
Oil and Grease	mg/L	<5	<5	<5	<5
Turbidity	NTU	<0.30	0.30	0.35	0.35
Total Suspended Solids	mg/L	159	107	103	118
Settleable Solids	mL/L	<0.1	<0.1	<0.1	<0.1
BOD	mg/L	<2	<2	<2	<2

Note: No limit levels set for these analytes by the NPDES permit.

Additionally, more daily water quality sampling and testing of shoreline, offshore, and 5-Mile Outfall were conducted and their data are shown in Appendices E, F, and G respectively.

### 3.6. ODOR FENCE LINE MONITORING

Hyperion began taking instantaneous fence line monitoring measurements for hydrogen sulfide (Appendix H) twice each day from July 26, 2021 to present in order to address odor complaints. Monitoring data confirmed that odor emissions are largely from overloaded primary tanks and secondary clarifiers.

For almost three weeks after the July 11 flooding incident at Hyperion, there were no viable outlets for sludge handling because of damaged equipment. Since discharging sludge to the ocean or allowing it to back on to streets and homes were not viable options, the only viable option was to find ways to hold on to sludge within treatment processes as the plant worked around the clock to pump water out of facilities, and gain access to repair lots of equipment and build new conveyance systems from scratch. Hyperion began processing sludge in a significant way on August 1st and the air quality has improved with each succeeding day. For example, instantaneous hydrogen sulfide concentrations have decreased from the highest measured at any location of 657 parts per billion (ppb) on July 27 to 10.25 ppb as the highest concentration at any location on August 12, 2021, with most locations either at 0 ppb or in the single digits. Air quality is expected to continue to improve with the processing of sludge previously stored in primary tanks and secondary clarifiers. Air quality monitoring results were also made available to the public at <http://www.lacitysan.org>.

### 3.7. SCREENINGS

Barscreens remove trash and debris such as wood chips, wipes, grease balls, rocks, branches, leaves, paper, tree roots, plastics and rugs to protect the equipment downstream of the treatment process and to prevent trash and debris from reaching the ocean. This section will address the amount of trash and debris collected at the Headworks from three different periods: 1) Before the spill incident on July 11, 2021; 2) During the spill; and 3) After the spill.

#### Before Spill:

Before the spill incident on Jul 11, 2021, the Headworks Facility collected approximately 12,000 – 15,000 pounds per day (lbs/day) of trash and debris. The collected weight per day were from a

study for the Hyperion's Digester Screening Facility Improvements Project (CIP 2413). The study looked at two collection events: 1) when only the barscreens of 0.75 inch were in operation; and 2) when barscreens of 0.375 inch were in operation. The intent of the study was to assess if there were impacts to the treatment process downstream when the smaller size barscreens were in operation. The study was completed in December 2020.

#### During Spill:

The trash and debris collected during the spill incident could not be quantified.

Around 1:00 PM on July 11, 2021, the Headworks Facility began experiencing problems. Headworks water level upstream of the barscreen was rising. The unusual rise in the water level may be an indication of plugging of the barscreens as debris accumulated behind the barscreens, obstructing the flow of sewage through the barscreen and into the treatment process. This slug load of trash and debris possibly began accumulating behind the barscreens before 1:00 PM. Four barscreens were in service collecting trash and debris before the problems began. Around 3:30 PM to 4:00 PM, the Headworks Facility was overwhelmed, and untreated wastewater began overflowing out of the Headworks building and into the streets within Hyperion. At 4:30 PM, the barscreens stopped collecting trash and debris as all barscreens went offline due to plugging.

Trash and debris collected by the barscreens from the time the problems began at around 1:00 PM to the time all barscreens went off line at 4:30 PM could not be quantified. While some trash and debris in the untreated wastewater flowed into plant streets, some of the trash and debris continued to accumulate behind the barscreens. On July 12 4:30 AM, the emergency bypass channel was opened, and overflow of wastewater from the Headworks building and into the plant stopped. At least 5.0 MG of untreated wastewater with trash and debris had accumulated within the 144-acre plant and in the pipe gallery below ground. However, the amount of trash and debris mixed in with the untreated wastewater and contained within the plant from 3:30 PM on July 11 to 4:30 AM on July 12 could not be quantified.

When the emergency bypass channel was opened on July 12 at 4:30 AM, accumulated trash and debris behind the barscreens mixed in with untreated wastewater bypassed the barscreens and flowed into the treatment process. The emergency bypass channel remained open for approximately three days while the barscreens were unplugged and brought back into service, allowing trash and debris to enter the treatment process until it was closed on July 15, 2021. Most of the trash and debris that entered the treatment process accumulated in the grit basins and primary treatment tanks. However, the amount of trash and debris that accumulated in the treatment process for approximately three days from July 12 at 4:30 AM could not be quantified.

#### After Spill:

After the spill incident, trash and debris collected from the Headworks was approximately 12,000-15,000 lbs/day. This is based on average weight of the screenings from the Headworks after the spill incident through the end of July.

The amount of trash and debris collected at the Headworks before and after the spill incident were consistently around 12,000 – 15,000 lbs per day. The amount of trash and debris collected during the spill could not be quantified. In addition, the slug load of trash and debris that accumulated behind the barscreens before the problems began on July 11 at 1:00 PM and led to the failure of the barscreens could not be quantified. However, Hyperion will continue to work on quantification of the amount of trash and debris collected during the spill.

## 4. COLLECTION SYSTEM UNTREATED WASTEWATER OVERFLOW

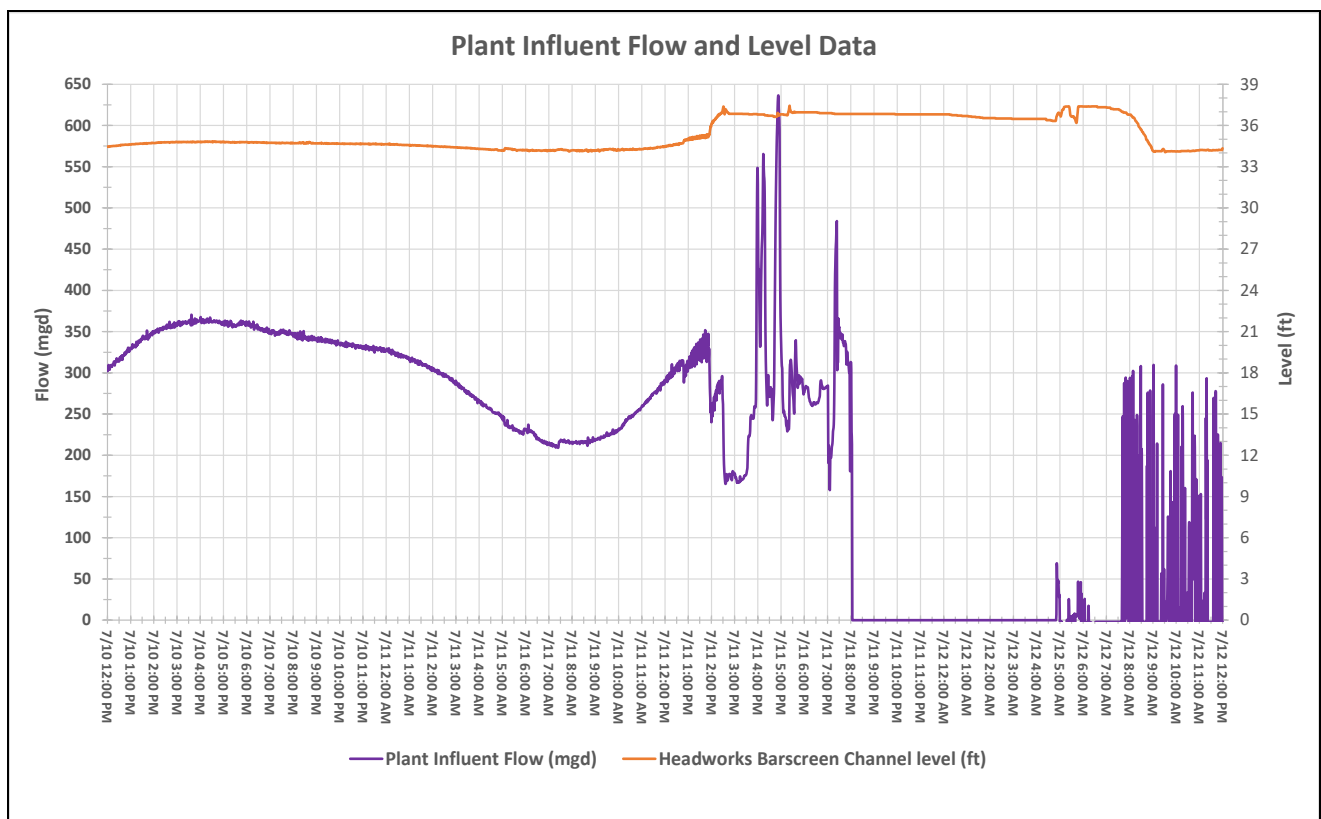
### 4.1. INSPECTION

On July 21, 2021, the inspection team of four from the LARWQCB visited Hyperion. The LARWQCB team were accompanied by the Hyperion Operation Managers and staff from LASAN Wastewater Engineering Services Division (WESD) and Clean Water Conveyance Division (CWCD). The information requested by the LARWQCB inspectors during their inspection at Hyperion is provided in this report.

Hyperion will coordinate with WESD and CWCD staff to continue to investigate the source of the excessive amounts of trash and debris.

### 4.2. UNTREATED WASTEWATER OVERFLOW REVIEW

Figure 28 shows the Headworks Barscreen Channel Level and Plant Influent Flow during the spill incident on July 11, 2021. From the graph, the barscreen channel level started to increase around 1:00 PM. On July 12, 2021, around 4:30 AM, the bypass emergency channel gate was opened and level in influent channel dropped significantly as shown in the graph.



**Figure 28 – Hyperion Influent Flow and Level Data Graph**

In addition, the wastewater conveyance system data prepared by WESD and CWCD had been presented to the inspection team (Refer to Appendix J). The data show normal flow patterns in the wastewater conveyance system until Hyperion had problems at approximately 1:00 PM.

## 5. PREVENTIVE MEASURES TO MITIGATE FUTURE OVERFLOWS TO 1-MILE OUTFALL

### 5.1. PROJECTS COMPLETED PRIOR TO THE SPILL

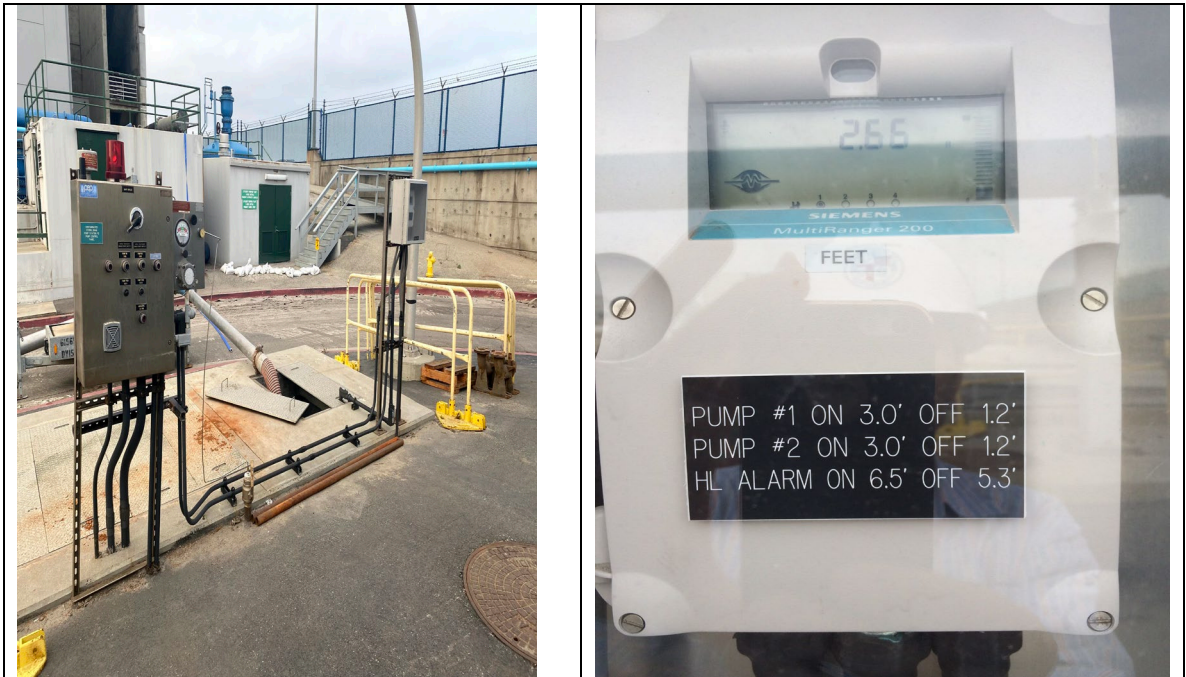
Hyperion proactively updates all its infrastructure to ensure water quality discharge limits are consistently met. In recent years many projects have been implemented which likely reduced other potential impacts due to the spill. The following are projects were completed prior to the spill.

- Installation of screens on all catch basins in the plant which was completed in 2015 (Refer to Figure 29)



**Figure 29 – Storm Drain System & Catch Basins**

- New Storm Drain monitoring sensors and level indicator was installed in 2015. (Refer to Figure 30)



**Figure 30 – CSD No. 2 (Left) and Level Sensor (Right)**

- Secondary Effluent Channel Screen was installed downstream of the secondary clarifiers in 2015. (Refer to Figure 31)



**Figure 31 – Secondary Effluent Channel Screens**

- Headworks Bypass Channel Project was completed in May 2019. (Refer to Figure 32)



**Figure 32 – Headworks Barscreen Bypass Channel**

- Headworks Barscreens Improvement Project was completed in June 2019. (Refer to Figure 33)



**Figure 33 – Headworks Barscreen**

- Central Storm Drain Rerouting Project was completed in November 2020. (Refers to Figures 34 and 35)

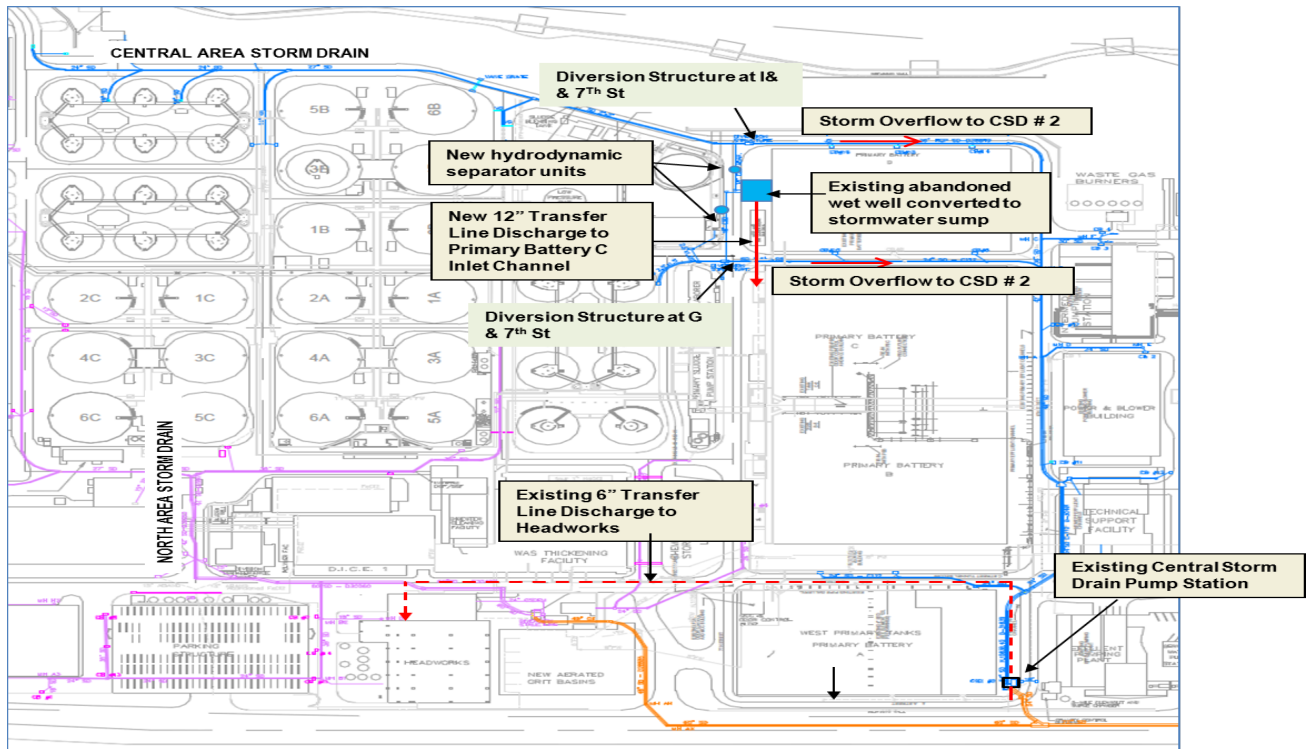


Figure 34 – Central Storm Drain Rerouting Project

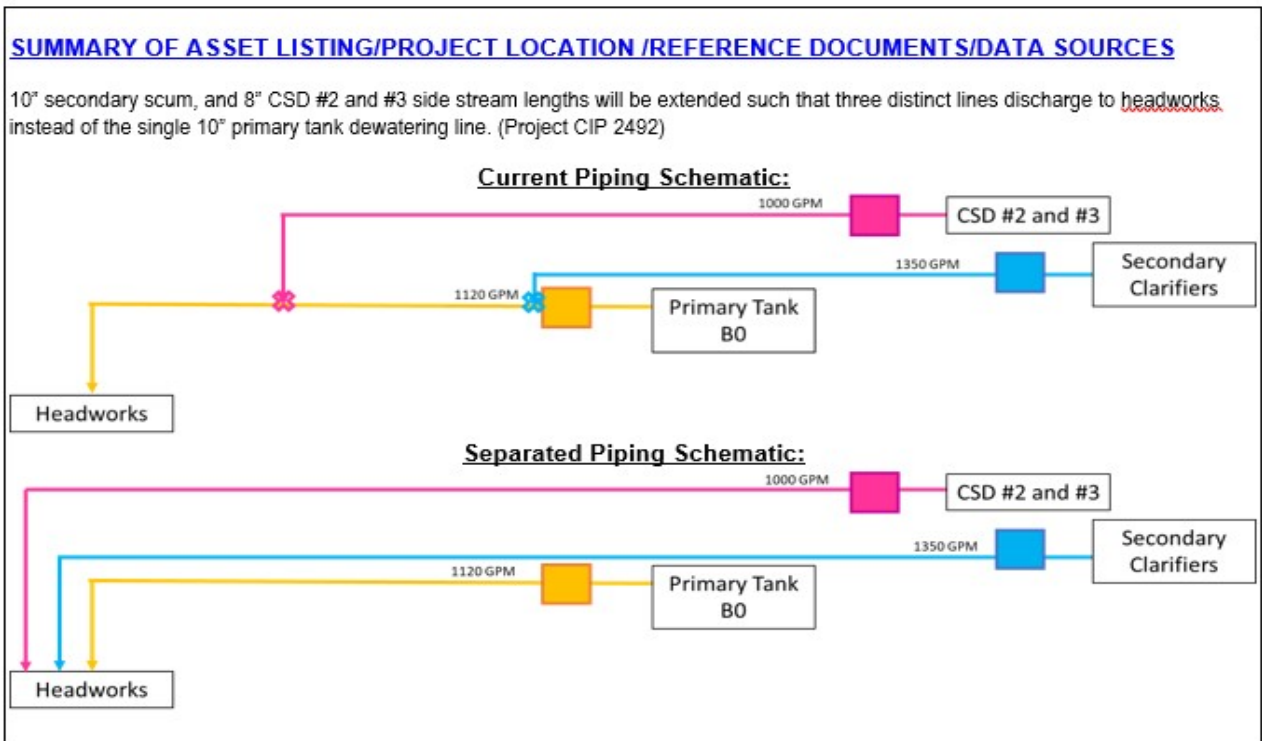


Figure 35 – Central Storm Drain Rerouting Project (in Construction)

## 5.2. FUTURE PROJECTS

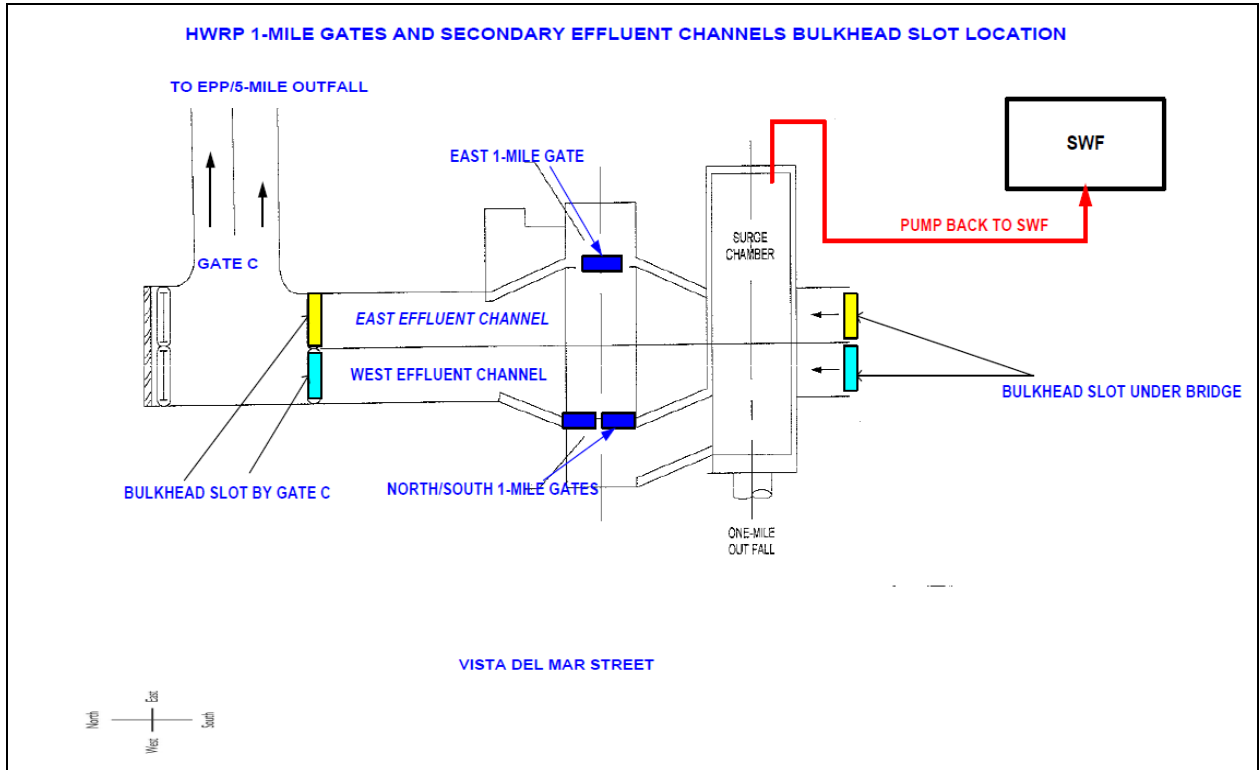
LASAN is also in progress to implement the following projects to mitigate future overflows to the 1-Mile Outfall. The following table is listing of the future capital improvement projects (CIP).

1. Storm Discharge Piping Separation Project (CIP 2492). This project improves system performance and eliminates the possibility that materials of sewage origin (MOSO) from Secondary Clarifiers and Primary Tank Dewatering will be discharged into the 1-Mile Outfall Project completion is expected by December 2022. (Refer Figure 36)

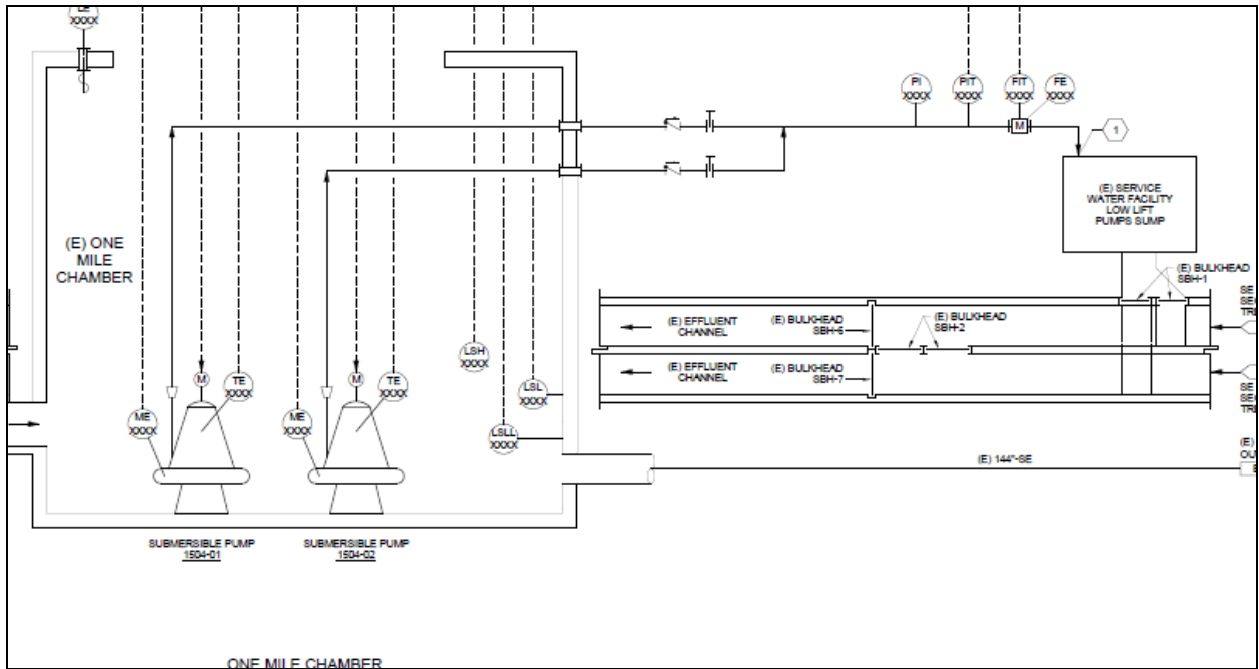


**Figure 36 – Stormwater Discharge Piping Separation**

2. 1-Mile Chamber Pump Station (CIP 2487). This project will install an automated pumping system to pump water out of the 1-Mile Surge Chamber back to SWF. Project completion is expected by November 2022. (Refer Figures 37, 38, and 39)



**Figure 37 – 1-Mile Gates and Secondary Effluent Channel Bulkhead Slot Location**



**Figure 38 – 1-Mile Chamber Pump Station P&ID Schematic**



**Figure 39 – 1-Mile Chamber Pump Station**

3. Primary Tanks B0, B5 and C0 Upgrades (CIP 2445). This project will modify primary tanks eliminate plugging in the suction piping of Tanks B0, B5, and C0. Project completion is expected by May 2022. (Refer Figures 40, 41, and 42)



**Figure 40 – Primary Tank B0 Piping System**

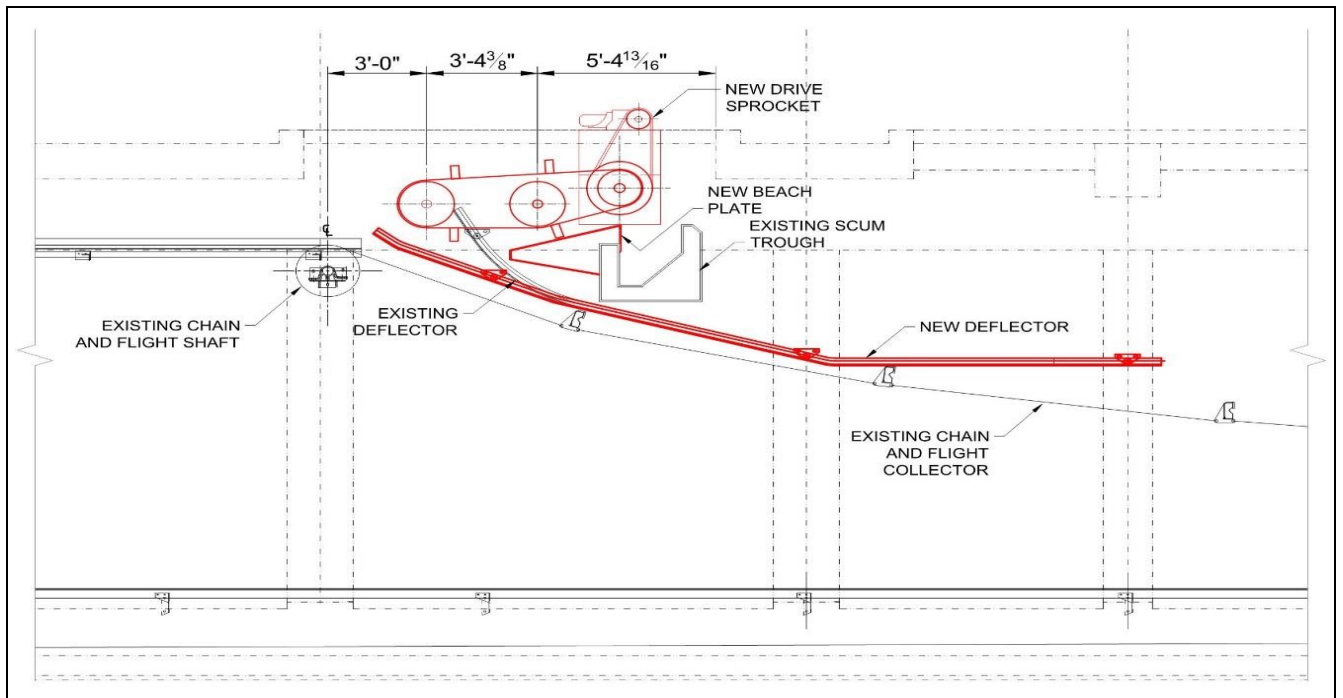


**Figure 41 – Primary Tank B5 Piping System**



**Figure 42 – Primary Tank C0 Piping System**

4. Primary Tanks Skimmer Improvements (CIP 2446). This project is to replace the helical skimmers with power skimmers in Batteries A, B, and C to improve solids capture. Project completion is expected by May 2022. (Refer Figure 43)



**Figure 43 – Primary Tanks Skimmer Improvement**

5. Primary Tank "A" Influent Sluice Gates Modifications to Bulkheads (CIP 2477). This project will remove and replace all four primary influent sluice gates and replace two bulkheads in the influent channel and three bulkheads in Primary Battery A influent channel. Project completion is expected by May 2022. (Refer Figure 44)



**Figure 44 – Primary Influent Sluice Gates**

### **5.3. MITIGATION EFFORTS**

LASAN will conduct further assessment to gain a complete understanding of what happened and why in order to prevent the occurrence of a similar incident. Assessments will include but not limited to the following:

5. Assessment of the mechanically-raked barscreens and improve the design to ensure that the barscreens are be able to handle excessive amounts of trash and debris.
6. Review of Standard Operation Procedures and Hyperion operators' training for operation of the emergency bypass channel. This ensures operators are prepared to handle a similar emergency as needed.
7. Assessment of plant facilities to mitigate the risk of flooding and damage to critical equipment located below ground.
8. Increased public education effort to reduce trash and debris in the sewer system and into the plant.

### **6. CONCLUSION**

It is our conclusion that the unplanned discharge of approximately 17 million gallons of untreated wastewater into Santa Monica Bay through the 1-Mile Outfall on July 11 and 12, 2021 was caused by inundation of the Headworks barscreens with quantities of unexpected debris. Upon becoming aware of the situation, LASAN addressed the issue with the utmost urgency and immediate response measures were implemented to mitigate the impact of the spill. LASAN will continue to work proactively to maintain its mission of protecting public health and the environment and that includes the precious Santa Monica Bay.

# **APPENDIX A**

**Detailed Maintenance Records for  
Headworks Barscreens**

**From June 13, 2019 to July 16, 2021**

**Maintenance Work Order Summary - Headworks Barscreens**

**Query Range 06-13-2019 to 7/16/2021**

Barscreen #2																	
Work Order	Work Order Desc	Equip Ref	Equipment Description Line 1	Equipment Description Line 2	Wrk Grp	WO Type	Raise Dte	Plan Start Date	Closed Date	Status	Completion Text Exists	Completed By Description	Completed Code	Act Lab Hrs	Act Lab Cost	Act Mat Cost	Act Total Cost
00386498	Monthly Barscreen chain adjustment	HHWK-270100002	SCREENINGS, BAR - BARSREEN #2	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	06	2019-06-25	2019-07-01	2019-08-01	C	true	JOHN COSTA	CM	12.00	506.25	0.00	506.25
00387735	Monthly Barscreen chain adjustment	HHWK-270100002	SCREENINGS, BAR - BARSREEN #2	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	06	2019-07-22	2019-08-01	2019-09-19	C	true	EDGAR LAITA	CM	6.00	243.36	0.00	243.36
00387796	Barscreen #2 - VFD mode FAILED to run.	HHWK-270100002	SCREENINGS, BAR - BARSREEN #2	HEADWORKS INTERNATIONAL 3/8" SCREEN	HEL01	06	2019-07-22	2019-07-22	2019-08-14	C	false	JOHN LADOUCEUR	CM	6.00	288.66	0.00	288.66
00389080	Monthly Barscreen chain adjustment	HHWK-270100002	SCREENINGS, BAR - BARSREEN #2	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	06	2019-08-19	2019-09-01	2019-10-07	C	true	EDGAR LAITA	CM	4.00	162.24	0.00	162.24
00390249	Monthly Barscreen chain adjustment	HHWK-270100002	SCREENINGS, BAR - BARSREEN #2	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	06	2019-09-16	2019-10-01	2019-11-05	C	true	EDGAR LAITA	CM	13.00	470.79	0.00	470.79
00391102	Monthly Barscreen chain adjustment	HHWK-270100002	SCREENINGS, BAR - BARSREEN #2	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	06	2019-10-02	2019-11-01	2019-11-25	C	true	EDGAR LAITA	CM	20.00	742.04	0.00	742.04
00392159	MONTHLY BARSREEN ROTATION (5 DAY RUN)	HHWK-270100002	SCREENINGS, BAR - BARSREEN #2	HEADWORKS INTERNATIONAL 3/8" SCREEN	HOP02	02	2019-10-28	2019-11-01		A	false			0.00	0.00	0.00	0.00
00393272	Monthly Barscreen chain adjustment	HHWK-270100002	SCREENINGS, BAR - BARSREEN #2	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME01	06	2019-11-20	2019-12-01	2020-01-07	C	true	EDGAR LAITA	CM	16.00	599.56	0.00	599.56
00394261	Monthly Barscreen chain adjustment	HHWK-270100002	SCREENINGS, BAR - BARSREEN #2	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME01	06	2019-12-06	2020-01-01	2020-01-13	C	true	EDGAR LAITA	CM	20.00	742.04	0.00	742.04
00396112	Monthly Barscreen chain adjustment	HHWK-270100002	SCREENINGS, BAR - BARSREEN #2	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME01	06	2020-01-23	2020-02-01	2020-02-28	C	true	EDGAR LAITA	CM	4.00	162.24	0.00	162.24
00396901	Monthly Barscreen chain adjustment	HHWK-270100002	SCREENINGS, BAR - BARSREEN #2	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME01	06	2020-02-04	2020-03-01	2020-03-23	C	true	JOHN COSTA	CM	15.00	519.71	135.00	654.71
00397994	Monthly Barscreen chain adjustment	HHWK-270100002	SCREENINGS, BAR - BARSREEN #2	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	06	2020-02-27	2020-04-01	2020-05-14	C	true	EDGAR LAITA	CM	0.00	0.00	0.00	0.00
00399681	MONTHLY BARSREEN ROTATION (5 DAY RUN)	HHWK-270100002	SCREENINGS, BAR - BARSREEN #2	HEADWORKS INTERNATIONAL 3/8" SCREEN	HOP02	02	2020-04-02	2019-12-01	2020-04-02	C	false	RAHSHAW O MCAFFEE	CM	0.00	0.00	0.00	0.00
00400305	Monthly Barscreen chain adjustment	HHWK-270100002	SCREENINGS, BAR - BARSREEN #2	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	06	2020-04-09	2020-05-01	2020-05-14	C	true	EDGAR LAITA	CM	11.00	465.69	0.00	465.69
00400500	missing sample handle at headworks	HHWK-270100002	SCREENINGS, BAR - BARSREEN #2	HEADWORKS INTERNATIONAL 3/8" SCREEN	HWL01	07	2020-04-16		2021-01-04	C	false	Norman Gladden	CM	5.00	173.17	0.00	173.17
00401717	Monthly Barscreen chain adjustment	HHWK-270100002	SCREENINGS, BAR - BARSREEN #2	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2020-05-21	2020-06-01	2020-07-08	C	true	EDGAR LAITA	CM	0.00	0.00	0.00	0.00
00402356	Barscreen #2 is jammed.	HHWK-270100002	SCREENINGS, BAR - BARSREEN #2	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	C	2020-06-08	2020-06-08	2020-08-26	C	true	EDGAR LAITA	CM	465.00	16517.46	12971.54	29489.00
00402501	Monthly Barscreen chain adjustment	HHWK-270100002	SCREENINGS, BAR - BARSREEN #2	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2020-06-11	2020-07-01	2020-07-30	C	true	EDGAR LAITA	CM	0.00	0.00	0.00	0.00
00404112	Replace upper bearings on Barscreen # 2	HHWK-270100002	SCREENINGS, BAR - BARSREEN #2	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME01	C	2020-07-17	2020-07-17	2020-08-26	C	true	EDGAR LAITA	CM	7.00	195.23	511.32	706.55
00404186	Monthly Barscreen chain adjustment	HHWK-270100002	SCREENINGS, BAR - BARSREEN #2	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2020-07-20	2020-08-01	2020-08-13	C	true	EDGAR LAITA	CM	0.00	0.00	0.00	0.00
00405373	Monthly Barscreen chain adjustment	HHWK-270100002	SCREENINGS, BAR - BARSREEN #2	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2020-08-24	2020-09-01	2020-09-23	C	true	EDGAR LAITA	CM	9.00	276.35	0.00	276.35
00405641	Monthly Barscreen chain adjustment	HHWK-270100002	SCREENINGS, BAR - BARSREEN #2	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2020-08-25	2020-10-01	2020-09-30	C	true	EDGAR LAITA	CM	18.00	670.80	0.00	670.80
00406646	Bar screen #2 jams in FWD/REV.	HHWK-270100002	SCREENINGS, BAR - BARSREEN #2	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	C	2020-09-14	2020-09-14	2020-09-23	C	true	EDGAR LAITA	CM	2.00	86.70	0.00	86.70
00406671	PLEASE RESET BYPASS	HHWK-270100002	SCREENINGS, BAR - BARSREEN #2	HEADWORKS INTERNATIONAL 3/8" SCREEN	HEL02	C	2020-09-14	2020-09-14	2020-09-17	C	false	JOHN LADOUCEUR	CM	6.00	270.06	0.00	270.06
00407856	Monthly Barscreen chain adjustment	HHWK-270100002	SCREENINGS, BAR - BARSREEN #2	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2020-10-20	2020-11-01	2020-11-30	C	true	EDGAR LAITA	CM	0.00	0.00	0.00	0.00
00408393	FABRICATE 6) LONG WEAR STRIPS,11 SHORT.	HHWK-270100002	SCREENINGS, BAR - BARSREEN #2	HEADWORKS INTERNATIONAL 3/8" SCREEN	HMA01	C	2020-10-29	2020-10-29	2020-12-25	C	false	Genaro Vallejo	CM	109.00	4265.16	1918.86	6184.02
00409322	Monthly Barscreen chain adjustment	HHWK-270100002	SCREENINGS, BAR - BARSREEN #2	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2020-12-01	2020-12-01	2020-12-21	C	true	EDGAR LAITA	CM	0.00	0.00	0.00	0.00
00410359	Monthly Barscreen chain adjustment	HHWK-270100002	SCREENINGS, BAR - BARSREEN #2	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2020-12-22	2021-01-01	2021-02-09	C	true	EDGAR LAITA	CM	21.00	785.39	0.00	785.39
00412135	FABRICATE TOOL TO AID IN CHAIN	HHWK-270100002	SCREENINGS, BAR - BARSREEN #2	HEADWORKS INTERNATIONAL 3/8" SCREEN	HWL01	08	2021-01-28			A	false			27.00	1056.51	0.00	1056.51
00412266	Monthly Barscreen chain adjustment	HHWK-270100002	SCREENINGS, BAR - BARSREEN #2	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2021-02-03	2021-02-01	2021-02-11	C	true	EDGAR LAITA	CM	51.00	2301.40	0.00	2301.40
00412741	Monthly Barscreen chain adjustment	HHWK-270100002	SCREENINGS, BAR - BARSREEN #2	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2021-02-10	2021-03-01	2021-06-28	C	true	Justin Frey	CM	20.00	850.26	16.24	866.50
00414256	Monthly Barscreen chain adjustment	HHWK-270100002	SCREENINGS, BAR - BARSREEN #2	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2021-03-30	2021-04-01	2021-04-26	C	true	Victor Velasco	CM	14.00	590.16	0.00	590.16
00415352	ACCESS NEEDED DISCHARGE CHUTE	HHWK-270100002	SCREENINGS, BAR - BARSREEN #2	HEADWORKS INTERNATIONAL 3/8" SCREEN	HWL01	C	2021-04-14			A	false			0.00	0.00	5884.27	5884.27
00416082	REPLACE 1 MALE & 1 FEMALE 3-WIRE	HHWK-270100002	SCREENINGS, BAR - BARSREEN #2	HEADWORKS INTERNATIONAL 3/8" SCREEN	HEL02	C	2021-05-05		2021-05-26	C	true	Vincent P Gomez	CM	6.00	270.06	218.96	489.02
00416184	Monthly Barscreen chain adjustment	HHWK-270100002	SCREENINGS, BAR - BARSREEN #2	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2021-05-06	2021-05-01	2021-05-10	C	true	Justin Frey	CM	6.00	243.36	0.00	243.36
00417091	Monthly Barscreen chain adjustment	HHWK-270100002	SCREENINGS, BAR - BARSREEN #2	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2021-05-27	2021-06-01	2021-06-17	C	true	Justin Frey	CM	21.00	890.82	0.00	890.82
00418404	Monthly Barscreen chain adjustment	HHWK-270100002	SCREENINGS, BAR - BARSREEN #2	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2021-06-30	2021-07-01		A	false			0.00	0.00	0.00	0.00
Barscreen #3																	
386499	Monthly Barscreen chain adjustment	HHWK-270100003	SCREENINGS, BAR - BARSREEN #3	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	6	2019-06-25	2019-07-01	2019-08-01	C	TRUE	JOHN COSTA	CM	0	0	0	0
387736	Monthly Barscreen chain adjustment	HHWK-270100003	SCREENINGS, BAR - BARSREEN #3	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	6	2019-07-22	2019-08-01	2019-09-19	C	TRUE	EDGAR LAITA	CM	0	0	0	0
389081	Monthly Barscreen chain adjustment	HHWK-270100003	SCREENINGS, BAR - BARSREEN #3	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	6	2019-08-19	2019-09-01	2019-09-30	C	TRUE	JOHN COSTA	CM	0	0	0	0
390250	Monthly Barscreen chain adjustment	HHWK-270100003	SCREENINGS, BAR - BARSREEN #3	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	6	2019-09-16	2019-10-01	2019-10-31	C	TRUE	EDGAR LAITA	CM	12	486.72	0	486.72
390713	MONTHLY BARSREEN ROTATION (5 DAY RUN)	HHWK-270100003	SCREENINGS, BAR - BARSREEN #3	HEADWORKS INTERNATIONAL 3/4" SCREEN	HOP02	2	2019-09-26	2019-10-01	2019-10-16	C	FALSE	RAHSHAW O MCAFFEE	CM	0.6	28.27	0	28.27
391107	Monthly Barscreen chain adjustment	HHWK-270100003	SCREENINGS, BAR - BARSREEN #3	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	6	2019-10-02	2019-11-01	2019-12-10	C	TRUE	EDGAR LAITA	CM	24	854.88	0	854.88
391518	Install bulk head for barscreen #3	HHWK-270100003	SCREENINGS, BAR - BARSREEN #3	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	2	2019-10-07	2019-10-07	2019-10-30	C	TRUE	EDGAR LAITA	OP	0	0	0	0
393273	Monthly Barscreen chain adjustment	HHWK-270100003	SCREENINGS, BAR - BARSREEN #3	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME01	6	2019-11-20	2019-12-01	2020-01-07	C	TRUE	EDGAR LAITA	CM	14	518.44	0	518.44
394262	Monthly Barscreen chain adjustment	HHWK-270100003	SCREENINGS, BAR - BARSREEN #3	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME01	6	2019-12-06	2020-01-01	2020-01-29	C	TRUE	EDGAR LAITA	CM	6	243.36	0	243.36
396113	Monthly Barscreen chain adjustment	HHWK-270100003	SCREENINGS, BAR - BARSREEN #3	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME01	6	2020-01-23	2020-02-01	2020-02-28	C	TRUE	EDGAR LAITA	CM	22	823.16	0	823.16
396902	Monthly Barscreen chain adjustment	HHWK-270100003	SCREENINGS, BAR - BARSREEN #3	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME01	6	2020-02-04	2020-03-01	2020-04-06	C	TRUE	EDGAR LAITA	CM	20	742.04	0	742.04
397995	Monthly Barscreen chain adjustment	HHWK-270100003	SCREENINGS, BAR - BARSREEN #3	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	6	2020-02-27	2020-04-01	2020-05-14	C	TRUE	EDGAR LAITA	CM	20	742.04	0	742.04
400306	Monthly Barscreen chain adjustment	HHWK-270100003	SCREENINGS, BAR - BARSREEN #3	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	6	2020-04-09	2020-05-01	2020-06-04	C	TRUE	EDGAR LAITA	CM	0	0	0	0
401718	Monthly Barscreen chain adjustment	HHWK-270100003	SCREENINGS, BAR - BARSREEN #3	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2020-05-21	2020-06-01	2020-07-08	C	TRUE	EDGAR LAITA	CM	0	0	0	0
402502	Monthly Barscreen chain adjustment	HHWK-270100003	SCREENINGS, BAR - BARSREEN #3	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2020-06-11	2020-07-01	2020-07-30	C	TRUE	EDGAR LAITA	CM	0	0	0	0
404113	Replace upper bearings on Barscreen # 3	HHWK-270100003	SCREENINGS, BAR - BARSREEN #3	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME01	C	2020-07-17	2020-07-17	2020-08-28	C	TRUE	EDGAR LAITA	CM	0	0	511.32	511.32
404187	Monthly Barscreen chain adjustment	HHWK-270100003	SCREENINGS, BAR - BARSREEN #3	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2020-07-20	2020-08-01	2020-08-28	C	TRUE	EDGAR LAITA	CM	23	877.67	370.52	1248.19
404570	Bar Screen #3 jamming up tripping	HHWK-270100003	SCREENINGS, BAR - BARSREEN #3	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	C	2020-08-03	2020-08-03	2020-08-28	C	TRUE	EDGAR LAITA	CM	2	86.7	0	86.7
405374	Monthly Barscreen chain adjustment	HHWK-270100003	SCREENINGS, BAR - BARSREEN #3	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2020-08-24	2020-09-01	2020-09-23	C	TRUE	EDGAR LAITA	CM	22			

415519	Bar Screen #3 Jamming	HHWK-27010003	SCREENINGS, BAR - BARSREEN #3	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	C	2021-04-19	2021-04-12	2021-04-28	C	TRUE	Justin Frey	CM	0	0	0	0
415586	Bar Screen #3 is Tripping	HHWK-27010003	SCREENINGS, BAR - BARSREEN #3	HEADWORKS INTERNATIONAL 3/4" SCREEN	HELO2	C	2021-04-20	2021-04-20		A	FALSE			12	540.12	0	540.12
416185	Monthly Barscreen chain adjustment	HHWK-27010003	SCREENINGS, BAR - BARSREEN #3	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2021-05-06	2021-05-01	2021-05-24	C	TRUE	Justin Frey	CM	0	0	0	0
417092	Monthly Barscreen chain adjustment	HHWK-27010003	SCREENINGS, BAR - BARSREEN #3	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2021-05-27	2021-06-01		A	FALSE			0	0	0	0
418405	Monthly Barscreen chain adjustment	HHWK-27010003	SCREENINGS, BAR - BARSREEN #3	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2021-06-30	2021-07-01		A	FALSE			0	0	0	0
419028	Repair Jammed Barscreen #3	HHWK-27010003	SCREENINGS, BAR - BARSREEN #3	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	C	2021-07-15			A	FALSE			0	0	0	0

**Barscreen #4**

386500	Monthly barscreen chain adjustment	HHWK-27010004	SCREENINGS, BAR - BARSREEN #4	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	6	2019-06-25	2019-07-01	2019-07-30	C	TRUE	EDGAR LAITA	CM	26	955.76	0	955.76
387737	Monthly barscreen chain adjustment	HHWK-27010004	SCREENINGS, BAR - BARSREEN #4	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	6	2019-07-22	2019-08-01	2019-09-19	C	TRUE	EDGAR LAITA	CM	33	1200.16	0	1200.16
389082	Monthly barscreen chain adjustment	HHWK-27010004	SCREENINGS, BAR - BARSREEN #4	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	6	2019-08-19	2019-09-01	2019-09-30	C	TRUE	JOHN COSTA	CM	22	823.16	0	823.16
390251	Monthly barscreen chain adjustment	HHWK-27010004	SCREENINGS, BAR - BARSREEN #4	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	6	2019-09-16	2019-10-01	2019-10-30	C	TRUE	EDGAR LAITA	CM	19	675.33	0	675.33
391108	Monthly barscreen chain adjustment	HHWK-27010004	SCREENINGS, BAR - BARSREEN #4	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	6	2019-10-02	2019-11-01	2019-11-18	C	TRUE	EDGAR LAITA	CM	21	782.6	0	782.6
392160	MONTHLY BARSREEN ROTATION (5 DAY RUN)	HHWK-27010004	SCREENINGS, BAR - BARSREEN #4	HEADWORKS INTERNATIONAL 3/8" SCREEN	HOP02	2	2019-10-28	2019-11-01		A	FALSE			0	0	0	0
393274	Monthly barscreen chain adjustment	HHWK-27010004	SCREENINGS, BAR - BARSREEN #4	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME01	6	2019-11-20	2019-12-01	2020-01-07	C	FALSE	EDGAR LAITA	CM	18	660.92	0	660.92
394263	Monthly barscreen chain adjustment	HHWK-27010004	SCREENINGS, BAR - BARSREEN #4	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME01	6	2019-12-06	2020-01-01	2020-01-28	C	TRUE	EDGAR LAITA	CM	16	589.68	0	589.68
396114	Monthly barscreen chain adjustment	HHWK-27010004	SCREENINGS, BAR - BARSREEN #4	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME01	6	2020-01-23	2020-02-01	2020-02-28	C	TRUE	EDGAR LAITA	CM	6	243.36	0	243.36
396903	Monthly barscreen chain adjustment	HHWK-27010004	SCREENINGS, BAR - BARSREEN #4	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME01	6	2020-02-04	2020-03-01	2020-03-23	C	TRUE	EDGAR LAITA	CM	13	438.59	0	438.59
397996	Monthly barscreen chain adjustment	HHWK-27010004	SCREENINGS, BAR - BARSREEN #4	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	6	2020-02-27	2020-04-01	2020-05-14	C	TRUE	EDGAR LAITA	CM	32	1159.6	0	1159.6
399654	ADJUST CABINET PURGE AIR PR PER J. COSTA	HHWK-27010004	SCREENINGS, BAR - BARSREEN #4	HEADWORKS INTERNATIONAL 3/8" SCREEN	HIN01	C	2020-04-02	2020-04-02	2020-05-19	C	FALSE	MUSHTAQ A SYED	MT	0	0	0	0
399682	MONTHLY BARSREEN ROTATION (5 DAY RUN)	HHWK-27010004	SCREENINGS, BAR - BARSREEN #4	HEADWORKS INTERNATIONAL 3/8" SCREEN	HOP02	2	2020-04-02	2019-12-01	2020-04-02	C	FALSE	RAHSHAW O MCAFFEE	CM	0	0	0	0
400307	Monthly barscreen chain adjustment	HHWK-27010004	SCREENINGS, BAR - BARSREEN #4	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	6	2020-04-09	2020-05-01	2020-06-04	C	TRUE	EDGAR LAITA	CM	0	0	0	0
401719	Monthly barscreen chain adjustment	HHWK-27010004	SCREENINGS, BAR - BARSREEN #4	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	6	2020-05-21	2020-06-01	2020-07-08	C	TRUE	EDGAR LAITA	CM	0	0	511.32	511.32
402503	Monthly barscreen chain adjustment	HHWK-27010004	SCREENINGS, BAR - BARSREEN #4	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2020-06-11	2020-07-01	2020-08-05	C	TRUE	EDGAR LAITA	CM	16	579.8	80.02	659.82
404188	Monthly barscreen chain adjustment	HHWK-27010004	SCREENINGS, BAR - BARSREEN #4	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2020-07-20	2020-08-01	2020-08-31	C	TRUE	EDGAR LAITA	CM	0	0	0	0
405375	Monthly barscreen chain adjustment	HHWK-27010004	SCREENINGS, BAR - BARSREEN #4	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2020-08-24	2020-09-01	2020-09-30	C	TRUE	EDGAR LAITA	CM	32.5	1181.27	0	1181.27
405643	Monthly barscreen chain adjustment	HHWK-27010004	SCREENINGS, BAR - BARSREEN #4	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2020-08-25	2020-10-01	2020-10-29	C	TRUE	EDGAR LAITA	CM	17	642.91	0	642.91
407858	Monthly barscreen chain adjustment	HHWK-27010004	SCREENINGS, BAR - BARSREEN #4	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2020-10-20	2020-11-01	2020-11-30	C	TRUE	EDGAR LAITA	CM	0	0	0	0
409324	Monthly barscreen chain adjustment	HHWK-27010004	SCREENINGS, BAR - BARSREEN #4	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2020-12-01	2020-12-01	2020-12-31	C	TRUE	EDGAR LAITA	CM	2	81.12	0	81.12
410361	Monthly barscreen chain adjustment	HHWK-27010004	SCREENINGS, BAR - BARSREEN #4	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2020-12-22	2021-01-01	2021-02-09	C	TRUE	EDGAR LAITA	CM	21	785.39	0	785.39
412268	Monthly barscreen chain adjustment	HHWK-27010004	SCREENINGS, BAR - BARSREEN #4	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2021-02-03	2021-02-01	2021-02-11	C	TRUE	EDGAR LAITA	CM	22	936.96	0	936.96
412743	Monthly barscreen chain adjustment	HHWK-27010004	SCREENINGS, BAR - BARSREEN #4	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2021-02-10	2021-03-01	2021-03-15	C	TRUE	EDGAR LAITA	CM	14	560.56	0	560.56
414258	Monthly barscreen chain adjustment	HHWK-27010004	SCREENINGS, BAR - BARSREEN #4	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2021-03-30	2021-04-01	2021-04-23	C	TRUE	Victor Velasco	CM	14	590.16	0	590.16
415353	ACCESS IN DISCHARGE CHUTE NEEDED	HHWK-27010004	SCREENINGS, BAR - BARSREEN #4	HEADWORKS INTERNATIONAL 3/8" SCREEN	HWL01	C	2021-04-14	2021-04-14		A	FALSE			14	567.84	0	567.84
416186	Monthly barscreen chain adjustment	HHWK-27010004	SCREENINGS, BAR - BARSREEN #4	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2021-05-06	2021-05-01	2021-05-12	C	TRUE	Justin Frey	CM	6	243.36	0	243.36
417093	Monthly barscreen chain adjustment	HHWK-27010004	SCREENINGS, BAR - BARSREEN #4	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2021-05-27	2021-06-01	2021-06-17	C	TRUE	Justin Frey	CM	16	688.02	0	688.02
418406	Monthly barscreen chain adjustment	HHWK-27010004	SCREENINGS, BAR - BARSREEN #4	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2021-06-30	2021-07-01		A	FALSE			0	0	0	0

**Barscreen #5**

385772	LOST PURGE PRES AND BLANK SCREEN	HHWK-27010005	SCREENINGS, BAR - BARSREEN #5	HEADWORKS INTERNATIONAL 3/4" SCREEN	HIN02	6	2019-06-04	2019-06-04	2019-06-20	C	FALSE	MUSHTAQ A SYED	CM	7	336.76	0	336.76
386501	Monthly barscreen chain adjustment	HHWK-27010005	SCREENINGS, BAR - BARSREEN #5	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	6	2019-06-25	2019-07-01	2019-08-01	C	TRUE	JOHN COSTA	CM	0	0	0	0
387738	Monthly barscreen chain adjustment	HHWK-27010005	SCREENINGS, BAR - BARSREEN #5	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	6	2019-07-22	2019-08-01	2019-09-19	C	TRUE	EDGAR LAITA	CM	0	0	0	0
389083	Monthly barscreen chain adjustment	HHWK-27010005	SCREENINGS, BAR - BARSREEN #5	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	6	2019-08-19	2019-09-01	2019-09-30	C	TRUE	JOHN COSTA	CM	0	0	0	0
390252	Monthly barscreen chain adjustment	HHWK-27010005	SCREENINGS, BAR - BARSREEN #5	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	6	2019-09-16	2019-10-01	2019-10-31	C	TRUE	EDGAR LAITA	CM	0	0	0	0
390714	MONTHLY BARSREEN ROTATION (5 DAY RUN)	HHWK-27010005	SCREENINGS, BAR - BARSREEN #5	HEADWORKS INTERNATIONAL 3/4" SCREEN	HOP02	2	2019-09-26	2019-10-01	2019-10-16	C	FALSE	RAHSHAW O MCAFFEE	CM	0.6	28.27	0	28.27
391109	Monthly barscreen chain adjustment	HHWK-27010005	SCREENINGS, BAR - BARSREEN #5	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	6	2019-10-02	2019-11-01	2019-12-10	C	TRUE	EDGAR LAITA	CM	18	680.68	0	680.68
393275	Monthly barscreen chain adjustment	HHWK-27010005	SCREENINGS, BAR - BARSREEN #5	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME01	6	2019-11-20	2019-12-01	2020-01-07	C	TRUE	EDGAR LAITA	CM	16	579.8	0	579.8
394264	Monthly barscreen chain adjustment	HHWK-27010005	SCREENINGS, BAR - BARSREEN #5	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME01	6	2019-12-06	2020-01-01	2020-01-31	C	TRUE	EDGAR LAITA	CM	0	0	0	0
396115	Monthly barscreen chain adjustment	HHWK-27010005	SCREENINGS, BAR - BARSREEN #5	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME01	6	2020-01-23	2020-02-01	2020-02-28	C	TRUE	EDGAR LAITA	CM	0	0	0	0
396904	Monthly barscreen chain adjustment	HHWK-27010005	SCREENINGS, BAR - BARSREEN #5	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME01	6	2020-02-04	2020-03-01	2020-04-01	C	TRUE	EDGAR LAITA	CM	0	0	0	0
397997	Monthly barscreen chain adjustment	HHWK-27010005	SCREENINGS, BAR - BARSREEN #5	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	6	2020-02-27	2020-04-01	2020-05-13	C	TRUE	EDGAR LAITA	CM	2	81.12	0	81.12
400308	Monthly barscreen chain adjustment	HHWK-27010005	SCREENINGS, BAR - BARSREEN #5	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	6	2020-04-09	2020-05-01	2020-05-14	C	TRUE	EDGAR LAITA	CM	7	303.45	0	303.45
401720	Monthly barscreen chain adjustment	HHWK-27010005	SCREENINGS, BAR - BARSREEN #5	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2020-05-21	2020-06-01	2020-07-08	C	TRUE	EDGAR LAITA	CM	0	0	0	0
402504	Monthly barscreen chain adjustment	HHWK-27010005	SCREENINGS, BAR - BARSREEN #5	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2020-06-11	2020-07-01	2020-07-23	C	TRUE	EDGAR LAITA	CM	16	579.8	0	579.8
404189	Monthly barscreen chain adjustment	HHWK-27010005	SCREENINGS, BAR - BARSREEN #5	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2020-07-20	2020-08-01	2020-08-31	C	FALSE	EDGAR LAITA	CM	0	0	0	0
405376	Monthly barscreen chain adjustment	HHWK-27010005	SCREENINGS, BAR - BARSREEN #5	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2020-08-24	2020-09-01	2021-01-07	C	TRUE	EDGAR LAITA	PA	26	937.36	0	937.36
405644	Monthly barscreen chain adjustment	HHWK-27010005	SCREENINGS, BAR - BARSREEN #5	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2020-08-25	2020-10-01	2020-10-29	C	TRUE	EDGAR LAITA	CM	0	0	0	0
407859	Monthly barscreen chain adjustment	HHWK-27010005	SCREENINGS, BAR - BARSREEN #5	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2020-10-20	2020-11-01	2020-11-30	C	FALSE	EDGAR LAITA	CM	0	0	0	0
409325	Monthly barscreen chain adjustment	HHWK-27010005	SCREENINGS, BAR - BARSREEN #5	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2020-12-01	2020-12-01	2021-01-07	C	TRUE	EDGAR LAITA	CM	0	0	0	0
410362	Monthly barscreen chain adjustment	HHWK-27010005	SCREENINGS, BAR - BARSREEN #5	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2020-12-22	2021-01-01	2021-02-09	C	TRUE	EDGAR LAITA	CM	24	1023.66	0	1023.66
412269	Monthly barscreen chain adjustment	HHWK-27010005	SCREENINGS, BAR - BARSREEN #5	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2021-02-03	2021-02-01	2021-03-02	C	TRUE	EDGAR LAITA	CM	0	0	0	0
412744	Monthly barscreen chain adjustment	HHWK-27010005	SCREENINGS, BAR - BARSREEN #5	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2021-02-10	2021-03-01	2021-04-22	C	TRUE	Victor Velasco	CM	0	0	0	0
414259	Monthly barscreen chain adjustment	HHWK-27010005	SCREENINGS, BAR - BARSREEN #5	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2021-03-30	2021-04-01	2021-05-03	C	TRUE	Justin Frey	MT	0	0	0	0
415334	CUT EMERGENCY ACCESS IN DISCHARGE CHUTE	HHWK-27010005	SCREENINGS, BAR - BARSREEN #5	HEADWORKS INTERNATIONAL 3/4" SCREEN	HWL01	C											

387739	Monthly barscreen chain adjustment	HHWK-270100006	SCREENINGS, BAR - BARSREEN #6	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	6	2019-07-22	2019-08-01	2019-09-19	C	FALSE	EDGAR LAITA	CM	0	0	0	0
388733	Monthly Bar Screen PM	HHWK-270100006	SCREENINGS, BAR - BARSREEN #6	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	6	2019-08-12		2019-08-26	C	TRUE	JOHN COSTA	CM	15	627.93	0	627.93
389084	Monthly barscreen chain adjustment	HHWK-270100006	SCREENINGS, BAR - BARSREEN #6	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	6	2019-08-19	2019-09-01	2019-09-30	C	FALSE	JOHN COSTA	CM	20	742.04	0	742.04
390253	Monthly barscreen chain adjustment	HHWK-270100006	SCREENINGS, BAR - BARSREEN #6	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	6	2019-09-16	2019-10-01	2019-10-30	C	TRUE	EDGAR LAITA	CM	14	508.56	184	692.56
390715	MONTHLY BARSREEN ROTATION (5 DAY RUN)	HHWK-270100006	SCREENINGS, BAR - BARSREEN #6	HEADWORKS INTERNATIONAL 3/8" SCREEN	HOP02	2	2019-09-26	2019-10-01	2019-10-16	C	FALSE	RAHSHAW O MCAFFEE	CM	0.6	28.27	0	28.27
391110	Monthly barscreen chain adjustment	HHWK-270100006	SCREENINGS, BAR - BARSREEN #6	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	6	2019-10-02	2019-11-01	2019-11-18	C	TRUE	EDGAR LAITA	CM	18	670.8	233.82	904.62
393276	Monthly barscreen chain adjustment	HHWK-270100006	SCREENINGS, BAR - BARSREEN #6	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME01	6	2019-11-20	2019-12-01	2020-04-06	C	TRUE	EDGAR LAITA	CM	20	742.04	0	742.04
394265	Monthly barscreen chain adjustment	HHWK-270100006	SCREENINGS, BAR - BARSREEN #6	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME01	6	2019-12-06	2020-01-01	2020-01-28	C	TRUE	EDGAR LAITA	CM	14	498.68	0	498.68
396116	Monthly barscreen chain adjustment	HHWK-270100006	SCREENINGS, BAR - BARSREEN #6	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME01	6	2020-01-23	2020-02-01	2020-02-14	C	TRUE	EDGAR LAITA	CM	17	620.36	0	620.36
396905	Monthly barscreen chain adjustment	HHWK-270100006	SCREENINGS, BAR - BARSREEN #6	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME01	6	2020-02-04	2020-03-01	2020-04-06	C	TRUE	EDGAR LAITA	CM	19	701.48	0	701.48
397065	HME01 Bar screen #6 jammed	HHWK-270100006	SCREENINGS, BAR - BARSREEN #6	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME01	6	2020-02-10	2020-02-10	2020-02-14	C	TRUE	JOHN COSTA	CM	0	0	0	0
397998	Monthly barscreen chain adjustment	HHWK-270100006	SCREENINGS, BAR - BARSREEN #6	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	6	2020-02-27	2020-04-01	2020-04-06	C	TRUE	EDGAR LAITA	CM	19	701.48	0	701.48
399361	BAR SCREEN JAMMED and in alarm	HHWK-270100006	SCREENINGS, BAR - BARSREEN #6	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	C	2020-03-27	2020-03-27	2020-04-01	C	TRUE	JOHN COSTA	CM	0	0	0	0
399386	BARSREEN WILL NOT OPERATE	HHWK-270100006	SCREENINGS, BAR - BARSREEN #6	HEADWORKS INTERNATIONAL 3/8" SCREEN	HIN02	C	2020-03-31	2020-03-31	2020-05-13	C	FALSE	JOHN LADOUCEUR	CM	24	1136.04	0	1136.04
400309	Monthly barscreen chain adjustment	HHWK-270100006	SCREENINGS, BAR - BARSREEN #6	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	6	2020-04-09	2020-05-01	2020-06-04	C	TRUE	EDGAR LAITA	CM	0	0	0	0
400488	Barscreen #6 is jammed.	HHWK-270100006	SCREENINGS, BAR - BARSREEN #6	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	C	2020-04-16	2020-04-16	2020-07-08	C	TRUE	EDGAR LAITA	CM	0	0	0	0
401721	Monthly barscreen chain adjustment	HHWK-270100006	SCREENINGS, BAR - BARSREEN #6	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2020-05-21	2020-06-01	2020-07-08	C	TRUE	EDGAR LAITA	CM	11	382.81	1075.8	1458.61
402505	Monthly barscreen chain adjustment	HHWK-270100006	SCREENINGS, BAR - BARSREEN #6	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2020-06-11	2020-07-01	2020-08-05	C	TRUE	EDGAR LAITA	CM	7	303.45	0	303.45
404141	REPLACE UPPER BEARINGS BAR SCREEN 6	HHWK-270100006	SCREENINGS, BAR - BARSREEN #6	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	C	2020-07-20	2020-07-20	2020-08-05	C	TRUE	EDGAR LAITA	CM	58	2278.94	0	2278.94
404190	Monthly barscreen chain adjustment	HHWK-270100006	SCREENINGS, BAR - BARSREEN #6	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2020-07-20	2020-08-01	2020-08-31	C	TRUE	EDGAR LAITA	CM	0	0	0	0
405377	Monthly barscreen chain adjustment	HHWK-270100006	SCREENINGS, BAR - BARSREEN #6	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2020-08-24	2020-09-01	2020-09-10	C	TRUE	EDGAR LAITA	CM	19	701.48	0	701.48
405645	Monthly barscreen chain adjustment	HHWK-270100006	SCREENINGS, BAR - BARSREEN #6	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2020-08-25	2020-10-01	2020-10-28	C	TRUE	EDGAR LAITA	CM	18	670.8	0	670.8
407860	Monthly barscreen chain adjustment	HHWK-270100006	SCREENINGS, BAR - BARSREEN #6	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2020-10-20	2020-11-01	2020-11-30	C	FALSE	EDGAR LAITA	CM	0	0	0	0
408304	HWK BARSREENS #6 JAMMED	HHWK-270100006	SCREENINGS, BAR - BARSREEN #6	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	C	2020-10-27	2020-10-27	2020-10-28	C	TRUE	EDGAR LAITA	CM	0	0	0	0
408379	Please check Bar Screen#6 VFD	HHWK-270100006	SCREENINGS, BAR - BARSREEN #6	HEADWORKS INTERNATIONAL 3/8" SCREEN	HELO2	C	2020-10-28	2020-10-28		A	FALSE		CM	0	0	0	0
408385	DEWATER CHANNEL AND INSPECT GEARS	HHWK-270100006	SCREENINGS, BAR - BARSREEN #6	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	C	2020-10-29	2020-10-29	2021-02-09	C	TRUE	EDGAR LAITA	CM	474	17153.89	14513.26	31667.15
409326	Monthly barscreen chain adjustment	HHWK-270100006	SCREENINGS, BAR - BARSREEN #6	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2020-12-01	2020-12-01	2021-01-07	C	TRUE	EDGAR LAITA	CM	2	81.12	0	81.12
410363	Monthly barscreen chain adjustment	HHWK-270100006	SCREENINGS, BAR - BARSREEN #6	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2020-12-22	2021-01-01	2021-02-09	C	TRUE	EDGAR LAITA	CM	0	0	0	0
412270	Monthly barscreen chain adjustment	HHWK-270100006	SCREENINGS, BAR - BARSREEN #6	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2021-02-03	2021-02-01	2021-02-11	C	TRUE	EDGAR LAITA	CM	26.5	1077.44	0	1077.44
412745	Monthly barscreen chain adjustment	HHWK-270100006	SCREENINGS, BAR - BARSREEN #6	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2021-02-10	2021-03-01	2021-03-15	C	TRUE	EDGAR LAITA	CM	11	465.69	0	465.69
414260	Monthly barscreen chain adjustment	HHWK-270100006	SCREENINGS, BAR - BARSREEN #6	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2021-03-30	2021-04-01	2021-04-22	C	TRUE	Victor Velasco	CM	14	590.16	0	590.16
415263	#6 Bar Screen Lower Skirt Removal Please	HHWK-270100006	SCREENINGS, BAR - BARSREEN #6	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	C	2021-04-12	2021-04-12	2021-04-23	C	TRUE	Victor Velasco	CM	0	0	0	0
416188	Monthly barscreen chain adjustment	HHWK-270100006	SCREENINGS, BAR - BARSREEN #6	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2021-05-06	2021-05-01	2021-05-18	C	TRUE	Justin Frey	CM	12	509.04	0	509.04
417095	Monthly barscreen chain adjustment	HHWK-270100006	SCREENINGS, BAR - BARSREEN #6	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2021-05-27	2021-06-01	2021-06-21	C	TRUE	Justin Frey	CM	20	850.26	0	850.26
418408	Monthly barscreen chain adjustment	HHWK-270100006	SCREENINGS, BAR - BARSREEN #6	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2021-06-30	2021-07-01		A	FALSE		CM	0	0	0	0
419024	Move Scaffolding From Bar Scrn #8 to #6	HHWK-270100006	SCREENINGS, BAR - BARSREEN #6	HEADWORKS INTERNATIONAL 3/8" SCREEN	HCA01	D	2021-07-15			A	FALSE		CM	0	0	0	0
<b>Barscreen #7</b>																	
386503	Monthly barscreen chain adjustment	HHWK-270100007	SCREENINGS, BAR - BARSREEN #7	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	6	2019-06-25	2019-07-01	2019-08-01	C	TRUE	JOHN COSTA	CM	0	0	0	0
387740	Monthly barscreen chain adjustment	HHWK-270100007	SCREENINGS, BAR - BARSREEN #7	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	6	2019-07-22	2019-08-01	2019-09-19	C	TRUE	EDGAR LAITA	CM	0	0	1278	1278
389085	Monthly barscreen chain adjustment	HHWK-270100007	SCREENINGS, BAR - BARSREEN #7	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	6	2019-08-19	2019-09-01	2019-09-30	C	TRUE	JOHN COSTA	CM	0	0	0	0
390254	Monthly barscreen chain adjustment	HHWK-270100007	SCREENINGS, BAR - BARSREEN #7	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	6	2019-09-16	2019-10-01	2019-11-05	C	TRUE	EDGAR LAITA	CM	0	0	0	0
391111	Monthly barscreen chain adjustment	HHWK-270100007	SCREENINGS, BAR - BARSREEN #7	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	6	2019-10-02	2019-11-01	2019-11-25	C	TRUE	EDGAR LAITA	CM	17	630.24	0	630.24
392161	MONTHLY BARSREEN ROTATION (5 DAY RUN)	HHWK-270100007	SCREENINGS, BAR - BARSREEN #7	HEADWORKS INTERNATIONAL 3/4" SCREEN	HOP02	2	2019-10-28	2019-11-01	2019-11-06	C	FALSE	RAHSHAW O MCAFFEE	CM	0	0	0	0
393277	Monthly barscreen chain adjustment	HHWK-270100007	SCREENINGS, BAR - BARSREEN #7	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME01	6	2019-11-20	2019-12-01	2020-01-07	C	TRUE	EDGAR LAITA	CM	12	437.32	0	437.32
394266	Monthly barscreen chain adjustment	HHWK-270100007	SCREENINGS, BAR - BARSREEN #7	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME01	6	2019-12-06	2020-01-01	2020-01-31	C	TRUE	EDGAR LAITA	CM	0	0	0	0
396117	Monthly barscreen chain adjustment	HHWK-270100007	SCREENINGS, BAR - BARSREEN #7	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME01	6	2020-01-23	2020-02-01	2020-03-09	C	TRUE	EDGAR LAITA	CM	13	438.59	0	438.59
396906	Monthly barscreen chain adjustment	HHWK-270100007	SCREENINGS, BAR - BARSREEN #7	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME01	6	2020-02-04	2020-03-01	2020-04-01	C	FALSE	JOHN COSTA	CM	0	0	0	0
397999	Monthly barscreen chain adjustment	HHWK-270100007	SCREENINGS, BAR - BARSREEN #7	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	6	2020-02-27	2020-04-01	2020-05-13	C	TRUE	EDGAR LAITA	CM	35	1281.28	0	1281.28
399602	FAB-SCRAPPER SHOES 80 PCS.	HHWK-270100007	SCREENINGS, BAR - BARSREEN #7	HEADWORKS INTERNATIONAL 3/4" SCREEN	HMA01	C	2020-04-01	2020-04-01		A	FALSE		CM	36	1408.68	1446.88	2855.56
399683	MONTHLY BARSREEN ROTATION (5 DAY RUN)	HHWK-270100007	SCREENINGS, BAR - BARSREEN #7	HEADWORKS INTERNATIONAL 3/4" SCREEN	HOP02	2	2020-04-02	2019-12-01	2020-04-02	C	FALSE	RAHSHAW O MCAFFEE	CM	0	0	0	0
400310	Monthly barscreen chain adjustment	HHWK-270100007	SCREENINGS, BAR - BARSREEN #7	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	6	2020-04-09	2020-05-01	2020-06-04	C	TRUE	EDGAR LAITA	CM	20	743.36	0	743.36
400489	Barscreen #7 is jammed.	HHWK-270100007	SCREENINGS, BAR - BARSREEN #7	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	C	2020-04-16	2020-04-16	2020-04-24	C	TRUE	EDGAR LAITA	CM	6	243.36	0	243.36
400588	ADJUST CHAIN	HHWK-270100007	SCREENINGS, BAR - BARSREEN #7	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	C	2020-04-20	2020-04-20	2020-04-24	C	TRUE	EDGAR LAITA	CM	7	303.45	0	303.45
401722	Monthly barscreen chain adjustment	HHWK-270100007	SCREENINGS, BAR - BARSREEN #7	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2020-05-21	2020-06-01	2020-07-08	C	TRUE	EDGAR LAITA	CM	0	0	511.32	511.32
402506	Monthly barscreen chain adjustment	HHWK-270100007	SCREENINGS, BAR - BARSREEN #7	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2020-06-11	2020-07-01	2020-07-23	C	TRUE	EDGAR LAITA	CM	22	823.16	0	823.16
404191	Monthly barscreen chain adjustment	HHWK-270100007	SCREENINGS, BAR - BARSREEN #7	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2020-07-20	2020-08-01	2020-08-19	C	FALSE	EDGAR LAITA	CM	10	422.34	0	422.34
405378	Monthly barscreen chain adjustment	HHWK-270100007	SCREENINGS, BAR - BARSREEN #7	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2020-08-24	2020-09-01	2021-01-07	C	TRUE	EDGAR LAITA	PA	31	1136.01	0	1136.01
405646	Monthly barscreen chain adjustment	HHWK-270100007	SCREENINGS, BAR - BARSREEN #7	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2020-08-25	2020-10-01	2020-10-29	C	TRUE	EDGAR LAITA	CM	0	0	0	0
407861	Monthly barscreen chain adjustment	HHWK-270100007	SCREENINGS, BAR - BARSREEN #7	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2020-10-20	2020-11-01	2020-11-30	C	TRUE	EDGAR LAITA	CM	0	0	0	0
409327	Monthly barscreen chain adjustment	HHWK-270100007	SCREENINGS, BAR - BARSREEN #7	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2020-12-01	2020-12-01	2021-01-07	C	TRUE	EDGAR LAITA	CM	0	0	0	0
410364	Monthly barscreen chain adjustment	HHWK-270100007	SCREENINGS, BAR - BARSREEN #7	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2020-12-22	2021-01-01	2021-02-09	C	TRUE	EDGAR LAITA	CM	19	806.91	0	806.91
412271	Monthly barscreen chain adjustment	HHWK-270100007	SCREENINGS, BAR - BARSREEN #7	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2021-02-03	2021-02-01	2021-03-02	C	TRUE	EDGAR LAITA	CM	0	0	0	0
412746	Monthly barscreen chain adjustment	HHWK-270100007	SCREENINGS, BAR - BARSREEN #7	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2021-02-10	2021-03-01	2021-04-22	C	TRUE	Victor Velasco	CM	0	0	0	0
414261	Monthly barscreen chain adjustment	HHWK-270100007	SCREENINGS, BAR - BARSREEN #7	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2021-03-30	2021-04-01	2021-05-03	C	TRUE	Justin Frey	MT	0	0	0	0
415335	CUT EMERGENCY ACCESS IN DISCHARGE CHUTE	HHWK-270100007	SCREENINGS, BAR - BARSREEN #7	HEADWORKS INTERNATIONAL 3/4" SCREEN	HWL01	C	2021-04-13	2021-04-13		A	FALSE		CM	27	1068.63	0	1068.63
416189	Monthly barscreen chain adjustment	HHWK-270100007	SCREENINGS, BAR - BARSREEN #7	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2021-05-06	2021-05-01	2021-05-24	C	TRUE	Justin Frey	CM	0	0	0	0
417096	Monthly barscreen chain adjustment	HHWK-270100007	SCREENINGS, BAR - BARSREEN #7	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2021-05-27	2021									

Barscreen #8																	
386504	Monthly Barscreen chain adjustment	HHWK-270100008	SCREENINGS, BAR - BARSREEN #8	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	6	2019-06-25	2019-07-01	2019-07-23	C	TRUE	JOHN COSTA	CM	30	1098.24	0	1098.24
387741	Monthly Barscreen chain adjustment	HHWK-270100008	SCREENINGS, BAR - BARSREEN #8	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	6	2019-07-22	2019-08-01	2019-08-26	C	TRUE	JOHN COSTA	CM	15	627.93	0	627.93
389086	Monthly Barscreen chain adjustment	HHWK-270100008	SCREENINGS, BAR - BARSREEN #8	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	6	2019-08-19	2019-09-01	2019-09-30	C	TRUE	JOHN COSTA	CM	19	701.48	0	701.48
390255	Monthly Barscreen chain adjustment	HHWK-270100008	SCREENINGS, BAR - BARSREEN #8	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME01	6	2019-09-16	2019-10-01	2020-04-06	C	TRUE	EDGAR LAITA	CM	16	599.56	0	599.56
390716	MONTHLY BARSREEN ROTATION (5 DAY RUN)	HHWK-270100008	SCREENINGS, BAR - BARSREEN #8	HEADWORKS INTERNATIONAL 3/8" SCREEN	HOP02	2	2019-09-26	2019-10-01	2019-10-16	C	FALSE	RAHSHAW O MCAFFEE	CM	0.6	28.27	0	28.27
391104	Monthly Barscreen chain adjustment	HHWK-270100008	SCREENINGS, BAR - BARSREEN #8	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	6	2019-10-02	2019-11-01	2019-11-05	C	TRUE	EDGAR LAITA	CM	20	751.92	0	751.92
393278	Monthly Barscreen chain adjustment	HHWK-270100008	SCREENINGS, BAR - BARSREEN #8	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	6	2019-11-20	2019-12-01	2019-12-10	C	TRUE	EDGAR LAITA	CM	4	162.24	0	162.24
394267	Monthly Barscreen chain adjustment	HHWK-270100008	SCREENINGS, BAR - BARSREEN #8	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME01	6	2019-12-06	2020-01-01	2020-01-07	C	TRUE	JOHN COSTA	CM	19	701.48	0	701.48
396118	Monthly Barscreen chain adjustment	HHWK-270100008	SCREENINGS, BAR - BARSREEN #8	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME01	6	2020-01-23	2020-02-01	2020-02-14	C	TRUE	EDGAR LAITA	CM	19	701.48	0	701.48
396907	Monthly Barscreen chain adjustment	HHWK-270100008	SCREENINGS, BAR - BARSREEN #8	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME01	6	2020-02-04	2020-03-01	2020-03-18	C	TRUE	EDGAR LAITA	CM	20	742.04	0	742.04
398000	Monthly Barscreen chain adjustment	HHWK-270100008	SCREENINGS, BAR - BARSREEN #8	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	6	2020-02-27	2020-04-01	2020-04-06	C	TRUE	EDGAR LAITA	CM	14	498.68	0	498.68
400311	Monthly Barscreen chain adjustment	HHWK-270100008	SCREENINGS, BAR - BARSREEN #8	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	6	2020-04-09	2020-05-01	2020-06-04	C	TRUE	EDGAR LAITA	CM	16	665.7	0	665.7
401386	REPLACE DRIVE SHAFT BEARINGS	HHWK-270100008	SCREENINGS, BAR - BARSREEN #8	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	C	2020-05-11	2020-05-11	2020-07-08	C	FALSE	EDGAR LAITA	CM	61	1895.11	511.32	2406.43
401723	Monthly Barscreen chain adjustment	HHWK-270100008	SCREENINGS, BAR - BARSREEN #8	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2020-05-21	2020-06-01	2020-07-23	C	TRUE	EDGAR LAITA	CM	8	324.48	0	324.48
402507	Monthly Barscreen chain adjustment	HHWK-270100008	SCREENINGS, BAR - BARSREEN #8	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2020-06-11	2020-07-01	2020-07-23	C	TRUE	EDGAR LAITA	CM	0	0	0	0
404192	Monthly Barscreen chain adjustment	HHWK-270100008	SCREENINGS, BAR - BARSREEN #8	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2020-07-20	2020-08-01	2020-08-13	C	TRUE	EDGAR LAITA	CM	22	823.16	0	823.16
405379	Monthly Barscreen chain adjustment	HHWK-270100008	SCREENINGS, BAR - BARSREEN #8	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2020-08-24	2020-09-01	2021-01-07	C	TRUE	EDGAR LAITA	PA	18.5	682.59	0	682.59
405647	Monthly Barscreen chain adjustment	HHWK-270100008	SCREENINGS, BAR - BARSREEN #8	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2020-08-25	2020-10-01	2020-10-20	C	TRUE	EDGAR LAITA	CM	16	565.66	41.45	607.11
407862	Monthly Barscreen chain adjustment	HHWK-270100008	SCREENINGS, BAR - BARSREEN #8	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2020-10-20	2020-11-01	2020-11-30	C	TRUE	EDGAR LAITA	CM	0	0	0	0
409328	Monthly Barscreen chain adjustment	HHWK-270100008	SCREENINGS, BAR - BARSREEN #8	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2020-12-01	2020-12-01	2021-01-07	C	TRUE	EDGAR LAITA	CM	0	0	0	0
410365	Monthly Barscreen chain adjustment	HHWK-270100008	SCREENINGS, BAR - BARSREEN #8	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2020-12-22	2021-01-01	2021-02-09	C	TRUE	EDGAR LAITA	CM	14	590.16	1410.91	2001.07
412272	Monthly Barscreen chain adjustment	HHWK-270100008	SCREENINGS, BAR - BARSREEN #8	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2021-02-03	2021-02-01	2021-02-17	C	TRUE	EDGAR LAITA	CM	22	936.96	0	936.96
412747	Monthly Barscreen chain adjustment	HHWK-270100008	SCREENINGS, BAR - BARSREEN #8	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2021-02-10	2021-03-01	2021-03-15	C	TRUE	EDGAR LAITA	CM	12	509.04	0	509.04
414262	Monthly Barscreen chain adjustment	HHWK-270100008	SCREENINGS, BAR - BARSREEN #8	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2021-03-30	2021-04-01	2021-06-28	C	TRUE	Justin Frey	CM	8	346.8	0	346.8
415354	ACCESS IN DISCHARGE CHUTE NEEDED	HHWK-270100008	SCREENINGS, BAR - BARSREEN #8	HEADWORKS INTERNATIONAL 3/8" SCREEN	HWL01	C	2021-04-14	2021-04-14		A	FALSE			49.5	2102.68	0	2102.68
416190	Monthly Barscreen chain adjustment	HHWK-270100008	SCREENINGS, BAR - BARSREEN #8	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2021-05-06	2021-05-01	2021-05-24	C	TRUE	Justin Frey	CM	14	623.85	0	623.85
417097	Monthly Barscreen chain adjustment	HHWK-270100008	SCREENINGS, BAR - BARSREEN #8	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2021-05-27	2021-06-01	2021-06-21	C	TRUE	Justin Frey	CM	20	850.26	0	850.26
418410	Monthly Barscreen chain adjustment	HHWK-270100008	SCREENINGS, BAR - BARSREEN #8	HEADWORKS INTERNATIONAL 3/8" SCREEN	HME02	B	2021-06-30	2021-07-01		A	FALSE			0	0	0	0

Barscreen #9																	
386505	Monthly Barscreen chain adjustment	HHWK-270100009	SCREENINGS, BAR - BARSREEN #9	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	6	2019-06-25	2019-07-01	2019-08-01	C	TRUE	JOHN COSTA	CM	0	0	0	0
387742	Monthly Barscreen chain adjustment	HHWK-270100009	SCREENINGS, BAR - BARSREEN #9	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	6	2019-07-22	2019-08-01	2019-09-19	C	TRUE	EDGAR LAITA	CM	0	0	0	0
389087	Monthly Barscreen chain adjustment	HHWK-270100009	SCREENINGS, BAR - BARSREEN #9	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	6	2019-08-19	2019-09-01	2019-09-30	C	TRUE	JOHN COSTA	CM	0	0	0	0
390256	Monthly Barscreen chain adjustment	HHWK-270100009	SCREENINGS, BAR - BARSREEN #9	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	6	2019-09-16	2019-10-01	2019-11-05	C	TRUE	EDGAR LAITA	CM	0	0	0	0
391105	Monthly Barscreen chain adjustment	HHWK-270100009	SCREENINGS, BAR - BARSREEN #9	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	6	2019-10-02	2019-11-01	2019-11-25	C	TRUE	EDGAR LAITA	CM	21	782.6	0	782.6
392162	MONTHLY BARSREEN ROTATION (5 DAY RUN)	HHWK-270100009	SCREENINGS, BAR - BARSREEN #9	HEADWORKS INTERNATIONAL 3/4" SCREEN	HOP02	2	2019-10-28	2019-11-01	2019-11-06	C	FALSE	RAHSHAW O MCAFFEE	CM	0	0	0	0
393279	Monthly Barscreen chain adjustment	HHWK-270100009	SCREENINGS, BAR - BARSREEN #9	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME01	6	2019-11-20	2019-12-01	2020-01-07	C	TRUE	EDGAR LAITA	CM	20	742.04	0	742.04
394268	Monthly Barscreen chain adjustment	HHWK-270100009	SCREENINGS, BAR - BARSREEN #9	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME01	6	2019-12-06	2020-01-01	2020-01-31	C	TRUE	EDGAR LAITA	CM	0	0	0	0
396119	Monthly Barscreen chain adjustment	HHWK-270100009	SCREENINGS, BAR - BARSREEN #9	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME01	6	2020-01-23	2020-02-01	2020-02-28	C	TRUE	EDGAR LAITA	CM	0	0	0	0
396908	Monthly Barscreen chain adjustment	HHWK-270100009	SCREENINGS, BAR - BARSREEN #9	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME01	6	2020-02-04	2020-03-01	2020-04-01	C	TRUE	JOHN COSTA	CM	0	0	0	0
397946	LCP PURGE PRESS TOO HIGH, WON'T ADJUST	HHWK-270100009	SCREENINGS, BAR - BARSREEN #9	HEADWORKS INTERNATIONAL 3/4" SCREEN	HIN01	6	2020-02-26	2020-02-26	2020-03-12	C	FALSE	MUSHTAQ A SYED	CM	46.5	1963.22	0	1963.22
398001	Monthly Barscreen chain adjustment	HHWK-270100009	SCREENINGS, BAR - BARSREEN #9	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	6	2020-02-27	2020-04-01	2020-05-13	C	TRUE	EDGAR LAITA	CM	13	546.81	0	546.81
399684	MONTHLY BARSREEN ROTATION (5 DAY RUN)	HHWK-270100009	SCREENINGS, BAR - BARSREEN #9	HEADWORKS INTERNATIONAL 3/4" SCREEN	HOP02	2	2020-04-02	2019-12-01	2020-04-02	C	FALSE	RAHSHAW O MCAFFEE	CM	0	0	0	0
400312	Monthly Barscreen chain adjustment	HHWK-270100009	SCREENINGS, BAR - BARSREEN #9	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	6	2020-04-09	2020-05-01	2020-05-18	C	TRUE	EDGAR LAITA	CM	9	384.57	0	384.57
400490	Barscreen #9 is stuck partially open	HHWK-270100009	SCREENINGS, BAR - BARSREEN #9	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	C	2020-04-16		2020-04-24	C	TRUE	EDGAR LAITA	CM	6	270.06	0	270.06
401639	INSPECT FOR LOUD THUMPING NOISE	HHWK-270100009	SCREENINGS, BAR - BARSREEN #9	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	C	2020-05-20	2020-05-20	2020-07-08	C	TRUE	EDGAR LAITA	CM	40	1440.26	86.4	1526.66
401724	Monthly Barscreen chain adjustment	HHWK-270100009	SCREENINGS, BAR - BARSREEN #9	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2020-05-21	2020-06-01	2020-07-08	C	TRUE	EDGAR LAITA	CM	11	446.16	511.32	957.48
402508	Monthly Barscreen chain adjustment	HHWK-270100009	SCREENINGS, BAR - BARSREEN #9	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2020-06-11	2020-07-01	2020-07-23	C	TRUE	EDGAR LAITA	CM	0	0	0	0
404193	Monthly Barscreen chain adjustment	HHWK-270100009	SCREENINGS, BAR - BARSREEN #9	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2020-07-20	2020-08-01	2020-08-31	C	TRUE	EDGAR LAITA	CM	18	660.92	0	660.92
405380	Monthly Barscreen chain adjustment	HHWK-270100009	SCREENINGS, BAR - BARSREEN #9	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2020-08-24	2020-09-01	2020-09-23	C	TRUE	EDGAR LAITA	CM	18.5	682.59	0	682.59
405648	Monthly Barscreen chain adjustment	HHWK-270100009	SCREENINGS, BAR - BARSREEN #9	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2020-08-25	2020-10-01	2020-10-29	C	TRUE	EDGAR LAITA	CM	0	0	0	0
407863	Monthly Barscreen chain adjustment	HHWK-270100009	SCREENINGS, BAR - BARSREEN #9	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2020-10-20	2020-11-01	2020-11-30	C	TRUE	EDGAR LAITA	CM	0	0	0	0
409329	Monthly Barscreen chain adjustment	HHWK-270100009	SCREENINGS, BAR - BARSREEN #9	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2020-12-01	2020-12-01	2021-01-07	C	FALSE	EDGAR LAITA	CM	0	0	0	0
410366	Monthly Barscreen chain adjustment	HHWK-270100009	SCREENINGS, BAR - BARSREEN #9	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2020-12-22	2021-01-01	2021-02-09	C	TRUE	EDGAR LAITA	CM	24	1023.66	0	1023.66
412273	Monthly Barscreen chain adjustment	HHWK-270100009	SCREENINGS, BAR - BARSREEN #9	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2021-02-03	2021-02-01	2021-03-02	C	TRUE	EDGAR LAITA	CM	0	0	0	0
412748	Monthly Barscreen chain adjustment	HHWK-270100009	SCREENINGS, BAR - BARSREEN #9	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2021-02-10	2021-03-01	2021-03-15	C	TRUE	EDGAR LAITA	CM	0	0	0	0
414263	Monthly Barscreen chain adjustment	HHWK-270100009	SCREENINGS, BAR - BARSREEN #9	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2021-03-30	2021-04-01	2021-05-03	C	TRUE	Justin Frey	MT	0	0	0	0
415336	CUT EMERGENCY ACCESS IN DISCHARGE CHUTE	HHWK-270100009	SCREENINGS, BAR - BARSREEN #9	HEADWORKS INTERNATIONAL 3/4" SCREEN	HWL01	C	2021-04-13	2021-04-13		A	FALSE			13	534.75	0	534.75
416191	Monthly Barscreen chain adjustment	HHWK-270100009	SCREENINGS, BAR - BARSREEN #9	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2021-05-06	2021-05-01	2021-05-24	C	TRUE	Justin Frey	CM	0	0	0	0
417098	Monthly Barscreen chain adjustment	HHWK-270100009	SCREENINGS, BAR - BARSREEN #9	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2021-05-27	2021-06-01		A	FALSE			0	0	0	0
418411	Monthly Barscreen chain adjustment	HHWK-270100009	SCREENINGS, BAR - BARSREEN #9	HEADWORKS INTERNATIONAL 3/4" SCREEN	HME02	B	2021-06-30	2021-07-01		A	FALSE			0</			

## Project Summary Report HWRP- Headworks Improvements (2409)

Program: Wastewater Treatment Plant Program				Primary WO: SZH11746 HTP HEADWORKS IMPROVEMENTS																			
<b>Scope of Work:</b>				Category: Hyperion Treatment Plant		Bdgt/Sched. Revision Date:																	
* The HTP Headworks Improvements project (CIP 2409) will provide for the replacement of: a) Eight (8) existing 3/4-inch bar screens at the Headworks Facility with four 3/8-inch clear spacing fully enclosed multi-raking bar screens and four 3/4-inch clear spacing fully enclosed multi-raking bar screens b) Install six (6) new ventilation fans for the bar screen room c) Replace the sluiceways with completely enclosed 316 SS sluiceways d) Install three (3) new drum screens e) Install three (3) new screw presses f) Install three (3) new chopper pumps				Plan No: D-		Last Update: 7/7/21																	
				Project status: Active		CD: 11																	
				<b>Project Schedule</b>				Phase		Sch Start		Sch Comp		% Comp		Act Comp							
				Pre-design		10/01/2013		06/04/2014		100		06/04/2014											
				Design		06/04/2014		05/02/2016		100		05/02/2016											
				Bid and Award		05/02/2016		04/26/2017		100		04/26/2017											
				Construction		04/26/2017		06/13/2019		100		06/13/2019											
				Post-Construction		06/13/2019		12/30/2021		81													
Project Mgr. Ibrahim Hafeez 310-648-6111				Project Engr. Ashley Coakley 310-648-6124																			
Const Mgr. Kenneth Frere 310-648-6261				Address: 12000 Vista Del Mar Playa Del Rey CA 90293																			
Client: Bureau of Sanitation		Neighborhood Service Area: West LA		Neighborhood Council: Westchester/Playa Del Rey NC		Fund Sources: Sewer Construction and Maintenance Fund																	
<b>Project Status:</b>				Award Date		Scheduled		Calculated		PM Input													
Jun/21 The project Close-out is in progress.				04/26/2017		04/26/2017		n/a		none													
May/21 The project Close-out is in progress.				Const. Complete		06/13/2019		n/a		none													
April/21 The project Close-out is in progress.				Phase		13/14		14/15		15/16		16/17		17/18		18/19		19/20		20/21		21/22	
Mar/21 The project Close-out is in progress.				Pre-design		[Bar chart]																	
Feb/21 The project close-out is in progress.				Design		[Bar chart]																	
Dec/20 (Michael) The project close-out is in progress.				B/A		[Bar chart]																	
Nov/20 (Michael) The project close-out is in progress.				Const		[Bar chart]																	
Oct/20 (Michael) The project close-out is in progress.				P Chac		[Bar chart]																	
Sep/20 (Michael) The project close-out is in progress.				Approved Construction Budget		\$15,255,000																	
Aug/20 (Michael) The project close-out is in progress.				Actual Const Vehicle		Contractor (Regular Award)																	
Jul/20 (Michael) The project close-out is in progress.				Actual Award Authority		Board of Public Works (Regular)																	
Jun/20 (Michael) The project close-out is in progress.				Contractor		Murray CO																	
May/20 (Michael) Close-out in progress. Honeywell Integration will begin soon.				Contract Number		C-125471																	
Apr/20 (Michael) Close-out in progress. Honeywell Integration will begin soon.				Award Amount		\$14,492,250																	
Mar/20 (Ken) Close-out in progress.				Actual Award Date		4/26/2017																	
Feb/20 (Ken) Close-out in progress.				Initial Contract Duration (Calendar days)		960 (2/3/2020)																	
Jan/20 (Ken) Close-out in progress.				Number of Executed Change Orders		16																	
				Total Cost of Executed Change Orders		\$381,262 (2.6%)																	
				Amount Paid to Date to Contractors		\$14,100,806																	
				Revised Contract Duration		0																	
				Date of Beneficial Occupancy		06/13/2019																	
Labor Through: 7/2/2021				Non-Labor Through: 6/8/2021																			

# **APPENDIX B**

## **SANI-GRAM for Event of Untreated Wastewater Flows in Santa Monica Bay**

CITY OF LOS ANGELES  
INTER-DEPARTMENTAL CORRESPONDENCE

DATE: JULY 11, 2021

TO: Greg Good, President  
Aura Garcia, Vice-President  
Michael R. Davis, President Pro Tempore  
Jessica Caloza, Commissioner  
Teresa Villegas, Commissioner  
Board of Public Works

FROM: Barbara Romero, Director and General Manager  
LA Sanitation and Environment

SANI-GRAM

EVENT: SEWAGE FLOWS IN SANTA MONICA BAY

Early this evening the Hyperion Water Reclamation Plant became inundated with overwhelming quantities of debris, causing backup of the headworks facilities. The plant's relief system has been triggered and sewage flows are being controlled through use of the plant's one-mile outfall and discharge of untreated sewage into Santa Monica Bay. Protocols for notifying regulatory agencies and the State's Office of Emergency Services are being followed. Plant staff are onsite and will be working through the night to address the issue.

c: All Council Members and Chief of Staffs  
Carol Armstrong, Rebecca A. Rasmussen, Nick Ryu, Gabriel Gutierrez,  
Susie Santilena – Mayor's Office  
Richard Llewellyn, Patricia Huber, Sarai Bhaga, Claudia Aguilar – CAO's Office  
Sharon Tso, Karen Kalfayan, Rafael Prieto – CLA's Office  
Edward Jordan, Adena Hopenstand, James P. Clark, Leela Kapur – City Attorney's Office  
Tonya Durrell - LASAN  
LASAN Division Managers  
LASAN Executive Administrative Assistants  
LASAN Division Secretaries

# **APPENDIX C**

## **5-day Report to LARWQCB**

# CITY OF LOS ANGELES

CALIFORNIA



ERIC GARCETTI

MAYOR

July 16, 2021

## BOARD OF PUBLIC WORKS MEMBERS

GREG GOOD  
PRESIDENT

AURA GARCIA  
VICE PRESIDENT

DR. MICHAEL R. DAVIS  
PRESIDENT PRO TEMPORE

JESSICA M. CALOZA  
COMMISSIONER

M. TERESA VILLEGAS  
COMMISSIONER

## BUREAU OF SANITATION

BARBARA ROMERO  
DIRECTOR AND GENERAL MANAGER

TRACI J. MINAMIDE  
CHIEF OPERATING OFFICER

LISA B. MOWERY  
CHIEF FINANCIAL OFFICER

MAS DOJIRI  
JOSE P. GARCIA  
ALEXANDER E. HELOU  
ASSISTANT DIRECTORS

TIMEYIN DAFETA  
HYPERION EXECUTIVE PLANT MANAGER

1149 SOUTH BROADWAY, 9<sup>TH</sup> FLOOR  
LOS ANGELES, CA 90015  
TEL: (213) 485-2210  
FAX: (213) 485-2979  
WWW.LACITYSAN.ORG

Russ Colby  
California Regional Water Quality Control Board  
Los Angeles Region  
320 West Fourth Street, Suite 200  
Los Angeles, California 90013

Dear Russ Colby:

### **UNPLANNED DISCHARGE TO 1-MILE OUTFALL OF RAW SEWAGE ON JULY 11 AND 12, 2021- CITY OF LOS ANGELES, HYPERION TREATMENT PLANT- NPDES NO. CA0109991, ORDER NO. R4-2017-0045**

On July 11, 2021 an excessive amount of debris from unknown origin suddenly accumulated on barscreens at the Headworks of Hyperion, resulting in the flooding of the plant and raw sewage overflow to 1-Mile Outfall. This resulted in approximately 17 million gallons (MG) of raw sewage reaching the ocean through the 1-Mile Outfall. City staff are investigating the source of the excessive debris.

Around noon on July 11, Hyperion's Headworks screening facility began experiencing problems. Operators first noticed Headworks water level upstream of the barscreens was rising. This unusual rise in the water level may have been an early indication of plugging of the barscreens as debris accumulated and obstructed the flow of sewage through the barscreens and into the treatment process.

The water level upstream of the barscreens continued to rise as operators worked to determine the cause of the problem. There were four barscreens in service during this time and another four barscreens on stand-by. Barscreens stopped working (or tripped on high torque) due to the plugging. Other barscreens on standby were placed on line but also tripped. Eventually, all barscreens tripped and went offline.

By 3:00 PM the Headworks facility was overwhelmed and some raw sewage began to overflow out of the Headworks building and into the streets within Hyperion, flooding the plant. Raw sewage from the street within Hyperion flowed into the plant's contaminated storm drain system (CSD #1 and CSD #2) and into the pipe gallery and pump rooms below ground. Hyperion's

*zero waste • zero wasted water*

AN EQUAL EMPLOYMENT OPPORTUNITY - AFFIRMATIVE ACTION EMPLOYER

Page No. 2

storm drain system normally collects and pumps accumulated water back to the Headworks, with the excess water passively overflowing to 1-Mile Outfall. Cover plates by the aerated grit basins, in front of primary tanks and effluent pumping plant were also opened to minimize flooding and allow raw sewage to flow into liquid processes for treatment.

Around 7:00 pm in the evening, excess sewage from the storm drain system began to overflow to the 1-Mile Outfall. Throughout the evening, Hyperion continued to work on removing the bulkhead upstream of the Emergency Bypass Channel.

Around 4:30 am, on Monday July 12, the bulkhead was finally removed allowing incoming sewage to bypass the barscreens and flow into downstream treatment processes while crews continued to work on the jammed barscreens.

At 8:40 am, on July 12, with two barscreens back in service and the emergency bypass channel open, flow to 1-Mile Outfall finally stopped. It is estimated that up to 17 MG of raw sewage flowed into the ocean of which 16.874 MG overflowed to 1-mile outfall (CSD #1 - 0.134 MG and CSD #2 - 16.74 MG) and the rest to 5-Mile Outfall (0.08 MG).

Hyperion staff is currently dewatering the flooded areas throughout the plant, assessing the damage and working to return the treatment process back to normal.

If you require any additional information, please contact me at (310) 648-5555 or Hi Sang Kim of my staff at (310) 648-5507.

Sincerely,



Timeyin Dafeta, Hyperion Executive Plant Manager  
LA Sanitation and Environment

TD/HK

c: Jeong-Hee Lim, RWQCB  
Ching-Yin To, RWQCB  
Hi-Sang Kim, LASAN  
Ronald Bell, LASAN

# **APPENDIX D**

## **5-day Report to USEPA**

# CITY OF LOS ANGELES

CALIFORNIA



ERIC GARCETTI

MAYOR

July 16, 2021

## BOARD OF PUBLIC WORKS MEMBERS

GREG GOOD  
PRESIDENT

AURA GARCIA  
VICE PRESIDENT

DR. MICHAEL R. DAVIS  
PRESIDENT PRO TEMPORE

JESSICA M. CALOZA  
COMMISSIONER

M. TERESA VILLEGAS  
COMMISSIONER

## BUREAU OF SANITATION

BARBARA ROMERO  
DIRECTOR AND GENERAL MANAGER

TRACI J. MINAMIDE  
CHIEF OPERATING OFFICER

LISA B. MOWERY  
CHIEF FINANCIAL OFFICER

MAS DOJRI  
JOSE P. GARCIA  
ALEXANDER E. HELOU  
ASSISTANT DIRECTORS

TIMEYIN DAFETA  
HYPERION EXECUTIVE PLANT MANAGER

1149 SOUTH BROADWAY, 9<sup>TH</sup> FLOOR  
LOS ANGELES, CA 90015  
TEL: (213) 485-2210  
FAX: (213) 485-2979  
WWW.LACITYSAN.ORG

Eric Magnan, P.E., Manager Water Section I  
Enforcement and Compliance Assurance Division  
U.S. EPA Region 9  
75 Hawthorne Street, ENF-3-1  
San Francisco, California 94105

Dear Mr. Magnan:

### **UNPLANNED DISCHARGE TO 1-MILE OUTFALL OF RAW SEWAGE ON JULY 11 AND 12, 2021- CITY OF LOS ANGELES, HYPERION TREATMENT PLANT- NPDES NO. CA0109991, ORDER NO. R4-2017-0045**

On July 11, 2021 an excessive amount of debris from unknown origin suddenly accumulated on barscreens at the Headworks of Hyperion, resulting in the flooding of the plant and raw sewage overflow to 1-Mile Outfall. This resulted in approximately 17 million gallons (MG) of raw sewage reaching the ocean through the 1-Mile Outfall. City staff are investigating the source of the excessive debris.

Around noon on July 11, Hyperion's Headworks screening facility began experiencing problems. Operators first noticed Headworks water level upstream of the barscreens was rising. This unusual rise in the water level may have been an early indication of plugging of the barscreens as debris accumulated and obstructed the flow of sewage through the barscreens and into the treatment process.

The water level upstream of the barscreens continued to rise as operators worked to determine the cause of the problem. There were four barscreens in service during this time and another four barscreens on stand-by. Barscreens stopped working (or tripped on high torque) due to the plugging. Other barscreens on standby were placed on line but also tripped. Eventually, all barscreens tripped and went offline.

By 3:00 PM the Headworks facility was overwhelmed and some raw sewage began to overflow out of the Headworks building and into the streets within Hyperion, flooding the plant. Raw sewage from the street within Hyperion flowed into the plant's contaminated storm drain system (CSD #1 and CSD #2) and into the pipe gallery and pump rooms below ground. Hyperion's

*zero waste • zero wasted water*

AN EQUAL EMPLOYMENT OPPORTUNITY - AFFIRMATIVE ACTION EMPLOYER

Recyclable and made from recycled waste



Page No. 2

storm drain system normally collects and pumps accumulated water back to the Headworks, with the excess water passively overflowing to 1-Mile Outfall. Cover plates by the aerated grit basins, in front of primary tanks and effluent pumping plant were also opened to minimize flooding and allow raw sewage to flow into liquid processes for treatment.

Around 7:00 pm in the evening, excess sewage from the storm drain system began to overflow to the 1-Mile Outfall. Throughout the evening, Hyperion continued to work on removing the bulkhead upstream of the Emergency Bypass Channel.

Around 4:30 am, on Monday July 12, the bulkhead was finally removed allowing incoming sewage to bypass the barscreens and flow into downstream treatment processes while crews continued to work on the jammed barscreens.

At 8:40 am, on July 12, with two barscreens back in service and the emergency bypass channel open, flow to 1-Mile Outfall finally stopped. It is estimated that up to 17 MG of raw sewage flowed into the ocean of which 16.874 MG overflowed to 1-mile outfall (CSD #1 - 0.134 MG and CSD #2 - 16.74 MG) and the rest to 5-Mile Outfall (0.08 MG).

Hyperion staff is currently dewatering the flooded areas throughout the plant, assessing the damage and working to return the treatment process back to normal.

If you require any additional information, please contact me at (310) 648-5555 or Hi Sang Kim of my staff at (310) 648-5507.

Sincerely,



Timeyin Dafeta, Hyperion Executive Plant Manager  
LA Sanitation and Environment

TD/HK

c: Becky Mitschele, USEPA  
Hi-Sang Kim, LASAN  
Ronald Bell, LASAN

# **APPENDIX E**

## **Shoreline Monitoring Data**

ENVIRONMENTAL MONITORING DIVISION  
BIOLOGY SECTION - MICROBIOLOGY UNIT

**Hyperion Plant Response  
Santa Monica Bay Beaches Bacterial TMDL**

Sample Date	Sample Time	Sample Location	Total Coliforms	<i>E. coli</i>	Enterococcus
			MPN/100 mL	MPN/100 mL	MPN/100 mL
<b>Water Quality Standard:</b>			<b>10,000</b>	<b>400</b>	<b>104</b>
7/13/2021	8:44 AM	SMB 1-6, Walnut Creek, Paradise Cove	63	10	20
7/13/2021	8:57 AM	SMB 1-8, Escondido Creek, Escondido State Beach	10	<10	<10
7/13/2021	9:05 AM	SMB 1-10, Solstice Creek, Dan Blocker County Beach	<10	<10	<10
7/13/2021	9:18 AM	SMB 1-12, Marie Canyon storm drain, Puerco Beach	85	10	<10
7/13/2021	10:00 AM	SMB 1-13, Sweetwater Canyon storm drain, Carbon Beach	31	<10	<10
7/13/2021	10:10 AM	SMB 1-14, Las Flores Creek, Las Flores State Beach	<10	<10	<10
7/13/2021	10:22 AM	SMB 1-16, Pena Creek, Las Tunas County Beach	41	31	10
7/13/2021	11:05 AM	SMB 1-17, Tuna Canyon, Las Tunas County Beach	IA	IA	IA
7/13/2021	11:00 AM	SMB 1-18, Topanga Canyon, Topanga State Beach*	360	270	210
7/13/2021	11:18 AM	SMB 2-1a, Castlerock storm drain, Topanga State Beach	84	31	<10
7/13/2021	11:22 AM	SMB 2-2, Santa Ynez storm drain, Will Rogers State Beach	IA	IA	IA
7/13/2021	11:36 AM	SMB 2-4, Pulga Canyon storm drain, Will Rogers State Beach	9800	<10	<10
7/13/2021	10:28 AM	SMB 2-7, Santa Monica Canyon storm drain, Santa Monica State Beach	1100	520	10
7/13/2021	8:24 AM	SMB 2-10, Culver storm drain, Dockweiler State Beach	2100	20	30
7/13/2021	8:15 AM	SMB 2-11, North Westchester storm drain, Dockweiler State Beach	20	<10	<10
7/13/2021	7:52 AM	SMB 2-13, Imperial Highway storm drain, Dockweiler State Beach	180	97	84
7/13/2021	9:42 AM	SMB 3-3, Santa Monica Pier storm drain, Santa Monica State Beach**	3900	3600	140

ENVIRONMENTAL MONITORING DIVISION  
BIOLOGY SECTION - MICROBIOLOGY UNIT

**Hyperion Plant Response  
Santa Monica Bay Beaches Bacterial TMDL**

7/13/2021	9:39 AM	SMB 3-4, Pico-Kenter storm drain, Santa Monica State Beach	98	<10	<10
7/13/2021	9:25 AM	SMB 3-5, Ashland storm drain, Santa Monica State Beach	30	<10	<10
7/13/2021	9:18 AM	SMB 3-6, Rose Ave storm drain, Venice Beach	10	10	10
7/13/2021	9:08 AM	SMB 3-8, Windward Ave storm drain, Venice Beach	20	<10	10
7/13/2021	9:44 AM	SMB MC-2, Malibu Lagoon, Malibu State Beach	230	98	41
7/13/2021	8:50 AM	SMB O-1, Little Point Dume	IA	IA	IA
7/13/2021	9:28 AM	SMB O-2, Marie Canyon	20	<10	10
7/13/2021	11:00 AM	SMB 7-6, White's Point/Royal Palms County Beach, San Pedro	52	<10	<10
7/13/2021	11:05 AM	SMB 7-8, Point Fermin/Wilder Annex, San Pedro	IA	IA	IA
7/13/2021	11:22 AM	SMB 7-9, Outer Cabrillo Beach, San Pedro	85	31	10

Wet-Weather Triggered on 7/13/21: Rainfall  $\geq$  0.1 inches and 3 days following  
# - Indicates Accelerated Monitoring is required, except if Accelerated day is a Wet day  
IA - Inaccessible

\*location at wave wash of Topanga Canyon  
\*\*location at Santa Monica Pier storm drain and known to have high counts

Stations are sampled either daily (5 times per week) or weekly. The weekly sampled stations are those that historically rarely exceeded state water quality standards, whereas the daily sampled stations historically occasionally exceeded water quality standards.

Sample Date	Sample Time	Sample Location	Total Coliforms	<i>E. coli</i>	Enterococcus
			MPN/100 mL	MPN/100 mL	MPN/100 mL
<b>Water Quality Standard:</b>			<b>10,000</b>	<b>400</b>	<b>104</b>
7/14/2021		SMB 1-6, Walnut Creek, Paradise Cove	NS	NS	NS
7/14/2021		SMB 1-8, Escondido Creek, Escondido State Beach	NS	NS	NS
7/14/2021		SMB 1-10, Solstice Creek, Dan Blocker County Beach	NS	NS	NS

ENVIRONMENTAL MONITORING DIVISION					
BIOLOGY SECTION - MICROBIOLOGY UNIT					
Hyperion Plant Response					
Santa Monica Bay Beaches Bacterial TMDL					
7/14/2021		SMB 1-12, Marie Canyon storm drain, Puerco Beach	NS	NS	NS
7/14/2021		SMB 1-13, Sweetwater Canyon storm drain, Carbon Beach	NS	NS	NS
7/14/2021		SMB 1-14, Las Flores Creek, Las Flores State Beach	NS	NS	NS
7/14/2021		SMB 1-16, Pena Creek, Las Tunas County Beach	NS	NS	NS
7/14/2021	11:30 AM	SMB 1-17, Tuna Canyon, Las Tunas County Beach	IA	IA	IA
7/14/2021	11:20 AM	SMB 1-18, Topanga Canyon, Topanga State Beach	250	10	<10
7/14/2021		SMB 2-1a, Castlerock storm drain, Topanga State Beach	NS	NS	NS
7/14/2021		SMB 2-2, Santa Ynez storm drain, Will Rogers State Beach	NS	NS	NS
7/14/2021		SMB 2-4, Pulga Canyon storm drain, Will Rogers State Beach	NS	NS	NS
7/14/2021	9:35 AM	SMB 2-7, Santa Monica Canyon storm drain, Santa Monica State Beach	52	31	<10
7/14/2021		SMB 2-10, Culver storm drain, Dockweiler State Beach	NS	NS	NS
7/14/2021		SMB 2-11, North Westchester storm drain, Dockweiler State Beach	NS	NS	NS
7/14/2021		SMB 2-13, Imperial Highway storm drain, Dockweiler State Beach	NS	NS	NS
7/14/2021	9:00 AM	SMB 3-3, Santa Monica Pier storm drain, Santa Monica State Beach	120	63	<10
7/14/2021	8:47 AM	SMB 3-4, Pico-Kenter storm drain, Santa Monica State Beach	20	20	10
7/14/2021	8:39 AM	SMB 3-5, Ashland storm drain, Santa Monica State Beach	10	<10	<10
7/14/2021		SMB 3-6, Rose Ave storm drain, Venice Beach	NS	NS	NS
7/14/2021		SMB 3-8, Windward Ave storm drain, Venice Beach	NS	NS	NS
7/14/2021	10:20 AM	SMB MC-2, Malibu Lagoon, Malibu State Beach	52	<10	20
7/14/2021		SMB O-1, Little Point Dume	NS	NS	NS

ENVIRONMENTAL MONITORING DIVISION  
BIOLOGY SECTION - MICROBIOLOGY UNIT

**Hyperion Plant Response  
Santa Monica Bay Beaches Bacterial TMDL**

7/14/2021		SMB O-2, Marie Canyon	NS	NS	NS
7/14/2021		SMB 7-6, White's Point/Royal Palms County Beach, San Pedro	NS	NS	NS
7/14/2021		SMB 7-8, Point Fermin/Wilder Annex, San Pedro	NS	NS	NS
7/14/2021		SMB 7-9, Outer Cabrillo Beach, San Pedro	NS	NS	NS

Wet-Weather Triggered on 7/13/21: Rainfall  $\geq$  0.1 inches and 3 days following

# - Indicates Accelerated Monitoring is required, except if Accelerated day is a Wet day

IA - Inaccessible

NS - Not Sampled; Sampled Weekly

Stations are sampled either daily (5 times per week) or weekly. The weekly sampled stations are those that historically rarely exceeded state water quality standards, whereas the daily sampled stations historically occasionally exceeded water quality standards.

Sample Date	Sample Time	Sample Location	Total Coliforms	<i>E. coli</i>	Enterococcus
			MPN/100 mL	MPN/100 mL	MPN/100 mL

<b>Water Quality Standard:</b>			<b>10,000</b>	<b>400</b>	<b>104</b>
--------------------------------	--	--	---------------	------------	------------

7/15/2021		SMB 1-6, Walnut Creek, Paradise Cove	NS	NS	NS
7/15/2021		SMB 1-8, Escondido Creek, Escondido State Beach	NS	NS	NS
7/15/2021		SMB 1-10, Solstice Creek, Dan Blocker County Beach	NS	NS	NS
7/15/2021		SMB 1-12, Marie Canyon storm drain, Puerco Beach	NS	NS	NS
7/15/2021		SMB 1-13, Sweetwater Canyon storm drain, Carbon Beach	NS	NS	NS
7/15/2021		SMB 1-14, Las Flores Creek, Las Flores State Beach	NS	NS	NS
7/15/2021		SMB 1-16, Pena Creek, Las Tunas County Beach	NS	NS	NS
7/15/2021	10:45 AM	SMB 1-17, Tuna Canyon, Las Tunas County Beach	IA	IA	IA
7/15/2021	10:38 AM	SMB 1-18, Topanga Canyon, Topanga State Beach	41	<10	10
7/15/2021		SMB 2-1a, Castlerock storm drain, Topanga State Beach	NS	NS	NS

ENVIRONMENTAL MONITORING DIVISION					
BIOLOGY SECTION - MICROBIOLOGY UNIT					
Hyperion Plant Response					
Santa Monica Bay Beaches Bacterial TMDL					
7/15/2021		SMB 2-2, Santa Ynez storm drain, Will Rogers State Beach	NS	NS	NS
7/15/2021		SMB 2-4, Pulga Canyon storm drain, Will Rogers State Beach	NS	NS	NS
7/15/2021	9:18 AM	SMB 2-7, Santa Monica Canyon storm drain, Santa Monica State Beach	<10	<10	<10
7/15/2021		SMB 2-10, Culver storm drain, Dockweiler State Beach	NS	NS	NS
7/15/2021		SMB 2-11, North Westchester storm drain, Dockweiler State Beach	NS	NS	NS
7/15/2021		SMB 2-13, Imperial Highway storm drain, Dockweiler State Beach	NS	NS	NS
7/15/2021	8:56 AM	SMB 3-3, Santa Monica Pier storm drain, Santa Monica State Beach	75	31	<10
7/15/2021	8:45 AM	SMB 3-4, Pico-Kenter storm drain, Santa Monica State Beach	10	<10	<10
7/15/2021	8:36 AM	SMB 3-5, Ashland storm drain, Santa Monica State Beach	52	<10	<10
7/15/2021		SMB 3-6, Rose Ave storm drain, Venice Beach	NS	NS	NS
7/15/2021		SMB 3-8, Windward Ave storm drain, Venice Beach	NS	NS	NS
7/15/2021	10:05 AM	SMB MC-2, Malibu Lagoon, Malibu State Beach	30	<10	<10
7/15/2021		SMB O-1, Little Point Dume	NS	NS	NS
7/15/2021		SMB O-2, Marie Canyon	NS	NS	NS
7/15/2021		SMB 7-6, White's Point/Royal Palms County Beach, San Pedro	NS	NS	NS
7/15/2021		SMB 7-8, Point Fermin/Wilder Annex, San Pedro	NS	NS	NS
7/15/2021		SMB 7-9, Outer Cabrillo Beach, San Pedro	NS	NS	NS
Wet-Weather Triggered on 7/13/21: Rainfall >= 0.1 inches and 3 days following					
# - Indicates Accelerated Monitoring is required, except if Accelerated day is a Wet day					
IA - Inaccessible					
NS - Not Sampled; Sampled Weekly					

ENVIRONMENTAL MONITORING DIVISION  
BIOLOGY SECTION - MICROBIOLOGY UNIT

**Hyperion Plant Response  
Santa Monica Bay Beaches Bacterial TMDL**

Stations are sampled either daily (5 times per week) or weekly. The weekly sampled stations are those that historically rarely exceeded state water quality standards, whereas the daily sampled stations historically occasionally exceeded water quality standards.

Sample Date	Sample Time	Sample Location	Total Coliforms	<i>E. coli</i>	Enterococcus
			MPN/100 mL	MPN/100 mL	MPN/100 mL
<b>Water Quality Standard:</b>			<b>10,000</b>	<b>400</b>	<b>104</b>
7/16/2021		SMB 1-6, Walnut Creek, Paradise Cove	NS	NS	NS
7/16/2021		SMB 1-8, Escondido Creek, Escondido State Beach	NS	NS	NS
7/16/2021		SMB 1-10, Solstice Creek, Dan Blocker County Beach	NS	NS	NS
7/16/2021		SMB 1-12, Marie Canyon storm drain, Puerco Beach	NS	NS	NS
7/16/2021		SMB 1-13, Sweetwater Canyon storm drain, Carbon Beach	NS	NS	NS
7/16/2021		SMB 1-14, Las Flores Creek, Las Flores State Beach	NS	NS	NS
7/16/2021		SMB 1-16, Pena Creek, Las Tunas County Beach	NS	NS	NS
7/16/2021	11:45 AM	SMB 1-17, Tuna Canyon, Las Tunas County Beach	<10	<10	<10
7/16/2021	12:00 PM	SMB 1-18, Topanga Canyon, Topanga State Beach	10	<10	<10
7/16/2021		SMB 2-1a, Castlerock storm drain, Topanga State Beach	NS	NS	NS
7/16/2021		SMB 2-2, Santa Ynez storm drain, Will Rogers State Beach	NS	NS	NS
7/16/2021		SMB 2-4, Pulga Canyon storm drain, Will Rogers State Beach	NS	NS	NS
7/16/2021	9:50 AM	SMB 2-7, Santa Monica Canyon storm drain, Santa Monica State Beach	10	10	10
7/16/2021		SMB 2-10, Culver storm drain, Dockweiler State Beach	NS	NS	NS
7/16/2021		SMB 2-11, North Westchester storm drain, Dockweiler State Beach	NS	NS	NS
7/16/2021		SMB 2-13, Imperial Highway storm drain, Dockweiler State Beach	NS	NS	NS

ENVIRONMENTAL MONITORING DIVISION  
BIOLOGY SECTION - MICROBIOLOGY UNIT

**Hyperion Plant Response  
Santa Monica Bay Beaches Bacterial TMDL**

7/16/2021	9:18 AM	SMB 3-3, Santa Monica Pier storm drain, Santa Monica State Beach*	990	990	<10
7/16/2021	9:14 AM	SMB 3-4, Pico-Kenter storm drain, Santa Monica State Beach	<10	<10	<10
7/16/2021	9:00 AM	SMB 3-5, Ashland storm drain, Santa Monica State Beach	<10	<10	<10
7/16/2021		SMB 3-6, Rose Ave storm drain, Venice Beach	NS	NS	NS
7/16/2021		SMB 3-8, Windward Ave storm drain, Venice Beach	NS	NS	NS
7/16/2021	10:58 AM	SMB MC-2, Malibu Lagoon, Malibu State Beach	<10	<10	<10
7/16/2021		SMB O-1, Little Point Dume	NS	NS	NS
7/16/2021		SMB O-2, Marie Canyon	NS	NS	NS
7/16/2021		SMB 7-6, White's Point/Royal Palms County Beach, San Pedro	NS	NS	NS
7/16/2021		SMB 7-8, Point Fermin/Wilder Annex, San Pedro	NS	NS	NS
7/16/2021		SMB 7-9, Outer Cabrillo Beach, San Pedro	NS	NS	NS

Wet-Weather Triggered on 7/13/21: Rainfall  $\geq$  0.1 inches and 3 days following  
 # - Indicates Accelerated Monitoring is required, except if Accelerated day is a Wet day  
 IA - Inaccessible  
 NS - Not Sampled; Sampled Weekly

\*location at Santa Monica Pier storm drain and known to have high counts

Stations are sampled either daily (5 times per week) or weekly. The weekly sampled stations are those that historically rarely exceeded state water quality standards, whereas the daily sampled stations historically occasionally exceeded water quality standards.

Sample Date	Sample Time	Sample Location	Total Coliforms	<i>E. coli</i>	Enterococcus
			MPN/100 mL	MPN/100 mL	MPN/100 mL

**Water Quality Standard:** **10,000**    **400**    **104**

7/17/2021		SMB 1-6, Walnut Creek, Paradise Cove	NS	NS	NS
7/17/2021		SMB 1-8, Escondido Creek, Escondido State Beach	NS	NS	NS

ENVIRONMENTAL MONITORING DIVISION  
BIOLOGY SECTION - MICROBIOLOGY UNIT

**Hyperion Plant Response  
Santa Monica Bay Beaches Bacterial TMDL**

7/17/2021		SMB 1-10, Solstice Creek, Dan Blocker County Beach	NS	NS	NS	
7/17/2021		SMB 1-12, Marie Canyon storm drain, Puerco Beach	NS	NS	NS	
7/17/2021		SMB 1-13, Sweetwater Canyon storm drain, Carbon Beach	NS	NS	NS	
7/17/2021		SMB 1-14, Las Flores Creek, Las Flores State Beach	NS	NS	NS	
7/17/2021		SMB 1-16, Pena Creek, Las Tunas County Beach	NS	NS	NS	
7/17/2021		SMB 1-17, Tuna Canyon, Las Tunas County Beach	NS	NS	NS	
7/17/2021	9:45 AM	SMB 1-18, Topanga Canyon, Topanga State Beach	41	<10	<10	
7/17/2021		SMB 2-1a, Castlerock storm drain, Topanga State Beach	NS	NS	NS	
7/17/2021		SMB 2-2, Santa Ynez storm drain, Will Rogers State Beach	NS	NS	NS	
7/17/2021		SMB 2-4, Pulga Canyon storm drain, Will Rogers State Beach	NS	NS	NS	
7/17/2021	8:50 AM	SMB 2-7, Santa Monica Canyon storm drain, Santa Monica State Beach	10	10	<10	
7/17/2021		SMB 2-10, Culver storm drain, Dockweiler State Beach	NS	NS	NS	
7/17/2021		SMB 2-11, North Westchester storm drain, Dockweiler State Beach	NS	NS	NS	
7/17/2021		SMB 2-13, Imperial Highway storm drain, Dockweiler State Beach	NS	NS	NS	
7/17/2021	8:35 AM	SMB 3-3, Santa Monica Pier storm drain, Santa Monica State Beach*	1800	1800	<10	
7/17/2021	8:30 AM	SMB 3-4, Pico-Kenter storm drain, Santa Monica State Beach	10	<10	<10	
7/17/2021	8:22 AM	SMB 3-5, Ashland storm drain, Santa Monica State Beach	<10	<10	<10	
7/17/2021		SMB 3-6, Rose Ave storm drain, Venice Beach	NS	NS	NS	
7/17/2021		SMB 3-8, Windward Ave storm drain, Venice Beach	NS	NS	NS	
7/17/2021	9:20 AM	SMB MC-2, Malibu Lagoon, Malibu State Beach	20	<10	<10	

ENVIRONMENTAL MONITORING DIVISION  
BIOLOGY SECTION - MICROBIOLOGY UNIT

**Hyperion Plant Response  
Santa Monica Bay Beaches Bacterial TMDL**

7/17/2021		SMB O-1, Little Point Dume	NS	NS	NS
7/17/2021		SMB O-2, Marie Canyon	NS	NS	NS
7/17/2021		SMB 7-6, White's Point/Royal Palms County Beach, San Pedro	NS	NS	NS
7/17/2021		SMB 7-8, Point Fermin/Wilder Annex, San Pedro	NS	NS	NS
7/17/2021		SMB 7-9, Outer Cabrillo Beach, San Pedro	NS	NS	NS

# - Indicates Accelerated Monitoring is required, except if Accelerated day is a wet day or daily site

IA - Inaccessible

NS - Not Sampled; Sampled Weekly

\*location at Santa Monica Pier storm drain and known to have high counts

Stations are sampled either daily (5 times per week) or weekly. The weekly sampled stations are those that historically rarely exceeded state water quality standards, whereas the daily sampled stations historically occasionally exceeded water quality standards.

Sample Date	Sample Time	Sample Location	Total Coliforms	<i>E. coli</i>	Enterococcus
			MPN/100 mL	MPN/100 mL	MPN/100 mL
<b>Water Quality Standard:</b>			<b>10,000</b>	<b>400</b>	<b>104</b>
7/20/2021	8:30 AM	SMB 1-6, Walnut Creek, Paradise Cove	<10	<10	<10
7/20/2021	8:45 AM	SMB 1-8, Escondido Creek, Escondido State Beach	20	10	<10
7/20/2021	8:53 AM	SMB 1-10, Solstice Creek, Dan Blocker County Beach	10	<10	<10
7/20/2021	9:06 AM	SMB 1-12, Marie Canyon storm drain, Puerco Beach	20	20	<10
7/20/2021	9:45 AM	SMB 1-13, Sweetwater Canyon storm drain, Carbon Beach	<10	<10	<10
7/20/2021	9:57 AM	SMB 1-14, Las Flores Creek, Las Flores State Beach	10	<10	<10
7/20/2021	10:07 AM	SMB 1-16, Pena Creek, Las Tunas County Beach	10	10	<10
7/20/2021	10:40 AM	SMB 1-17, Tuna Canyon, Las Tunas County Beach	IA	IA	IA
7/20/2021	10:38 AM	SMB 1-18, Topanga Canyon, Topanga State Beach	41	<10	<10

ENVIRONMENTAL MONITORING DIVISION  
BIOLOGY SECTION - MICROBIOLOGY UNIT

**Hyperion Plant Response  
Santa Monica Bay Beaches Bacterial TMDL**

7/20/2021	10:47 AM	SMB 2-1a, Castlerock storm drain, Topanga State Beach	20	<10	<10
7/20/2021	10:55 AM	SMB 2-2, Santa Ynez storm drain, Will Rogers State Beach	IA	IA	IA
7/20/2021	10:02 AM	SMB 2-4, Pulga Canyon storm drain, Will Rogers State Beach*	17,000#	10	<10
7/20/2021	9:45 AM	SMB 2-7, Santa Monica Canyon storm drain, Santa Monica State Beach	<10	<10	<10
7/20/2021	8:00 AM	SMB 2-10, Culver storm drain, Dockweiler State Beach	1900	30	<10
7/20/2021	8:10 AM	SMB 2-11, North Westchester storm drain, Dockweiler State Beach	<10	<10	<10
7/20/2021	8:17 AM	SMB 2-13, Imperial Highway storm drain, Dockweiler State Beach	20	<10	<10
7/20/2021	9:06 AM	SMB 3-3, Santa Monica Pier storm drain, Santa Monica State Beach	240	63	<10
7/20/2021	9:03 AM	SMB 3-4, Pico-Kenter storm drain, Santa Monica State Beach	120	<10	<10
7/20/2021	8:52 AM	SMB 3-5, Ashland storm drain, Santa Monica State Beach	170	<10	<10
7/20/2021	8:47 AM	SMB 3-6, Rose Ave storm drain, Venice Beach	390	10	<10
7/20/2021	8:36 AM	SMB 3-8, Windward Ave storm drain, Venice Beach	400	20	<10
7/20/2021	9:30 AM	SMB MC-2, Malibu Lagoon, Malibu State Beach	41	10	<10
7/20/2021	8:35 AM	SMB O-1, Little Point Dume	IA	IA	IA
7/20/2021	9:13 AM	SMB O-2, Marie Canyon	<10	<10	<10
7/20/2021	9:30 AM	SMB 7-6, White's Point/Royal Palms County Beach, San Pedro	120	52	<10
7/20/2021	9:40 AM	SMB 7-8, Point Fermin/Wilder Annex, San Pedro	IA	IA	IA
7/20/2021	9:50 AM	SMB 7-9, Outer Cabrillo Beach, San Pedro	98	<10	<10

# - Indicates Accelerated Monitoring is required, except if Accelerated day is a wet day or daily site

IA - Inaccessible

ENVIRONMENTAL MONITORING DIVISION  
BIOLOGY SECTION - MICROBIOLOGY UNIT

**Hyperion Plant Response  
Santa Monica Bay Beaches Bacterial TMDL**

NS - Not Sampled; Sampled Weekly

\*location at the wave wash of Pulga storm drain on Will Rogers State Beach

Stations are sampled either daily (5 times per week) or weekly. The weekly sampled stations are those that historically rarely exceeded state water quality standards, whereas the daily sampled stations historically occasionally exceeded water quality standards.

Sample Date	Sample Time	Sample Location	Total Coliforms	<i>E. coli</i>	Enterococcus
			MPN/100 mL	MPN/100 mL	MPN/100 mL
<b>Water Quality Standard:</b>			<b>10,000</b>	<b>400</b>	<b>104</b>
7/21/2021		SMB 1-6, Walnut Creek, Paradise Cove	NS	NS	NS
7/21/2021		SMB 1-8, Escondido Creek, Escondido State Beach	NS	NS	NS
7/21/2021		SMB 1-10, Solstice Creek, Dan Blocker County Beach	NS	NS	NS
7/21/2021		SMB 1-12, Marie Canyon storm drain, Puerco Beach	NS	NS	NS
7/21/2021		SMB 1-13, Sweetwater Canyon storm drain, Carbon Beach	NS	NS	NS
7/21/2021		SMB 1-14, Las Flores Creek, Las Flores State Beach	NS	NS	NS
7/21/2021		SMB 1-16, Pena Creek, Las Tunas County Beach	NS	NS	NS
7/21/2021	10:50 AM	SMB 1-17, Tuna Canyon, Las Tunas County Beach	IA	IA	IA
7/21/2021	10:44 AM	SMB 1-18, Topanga Canyon, Topanga State Beach	74	10	<10
7/21/2021		SMB 2-1a, Castlerock storm drain, Topanga State Beach	NS	NS	NS
7/21/2021		SMB 2-2, Santa Ynez storm drain, Will Rogers State Beach	NS	NS	NS
7/21/2021		SMB 2-4, Pulga Canyon storm drain, Will Rogers State Beach	NS	NS	NS
7/21/2021	8:55 AM	SMB 2-7, Santa Monica Canyon storm drain, Santa Monica State Beach	20	<10	10
7/21/2021		SMB 2-10, Culver storm drain, Dockweiler State Beach	NS	NS	NS

ENVIRONMENTAL MONITORING DIVISION  
BIOLOGY SECTION - MICROBIOLOGY UNIT

**Hyperion Plant Response  
Santa Monica Bay Beaches Bacterial TMDL**

Sample Date	Sample Time	Sample Location	Total Coliforms	<i>E. coli</i>	Enterococcus
7/21/2021		SMB 2-11, North Westchester storm drain, Dockweiler State Beach	NS	NS	NS
7/21/2021		SMB 2-13, Imperial Highway storm drain, Dockweiler State Beach	NS	NS	NS
7/21/2021	8:42 AM	SMB 3-3, Santa Monica Pier storm drain, Santa Monica State Beach*	860	620	10
7/21/2021	8:36 AM	SMB 3-4, Pico-Kenter storm drain, Santa Monica State Beach	41	10	<10
7/21/2021	8:25 AM	SMB 3-5, Ashland storm drain, Santa Monica State Beach	52	20	10
7/21/2021		SMB 3-6, Rose Ave storm drain, Venice Beach	NS	NS	NS
7/21/2021		SMB 3-8, Windward Ave storm drain, Venice Beach	NS	NS	NS
7/21/2021	9:43 AM	SMB MC-2, Malibu Lagoon, Malibu State Beach	120	41	<10
7/21/2021		SMB O-1, Little Point Dume	NS	NS	NS
7/21/2021		SMB O-2, Marie Canyon	NS	NS	NS
7/21/2021		SMB 7-6, White's Point/Royal Palms County Beach, San Pedro	NS	NS	NS
7/21/2021		SMB 7-8, Point Fermin/Wilder Annex, San Pedro	NS	NS	NS
7/21/2021		SMB 7-9, Outer Cabrillo Beach, San Pedro	NS	NS	NS

# - Indicates Accelerated Monitoring is required, except if Accelerated day is a wet day or daily site

IA - Inaccessible

NS - Not Sampled; Sampled Weekly

\*location at Santa Monica Pier storm drain and known to have high counts

Stations are sampled either daily (5 times per week) or weekly. The weekly sampled stations are those that historically rarely exceeded state water quality standards, whereas the daily sampled stations historically occasionally exceeded water quality standards.

Sample Date	Sample Time	Sample Location	Total Coliforms	<i>E. coli</i>	Enterococcus
-------------	-------------	-----------------	-----------------	----------------	--------------

ENVIRONMENTAL MONITORING DIVISION  
BIOLOGY SECTION - MICROBIOLOGY UNIT

**Hyperion Plant Response  
Santa Monica Bay Beaches Bacterial TMDL**

			MPN/100 mL	MPN/100 mL	MPN/100 mL
<b>Water Quality Standard:</b>			<b>10,000</b>	<b>400</b>	<b>104</b>
7/22/2021		SMB 1-6, Walnut Creek, Paradise Cove	NS	NS	NS
7/22/2021		SMB 1-8, Escondido Creek, Escondido State Beach	NS	NS	NS
7/22/2021		SMB 1-10, Solstice Creek, Dan Blocker County Beach	NS	NS	NS
7/22/2021		SMB 1-12, Marie Canyon storm drain, Puerco Beach	NS	NS	NS
7/22/2021		SMB 1-13, Sweetwater Canyon storm drain, Carbon Beach	NS	NS	NS
7/22/2021		SMB 1-14, Las Flores Creek, Las Flores State Beach	NS	NS	NS
7/22/2021		SMB 1-16, Pena Creek, Las Tunas County Beach	NS	NS	NS
7/22/2021	10:15 AM	SMB 1-17, Tuna Canyon, Las Tunas County Beach	IA	IA	IA
7/22/2021	10:10 AM	SMB 1-18, Topanga Canyon, Topanga State Beach	62	30	<10
7/22/2021		SMB 2-1a, Castlerock storm drain, Topanga State Beach	NS	NS	NS
7/22/2021		SMB 2-2, Santa Ynez storm drain, Will Rogers State Beach	NS	NS	NS
7/22/2021	9:05 AM	SMB 2-4, Pulga Canyon storm drain, Will Rogers State Beach	6100	<10	<10
7/22/2021	8:55 AM	SMB 2-7, Santa Monica Canyon storm drain, Santa Monica State Beach	1600	200	<10
7/22/2021		SMB 2-10, Culver storm drain, Dockweiler State Beach	NS	NS	NS
7/22/2021		SMB 2-11, North Westchester storm drain, Dockweiler State Beach	NS	NS	NS
7/22/2021		SMB 2-13, Imperial Highway storm drain, Dockweiler State Beach	NS	NS	NS
7/22/2021	8:37 AM	SMB 3-3, Santa Monica Pier storm drain, Santa Monica State Beach*	10,000	9800	20
7/22/2021	8:31 AM	SMB 3-4, Pico-Kenter storm drain, Santa Monica State Beach	180	84	31

ENVIRONMENTAL MONITORING DIVISION  
BIOLOGY SECTION - MICROBIOLOGY UNIT

**Hyperion Plant Response  
Santa Monica Bay Beaches Bacterial TMDL**

7/22/2021	8:21 AM	SMB 3-5, Ashland storm drain, Santa Monica State Beach	30	20	10
7/22/2021		SMB 3-6, Rose Ave storm drain, Venice Beach	NS	NS	NS
7/22/2021		SMB 3-8, Windward Ave storm drain, Venice Beach	NS	NS	NS
7/22/2021	9:45 AM	SMB MC-2, Malibu Lagoon, Malibu State Beach	340	20	<10
7/22/2021		SMB O-1, Little Point Dume	NS	NS	NS
7/22/2021		SMB O-2, Marie Canyon	NS	NS	NS
7/22/2021		SMB 7-6, White's Point/Royal Palms County Beach, San Pedro	NS	NS	NS
7/22/2021		SMB 7-8, Point Fermin/Wilder Annex, San Pedro	NS	NS	NS
7/22/2021		SMB 7-9, Outer Cabrillo Beach, San Pedro	NS	NS	NS

# - Indicates Accelerated Monitoring is required, except if Accelerated day is a wet day or daily site

IA - Inaccessible

NS - Not Sampled; Sampled Weekly

\*location at Santa Monica Pier storm drain and known to have high counts

Stations are sampled either daily (5 times per week) or weekly. The weekly sampled stations are those that historically rarely exceeded state water quality standards, whereas the daily sampled stations historically occasionally exceeded water quality standards.

Sample Date	Sample Time	Sample Location	Total Coliforms	<i>E. coli</i>	Enterococcus
			MPN/100 mL	MPN/100 mL	MPN/100 mL

<b>Water Quality Standard:</b>			<b>10,000</b>	<b>400</b>	<b>104</b>
--------------------------------	--	--	---------------	------------	------------

7/23/2021		SMB 1-6, Walnut Creek, Paradise Cove	NS	NS	NS
7/23/2021		SMB 1-8, Escondido Creek, Escondido State Beach	NS	NS	NS
7/23/2021		SMB 1-10, Solstice Creek, Dan Blocker County Beach	NS	NS	NS
7/23/2021		SMB 1-12, Marie Canyon storm drain, Puerco Beach	NS	NS	NS
7/23/2021		SMB 1-13, Sweetwater Canyon storm drain, Carbon Beach	NS	NS	NS

ENVIRONMENTAL MONITORING DIVISION					
BIOLOGY SECTION - MICROBIOLOGY UNIT					
Hyperion Plant Response					
Santa Monica Bay Beaches Bacterial TMDL					
7/23/2021		SMB 1-14, Las Flores Creek, Las Flores State Beach	NS	NS	NS
7/23/2021		SMB 1-16, Pena Creek, Las Tunas County Beach	NS	NS	NS
7/23/2021	10:22 AM	SMB 1-17, Tuna Canyon, Las Tunas County Beach	IA	IA	IA
7/23/2021	10:18 AM	SMB 1-18, Topanga Canyon, Topanga State Beach	20	10	<10
7/23/2021		SMB 2-1a, Castlerock storm drain, Topanga State Beach	NS	NS	NS
7/23/2021		SMB 2-2, Santa Ynez storm drain, Will Rogers State Beach	NS	NS	NS
7/23/2021		SMB 2-4, Pulga Canyon storm drain, Will Rogers State Beach	NS	NS	NS
7/23/2021	8:43 AM	SMB 2-7, Santa Monica Canyon storm drain, Santa Monica State Beach	20	<10	<10
7/23/2021		SMB 2-10, Culver storm drain, Dockweiler State Beach	NS	NS	NS
7/23/2021		SMB 2-11, North Westchester storm drain, Dockweiler State Beach	NS	NS	NS
7/23/2021		SMB 2-13, Imperial Highway storm drain, Dockweiler State Beach	NS	NS	NS
7/23/2021	8:15 AM	SMB 3-3, Santa Monica Pier storm drain, Santa Monica State Beach*	2,700	2,300	480
7/23/2021	8:08 AM	SMB 3-4, Pico-Kenter storm drain, Santa Monica State Beach	120	31	10
7/23/2021	7:56 AM	SMB 3-5, Ashland storm drain, Santa Monica State Beach	52	<10	10
7/23/2021		SMB 3-6, Rose Ave storm drain, Venice Beach	NS	NS	NS
7/23/2021		SMB 3-8, Windward Ave storm drain, Venice Beach	NS	NS	NS
7/23/2021	9:37 AM	SMB MC-2, Malibu Lagoon, Malibu State Beach	85	10	<10
7/23/2021		SMB O-1, Little Point Dume	NS	NS	NS
7/23/2021		SMB O-2, Marie Canyon	NS	NS	NS
7/23/2021		SMB 7-6, White's Point/Royal Palms County Beach, San Pedro	NS	NS	NS

ENVIRONMENTAL MONITORING DIVISION  
BIOLOGY SECTION - MICROBIOLOGY UNIT

**Hyperion Plant Response  
Santa Monica Bay Beaches Bacterial TMDL**

7/23/2021		SMB 7-8, Point Fermin/Wilder Annex, San Pedro	NS	NS	NS
7/23/2021		SMB 7-9, Outer Cabrillo Beach, San Pedro	NS	NS	NS

# - Indicates Accelerated Monitoring is required, except if Accelerated day is a wet day or daily site

IA - Inaccessible

NS - Not Sampled; Sampled Weekly

\*location at Santa Monica Pier storm drain and known to have high counts

Stations are sampled either daily (5 times per week) or weekly. The weekly sampled stations are those that historically rarely exceeded state water quality standards, whereas the daily sampled stations historically occasionally exceeded water quality standards.

Sample Date	Sample Time	Sample Location	Total Coliforms	<i>E. coli</i>	Enterococcus
			MPN/100 mL	MPN/100 mL	MPN/100 mL

<b>Water Quality Standard:</b>			<b>10,000</b>	<b>400</b>	<b>104</b>
--------------------------------	--	--	---------------	------------	------------

7/24/2021		SMB 1-6, Walnut Creek, Paradise Cove	NS	NS	NS
7/24/2021		SMB 1-8, Escondido Creek, Escondido State Beach	NS	NS	NS
7/24/2021		SMB 1-10, Solstice Creek, Dan Blocker County Beach	NS	NS	NS
7/24/2021		SMB 1-12, Marie Canyon storm drain, Puerco Beach	NS	NS	NS
7/24/2021		SMB 1-13, Sweetwater Canyon storm drain, Carbon Beach	NS	NS	NS
7/24/2021		SMB 1-14, Las Flores Creek, Las Flores State Beach	NS	NS	NS
7/24/2021		SMB 1-16, Pena Creek, Las Tunas County Beach	NS	NS	NS
7/24/2021	11:00 AM	SMB 1-17, Tuna Canyon, Las Tunas County Beach	IA	IA	IA
7/24/2021	11:10 AM	SMB 1-18, Topanga Canyon, Topanga State Beach	10	<10	<10
7/24/2021		SMB 2-1a, Castlerock storm drain, Topanga State Beach	NS	NS	NS
7/24/2021		SMB 2-2, Santa Ynez storm drain, Will Rogers State Beach	NS	NS	NS

ENVIRONMENTAL MONITORING DIVISION  
BIOLOGY SECTION - MICROBIOLOGY UNIT

**Hyperion Plant Response  
Santa Monica Bay Beaches Bacterial TMDL**

7/24/2021		SMB 2-4, Pulga Canyon storm drain, Will Rogers State Beach	NS	NS	NS
7/24/2021	9:20 AM	SMB 2-7, Santa Monica Canyon storm drain, Santa Monica State Beach	<10	<10	<10
7/24/2021		SMB 2-10, Culver storm drain, Dockweiler State Beach	NS	NS	NS
7/24/2021		SMB 2-11, North Westchester storm drain, Dockweiler State Beach	NS	NS	NS
7/24/2021		SMB 2-13, Imperial Highway storm drain, Dockweiler State Beach	NS	NS	NS
7/24/2021	8:46 AM	SMB 3-3, Santa Monica Pier storm drain, Santa Monica State Beach*	690	620	<10
7/24/2021	8:38 AM	SMB 3-4, Pico-Kenter storm drain, Santa Monica State Beach	98	63	10
7/24/2021	8:28 AM	SMB 3-5, Ashland storm drain, Santa Monica State Beach	41	20	<10
7/24/2021		SMB 3-6, Rose Ave storm drain, Venice Beach	NS	NS	NS
7/24/2021		SMB 3-8, Windward Ave storm drain, Venice Beach	NS	NS	NS
7/24/2021	10:20 AM	SMB MC-2, Malibu Lagoon, Malibu State Beach	63	41	<10
7/24/2021		SMB O-1, Little Point Dume	NS	NS	NS
7/24/2021		SMB O-2, Marie Canyon	NS	NS	NS
7/24/2021		SMB 7-6, White's Point/Royal Palms County Beach, San Pedro	NS	NS	NS
7/24/2021		SMB 7-8, Point Fermin/Wilder Annex, San Pedro	NS	NS	NS
7/24/2021		SMB 7-9, Outer Cabrillo Beach, San Pedro	NS	NS	NS

# - Indicates Accelerated Monitoring is required, except if Accelerated day is a wet day or daily site

IA - Inaccessible

NS - Not Sampled; Sampled Weekly

\*location at Santa Monica Pier storm drain and known to have high counts

ENVIRONMENTAL MONITORING DIVISION  
BIOLOGY SECTION - MICROBIOLOGY UNIT

**Hyperion Plant Response**  
**Santa Monica Bay Beaches Bacterial TMDL**

Stations are sampled either daily (5 times per week) or weekly. The weekly sampled stations are those that historically rarely exceeded state water quality standards, whereas the daily sampled stations historically occasionally exceeded water quality standards.

Sample Date	Sample Time	Sample Location	Total Coliforms	<i>E. coli</i>	Enterococcus
			MPN/100 mL	MPN/100 mL	MPN/100 mL
<b>Water Quality Standard:</b>			<b>10,000</b>	<b>400</b>	<b>104</b>
7/27/2021	8:40 AM	SMB 1-6, Walnut Creek, Paradise Cove	110	<10	20
7/27/2021	8:52 AM	SMB 1-8, Escondido Creek, Escondido State Beach	<10	<10	<10
7/27/2021	9:00 AM	SMB 1-10, Solstice Creek, Dan Blocker County Beach	<10	<10	<10
7/27/2021	9:22 AM	SMB 1-12, Marie Canyon storm drain, Puerco Beach	120	10	<10
7/27/2021	9:50 AM	SMB 1-13, Sweetwater Canyon storm drain, Carbon Beach	<10	<10	<10
7/27/2021	10:00 AM	SMB 1-14, Las Flores Creek, Las Flores State Beach	<10	<10	<10
7/27/2021	10:10 AM	SMB 1-16, Pena Creek, Las Tunas County Beach	20	20	<10
7/27/2021	10:00 AM	SMB 1-17, Tuna Canyon, Las Tunas County Beach	10	<10	20
7/27/2021	9:56 AM	SMB 1-18, Topanga Canyon, Topanga State Beach	480	120	41
7/27/2021	10:10 AM	SMB 2-1a, Castlerock storm drain, Topanga State Beach	10	<10	10
7/27/2021	10:15 AM	SMB 2-2, Santa Ynez storm drain, Will Rogers State Beach	IA	IA	IA
7/27/2021	9:18 AM	SMB 2-4, Pulga Canyon storm drain, Will Rogers State Beach	200	86	<10
7/27/2021	9:01 AM	SMB 2-7, Santa Monica Canyon storm drain, Santa Monica State Beach	680	250	10
7/27/2021	7:36 AM	SMB 2-10, Culver storm drain, Dockweiler State Beach*	>24,000	>24,000	>24,000
7/27/2021	7:47 AM	SMB 2-11, North Westchester storm drain, Dockweiler State Beach**	>24,000	>24,000	>24,000
7/27/2021	7:57 AM	SMB 2-13, Imperial Highway storm drain, Dockweiler State Beach***	>24,000	5800	1000

ENVIRONMENTAL MONITORING DIVISION  
BIOLOGY SECTION - MICROBIOLOGY UNIT

**Hyperion Plant Response  
Santa Monica Bay Beaches Bacterial TMDL**

7/27/2021	8:53 AM	SMB 3-3, Santa Monica Pier storm drain, Santa Monica State Beach	IA	IA	IA
7/27/2021	8:48 AM	SMB 3-4, Pico-Kenter storm drain, Santa Monica State Beach	340	<10	10
7/27/2021	8:35 AM	SMB 3-5, Ashland storm drain, Santa Monica State Beach	IA	IA	IA
7/27/2021	8:26 AM	SMB 3-6, Rose Ave storm drain, Venice Beach	240	<10	<10
7/27/2021	8:19 AM	SMB 3-8, Windward Ave storm drain, Venice Beach	720	10	<10
7/27/2021	9:35 AM	SMB MC-2, Malibu Lagoon, Malibu State Beach	10	10	<10
7/27/2021	8:25 AM	SMB O-1, Little Point Dume	IA	IA	IA
7/27/2021	9:15 AM	SMB O-2, Marie Canyon	20	<10	<10
7/27/2021	9:20 AM	SMB 7-6, White's Point/Royal Palms County Beach, San Pedro	10	10	<10
7/27/2021	9:25 AM	SMB 7-8, Point Fermin/Wilder Annex, San Pedro	IA	IA	IA
7/27/2021	9:40 AM	SMB 7-9, Outer Cabrillo Beach, San Pedro	20	<10	<10

Wet-Weather Triggered on 7/26/21: Rainfall  $\geq$  0.1 inches and 3 days following  
# - Indicates Accelerated Monitoring is required, except if Accelerated day is a wet day or daily site

IA - Inaccessible

NS - Not Sampled; Sampled Weekly

\*wet weather triggered, location at wave wash of Culver storm drain

\*\*wet weather triggered, location at Westchester storm drain

\*\*\*wet weather triggered, location at Imperial Highway storm drain

Stations are sampled either daily (5 times per week) or weekly. The weekly sampled stations are those that historically rarely exceeded state water quality standards, whereas the daily sampled stations historically occasionally exceeded water quality standards.

Sample Date	Sample Time	Sample Location	Total Coliforms	<i>E. coli</i>	Enterococcus
			MPN/100 mL	MPN/100 mL	MPN/100 mL
<b>Water Quality Standard:</b>			<b>10,000</b>	<b>400</b>	<b>104</b>

ENVIRONMENTAL MONITORING DIVISION					
BIOLOGY SECTION - MICROBIOLOGY UNIT					
Hyperion Plant Response					
Santa Monica Bay Beaches Bacterial TMDL					
7/28/2021		SMB 1-6, Walnut Creek, Paradise Cove	NS	NS	NS
7/28/2021		SMB 1-8, Escondido Creek, Escondido State Beach	NS	NS	NS
7/28/2021		SMB 1-10, Solstice Creek, Dan Blocker County Beach	NS	NS	NS
7/28/2021		SMB 1-12, Marie Canyon storm drain, Puerco Beach	NS	NS	NS
7/28/2021		SMB 1-13, Sweetwater Canyon storm drain, Carbon Beach	NS	NS	NS
7/28/2021		SMB 1-14, Las Flores Creek, Las Flores State Beach	NS	NS	NS
7/28/2021		SMB 1-16, Pena Creek, Las Tunas County Beach	NS	NS	NS
7/28/2021		SMB 1-17, Tuna Canyon, Las Tunas County Beach	NS	NS	NS
7/28/2021	10:18 AM	SMB 1-18, Topanga Canyon, Topanga State Beach*	140	20	150
7/28/2021		SMB 2-1a, Castlerock storm drain, Topanga State Beach	NS	NS	NS
7/28/2021		SMB 2-2, Santa Ynez storm drain, Will Rogers State Beach	NS	NS	NS
7/28/2021		SMB 2-4, Pulga Canyon storm drain, Will Rogers State Beach	NS	NS	NS
7/28/2021	9:10 AM	SMB 2-7, Santa Monica Canyon storm drain, Santa Monica State Beach	63	31	20
7/28/2021		SMB 2-10, Culver storm drain, Dockweiler State Beach	NS	NS	NS
7/28/2021		SMB 2-11, North Westchester storm drain, Dockweiler State Beach	NS	NS	NS
7/28/2021		SMB 2-13, Imperial Highway storm drain, Dockweiler State Beach	NS	NS	NS
7/28/2021	8:51 AM	SMB 3-3, Santa Monica Pier storm drain, Santa Monica State Beach	85	10	31
7/28/2021	8:45 AM	SMB 3-4, Pico-Kenter storm drain, Santa Monica State Beach	180	<10	<10
7/28/2021	8:35 AM	SMB 3-5, Ashland storm drain, Santa Monica State Beach	52	<10	10
7/28/2021		SMB 3-6, Rose Ave storm drain, Venice Beach	NS	NS	NS

ENVIRONMENTAL MONITORING DIVISION  
BIOLOGY SECTION - MICROBIOLOGY UNIT

**Hyperion Plant Response  
Santa Monica Bay Beaches Bacterial TMDL**

7/28/2021		SMB 3-8, Windward Ave storm drain, Venice Beach	NS	NS	NS
7/28/2021	9:55 AM	SMB MC-2, Malibu Lagoon, Malibu State Beach	41	10	<10
7/28/2021		SMB O-1, Little Point Dume	NS	NS	NS
7/28/2021		SMB O-2, Marie Canyon	NS	NS	NS
7/28/2021		SMB 7-6, White's Point/Royal Palms County Beach, San Pedro	NS	NS	NS
7/28/2021		SMB 7-8, Point Fermin/Wilder Annex, San Pedro	NS	NS	NS
7/28/2021		SMB 7-9, Outer Cabrillo Beach, San Pedro	NS	NS	NS

Wet-Weather Triggered on 7/26/21: Rainfall  $\geq$  0.1 inches and 3 days following

# - Indicates Accelerated Monitoring is required, except if Accelerated day is a wet day or daily site

IA - Inaccessible

NS - Not Sampled; Sampled Weekly

\*wet weather triggered, location at wave wash of Topanga Canyon

Stations are sampled either daily (5 times per week) or weekly. The weekly sampled stations are those that historically rarely exceeded state water quality standards, whereas the daily sampled stations historically occasionally exceeded water quality standards.

Sample Date	Sample Time	Sample Location	Total Coliforms	<i>E. coli</i>	Enterococcus
			MPN/100 mL	MPN/100 mL	MPN/100 mL

**Water Quality Standard:** **10,000**      **400**      **104**

7/29/2021		SMB 1-6, Walnut Creek, Paradise Cove	NS	NS	NS
7/29/2021		SMB 1-8, Escondido Creek, Escondido State Beach	NS	NS	NS
7/29/2021		SMB 1-10, Solstice Creek, Dan Blocker County Beach	NS	NS	NS
7/29/2021		SMB 1-12, Marie Canyon storm drain, Puerco Beach	NS	NS	NS
7/29/2021		SMB 1-13, Sweetwater Canyon storm drain, Carbon Beach	NS	NS	NS
7/29/2021		SMB 1-14, Las Flores Creek, Las Flores State Beach	NS	NS	NS

ENVIRONMENTAL MONITORING DIVISION					
BIOLOGY SECTION - MICROBIOLOGY UNIT					
Hyperion Plant Response					
Santa Monica Bay Beaches Bacterial TMDL					
7/29/2021		SMB 1-16, Pena Creek, Las Tunas County Beach	NS	NS	NS
7/29/2021		SMB 1-17, Tuna Canyon, Las Tunas County Beach	NS	NS	NS
7/29/2021	9:50 AM	SMB 1-18, Topanga Canyon, Topanga State Beach*	4400	860	680
7/29/2021		SMB 2-1a, Castlerock storm drain, Topanga State Beach	NS	NS	NS
7/29/2021		SMB 2-2, Santa Ynez storm drain, Will Rogers State Beach	NS	NS	NS
7/29/2021		SMB 2-4, Pulga Canyon storm drain, Will Rogers State Beach	NS	NS	NS
7/29/2021	8:42 AM	SMB 2-7, Santa Monica Canyon storm drain, Santa Monica State Beach	52	41	<10
7/29/2021		SMB 2-10, Culver storm drain, Dockweiler State Beach	NS	NS	NS
7/29/2021		SMB 2-11, North Westchester storm drain, Dockweiler State Beach	NS	NS	NS
7/29/2021		SMB 2-13, Imperial Highway storm drain, Dockweiler State Beach	NS	NS	NS
7/29/2021	8:29 AM	SMB 3-3, Santa Monica Pier storm drain, Santa Monica State Beach	86	20	<10
7/29/2021	8:24 AM	SMB 3-4, Pico-Kenter storm drain, Santa Monica State Beach**	2500	75	140
7/29/2021	8:14 AM	SMB 3-5, Ashland storm drain, Santa Monica State Beach	110	<10	<10
7/29/2021		SMB 3-6, Rose Ave storm drain, Venice Beach	NS	NS	NS
7/29/2021		SMB 3-8, Windward Ave storm drain, Venice Beach	NS	NS	NS
7/29/2021	9:20 AM	SMB MC-2, Malibu Lagoon, Malibu State Beach	20	<10	<10
7/29/2021		SMB O-1, Little Point Dume	NS	NS	NS
7/29/2021		SMB O-2, Marie Canyon	NS	NS	NS
7/29/2021		SMB 7-6, White's Point/Royal Palms County Beach, San Pedro	NS	NS	NS
7/29/2021		SMB 7-8, Point Fermin/Wilder Annex, San Pedro	NS	NS	NS

ENVIRONMENTAL MONITORING DIVISION					
BIOLOGY SECTION - MICROBIOLOGY UNIT					
Hyperion Plant Response					
Santa Monica Bay Beaches Bacterial TMDL					
7/29/2021		SMB 7-9, Outer Cabrillo Beach, San Pedro	NS	NS	NS
Wet-Weather Triggered on 7/26/21: Rainfall $\geq$ 0.1 inches and 3 days following					
# - Indicates Accelerated Monitoring is required, except if Accelerated day is a wet day or daily site					
IA - Inaccessible					
NS - Not Sampled; Sampled Weekly					
*wet weather triggered, location at wave wash of Topanga Canyon					
**wet weather triggered, location at wave wash of Pico-Kenter storm drain					
Stations are sampled either daily (5 times per week) or weekly. The weekly sampled stations are those that historically rarely exceeded state water quality standards, whereas the daily sampled stations historically occasionally exceeded water quality standards.					
Sample Date	Sample Time	Sample Location	Total Coliforms MPN/100 mL	<i>E. coli</i> MPN/100 mL	Enterococcus MPN/100 mL
<b>Water Quality Standard:</b>			<b>10,000</b>	<b>400</b>	<b>104</b>
7/30/2021		SMB 1-6, Walnut Creek, Paradise Cove	NS	NS	NS
7/30/2021		SMB 1-8, Escondido Creek, Escondido State Beach	NS	NS	NS
7/30/2021		SMB 1-10, Solstice Creek, Dan Blocker County Beach	NS	NS	NS
7/30/2021		SMB 1-12, Marie Canyon storm drain, Puerco Beach	NS	NS	NS
7/30/2021		SMB 1-13, Sweetwater Canyon storm drain, Carbon Beach	NS	NS	NS
7/30/2021		SMB 1-14, Las Flores Creek, Las Flores State Beach	NS	NS	NS
7/30/2021		SMB 1-16, Pena Creek, Las Tunas County Beach	NS	NS	NS
7/30/2021		SMB 1-17, Tuna Canyon, Las Tunas County Beach	NS	NS	NS
7/30/2021	11:00 AM	SMB 1-18, Topanga Canyon, Topanga State Beach	450	75	20
7/30/2021		SMB 2-1a, Castlerock storm drain, Topanga State Beach	NS	NS	NS
7/30/2021		SMB 2-2, Santa Ynez storm drain, Will Rogers State Beach	NS	NS	NS

ENVIRONMENTAL MONITORING DIVISION  
BIOLOGY SECTION - MICROBIOLOGY UNIT

**Hyperion Plant Response  
Santa Monica Bay Beaches Bacterial TMDL**

7/30/2021		SMB 2-4, Pulga Canyon storm drain, Will Rogers State Beach	NS	NS	NS
7/30/2021	9:24 AM	SMB 2-7, Santa Monica Canyon storm drain, Santa Monica State Beach	20	<10	<10
7/30/2021		SMB 2-10, Culver storm drain, Dockweiler State Beach	NS	NS	NS
7/30/2021		SMB 2-11, North Westchester storm drain, Dockweiler State Beach	NS	NS	NS
7/30/2021		SMB 2-13, Imperial Highway storm drain, Dockweiler State Beach	NS	NS	NS
7/30/2021	8:56 AM	SMB 3-3, Santa Monica Pier storm drain, Santa Monica State Beach	480	380	10
7/30/2021	8:50 AM	SMB 3-4, Pico-Kenter storm drain, Santa Monica State Beach	120	74	<10
7/30/2021	8:41 AM	SMB 3-5, Ashland storm drain, Santa Monica State Beach	52	<10	<10
7/30/2021		SMB 3-6, Rose Ave storm drain, Venice Beach	NS	NS	NS
7/30/2021		SMB 3-8, Windward Ave storm drain, Venice Beach	NS	NS	NS
7/30/2021	10:20 AM	SMB MC-2, Malibu Lagoon, Malibu State Beach	20	20	<10
7/30/2021		SMB O-1, Little Point Dume	NS	NS	NS
7/30/2021		SMB O-2, Marie Canyon	NS	NS	NS
7/30/2021		SMB 7-6, White's Point/Royal Palms County Beach, San Pedro	NS	NS	NS
7/30/2021		SMB 7-8, Point Fermin/Wilder Annex, San Pedro	NS	NS	NS
7/30/2021		SMB 7-9, Outer Cabrillo Beach, San Pedro	NS	NS	NS

# - Indicates Accelerated Monitoring is required, except if Accelerated day is a wet day or daily site

IA - Inaccessible

NS - Not Sampled; Sampled Weekly

Stations are sampled either daily (5 times per week) or weekly. The weekly sampled stations are those that historically rarely exceeded state water quality standards, whereas the daily sampled stations historically

ENVIRONMENTAL MONITORING DIVISION  
BIOLOGY SECTION - MICROBIOLOGY UNIT

**Hyperion Plant Response  
Santa Monica Bay Beaches Bacterial TMDL**

occasionally exceeded water quality standards.

Sample Date	Sample Time	Sample Location	Total Coliforms	<i>E. coli</i>	Enterococcus
			MPN/100 mL	MPN/100 mL	MPN/100 mL
<b>Water Quality Standard:</b>			<b>10,000</b>	<b>400</b>	<b>104</b>
7/31/2021		SMB 1-6, Walnut Creek, Paradise Cove	NS	NS	NS
7/31/2021		SMB 1-8, Escondido Creek, Escondido State Beach	NS	NS	NS
7/31/2021		SMB 1-10, Solstice Creek, Dan Blocker County Beach	NS	NS	NS
7/31/2021		SMB 1-12, Marie Canyon storm drain, Puerco Beach	NS	NS	NS
7/31/2021		SMB 1-13, Sweetwater Canyon storm drain, Carbon Beach	NS	NS	NS
7/31/2021		SMB 1-14, Las Flores Creek, Las Flores State Beach	NS	NS	NS
7/31/2021		SMB 1-16, Pena Creek, Las Tunas County Beach	NS	NS	NS
7/31/2021		SMB 1-17, Tuna Canyon, Las Tunas County Beach	NS	NS	NS
7/31/2021	11:34 AM	SMB 1-18, Topanga Canyon, Topanga State Beach	170	63	20
7/31/2021		SMB 2-1a, Castlerock storm drain, Topanga State Beach	NS	NS	NS
7/31/2021		SMB 2-2, Santa Ynez storm drain, Will Rogers State Beach	NS	NS	NS
7/31/2021		SMB 2-4, Pulga Canyon storm drain, Will Rogers State Beach	NS	NS	NS
7/31/2021	9:58 AM	SMB 2-7, Santa Monica Canyon storm drain, Santa Monica State Beach	20	10	<10
7/31/2021		SMB 2-10, Culver storm drain, Dockweiler State Beach	NS	NS	NS
7/31/2021		SMB 2-11, North Westchester storm drain, Dockweiler State Beach	NS	NS	NS
7/31/2021		SMB 2-13, Imperial Highway storm drain, Dockweiler State Beach	NS	NS	NS

ENVIRONMENTAL MONITORING DIVISION  
BIOLOGY SECTION - MICROBIOLOGY UNIT

**Hyperion Plant Response**  
**Santa Monica Bay Beaches Bacterial TMDL**

7/31/2021	9:35 AM	SMB 3-3, Santa Monica Pier storm drain, Santa Monica State Beach	360	230	41
7/31/2021	9:27 AM	SMB 3-4, Pico-Kenter storm drain, Santa Monica State Beach	110	84	20
7/31/2021	9:06 AM	SMB 3-5, Ashland storm drain, Santa Monica State Beach	10	10	<10
7/31/2021		SMB 3-6, Rose Ave storm drain, Venice Beach	NS	NS	NS
7/31/2021		SMB 3-8, Windward Ave storm drain, Venice Beach	NS	NS	NS
7/31/2021	10:52 AM	SMB MC-2, Malibu Lagoon, Malibu State Beach	10	<10	<10
7/31/2021		SMB O-1, Little Point Dume	NS	NS	NS
7/31/2021		SMB O-2, Marie Canyon	NS	NS	NS
7/31/2021		SMB 7-6, White's Point/Royal Palms County Beach, San Pedro	NS	NS	NS
7/31/2021		SMB 7-8, Point Fermin/Wilder Annex, San Pedro	NS	NS	NS
7/31/2021		SMB 7-9, Outer Cabrillo Beach, San Pedro	NS	NS	NS

# - Indicates Accelerated Monitoring is required, except if Accelerated day is a wet day or daily site

IA - Inaccessible

NS - Not Sampled; Sampled Weekly

Stations are sampled either daily (5 times per week) or weekly. The weekly sampled stations are those that historically rarely exceeded state water quality standards, whereas the daily sampled stations historically occasionally exceeded water quality standards.

Sample Date	Sample Time	Sample Location	Total Coliforms	<i>E. coli</i>	Enterococcus
			MPN/100 mL	MPN/100 mL	MPN/100 mL

**Water Quality Standard:** **10,000**      **400**      **104**

8/3/2021	8:41 AM	SMB 1-6, Walnut Creek, Paradise Cove	20	10	20
8/3/2021	8:55 AM	SMB 1-8, Escondido Creek, Escondido State Beach	<10	<10	<10
8/3/2021	9:02 AM	SMB 1-10, Solstice Creek, Dan Blocker County Beach	20	20	<10

ENVIRONMENTAL MONITORING DIVISION  
BIOLOGY SECTION - MICROBIOLOGY UNIT

**Hyperion Plant Response  
Santa Monica Bay Beaches Bacterial TMDL**

8/3/2021	9:30 AM	SMB 1-12, Marie Canyon storm drain, Puerco Beach	31	20	<10
8/3/2021	10:25 AM	SMB 1-13, Sweetwater Canyon storm drain, Carbon Beach	52	20	<10
8/3/2021	10:41 AM	SMB 1-14, Las Flores Creek, Las Flores State Beach	10	<10	<10
8/3/2021	10:46 AM	SMB 1-16, Pena Creek, Las Tunas County Beach	<10	<10	<10
8/3/2021	10:10 AM	SMB 1-17, Tuna Canyon, Las Tunas County Beach	IA	IA	IA
8/3/2021	10:06 AM	SMB 1-18, Topanga Canyon, Topanga State Beach	30	<10	<10
8/3/2021	10:26 AM	SMB 2-1a, Castlerock storm drain, Topanga State Beach	<10	<10	<10
8/3/2021	10:30 AM	SMB 2-2, Santa Ynez storm drain, Will Rogers State Beach	IA	IA	IA
8/3/2021	9:34 AM	SMB 2-4, Pulga Canyon storm drain, Will Rogers State Beach	2500	20	<10
8/3/2021	9:15 AM	SMB 2-7, Santa Monica Canyon storm drain, Santa Monica State Beach	31	31	<10
8/3/2021	7:43 AM	SMB 2-10, Culver storm drain, Dockweiler State Beach	1300	31	<10
8/3/2021	7:52 AM	SMB 2-11, North Westchester storm drain, Dockweiler State Beach	1000	10	10
8/3/2021	8:00 AM	SMB 2-13, Imperial Highway storm drain, Dockweiler State Beach	570	<10	<10
8/3/2021	8:46 AM	SMB 3-3, Santa Monica Pier storm drain, Santa Monica State Beach*	1,600	1600	74
8/3/2021	8:38 AM	SMB 3-4, Pico-Kenter storm drain, Santa Monica State Beach	20	<10	<10
8/3/2021	8:30 AM	SMB 3-5, Ashland storm drain, Santa Monica State Beach	20	10	10
8/3/2021	8:23 AM	SMB 3-6, Rose Ave storm drain, Venice Beach	41	<10	<10
8/3/2021	8:12 AM	SMB 3-8, Windward Ave storm drain, Venice Beach	31	20	10
8/3/2021	9:50 AM	SMB MC-2, Malibu Lagoon, Malibu State Beach**	8200	490	<10
8/3/2021	8:50 AM	SMB O-1, Little Point Dume	IA	IA	IA

ENVIRONMENTAL MONITORING DIVISION  
BIOLOGY SECTION - MICROBIOLOGY UNIT

**Hyperion Plant Response  
Santa Monica Bay Beaches Bacterial TMDL**

8/3/2021	9:42 AM	SMB O-2, Marie Canyon	10	<10	<10
8/3/2021	9:15 AM	SMB 7-6, White's Point/Royal Palms County Beach, San Pedro	51	20	<10
8/3/2021	9:25 AM	SMB 7-8, Point Fermin/Wilder Annex, San Pedro	IA	IA	IA
8/3/2021	9:35 AM	SMB 7-9, Outer Cabrillo Beach, San Pedro	10	<10	<10

# - Indicates Accelerated Monitoring is required, except if Accelerated day is a wet day or daily site

IA - Inaccessible

NS - Not Sampled; Sampled Weekly

\*location at Santa Monica Pier storm drain and known to have high counts

\*\*location at the breach point of Malibu Lagoon on Malibu State Beach

Stations are sampled either daily (5 times per week) or weekly. The weekly sampled stations are those that historically rarely exceeded state water quality standards, whereas the daily sampled stations historically occasionally exceeded water quality standards.

Sample Date	Sample Time	Sample Location	Total Coliforms	<i>E. coli</i>	Enterococcus
			MPN/100 mL	MPN/100 mL	MPN/100 mL

**Water Quality Standard:** **10,000**      **400**      **104**

8/4/2021		SMB 1-6, Walnut Creek, Paradise Cove	NS	NS	NS
8/4/2021		SMB 1-8, Escondido Creek, Escondido State Beach	NS	NS	NS
8/4/2021		SMB 1-10, Solstice Creek, Dan Blocker County Beach	NS	NS	NS
8/4/2021		SMB 1-12, Marie Canyon storm drain, Puerco Beach	NS	NS	NS
8/4/2021		SMB 1-13, Sweetwater Canyon storm drain, Carbon Beach	NS	NS	NS
8/4/2021		SMB 1-14, Las Flores Creek, Las Flores State Beach	NS	NS	NS
8/4/2021		SMB 1-16, Pena Creek, Las Tunas County Beach	NS	NS	NS
8/4/2021	11:00 AM	SMB 1-17, Tuna Canyon, Las Tunas County Beach	IA	IA	IA
8/4/2021	10:57 AM	SMB 1-18, Topanga Canyon, Topanga State Beach	31	<10	<10

ENVIRONMENTAL MONITORING DIVISION  
BIOLOGY SECTION - MICROBIOLOGY UNIT

**Hyperion Plant Response  
Santa Monica Bay Beaches Bacterial TMDL**

8/4/2021		SMB 2-1a, Castlerock storm drain, Topanga State Beach	NS	NS	NS
8/4/2021		SMB 2-2, Santa Ynez storm drain, Will Rogers State Beach	NS	NS	NS
8/4/2021		SMB 2-4, Pulga Canyon storm drain, Will Rogers State Beach	NS	NS	NS
8/4/2021	9:19 AM	SMB 2-7, Santa Monica Canyon storm drain, Santa Monica State Beach	10	<10	<10
8/4/2021		SMB 2-10, Culver storm drain, Dockweiler State Beach	NS	NS	NS
8/4/2021		SMB 2-11, North Westchester storm drain, Dockweiler State Beach	NS	NS	NS
8/4/2021		SMB 2-13, Imperial Highway storm drain, Dockweiler State Beach	NS	NS	NS
8/4/2021	8:58 AM	SMB 3-3, Santa Monica Pier storm drain, Santa Monica State Beach*	1300	1000	140
8/4/2021	8:53 AM	SMB 3-4, Pico-Kenter storm drain, Santa Monica State Beach	<10	<10	<10
8/4/2021	8:40 AM	SMB 3-5, Ashland storm drain, Santa Monica State Beach	31	<10	<10
8/4/2021		SMB 3-6, Rose Ave storm drain, Venice Beach	NS	NS	NS
8/4/2021		SMB 3-8, Windward Ave storm drain, Venice Beach	NS	NS	NS
8/4/2021	10:05 AM	SMB MC-2, Malibu Lagoon, Malibu State Beach	810	180	10
8/4/2021		SMB O-1, Little Point Dume	NS	NS	NS
8/4/2021		SMB O-2, Marie Canyon	NS	NS	NS
8/4/2021		SMB 7-6, White's Point/Royal Palms County Beach, San Pedro	NS	NS	NS
8/4/2021		SMB 7-8, Point Fermin/Wilder Annex, San Pedro	NS	NS	NS
8/4/2021		SMB 7-9, Outer Cabrillo Beach, San Pedro	NS	NS	NS

# - Indicates Accelerated Monitoring is required, except if Accelerated day is a wet day or daily site

IA - Inaccessible

ENVIRONMENTAL MONITORING DIVISION  
BIOLOGY SECTION - MICROBIOLOGY UNIT

**Hyperion Plant Response  
Santa Monica Bay Beaches Bacterial TMDL**

NS - Not Sampled; Sampled Weekly

\*location at Santa Monica Pier storm drain and known to have high counts

Stations are sampled either daily (5 times per week) or weekly. The weekly sampled stations are those that historically rarely exceeded state water quality standards, whereas the daily sampled stations historically occasionally exceeded water quality standards.

Sample Date	Sample Time	Sample Location	Total Coliforms	<i>E. coli</i>	Enterococcus
			MPN/100 mL	MPN/100 mL	MPN/100 mL
<b>Water Quality Standard:</b>			<b>10,000</b>	<b>400</b>	<b>104</b>
8/5/2021		SMB 1-6, Walnut Creek, Paradise Cove	NS	NS	NS
8/5/2021		SMB 1-8, Escondido Creek, Escondido State Beach	NS	NS	NS
8/5/2021		SMB 1-10, Solstice Creek, Dan Blocker County Beach	NS	NS	NS
8/5/2021		SMB 1-12, Marie Canyon storm drain, Puerco Beach	NS	NS	NS
8/5/2021		SMB 1-13, Sweetwater Canyon storm drain, Carbon Beach	NS	NS	NS
8/5/2021		SMB 1-14, Las Flores Creek, Las Flores State Beach	NS	NS	NS
8/5/2021		SMB 1-16, Pena Creek, Las Tunas County Beach	NS	NS	NS
8/5/2021	10:15 AM	SMB 1-17, Tuna Canyon, Las Tunas County Beach	IA	IA	IA
8/5/2021	10:12 AM	SMB 1-18, Topanga Canyon, Topanga State Beach	10	<10	<10
8/5/2021		SMB 2-1a, Castlerock storm drain, Topanga State Beach	NS	NS	NS
8/5/2021		SMB 2-2, Santa Ynez storm drain, Will Rogers State Beach	NS	NS	NS
8/5/2021		SMB 2-4, Pulga Canyon storm drain, Will Rogers State Beach	NS	NS	NS
8/5/2021	9:07 AM	SMB 2-7, Santa Monica Canyon storm drain, Santa Monica State Beach	41	10	<10
8/5/2021		SMB 2-10, Culver storm drain, Dockweiler State Beach	NS	NS	NS

ENVIRONMENTAL MONITORING DIVISION  
BIOLOGY SECTION - MICROBIOLOGY UNIT

**Hyperion Plant Response  
Santa Monica Bay Beaches Bacterial TMDL**

Sample Date	Sample Time	Sample Location	Total Coliforms	<i>E. coli</i>	Enterococcus
8/5/2021		SMB 2-11, North Westchester storm drain, Dockweiler State Beach	NS	NS	NS
8/5/2021		SMB 2-13, Imperial Highway storm drain, Dockweiler State Beach	NS	NS	NS
8/5/2021	8:55 AM	SMB 3-3, Santa Monica Pier storm drain, Santa Monica State Beach*	3900	3600	140
8/5/2021	8:51 AM	SMB 3-4, Pico-Kenter storm drain, Santa Monica State Beach	62	10	<10
8/5/2021	8:43 AM	SMB 3-5, Ashland storm drain, Santa Monica State Beach	20	<10	10
8/5/2021		SMB 3-6, Rose Ave storm drain, Venice Beach	NS	NS	NS
8/5/2021		SMB 3-8, Windward Ave storm drain, Venice Beach	NS	NS	NS
8/5/2021	9:45 AM	SMB MC-2, Malibu Lagoon, Malibu State Beach	130	41	10
8/5/2021		SMB O-1, Little Point Dume	NS	NS	NS
8/5/2021		SMB O-2, Marie Canyon	NS	NS	NS
8/5/2021		SMB 7-6, White's Point/Royal Palms County Beach, San Pedro	NS	NS	NS
8/5/2021		SMB 7-8, Point Fermin/Wilder Annex, San Pedro	NS	NS	NS
8/5/2021		SMB 7-9, Outer Cabrillo Beach, San Pedro	NS	NS	NS

# - Indicates Accelerated Monitoring is required, except if Accelerated day is a wet day or daily site

IA - Inaccessible

NS - Not Sampled; Sampled Weekly

\*location at Santa Monica Pier storm drain and known to have high counts

Stations are sampled either daily (5 times per week) or weekly. The weekly sampled stations are those that historically rarely exceeded state water quality standards, whereas the daily sampled stations historically occasionally exceeded water quality standards.

Sample Date	Sample Time	Sample Location	Total Coliforms	<i>E. coli</i>	Enterococcus
-------------	-------------	-----------------	-----------------	----------------	--------------

ENVIRONMENTAL MONITORING DIVISION						
BIOLOGY SECTION - MICROBIOLOGY UNIT						
Hyperion Plant Response						
Santa Monica Bay Beaches Bacterial TMDL						
				MPN/100 mL	MPN/100 mL	MPN/100 mL
<b>Water Quality Standard:</b>				<b>10,000</b>	<b>400</b>	<b>104</b>
8/6/2021		SMB 1-6, Walnut Creek, Paradise Cove	NS	NS	NS	
8/6/2021		SMB 1-8, Escondido Creek, Escondido State Beach	NS	NS	NS	
8/6/2021		SMB 1-10, Solstice Creek, Dan Blocker County Beach	NS	NS	NS	
8/6/2021		SMB 1-12, Marie Canyon storm drain, Puerco Beach	NS	NS	NS	
8/6/2021		SMB 1-13, Sweetwater Canyon storm drain, Carbon Beach	NS	NS	NS	
8/6/2021		SMB 1-14, Las Flores Creek, Las Flores State Beach	NS	NS	NS	
8/6/2021		SMB 1-16, Pena Creek, Las Tunas County Beach	NS	NS	NS	
8/6/2021	9:50 AM	SMB 1-17, Tuna Canyon, Las Tunas County Beach	IA	IA	IA	
8/6/2021	9:45 AM	SMB 1-18, Topanga Canyon, Topanga State Beach	<10	<10	<10	
8/6/2021		SMB 2-1a, Castlerock storm drain, Topanga State Beach	NS	NS	NS	
8/6/2021		SMB 2-2, Santa Ynez storm drain, Will Rogers State Beach	NS	NS	NS	
8/6/2021		SMB 2-4, Pulga Canyon storm drain, Will Rogers State Beach	NS	NS	NS	
8/6/2021	8:34 AM	SMB 2-7, Santa Monica Canyon storm drain, Santa Monica State Beach	<10	<10	<10	
8/6/2021		SMB 2-10, Culver storm drain, Dockweiler State Beach	NS	NS	NS	
8/6/2021		SMB 2-11, North Westchester storm drain, Dockweiler State Beach	NS	NS	NS	
8/6/2021		SMB 2-13, Imperial Highway storm drain, Dockweiler State Beach	NS	NS	NS	
8/6/2021	8:20 AM	SMB 3-3, Santa Monica Pier storm drain, Santa Monica State Beach*	4100	3100	110	
8/6/2021	8:14 AM	SMB 3-4, Pico-Kenter storm drain, Santa Monica State Beach	41	20	<10	

ENVIRONMENTAL MONITORING DIVISION  
BIOLOGY SECTION - MICROBIOLOGY UNIT

**Hyperion Plant Response  
Santa Monica Bay Beaches Bacterial TMDL**

8/6/2021	8:06 AM	SMB 3-5, Ashland storm drain, Santa Monica State Beach	20	10	<10
8/6/2021		SMB 3-6, Rose Ave storm drain, Venice Beach	NS	NS	NS
8/6/2021		SMB 3-8, Windward Ave storm drain, Venice Beach	NS	NS	NS
8/6/2021	9:17 AM	SMB MC-2, Malibu Lagoon, Malibu State Beach	86	31	<10
8/6/2021		SMB O-1, Little Point Dume	NS	NS	NS
8/6/2021		SMB O-2, Marie Canyon	NS	NS	NS
8/6/2021		SMB 7-6, White's Point/Royal Palms County Beach, San Pedro	NS	NS	NS
8/6/2021		SMB 7-8, Point Fermin/Wilder Annex, San Pedro	NS	NS	NS
8/6/2021		SMB 7-9, Outer Cabrillo Beach, San Pedro	NS	NS	NS

# - Indicates Accelerated Monitoring is required, except if Accelerated day is a wet day or daily site

IA - Inaccessible

NS - Not Sampled; Sampled Weekly

\*location at Santa Monica Pier storm drain and known to have high counts

Stations are sampled either daily (5 times per week) or weekly. The weekly sampled stations are those that historically rarely exceeded state water quality standards, whereas the daily sampled stations historically occasionally exceeded water quality standards.

Sample Date	Sample Time	Sample Location	Total Coliforms	<i>E. coli</i>	Enterococcus
			MPN/100 mL	MPN/100 mL	MPN/100 mL

<b>Water Quality Standard:</b>			<b>10,000</b>	<b>400</b>	<b>104</b>
--------------------------------	--	--	---------------	------------	------------

8/7/2021		SMB 1-6, Walnut Creek, Paradise Cove	NS	NS	NS
8/7/2021		SMB 1-8, Escondido Creek, Escondido State Beach	NS	NS	NS
8/7/2021		SMB 1-10, Solstice Creek, Dan Blocker County Beach	NS	NS	NS
8/7/2021		SMB 1-12, Marie Canyon storm drain, Puerco Beach	NS	NS	NS
8/7/2021		SMB 1-13, Sweetwater Canyon storm drain, Carbon Beach	NS	NS	NS

ENVIRONMENTAL MONITORING DIVISION					
BIOLOGY SECTION - MICROBIOLOGY UNIT					
Hyperion Plant Response					
Santa Monica Bay Beaches Bacterial TMDL					
8/7/2021		SMB 1-14, Las Flores Creek, Las Flores State Beach	NS	NS	NS
8/7/2021		SMB 1-16, Pena Creek, Las Tunas County Beach	NS	NS	NS
8/7/2021	10:50 AM	SMB 1-17, Tuna Canyon, Las Tunas County Beach	IA	IA	IA
8/7/2021	10:45 AM	SMB 1-18, Topanga Canyon, Topanga State Beach	<10	<10	<10
8/7/2021		SMB 2-1a, Castlerock storm drain, Topanga State Beach	NS	NS	NS
8/7/2021		SMB 2-2, Santa Ynez storm drain, Will Rogers State Beach	NS	NS	NS
8/7/2021		SMB 2-4, Pulga Canyon storm drain, Will Rogers State Beach	NS	NS	NS
8/7/2021	9:39 AM	SMB 2-7, Santa Monica Canyon storm drain, Santa Monica State Beach	31	<10	<10
8/7/2021		SMB 2-10, Culver storm drain, Dockweiler State Beach	NS	NS	NS
8/7/2021		SMB 2-11, North Westchester storm drain, Dockweiler State Beach	NS	NS	NS
8/7/2021		SMB 2-13, Imperial Highway storm drain, Dockweiler State Beach	NS	NS	NS
8/7/2021	8:58 AM	SMB 3-3, Santa Monica Pier storm drain, Santa Monica State Beach*	6100	6100	910
8/7/2021	8:50 AM	SMB 3-4, Pico-Kenter storm drain, Santa Monica State Beach	30	10	<10
8/7/2021	8:41 AM	SMB 3-5, Ashland storm drain, Santa Monica State Beach	<10	<10	10
8/7/2021		SMB 3-6, Rose Ave storm drain, Venice Beach	NS	NS	NS
8/7/2021		SMB 3-8, Windward Ave storm drain, Venice Beach	NS	NS	NS
8/7/2021	10:05 AM	SMB MC-2, Malibu Lagoon, Malibu State Beach	41	10	10
8/7/2021		SMB O-1, Little Point Dume	NS	NS	NS
8/7/2021		SMB O-2, Marie Canyon	NS	NS	NS
8/7/2021		SMB 7-6, White's Point/Royal Palms County Beach, San Pedro	NS	NS	NS

ENVIRONMENTAL MONITORING DIVISION  
BIOLOGY SECTION - MICROBIOLOGY UNIT

**Hyperion Plant Response  
Santa Monica Bay Beaches Bacterial TMDL**

8/7/2021		SMB 7-8, Point Fermin/Wilder Annex, San Pedro	NS	NS	NS
8/7/2021		SMB 7-9, Outer Cabrillo Beach, San Pedro	NS	NS	NS

# - Indicates Accelerated Monitoring is required, except if Accelerated day is a wet day or daily site

IA - Inaccessible

NS - Not Sampled; Sampled Weekly

\*location at Santa Monica Pier storm drain and known to have high counts

Stations are sampled either daily (5 times per week) or weekly. The weekly sampled stations are those that historically rarely exceeded state water quality standards, whereas the daily sampled stations historically occasionally exceeded water quality standards.

Sample Date	Sample Time	Sample Location	Total Coliforms	<i>E. coli</i>	Enterococcus
			MPN/100 mL	MPN/100 mL	MPN/100 mL

<b>Water Quality Standard:</b>			<b>10,000</b>	<b>400</b>	<b>104</b>
--------------------------------	--	--	---------------	------------	------------

8/10/2021	9:05 AM	SMB 1-6, Walnut Creek, Paradise Cove	41	20	<10
8/10/2021	9:20 AM	SMB 1-8, Escondido Creek, Escondido State Beach	31	<10	20
8/10/2021	9:30 AM	SMB 1-10, Solstice Creek, Dan Blocker County Beach	10	10	<10
8/10/2021	9:55 AM	SMB 1-12, Marie Canyon storm drain, Puerco Beach	20	20	<10
8/10/2021	10:40 AM	SMB 1-13, Sweetwater Canyon storm drain, Carbon Beach	<10	<10	<10
8/10/2021	10:54 AM	SMB 1-14, Las Flores Creek, Las Flores State Beach	10	<10	<10
8/10/2021	11:15 AM	SMB 1-16, Pena Creek, Las Tunas County Beach	<10	<10	<10
8/10/2021	9:25 AM	SMB 1-17, Tuna Canyon, Las Tunas County Beach	IA	IA	IA
8/10/2021	9:20 AM	SMB 1-18, Topanga Canyon, Topanga State Beach	350	250	41
8/10/2021	9:35 AM	SMB 2-1a, Castlerock storm drain, Topanga State Beach	41	10	<10
8/10/2021	9:40 AM	SMB 2-2, Santa Ynez storm drain, Will Rogers State Beach	IA	IA	IA

ENVIRONMENTAL MONITORING DIVISION					
BIOLOGY SECTION - MICROBIOLOGY UNIT					
Hyperion Plant Response					
Santa Monica Bay Beaches Bacterial TMDL					
8/10/2021	9:03 AM	SMB 2-4, Pulga Canyon storm drain, Will Rogers State Beach	440	31	20
8/10/2021	8:50 AM	SMB 2-7, Santa Monica Canyon storm drain, Santa Monica State Beach	86	86	10
8/10/2021	7:50 AM	SMB 2-10, Culver storm drain, Dockweiler State Beach	790	52	<10
8/10/2021	7:58 AM	SMB 2-11, North Westchester storm drain, Dockweiler State Beach	220	10	<10
8/10/2021	8:05 AM	SMB 2-13, Imperial Highway storm drain, Dockweiler State Beach	85	<10	<10
8/10/2021	8:35 AM	SMB 3-3, Santa Monica Pier storm drain, Santa Monica State Beach*	4600	4100	63
8/10/2021	8:30 AM	SMB 3-4, Pico-Kenter storm drain, Santa Monica State Beach	63	31	10
8/10/2021	8:20 AM	SMB 3-5, Ashland storm drain, Santa Monica State Beach	63	31	63
8/10/2021	8:13 AM	SMB 3-6, Rose Ave storm drain, Venice Beach	20	<10	10
8/10/2021	8:05 AM	SMB 3-8, Windward Ave storm drain, Venice Beach	30	10	10
8/10/2021	10:20 AM	SMB MC-2, Malibu Lagoon, Malibu State Beach**	7700	7300	20
8/10/2021	9:10 AM	SMB O-1, Little Point Dume	IA	IA	IA
8/10/2021	9:50 AM	SMB O-2, Marie Canyon	10	<10	<10
8/10/2021	9:15 AM	SMB 7-6, White's Point/Royal Palms County Beach, San Pedro	110	20	31
8/10/2021	9:25 AM	SMB 7-8, Point Fermin/Wilder Annex, San Pedro	IA	IA	IA
8/10/2021	9:35 AM	SMB 7-9, Outer Cabrillo Beach, San Pedro	30	<10	<10
# - Indicates Accelerated Monitoring is required, except if Accelerated day is a wet day or daily site					
IA - Inaccessible					
NS - Not Sampled; Sampled Weekly					
*location at Santa Monica Pier storm drain and known to have high counts					
**location at the breach point of Malibu Lagoon on Malibu State Beach					







ENVIRONMENTAL MONITORING DIVISION							
BIOLOGY SECTION - MICROBIOLOGY UNIT							
<b>Hyperion Plant Response</b>							
<b>Santa Monica Bay Beaches Bacterial TMDL</b>							

# **APPENDIX E**

## **Offshore Monitoring Data**

ENVIRONMENTAL MONITORING DIVISION

Hyperion Plant Response

Offshore Sampling

Sample Date	Sample Time	Sample Location	Total Coliforms	<i>E. coli</i>	Enterococcus	TSS	BOD	Settleable Solids	Turbidity	O&G	Ammonia	Visual Observations: Discoloration, Turbidity, Odor, Suspended Matter, Materials of Sewage Origin
			MPN/100 mL	MPN/100 mL	MPN/100 mL	mg/L	mg/L	mL/L	NTU	mg/L	mg/L	
<b>Water Quality Standard (REC-1):</b>			<b>10,000</b>	<b>400</b>	<b>104</b>							
8/2/2021	1:00 PM	3504-1 Meter	<10	<10	<10	<1.4	<2	<0.1	0.25	<5	<0.02	Nothing Abnormal to Report
8/2/2021	1:00 PM	3504-15 Meters	<10	<10	<10	22.4	<2	<0.1	0.3	<5	<0.02	
8/2/2021	1:00 PM	3504- Terminus depth	<10	<10	<10	23.6	<2	<0.1	<0.16	<5	<0.02	
8/2/2021	1:33 PM	3505B-1 Meter	<10	<10	<10	34.6	<2	<0.1	0.65	<5	<0.02	Nothing Abnormal to Report
8/2/2021	1:33 PM	3505B-15 Meters	10	10	<10	21.2	<2	<0.1	0.4	<5	<0.02	
8/2/2021	1:33 PM	3505B- Terminus depth	<10	<10	<10	33	<2	<0.1	0.4	<5	<0.02	
8/2/2021	2:21 PM	3506-1 Meter	<10	<10	<10	20.4	<2	<0.1	0.3	<5	<0.02	Nothing Abnormal to Report
8/2/2021	2:21 PM	3506-15 Meters	<10	<10	<10	25.4	<2	<0.1	<0.16	<5	<0.02	
8/2/2021	2:21 PM	3506- Terminus depth	10	10	<10	25.2	<2	<0.1	<0.16	<5	<0.02	
8/2/2021	10:47 AM	3605-1 Meter	10	10	<10	11.8	<2	<0.1	0.2	<5	<0.02	Nothing Abnormal to Report
8/2/2021	10:47 AM	3605-15 Meters	3,400	590	240	9.6	<2	<0.1	0.25	<5	<0.02	
8/2/2021	10:47 AM	3605- Terminus depth	3,600	490	280	19.2	<2	<0.1	<0.16	<5	0.05	
8/3/2021	11:58 AM	3404-1 Meter	<10	<10	<10	45.7	<2	<0.1	0.4	<5	<0.02	Nothing Abnormal to Report
8/3/2021	11:58 AM	3404-15 Meters	<10	<10	<10	43.2	<2	<0.1	<0.16	<5	<0.02	
8/3/2021	11:58 AM	3404- Terminus depth	<10	<10	<10	44.6	<2	<0.1	0.25	<5	0.02	
8/3/2021	12:29 PM	3405-1 Meter	<10	<10	<10	45.4	<2	<0.1	0.2		<0.02	Nothing Abnormal to Report
8/3/2021	12:29 PM	3405-15 Meters	<10	<10	<10	36.4	<2	<0.1	<0.16	<5	0.04	
8/3/2021	12:29 PM	3405- Terminus depth	10	<10	<10	32.9	<2	<0.1	0.2		0.07	
8/3/2021	11:27 AM	3504-1 Meter	<10	<10	<10	40.3	<2	<0.1	0.25		0.3	Nothing Abnormal to Report
8/3/2021	11:27 AM	3504-15 Meters	<10	<10	<10	37.9	<2	<0.1	<0.16		<0.02	
8/3/2021	11:27 AM	3504- Terminus depth	<10	<10	<10	37.5	<2	<0.1	0.25		<0.02	
8/3/2021	10:22 AM	3505-1 Meter	4,100	1,100	260	35.4	<2	<0.1	0.2		<0.02	Nothing Abnormal to Report

ENVIRONMENTAL MONITORING DIVISION

Hyperion Plant Response

Offshore Sampling

Sample Date	Sample Time	Sample Location	Total Coliforms	<i>E. coli</i>	Enterococcus	TSS	BOD	Settleable Solids	Turbidity	O&G	Ammonia	Visual Observations: Discoloration, Turbidity, Odor, Suspended Matter, Materials of Sewage Origin
			MPN/100 mL	MPN/100 mL	MPN/100 mL	mg/L	mg/L	mL/L	NTU	mg/L	mg/L	
<b>Water Quality Standard (REC-1):</b>			<b>10,000</b>	<b>400</b>	<b>104</b>							
8/3/2021	10:22 AM	3505-15 Meters	<10	<10	<10	44.6	<2	<0.1	0.2		0.05	
8/3/2021	10:22 AM	3505- Terminus depth	<10	<10	<10	42.9	<2	<0.1	0.2		0.3	
8/3/2021	10:46 AM	3505B-1 Meter	<10	<10	<10	37.5	<2	<0.1	0.3	<5	0.08	Nothing Abnormal to Report
8/3/2021	10:46 AM	3505B-15 Meters	20	10	<10	35	<2	<0.1	0.2	<5	0.13	
8/3/2021	10:46 AM	3505B- Terminus depth	220	75	<10	40.3	<2	<0.1	<0.16	<5	0.11	
8/3/2021	9:52 AM	3506-1 Meter	<10	<10	<10	44.3	<2	<0.1	0.25	<5	<0.02	Nothing Abnormal to Report
8/3/2021	9:52 AM	3506-15 Meters	<10	<10	<10	40.7	<2	<0.1	<0.16	<5	0.02	
8/3/2021	9:52 AM	3506- Terminus depth	<10	<10	<10	40.4	<2	<0.1	<0.16	<5	0.02	
8/3/2021	8:43 AM	3604-1 Meter	<10	<10	<10	50.7	<2	<0.1	0.45		<0.02	Nothing Abnormal to Report
8/3/2021	8:43 AM	3604-15 Meters	<10	<10	<10	45.7	<2	<0.1	0.45		<0.02	
8/3/2021	8:43 AM	3604- Terminus depth	<10	<10	<10	46.4	<2	<0.1	0.45		0.04	
8/3/2021	9:13 AM	3605-1 Meter	10	<10	<10	46.8	<2	<0.1	0.3	<5	0.4	Nothing Abnormal to Report
8/3/2021	9:13 AM	3605-15 Meters	880	290	74	46.4	<2	<0.1	0.3	<5	<0.02	
8/3/2021	9:13 AM	3605- Terminus depth	3,400	500	230	40	<2	<0.1	0.4	<5	0.02	
8/4/2021	4:41 PM	3404-1 Meter	<10	<10	<10	6.4		<0.1	0.25	<5	<0.02	Nothing Abnormal to Report
8/4/2021	4:41 PM	3404-15 Meters	<10	<10	<10	7.6		<0.1	0.2	<5	<0.02	
8/4/2021	4:41 PM	3404- Terminus depth	<10	<10	<10	8.8		<0.1	<0.16	<5	<0.02	
8/4/2021	4:09 PM	3405-1 Meter	41	20	<10	24.4		<0.1	0.25	<5	0.02	Nothing Abnormal to Report
8/4/2021	4:09 PM	3405-15 Meters	<10	<10	<10	15.2		<0.1	0.35	<5	0.02	
8/4/2021	4:09 PM	3405- Terminus depth	<10	<10	10	14		<0.1	<0.16	<5	0.04	
8/4/2021	2:14 PM	3504-1 Meter	<10	<10	<10	17.6		<0.1	0.3	<5	0.02	Nothing Abnormal to Report

ENVIRONMENTAL MONITORING DIVISION

Hyperion Plant Response

Offshore Sampling

Sample Date	Sample Time	Sample Location	Total Coliforms	<i>E. coli</i>	Enterococcus	TSS	BOD	Settleable Solids	Turbidity	O&G	Ammonia	Visual Observations: Discoloration, Turbidity, Odor, Suspended Matter, Materials of Sewage Origin
			MPN/100 mL	MPN/100 mL	MPN/100 mL	mg/L	mg/L	mL/L	NTU	mg/L	mg/L	
<b>Water Quality Standard (REC-1):</b>			<b>10,000</b>	<b>400</b>	<b>104</b>							
8/4/2021	2:14 PM	3504-15 Meters	<10	<10	<10	16.8		<0.1	0.3	<5	0.05	
8/4/2021	2:14 PM	3504- Terminus depth	<10	<10	<10	15.2		<0.1	0.25	<5	0.03	
8/4/2021	3:04 PM	3505-1 Meter	<10	<10	10	14		<0.1	0.2	<5	<0.02	Nothing Abnormal to Report
8/4/2021	3:04 PM	3505-15 Meters	74	10	<10	11.2		<0.1	<0.16	<5	<0.02	
8/4/2021	3:04 PM	3505- Terminus depth	1,500	410	41	8.8	<2	<0.1	0.3	<5	<0.02	
8/4/2021	2:42 PM	3505B-1 Meter	31	<10	10	10.8		<0.1	0.45	<5	<0.02	Nothing Abnormal to Report
8/4/2021	2:42 PM	3505B-15 Meters	<10	<10	<10	7.6		<0.1	0.25	<5	<0.02	
8/4/2021	2:42 PM	3505B- Terminus depth	>24,000	>24,000	3400	13.6		<0.1	0.6	<5	0.2	
8/4/2021	3:32 PM	3506-1 Meter	<10	<10	<10	12		<0.1	0.4	<5	<0.02	Nothing Abnormal to Report
8/4/2021	3:32 PM	3506-15 Meters	<10	<10	<10	14.4		<0.1	0.25	<5	<0.02	
8/4/2021	3:32 PM	3506- Terminus depth	<10	<10	<10	15.6		<0.1	<0.16	<5	<0.02	
8/4/2021	1:48 PM	3604-1 Meter	<10	<10	<10	9.2	<2	<0.1	0.25	<5	0.2	Nothing Abnormal to Report
8/4/2021	1:48 PM	3604-15 Meters	<10	<10	<10	9.6	<2	<0.1	0.2	<5	<0.02	
8/4/2021	1:48 PM	3604- Terminus depth	<10	<10	<10	17.6	<2	<0.1	<0.16	<5	<0.02	
8/4/2021	1:20 PM	3605-1 Meter	<10	<10	<10	9.2		<0.1	0.2	<5	0.1	Nothing Abnormal to Report
8/4/2021	1:20 PM	3605-15 Meters	<10	<10	<10	10		<0.1	0.2	<5	<0.02	
8/4/2021	1:20 PM	3605- Terminus depth	860	170	63	4.8		<0.1	0.2	<5	0.02	
8/5/2021	2:56 PM	3404-1 Meter	<10	<10	<10	58		<0.1	0.2	<5	<0.02	Nothing Abnormal to Report
8/5/2021	2:56 PM	3404-15 Meters	<10	<10	<10	39.6		<0.1	0.35	<5	<0.02	
8/5/2021	2:56 PM	3404- Terminus depth	<10	<10	<10	48		<0.1	<0.16	<5	<0.02	

ENVIRONMENTAL MONITORING DIVISION

Hyperion Plant Response

Offshore Sampling

Sample Date	Sample Time	Sample Location	Total Coliforms	<i>E. coli</i>	Enterococcus	TSS	BOD	Settleable Solids	Turbidity	O&G	Ammonia	Visual Observations: Discoloration, Turbidity, Odor, Suspended Matter, Materials of Sewage Origin
			MPN/100 mL	MPN/100 mL	MPN/100 mL	mg/L	mg/L	mL/L	NTU	mg/L	mg/L	
<b>Water Quality Standard (REC-1):</b>			<b>10,000</b>	<b>400</b>	<b>104</b>							
8/5/2021	2:20 PM	3405-1 Meter	<10	<10	<10	31.2		<0.1	0.2	<5	0.1	Nothing Abnormal to Report
8/5/2021	2:20 PM	3405-15 Meters	<10	<10	<10	52.4		<0.1	0.3	<5	0.05	
8/5/2021	2:20 PM	3405- Terminus depth	10	<10	<10	38.8		<0.1	<0.16	<5	<0.02	
8/5/2021	12:24 PM	3504-1 Meter	<10	<10	<10	38		<0.1	0.35	<5	<0.02	Nothing Abnormal to Report
8/5/2021	12:24 PM	3504-15 Meters	<10	<10	10	33.6		<0.1	0.3	<5	0.02	
8/5/2021	12:24 PM	3504- Terminus depth	<10	<10	<10	48.4		<0.1	0.35	<5	<0.02	
8/5/2021	1:15 PM	3505-1 Meter	<10	<10	<10	28		<0.1	0.2	<5	<0.02	Nothing Abnormal to Report
8/5/2021	1:15 PM	3505-15 Meters	<10	<10	<10	38.8		<0.1	0.35	<5	0.08	
8/5/2021	1:15 PM	3505- Terminus depth	<10	<10	<10	55.2		<0.1	0.2	<5	<0.02	
8/5/2021	12:52 PM	3505B-1 Meter	<10	<10	<10	35.6		<0.1	0.2	<5	<0.02	Nothing Abnormal to Report
8/5/2021	12:52 PM	3505B-15 Meters	<10	<10	<10	52		<0.1	0.3	<5	<0.02	
8/5/2021	12:52 PM	3505B- Terminus depth	<10	<10	<10	36.8		<0.1	0.3	<5	<0.02	
8/5/2021	1:44 PM	3506-1 Meter	<10	<10	<10	42		<0.1	0.3	<5	<0.02	Nothing Abnormal to Report
8/5/2021	1:44 PM	3506-15 Meters	<10	<10	<10	36.4		<0.1	0.25	<5	<0.02	
8/5/2021	1:44 PM	3506- Terminus depth	<10	<10	<10	47.6		<0.1	0.2	<5	<0.02	
8/5/2021	11:55 AM	3604-1 Meter	<10	<10	<10	37.6		<0.1	0.2	<5	<0.02	Nothing Abnormal to Report
8/5/2021	11:55 AM	3604-15 Meters	<10	<10	<10	74.4		<0.1	0.65	<5	<0.02	
8/5/2021	11:55 AM	3604- Terminus depth	<10	<10	<10	50		<0.1	0.3	<5	<0.02	
8/5/2021	11:26 AM	3605-1 Meter	<10	<10	<10	38.8		<0.1	0.25	<5	<0.02	Nothing Abnormal to Report
8/5/2021	11:26 AM	3605-15 Meters	2,500	680	41	65		<0.1	0.4	<5	<0.02	
8/5/2021	11:26 AM	3605- Terminus depth	3,400	1,200	280	38		<0.1	<0.16	<5	<0.02	

ENVIRONMENTAL MONITORING DIVISION

Hyperion Plant Response

Offshore Sampling

Sample Date	Sample Time	Sample Location	Total Coliforms	<i>E. coli</i>	Enterococcus	TSS	BOD	Settleable Solids	Turbidity	O&G	Ammonia	Visual Observations: Discoloration, Turbidity, Odor, Suspended Matter, Materials of Sewage Origin
			MPN/100 mL	MPN/100 mL	MPN/100 mL	mg/L	mg/L	mL/L	NTU	mg/L	mg/L	
<b>Water Quality Standard (REC-1):</b>			<b>10,000</b>	<b>400</b>	<b>104</b>							
8/6/2021	2:40 PM	3404-1 Meter	<10	<10	<10	45.2		<0.1	0.2	<5	<0.02	Nothing Abnormal to Report
8/6/2021	2:40 PM	3404-15 Meters	<10	<10	<10	39.6		<0.1	0.3	<5	<0.02	
8/6/2021	2:40 PM	3404- Terminus depth	<10	<10	<10	40		<0.1	<0.16	<5	0.02	
8/6/2021	2:12 PM	3405-1 Meter	<10	<10	<10	48		<0.1	0.25	<5	<0.02	Nothing Abnormal to Report
8/6/2021	2:12 PM	3405-15 Meters	<10	<10	<10	42.4		<0.1	0.35	<5	<0.02	
8/6/2021	2:12 PM	3405- Terminus depth	<10	<10	<10	37.6		<0.1	<0.16	<5	<0.02	
8/6/2021	12:13 PM	3504-1 Meter	<10	<10	<10	30.4		<0.1	0.25	<5	<0.02	Material floating: rubber or tar. See observation report
8/6/2021	12:13 PM	3504-15 Meters	<10	<10	<10	38.8		<0.1	0.25	<5	<0.02	Other observations: nothing
8/6/2021	12:13 PM	3504- Terminus depth	<10	<10	<10	41.6		<0.1	0.25	<5	0.03	
8/6/2021	1:16 PM	3505-1 Meter	<10	<10	<10	36.4		<0.1	0.2	<5	<0.02	Nothing Abnormal to Report
8/6/2021	1:16 PM	3505-15 Meters	<10	<10	<10	40.8		<0.1	0.4	<5	<0.02	
8/6/2021	1:16 PM	3505- Terminus depth	24,000	5,500	600	43.2		<0.1	<0.16	<5	0.02	
8/6/2021	12:55 PM	3505B-1 Meter	<10	<10	<10	39.2		<0.1	0.2	<5	<0.02	Nothing Abnormal to Report
8/6/2021	12:55 PM	3505B-15 Meters	<10	<10	<10	38.8		<0.1	0.3	<5	<0.02	
8/6/2021	12:55 PM	3505B- Terminus depth	<10	<10	<10	38.8		<0.1	<0.16	<5	<0.02	
8/6/2021	1:41 PM	3506-1 Meter	<10	<10	<10	46.8		<0.1	0.3	<5	<0.02	Nothing Abnormal to Report
8/6/2021	1:41 PM	3506-15 Meters	10	10	<10	39.6		<0.1	0.3	<5	0.05	
8/6/2021	1:41 PM	3506- Terminus depth	<10	<10	<10	46.8		<0.1	<0.16		<0.02	
8/6/2021	11:46 AM	3604-1 Meter	<10	<10	<10	39.6		<0.1	0.2	<5	0.06	Nothing Abnormal to Report
8/6/2021	11:46 AM	3604-15 Meters	<10	<10	<10	43.6		<0.1	0.4	<5	<0.02	
8/6/2021	11:46 AM	3604- Terminus depth	<10	<10	<10	44.8		<0.1	<0.16		<0.02	

ENVIRONMENTAL MONITORING DIVISION

Hyperion Plant Response

Offshore Sampling

Sample Date	Sample Time	Sample Location	Total Coliforms	<i>E. coli</i>	Enterococcus	TSS	BOD	Settleable Solids	Turbidity	O&G	Ammonia	Visual Observations: Discoloration, Turbidity, Odor, Suspended Matter, Materials of Sewage Origin
			MPN/100 mL	MPN/100 mL	MPN/100 mL	mg/L	mg/L	mL/L	NTU	mg/L	mg/L	
<b>Water Quality Standard (REC-1):</b>			<b>10,000</b>	<b>400</b>	<b>104</b>							
8/6/2021	11:17 AM	3605-1 Meter	<10	<10	<10	46.4		<0.1	0.2	<5	<0.02	Nothing Abnormal to Report
8/6/2021	11:17 AM	3605-15 Meters	<10	<10	<10	43.6		<0.1	0.35	<5	<0.02	
8/6/2021	11:17 AM	3605- Terminus depth	1,600	330	31	36.4		<0.1	<0.16		<0.02	
8/7/2021	12:49 PM	3404-1 Meter	<10	<10	<10	56.8		<0.1	0.35	<5	<0.02	Nothing Abnormal to Report
8/7/2021	12:49 PM	3404-15 Meters	<10	<10	<10	55.2		<0.1	<0.16		<0.02	
8/7/2021	12:49 PM	3404- Terminus depth	<10	<10	<10	52		<0.1	0.25		0.03	
8/7/2021	12:20 PM	3405-1 Meter	<10	<10	<10	46.4		<0.1	0.3		<0.02	Nothing Abnormal to Report
8/7/2021	12:20 PM	3405-15 Meters	<10	<10	<10	42.8		<0.1	<0.16		<0.02	
8/7/2021	12:20 PM	3405- Terminus depth	20	<10	<10	78.8		<0.1	0.25		<0.02	
8/7/2021	10:16 AM	3504-1 Meter	31	<10	<10	49.6		<0.1	0.3		<0.02	Nothing Abnormal to Report
8/7/2021	10:16 AM	3504-15 Meters	<10	<10	<10	50.8		<0.1	0.25		<0.02	
8/7/2021	10:16 AM	3504- Terminus depth	<10	<10	<10	46		<0.1	0.3		0.09	
8/7/2021	11:04 AM	3505-1 Meter	20	<10	<10	48.4		<0.1	0.2		<0.02	Nothing Abnormal to Report
8/7/2021	11:04 AM	3505-15 Meters	20	<10	<10	42.4		<0.1	0.3		<0.02	
8/7/2021	11:04 AM	3505- Terminus depth	13,000	2,600	360	47.2		<0.1	0.35		0.02	
8/7/2021	10:40 AM	3505B-1 Meter	<10	<10	<10	56		<0.1	0.25		<0.02	Nothing Abnormal to Report
8/7/2021	10:40 AM	3505B-15 Meters	31	<10	<10	63.2		<0.1	<0.16		<0.02	
8/7/2021	10:40 AM	3505B- Terminus depth	4,600	910	130	50		<0.1	1.4		0.06	
8/7/2021	11:32 AM	3506-1 Meter	<10	<10	<10	50.8		<0.1	0.2		<0.02	Nothing Abnormal to Report
8/7/2021	11:32 AM	3506-15 Meters	<10	<10	<10	59.6		<0.1	0.3		<0.02	
8/7/2021	11:32 AM	3506- Terminus depth	10	<10	<10	55.2		<0.1	<0.16		<0.02	

ENVIRONMENTAL MONITORING DIVISION

Hyperion Plant Response

Offshore Sampling

Sample Date	Sample Time	Sample Location	Total Coliforms	<i>E. coli</i>	Enterococcus	TSS	BOD	Settleable Solids	Turbidity	O&G	Ammonia	Visual Observations: Discoloration, Turbidity, Odor, Suspended Matter, Materials of Sewage Origin
			MPN/100 mL	MPN/100 mL	MPN/100 mL	mg/L	mg/L	mL/L	NTU	mg/L	mg/L	
<b>Water Quality Standard (REC-1):</b>			<b>10,000</b>	<b>400</b>	<b>104</b>							
8/7/2021	9:48 AM	3604-1 Meter	<10	<10	<10	42		<0.1	0.55		<0.02	Oil sheen observed. See observation report
8/7/2021	9:48 AM	3604-15 Meters	<10	<10	<10	38.8		<0.1	0.2		<0.02	Other observations: nothing
8/7/2021	9:48 AM	3604- Terminus depth	<10	<10	<10	51.2		<0.1	0.2		0.04	
8/7/2021	8:44 AM	3605-1 Meter	20	<10	<10	61.6		<0.1	0.4		<0.02	Nothing Abnormal to Report
8/7/2021	8:44 AM	3605-15 Meters	20	<10	10	64.8		<0.1	0.25		<0.02	
8/7/2021	8:44 AM	3605- Terminus depth	5,500	2,100	300	52.4		<0.1	0.2		<0.02	
8/8/2021	11:10 AM	3404-1 Meter	<10	<10	<10	22.1		<0.1	0.2		<0.02	Nothing Abnormal to Report
8/8/2021	11:10 AM	3404-15 Meters	<10	<10	<10	10.9		<0.1	0.25		<0.02	
8/8/2021	11:10 AM	3404- Terminus depth	10	10	<10	10		<0.1	0.4		0.05	
8/8/2021	10:44 AM	3405-1 Meter	10	<10	<10	22.7		<0.1	0.3		<0.02	Nothing Abnormal to Report
8/8/2021	10:44 AM	3405-15 Meters	<10	<10	<10	12.2		<0.1	<0.16		<0.02	
8/8/2021	10:44 AM	3405- Terminus depth	52	<10	<10	9.7		<0.1	<0.16		0.04	
8/8/2021	9:08 AM	3504-1 Meter	<10	<10	<10	9.2		<0.1	0.3		<0.02	Nothing Abnormal to Report
8/8/2021	9:08 AM	3504-15 Meters	<10	<10	<10	13.8		<0.1	0.25		<0.02	
8/8/2021	9:08 AM	3504- Terminus depth	20	20	<10	12.8		<0.1	0.5		0.04	
8/8/2021	9:50 AM	3505-1 Meter	10	10	<10	22.9		<0.1	0.25		<0.02	Nothing Abnormal to Report
8/8/2021	9:50 AM	3505-15 Meters	170	41	10	15.5		<0.1	<0.16		<0.02	
8/8/2021	9:50 AM	3505- Terminus depth	12,000	4,400	330	11.2		<0.1	<0.16		0.03	
8/8/2021	9:32 AM	3505B-1 Meter	<10	<10	<10	14.9		<0.1	<0.16		<0.02	Nothing Abnormal to Report
8/8/2021	9:32 AM	3505B-15 Meters	730	280	10	9.7		<0.1	0.25		<0.02	
8/8/2021	9:32 AM	3505B- Terminus depth	98	41	10	8.7		<0.1	0.2		0.14	

ENVIRONMENTAL MONITORING DIVISION

Hyperion Plant Response

Offshore Sampling

Sample Date	Sample Time	Sample Location	Total Coliforms	<i>E. coli</i>	Enterococcus	TSS	BOD	Settleable Solids	Turbidity	O&G	Ammonia	Visual Observations: Discoloration, Turbidity, Odor, Suspended Matter, Materials of Sewage Origin
			MPN/100 mL	MPN/100 mL	MPN/100 mL	mg/L	mg/L	mL/L	NTU	mg/L	mg/L	
<b>Water Quality Standard (REC-1):</b>			<b>10,000</b>	<b>400</b>	<b>104</b>							
8/8/2021	10:12 AM	3506-1 Meter	<10	<10	<10	12		<0.1	0.25		<0.02	Nothing Abnormal to Report
8/8/2021	10:12 AM	3506-15 Meters	<10	<10	<10	10.5		<0.1	0.65		<0.02	
8/8/2021	10:12 AM	3506- Terminus depth	110	41	10	9.2		<0.1	0.35		<0.02	
8/8/2021	8:42 AM	3604-1 Meter	<10	<10	<10	26		<0.1	0.2		<0.02	Nothing Abnormal to Report
8/8/2021	8:42 AM	3604-15 Meters	<10	<10	<10	19.1		<0.1	0.2		<0.02	
8/8/2021	8:42 AM	3604- Terminus depth	20	10	<10	11.7		<0.1	<0.16		0.03	
8/8/2021	8:16 AM	3605-1 Meter	20	<10	<10	13.6		<0.1	<0.16		<0.02	Nothing Abnormal to Report
8/8/2021	8:16 AM	3605-15 Meters	300	98	20	11.5		<0.1	0.2		<0.02	
8/8/2021	8:16 AM	3605- Terminus depth	4,900	1,100	200	12.7		<0.1	0.2		0.05	
8/9/2021	12:09 PM	3404-1 Meter	<10	<10	<10	15.1		<0.1	0.15		<0.02	Nothing Abnormal to Report
8/9/2021	12:09 PM	3404-15 Meters	<10	<10	<10	16.3		<0.1	0.2		<0.02	
8/9/2021	12:09 PM	3404- Terminus depth	<10	<10	<10	23.1		<0.1	0.35		0.12	
8/9/2021	11:41 AM	3405-1 Meter	<10	<10	<10	19.9		<0.1	0.3		<0.02	Nothing Abnormal to Report
8/9/2021	11:41 AM	3405-15 Meters	<10	<10	<10	21.9		<0.1	0.3		<0.02	
8/9/2021	11:41 AM	3405- Terminus depth	41	20	<10	16.1		<0.1	<0.16		0.03	
8/9/2021	9:36 AM	3504-1 Meter	<10	<10	<10	20.7		<0.1	0.2		<0.02	Nothing Abnormal to Report
8/9/2021	9:36 AM	3504-15 Meters	<10	<10	<10	14.1		<0.1	0.3		<0.02	
8/9/2021	9:36 AM	3504- Terminus depth	<10	<10	<10	14.9		<0.1	0.2		0.07	
8/9/2021	10:47 AM	3505-1 Meter	<10	<10	<10	22.7		<0.1	0.2		<0.02	Nothing Abnormal to Report
8/9/2021	10:47 AM	3505-15 Meters	31	10	<10	12		<0.1	0.2		<0.02	
8/9/2021	10:47 AM	3505- Terminus depth	>24,000	5,800	700	19		<0.1	0.25		0.05	

ENVIRONMENTAL MONITORING DIVISION

Hyperion Plant Response

Offshore Sampling

Sample Date	Sample Time	Sample Location	Total Coliforms	<i>E. coli</i>	Enterococcus	TSS	BOD	Settleable Solids	Turbidity	O&G	Ammonia	Visual Observations: Discoloration, Turbidity, Odor, Suspended Matter, Materials of Sewage Origin
			MPN/100 mL	MPN/100 mL	MPN/100 mL	mg/L	mg/L	mL/L	NTU	mg/L	mg/L	
<b>Water Quality Standard (REC-1):</b>			<b>10,000</b>	<b>400</b>	<b>104</b>							
8/9/2021	10:00 AM	3505B-1 Meter	<10	<10	<10	19.7		<0.1	0.25		<0.02	Oil sheen observed. See observation report
8/9/2021	10:00 AM	3505B-15 Meters	20	<10	<10	17.4		<0.1	0.25		<0.02	Other observations: nothing
8/9/2021	10:00 AM	3505B- Terminus depth	14,000	5,200	340	16.6		<0.1	0.2		0.02	
8/9/2021	11:11 AM	3506-1 Meter	<10	<10	<10	16.6		<0.1	0.25		<0.02	Nothing Abnormal to Report
8/9/2021	11:11 AM	3506-15 Meters	460	63	20	13.6		<0.1	0.2		<0.02	
8/9/2021	11:11 AM	3506- Terminus depth	31	10	20	16.7		<0.1	<0.16		0.02	
8/9/2021	9:11 AM	3604-1 Meter	<10	<10	<10	23.3		<0.1	<0.16		<0.02	Nothing Abnormal to Report
8/9/2021	9:11 AM	3604-15 Meters	10	<10	<10	14.1		<0.1	0.25		<0.02	
8/9/2021	9:11 AM	3604- Terminus depth	<10	<10	<10	17.3		<0.1	0.2		0.03	
8/9/2021	8:45 AM	3605-1 Meter	<10	<10	<10	18.6		<0.1	0.2		0.02	Nothing Abnormal to Report
8/9/2021	8:45 AM	3605-15 Meters	41	20	<10	18.1		<0.1	0.2		<0.02	
8/9/2021	8:45 AM	3605- Terminus depth	2,600	700	140	19.3		<0.1	<0.16		0.07	
8/10/2021	11:14 AM	3404-1 Meter	<10	<10	<10			<0.1			<0.02	Nothing Abnormal to Report
8/10/2021	11:14 AM	3404-15 Meters	<10	<10	<10			<0.1			<0.02	
8/10/2021	11:14 AM	3404- Terminus depth	<10	<10	<10			<0.1			0.06	
8/10/2021	10:42 AM	3405-1 Meter	<10	<10	<10			<0.1			<0.02	Oil sheen observed. See observation report
8/10/2021	10:42 AM	3405-15 Meters	<10	<10	<10			<0.1			<0.02	Other observations: nothing
8/10/2021	10:42 AM	3405- Terminus depth	31	20	<10			<0.1			0.05	
8/10/2021	9:04 AM	3504-1 Meter	<10	<10	<10			<0.1			<0.02	Nothing Abnormal to Report
8/10/2021	9:04 AM	3504-15 Meters	<10	<10	<10			<0.1			<0.02	

ENVIRONMENTAL MONITORING DIVISION

Hyperion Plant Response

Offshore Sampling

Sample Date	Sample Time	Sample Location	Total Coliforms	<i>E. coli</i>	Enterococcus	TSS	BOD	Settleable Solids	Turbidity	O&G	Ammonia	Visual Observations: Discoloration, Turbidity, Odor, Suspended Matter, Materials of Sewage Origin
			MPN/100 mL	MPN/100 mL	MPN/100 mL	mg/L	mg/L	mL/L	NTU	mg/L	mg/L	
<b>Water Quality Standard (REC-1):</b>			<b>10,000</b>	<b>400</b>	<b>104</b>							
8/10/2021	9:04 AM	3504- Terminus depth	10	10	<10			<0.1			0.06	
8/10/2021	9:49 AM	3505-1 Meter	10	<10	<10			<0.1			<0.02	Nothing Abnormal to Report
8/10/2021	9:49 AM	3505-15 Meters	150	31	2			<0.1			<0.02	
8/10/2021	9:49 AM	3505- Terminus depth	24,000	#####	890			<0.1			0.08	
8/10/2021	9:28 AM	3505B-1 Meter	31	<10	<10			<0.1			<0.02	Nothing Abnormal to Report
8/10/2021	9:28 AM	3505B-15 Meters	180	86	20			<0.1			<0.02	
8/10/2021	9:28 AM	3505B- Terminus depth	>24,000	>24,000	5,800			<0.1			0.22	
8/10/2021	10:12 AM	3506-1 Meter	<10	<10	<10			<0.1			<0.02	Nothing Abnormal to Report
8/10/2021	10:12 AM	3506-15 Meters	<10	<10	<10			<0.1			<0.02	
8/10/2021	10:12 AM	3506- Terminus depth	<10	<10	<10			<0.1			0.04	
8/10/2021	8:38 AM	3604-1 Meter	<10	<10	10			<0.1			<0.02	Nothing Abnormal to Report
8/10/2021	8:38 AM	3604-15 Meters	170	30	<10			<0.1			<0.02	
8/10/2021	8:38 AM	3604- Terminus depth	20	<10	<10			<0.1			0.02	
8/10/2021	8:12 AM	3605-1 Meter	10	<10	<10			<0.1			<0.02	Nothing Abnormal to Report
8/10/2021	8:12 AM	3605-15 Meters	10	10	<10			<0.1			<0.02	
8/10/2021	8:12 AM	3605- Terminus depth	8,700	2,600	480			<0.1			0.44	

# **APPENDIX G**

## **The 5-Mile Outfall Effluent Quality Data**



Hyperion 5-Mile Outfall Effluent Quality Data												
						Settleable Solids Limit = 1.0 ml/L monthly, 1.5 ml/L weekly, 3.0 ml/L instantaneous						
		Effluent TSS Limit = 30 mg/L monthly, 45 mg/L weekly			Turbidity Limit = 75 NTU monthly, 100 NTU weekly, 225 NTU instantaneous							
		Effluent BOD Limit = 30 mg/L monthly, 45 mg/L weekly			Oil and Grease Limit = 25 mg/L monthly, 40 mg/L weekly, 75 mg/L Instantaneous							
		Effluent TSS		Effluent BOD		Effluent Settleable Solids		Effluent Turbidity			Effluent Oil and Grease	
		Composite (Weekly and Monthly)	Weekly/Mo nthly Average	Composite (Weekly and Monthly)	Weekly/Mo nthly Average	Grab (Weekly, Monthly and Instantaneous)	Weekly/Mo nthly Average	Grab (Instantaneous)	Composite (Weekly and Monthly)	Weekly/Mont hly Average	Grab (Weekly, Monthly and Instantaneous)	Weekly/M onthly Average
<b>Date</b>	<b>Day</b>	<b>mg/L</b>		<b>mg/L</b>		<b>ml/L</b>		<b>NTU</b>	<b>NTU</b>		<b>mg/L</b>	
8/10/2021	Tue	54				<0.1		28	30			
8/11/2021	Wed					<0.1		23				
8/12/2021	Thu											
8/13/2021	Fri											
8/14/2021	Sat											
8/15/2021												
8/16/2021												

# **APPENDIX I**

## **Critical Process Equipment Status**

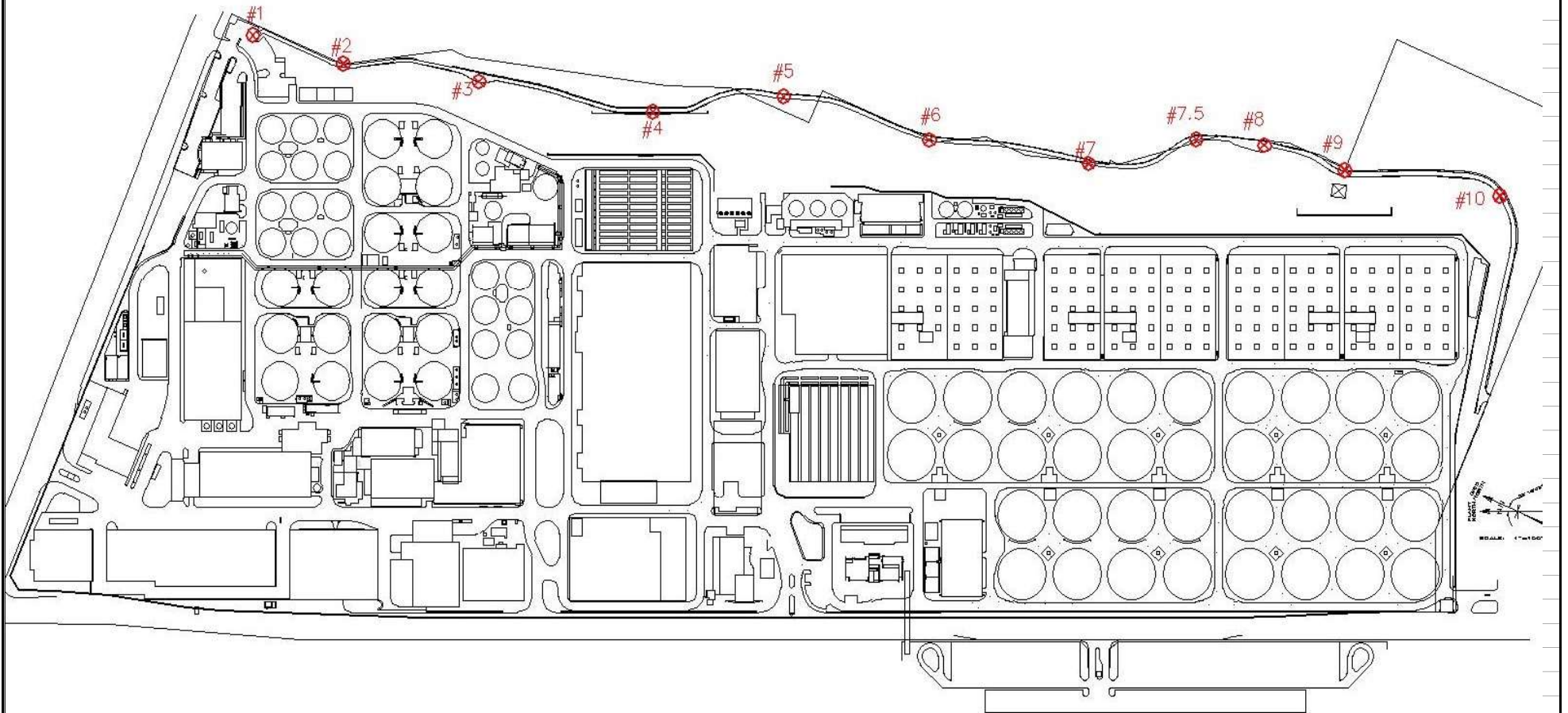
Hyperion Water Reclamation Plant Critical Equipment Status						
Critical Process Equipment	Purpose	Total No. Of Equipment	No. Equipment for Normal Operation	No. of Equipment In Service	Recovery Milestones	Comments, Expected time of completion and resumption to normal process
Headworks Barscreens	Barscreens remove solid materials larger than 3/8 of an inch from raw sewage entering the plant.	8 Barscreens	4	4	07/11 - All barscreens off-line during flooding 07/16 - All barscreens are available	All barscreens are working as of 7/16
Return Activated Sludge Pumps	Return Activated Sludge (RAS) Pumps return activated sludge from the secondary clarifiers back to the high purity oxygen reactors to reseed the process. These pumps also send Waste Activated Sludge (WAS), or solids from clarifiers to WAS centrifuges. Thickened sludge from WAS centrifuge is pumped to digesters.	54 Pumps	36	31	07/11 - All RAS pumps were flooded 07/17- 1st RAS Pump in service recirculating RAS to Secondary Reactors 07/27 - 2 RAS Pumps per module in service - total of 16. 07/28 - 17 RAS Pumps in service recirculating RAS to Secondary Reactors 07/29 - For the first time RAS pumps began sending a small amount of sludge from clarifiers to digesters 08/02 - Eighteen (18) RAS pumps are online. 08/03 - Nineteen (19) RAS pumps are online 08/05- Twenty three (23) RAS pumps are online 08/11 - Thirty one (31) RAS pumps are online. Each of 31 clarifiers on line is served by a dedicated RAS pump. Total 35 pumps are available.	As of 8/11, 31 RAS pumps are working for 31 clarifiers online. There are total of 35 RAS pumps available, meaning 4 RAS pumps are on standby. Repair of RAS flow metering is ongoing. As of 8/11, 9 clarifiers have working RAS flow meters. Repair work is in progress. Since each clarifier has a dedicated pump, the flow metering of RAS is less critical. Expected time of normal operation is 8/15.
Primary Sludge Pumps	Primary Sludge Pumps send sludge from primary tanks to the Primary Sludge Pumping Station (PSPS). Primary sludge is pumped from PSPS to digesters.	29 Pumps	13	9	07/11 - All pumps were flooded 07/19 - Primary Battery D pumps 1 & 2 available but not online 07/20 - Primary Battery B and C pumps tested 07/31 - For the first time, primary sludge pumps began sending a small amount of sludge from primary tanks to digesters 08/02 - Five (5) primary sludge pumps are online 08/03 - Eight (8) primary sludge pumps are online 08/05 - Nine (9) primary sludge pumps are online	With one of four primary batteries out of service, all 9 pumps needed are in service. Challenges include flow metering, automatic control of pumps and valves and plugging issues. And accumulated sludge should be pumped out. Expected time of normal operation is 8/20.
Primary Sludge Pumping Station (PSPS) Pumps	PSPS pumps feed sludge to feed the digesters.	6 Pumps	1	1	07/11 - All pumps were flooded 07/30 - Pumps are back on standby. 07/31 - Began pumping sludge to digesters	PSPS is working normally as of 7/31.
Polymer System  (Dilute Polymer Distribution Pumps and Neat Polymer Transfer Pumps)	Dilute polymer distribution pumps (250 GPM capacity/each) transfer dilute polymer from the mix/holding tank through a common header to all plant centrifuges.  Neat polymer transfer pumps (45 GPM capacity/each) transfer neat polymer from the bulk storage tank to day tank. The neat polymer from the day tank is fed to polymer blending/diluting units.	3 Pumps  2 Pumps	1  1	1  1	07/11 - All pumps were flooded 07/30 Polymer system back online. Manual operation - feeding polymer to Dewatering Centrifuges  07/30 Polymer system back online. Manual operation - feeding polymer to Dewatering Centrifuges	Polymer system is working as of 7/30, but partially manual. Expected time of normal operation with automatic control is 8/9.  See above
Waste Activated Sludge (WAS) Centrifuges	WAS centrifuges thicken sludge from clarifiers before sludge is fed to digesters.	9 centrifuges	6	5	07/29 - First WAS centrifuge placed online. 07/30 - Three (3) centrifuges online at 600 gallons per minute (gpm) each for total of 1,800 gpm 08/01 - Five (5) WAS centrifuges are online	WAS centrifuges are working normally as of 8/1.
Digested Sludge Dewatering Centrifuges	Digested sludge dewatering centrifuges remove excess water from digested sludge before biosolids are transported to Green Acres Farm and other sites for beneficial uses.	6 centrifuges	3	3	07/11 - All digested sludge dewatering centrifuges were shutdown 07/29 - One digested sludge dewatering centrifuge is online taking 500 gpm of digested sludge flow 07/30 - Three (3) dewatering centrifuges are online at 700 gpm each for a total of 2,100 gpm	Digested Sludge Dewatering Centrifuges are working normally as of 7/30.
Effluent Pumping Plant Pumps	Effluent Pumping Plant (EPP) pumps secondary-treated water to the 5-Mile Outfall during high flow. During low flow, secondary-treated water is discharged by gravity to 5-Mile Outfall.	5 Pumps	Varies depending on flow	0	07/11 - All pumps were flooded 07/30 - Work in progress	Effluent pumps are not available. During dry days, effluent is discharged by gravity through 5-Mile Outfall. Contingency plan is in place using Emergency Storage Tanks. Expected time of repairing EPP pumps and controls is 9/15.
Truck Loading Facility	Truck loading facility is used for loading biosolids onto trucks for transport to Green Acres Farm and other sites for beneficial uses.	7 Hoppers	7	6	07/11 - Electrical equipment damaged by flood. Facility out of service 07/28 - Installed emergency generator to restore power to facility 07/28 - Began hauling biosolids for the 1st time since 07/11 08/11 - Emergency generator is disconnected. Process is back to normal power supply	As of 8/11, the emergency generator installed on 7/28 is disconnected. The power supply has been repaired and back to the normal.

# **APPENDIX H**

## **Hyperion Fence Line Monitoring Data and Locations**

Hyperion Treatment Plant Fence Line Monitoring for Hydrogen Sulfide (H2S)														
Reference Point:	#1	#2	#3	#4	#5	#6	#7	#7.5	#8	#9	#10			
Date	Time	Gate A - base of hill	DSF	Weather Vane - LOCAT	Top of hills- Primaries	IPS/ Flares	Reactor #9	OGF-Reactor #7	Reactor #5	Weather Vane - Reactor #4	Reactor #3	Corner of HTP - Reactor #1	Measuring Instrument	Wind Direction
		(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)	(ppb)		
7/26/2021	9:10 AM	0.00	0.00	0.50	0.57	0.00	0.00	0.00		0.00	0.00	0.00	Jerome #1, 2	NW 6 mph
	1:35 PM	0.00	0.00	0.00	0.00	0.00	0.00	0.00		143.27	0.00	151.67	Jerome #1	W 14 mph
7/27/2021	9:00 AM	0.00	12.76	16.41	0.00	69.27	20.67	3.87	12.18	657.00	198.25	146.33	Jerome #1	W 4.7 mph
	1:00 PM	0.00	2.73	3.45	26.43	23.89	8.22	34.49	188.00	166.00	44.24	139.39	Jerome #2	WSW 12.7 mph
7/28/2021	9:15 AM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	276.00	0.00	0.00	0.00	Jerome #1	W 5.8 mph
	1:30 PM	0.00	0.00	0.00	9.13	4.46	0.00	11.39	35.79	19.13	13.99	28.55	Jerome #1, 2	W 15 mph
7/29/2021	8:45 AM	0.00	0.00	0.00	0.00	11.65	0.00	13.00	10.43	3.14	8.68	13.56	Jerome #1, 2	W 6 mph
	2:00 PM	0.00	0.00	0.00	11.87	7.35	0.00	10.33	20.68	116.00	26.32	28.4	Jerome #1, 2	WSW 16 mph
7/30/2021														
8/1/2021	9:15 AM	0.00	0.00	9.86	0.00	0.00	5.05	8.49	6.06	54.98	0	0	Jerome #2	W 4.6 mph
	1:30 PM	0.00	0.00	4.35	15.68	15.96	0.00	8.72	4.85	22.07	109.3	175	Jerome #1	W 15 mph
8/2/2021	8:45 AM	0.00	15.92	14.12	3.98	13.05	0.00	6.47	27.22	11.10	13.01	48.40	Jerome #1, 2	ESE 5 mph
	12:45 PM	0.00	0.00	0.00	3.71	15.23	0.00	0.00	9.29	5.18	25.36	66.89	Jerome #1, 2	W 13 mph
8/3/2021	9:30 AM	3.66	6.31	3.91	12.10	10.33	16.04	17.56	17.54	3.57	0.00	0.00	Jerome #1, 2	SW 5 mph
	1:00 PM	0.00	0.00	4.50	7.82	4.63	0.00	14.90	55.18	24.26	32.76	321.50	Jerome #1, 2	W 12 mph
8/4/2021	9:30 AM	0.00	3.21	0.00	9.11	0.00	0.00	4.73	11.81	6.70	13.47	12.56	Jerome #1, 2	WSW 7 mph
	1:25 PM	0.00	0.00	5.01	14.06	7.48	0.00	3.46	24.70	18.25	16.26	27.01	Jerome #1, 2	W 16 mph
8/5/2021	9:30 AM	0.00	0.00	0.00	7.80	17.04	0.00	0.00	4.63	8.73	5.70	4.42	Jerome #1, 2	W 9 mph
	1:30 PM	0.00	0.00	4.94	12.50	23.47	0.00	0.00	7.36	10.65	5.94	3.39	Jerome #1, 2	W 15 mph
8/6/2021	9:30 AM	0.00	0.00	8.77	25.05	7.88	0.00	7.20	4.88	6.32	1.60	0.00	Jerome #2	W 10 mph
	1:30 PM	0.00	0.00	3.67	17.18	8.29	0.00	5.08	5.27	5.48	5.29	0.00	Jerome #1, 2	W 12 mph
8/7/2021	10:00 AM	0.00	0.00	0.00	0.00	0.00	0.00	8.73	6.32	4.42	0.00	0.00	Jerome #2	S 8 mph
	1:00 PM	3.37	3.45	8.00	46.54	5.04	3.27	6.54	10.64	6.80	7.65	5.90	Jerome #1, 2	WSW 12 mph
8/8/2021	9:30 AM	0.00	0.00	0.00	6.21	9.06	3.31	0.00	0.00	0.00	6.83	0.00	Jerome #2	SW 5 mph
	3:45 PM	0.00	3.35	4.74	40.70	12.51	3.07	4.35	8.66	11.62	5.12	17.30	Jerome #2	W 13 mph
8/9/2021	9:20 AM	0.00	0.00	0.00	3.46	6.06	0.00	0.00	0.00	0.00	0.00	0.00	Jerome #1, 2	SSW 5 mph
	1:30 PM	0.00	0.00	4.58	6.34	0.00	0.00	0.00	0.00	0.00	4.39	6.98	Jerome #1, 2	W 14 mph
8/10/2021	9:15 AM	0.00	0.00	0.00	4.42	7.82	0.00	0.00	0.00	0.00	0.00	0.00	Jerome #1, 2	N 5 mph
	1:20 PM	0.00	0.00	0.00	7.02	6.59	0.00	0.00	0.00	0.00	3.98	6.14	Jerome #1, 2	W 14 mph
8/11/2021	9:10 AM	0.00	0.00	0.00	3.63	9.75	0.00	0.00	0.00	0.00	4.26	5.88	Jerome #1, 2	W 8 mph
	1:45 PM	0.00	0.00	3.73	27.82	19.34	0.00	0.00	3.31	3.63	0.00	5.22	Jerome #1, 2	W 13 mph
ppb = parts per billion														
* Further reductions in odors will occur as we accelerate sludge pumping from primary sedimentation tanks and final clarifiers into digesters.														
For latest AQMD information, please visit:														
<a href="http://www.aqmd.gov/home/news-events/community-investigations/hyperion-water-reclamation-plant">http://www.aqmd.gov/home/news-events/community-investigations/hyperion-water-reclamation-plant</a>														

# HYPERION TREATMENT PLANT



# **APPENDIX J**

**Wastewater Conveyance System Data  
prepared by WESD and CWCD**

# Collection System Data Review

Prepared for review of the incident at HWRP on July 11, 2021



# Collection System Flow Monitoring - Location Map

MH 56313061 - NOS

~2,265 lf u/s of HWRP

MH 56313003 - CIS

~4,200 lf u/s of HWRP

MH 56314001 - NCOS

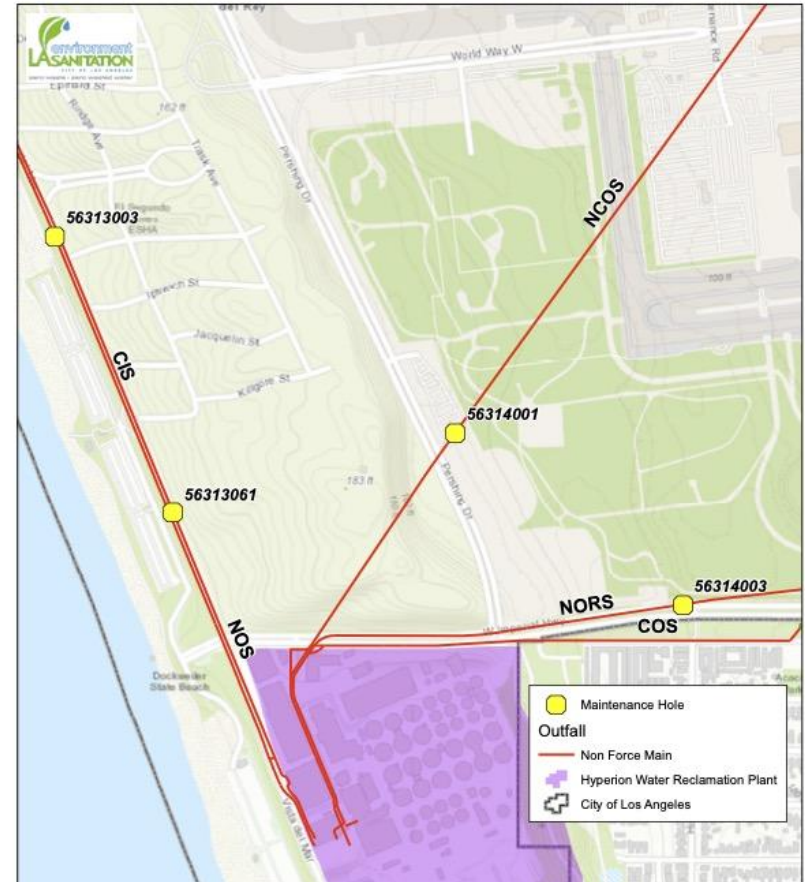
~2,700 lf u/s of HWRP

MH 56314003 - NORS

~3,600 lf u/s of HWRP

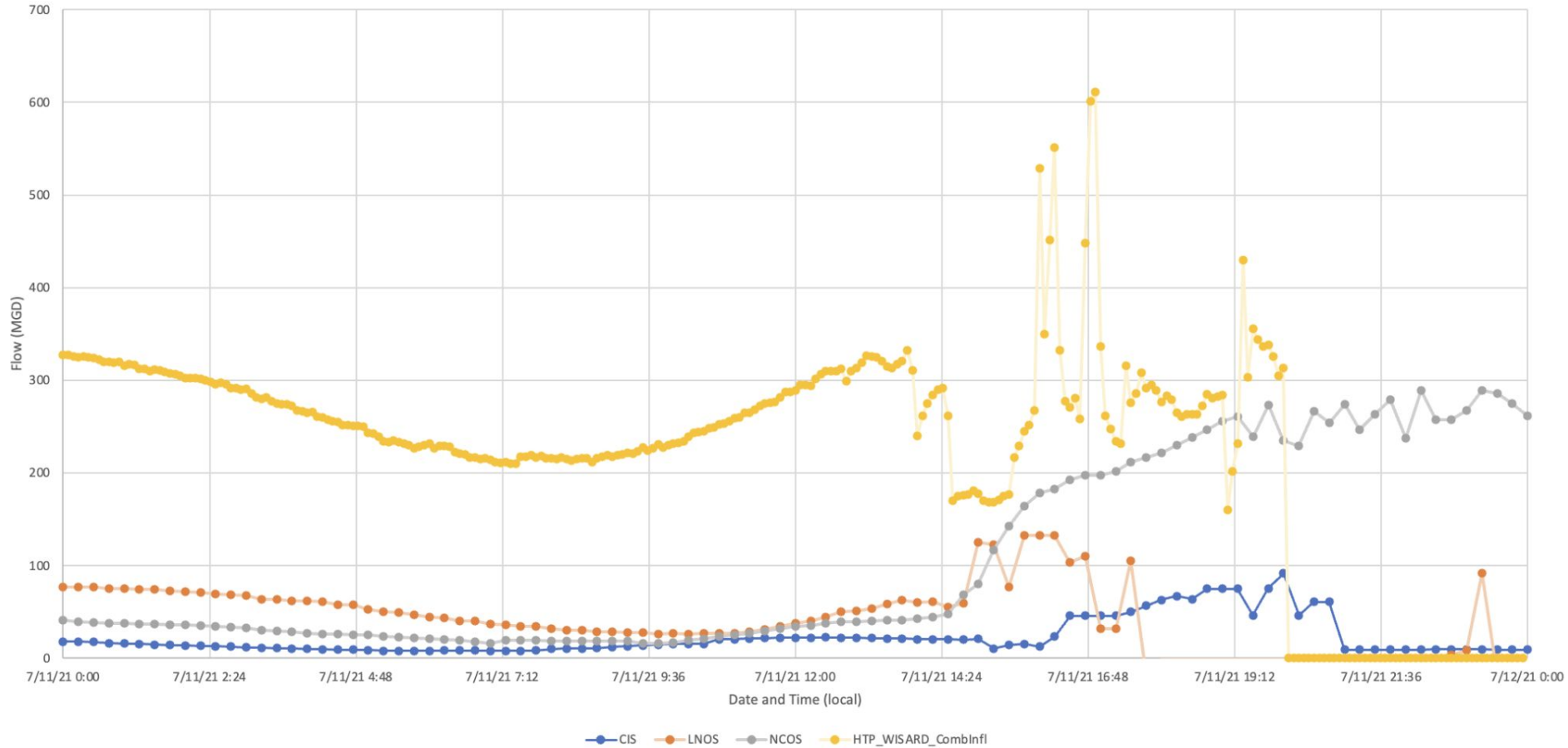
MH 56401164 (not shown)

~ 18,000 lf u/s of HWRP

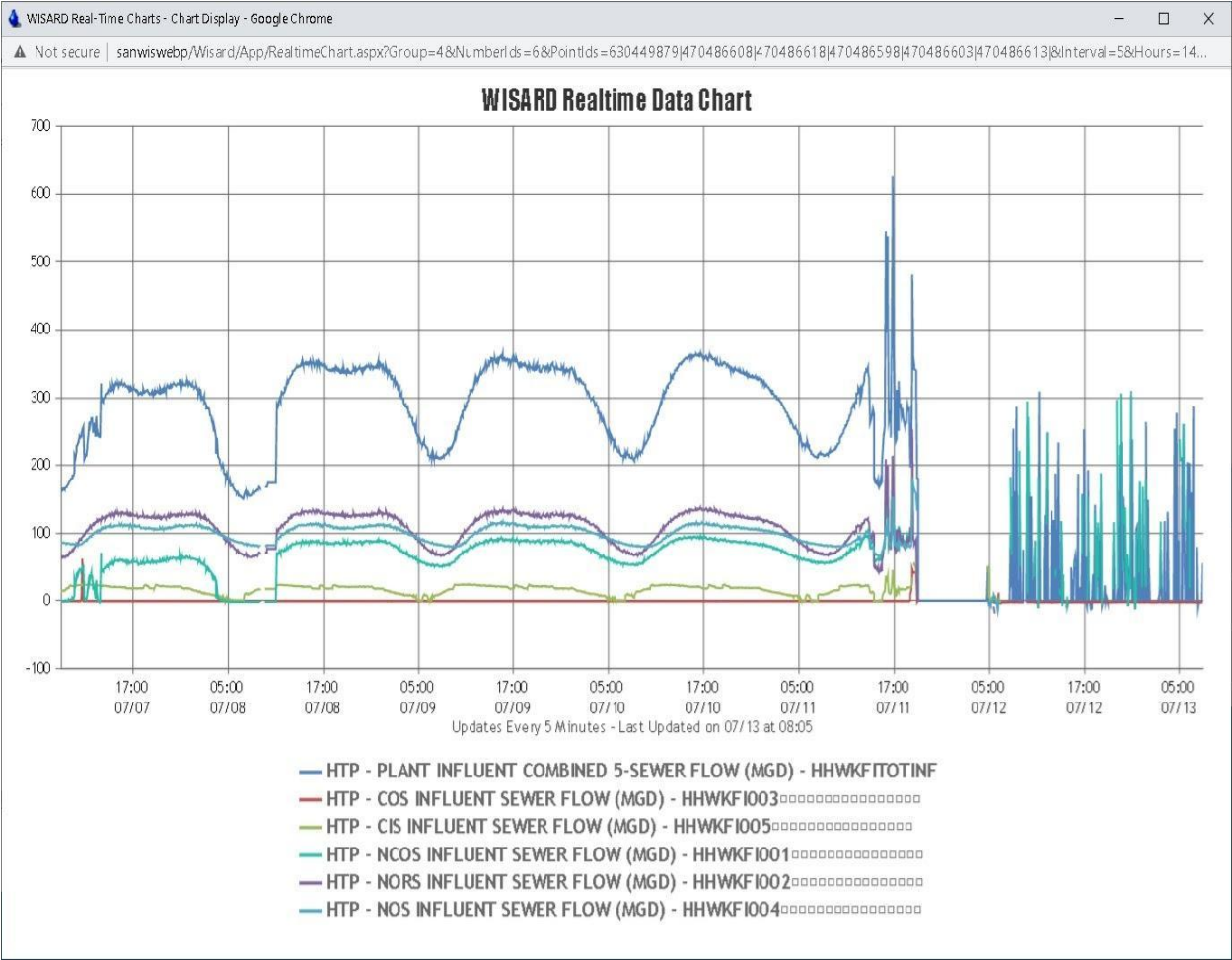


# July 11, 2021 Data - CS Monitors and HWRP Influent

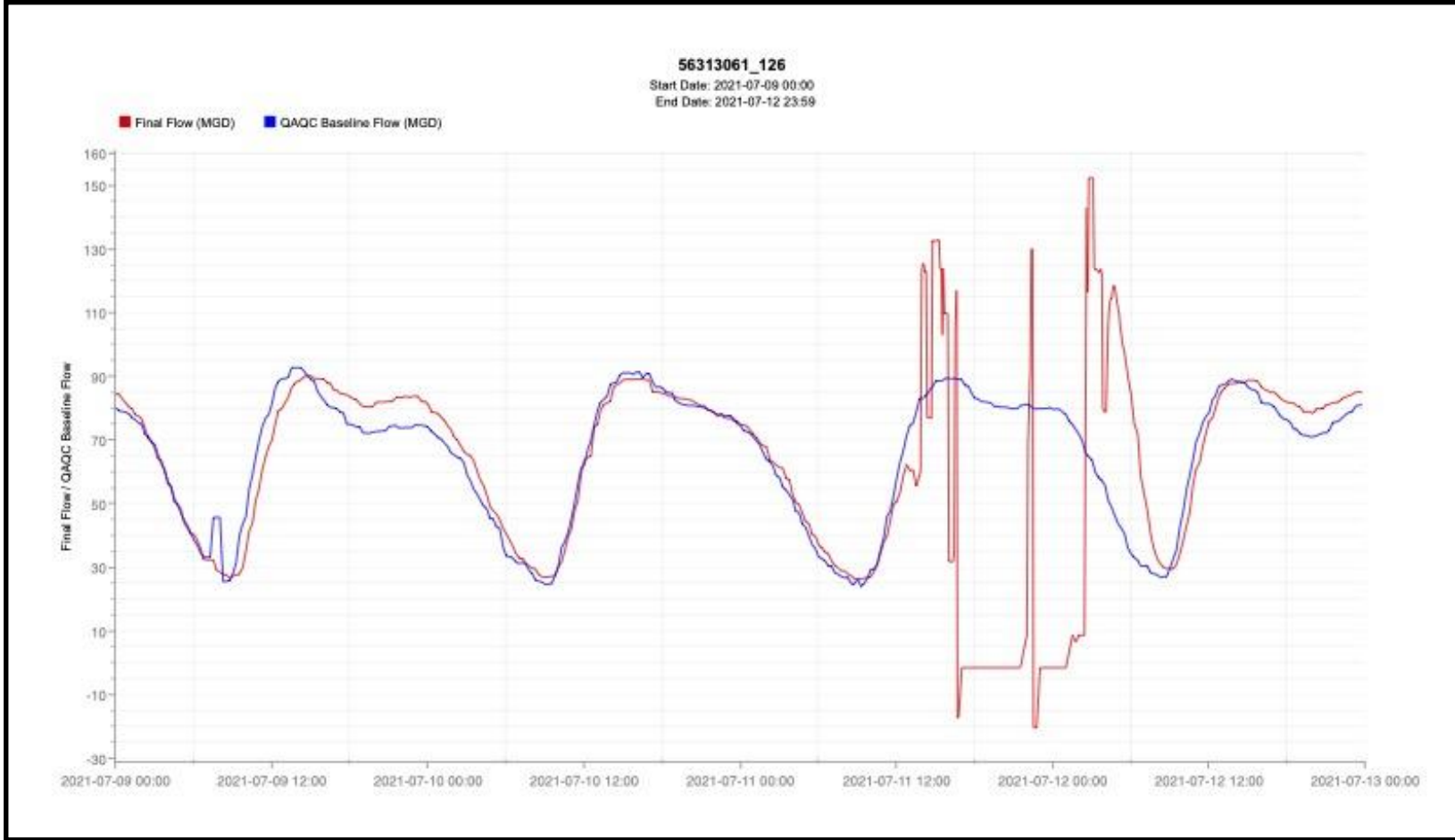
CS Outfall Data and HWRP WISARD Data - July 11, 2021



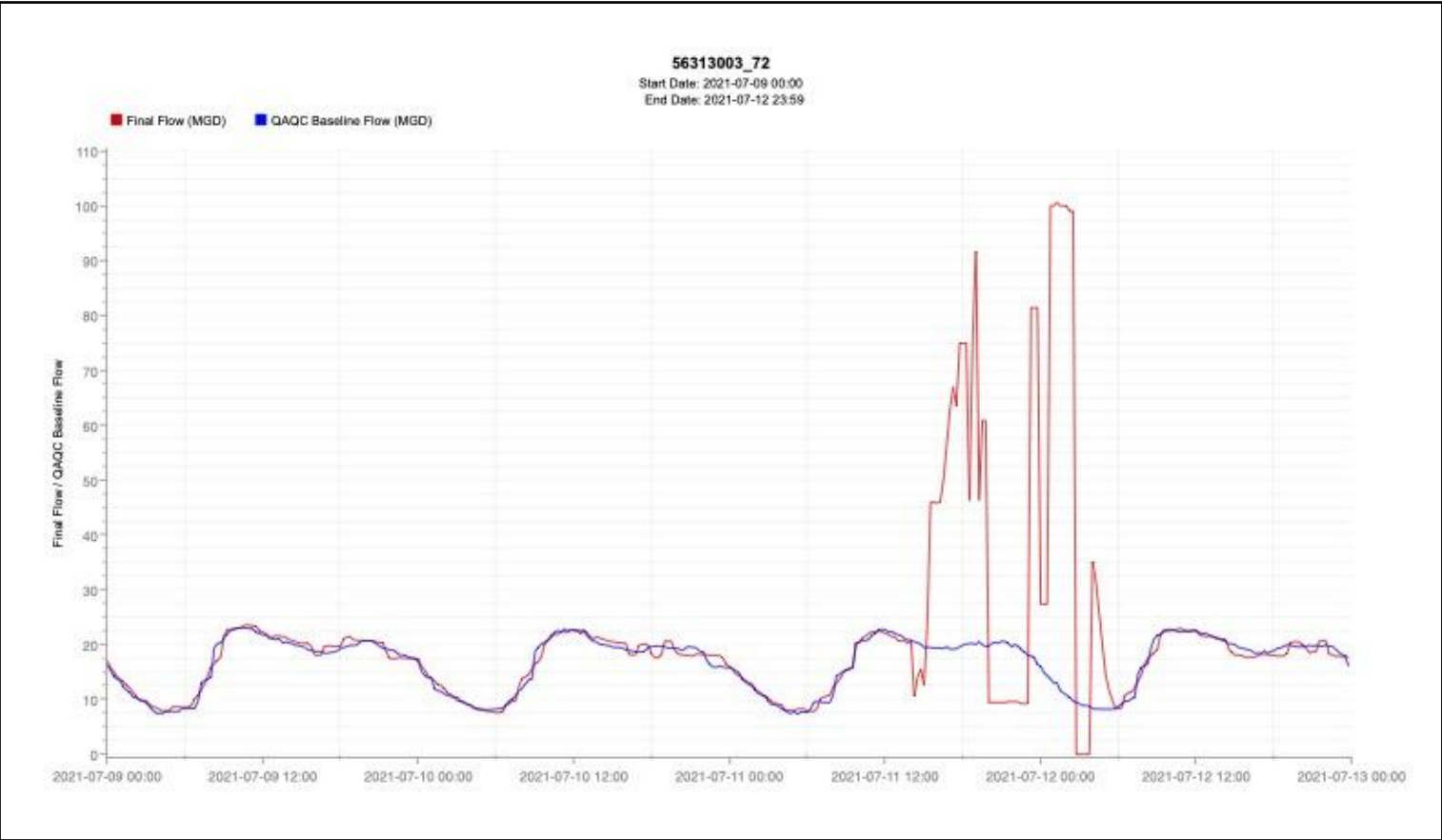
# WISARD Real-Time Chart (July 11, 2021)



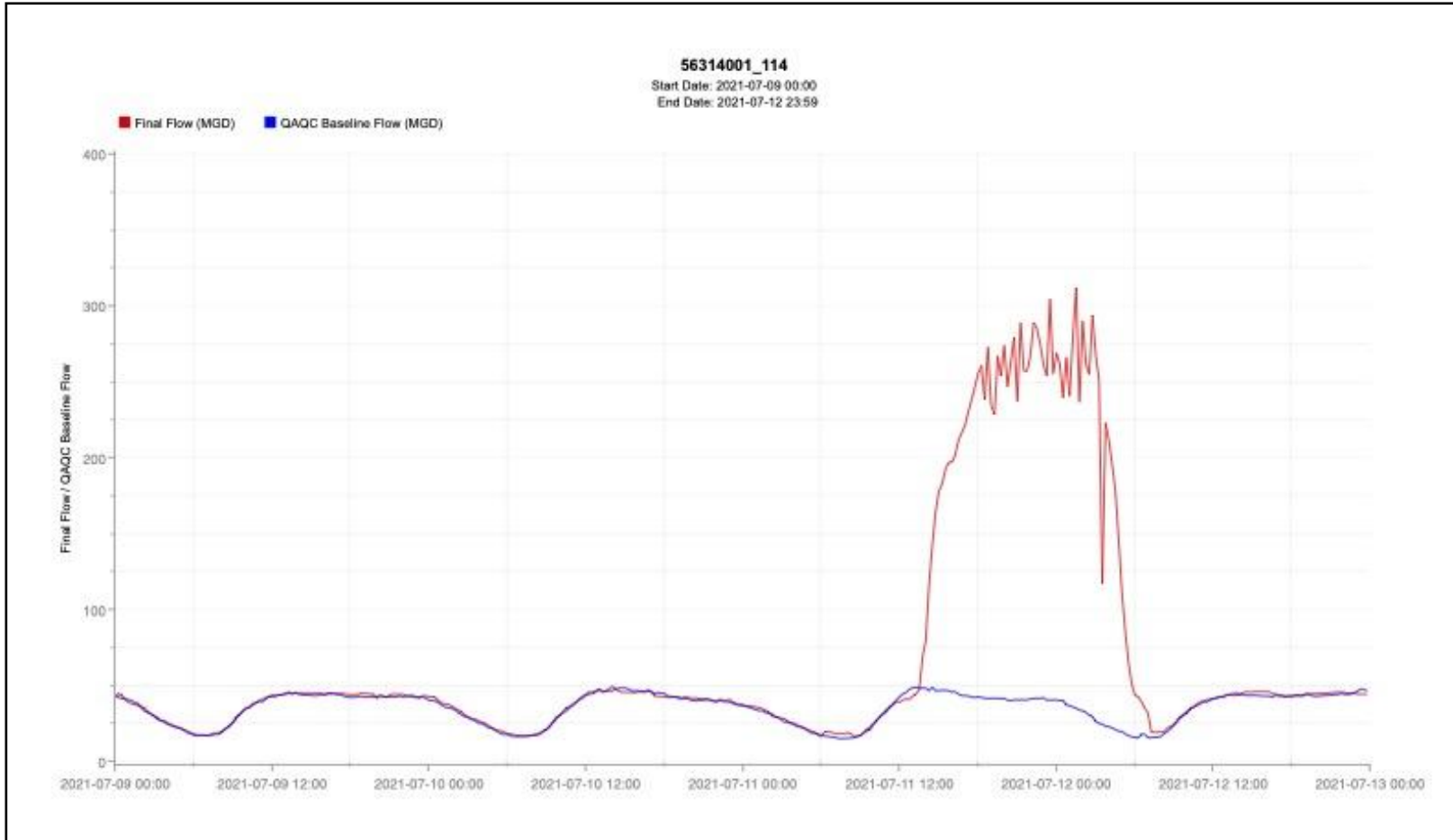
# NOS - Flow Monitoring Data - MH 563-13-061



# CIS - Flow Monitoring Data - MH 563-13-003

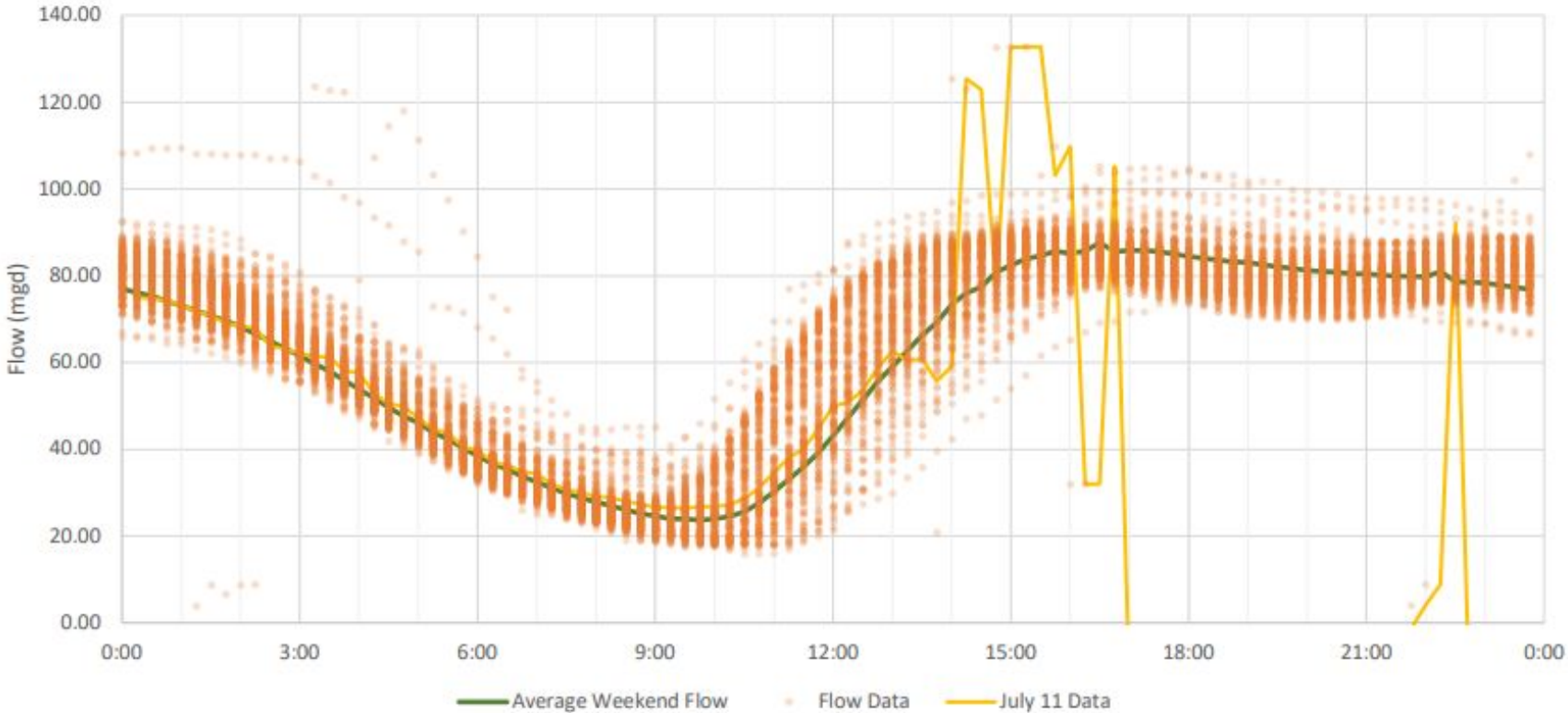


# NCOS - Flow Monitoring Data - MH 563-14-001

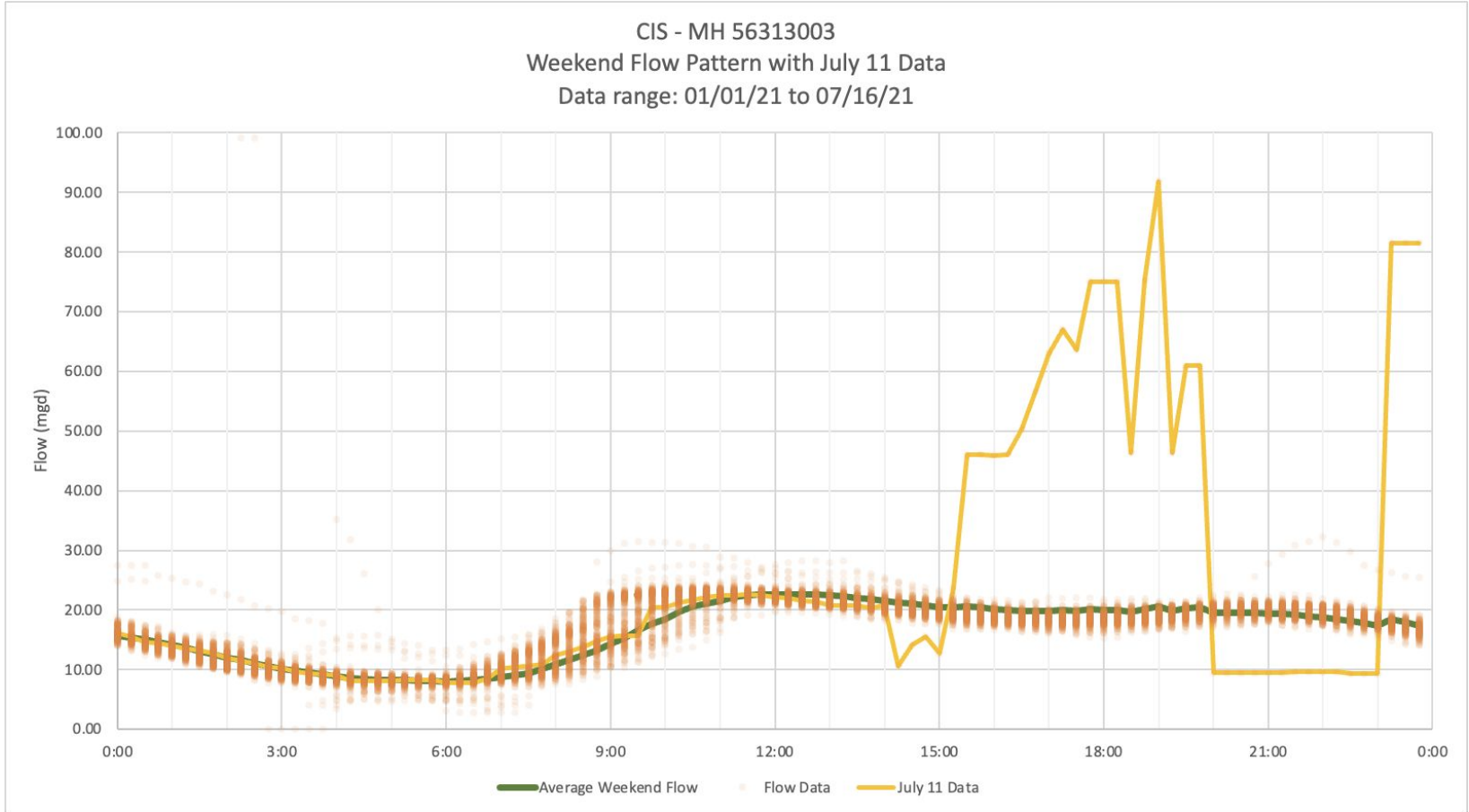


# NOS - 6 Months Flow Data - Weekends Only

NOS - MH 56313061  
Weekend Flow Pattern with July 11 Data  
Date Range: 01/01/2021 - 07/16/21

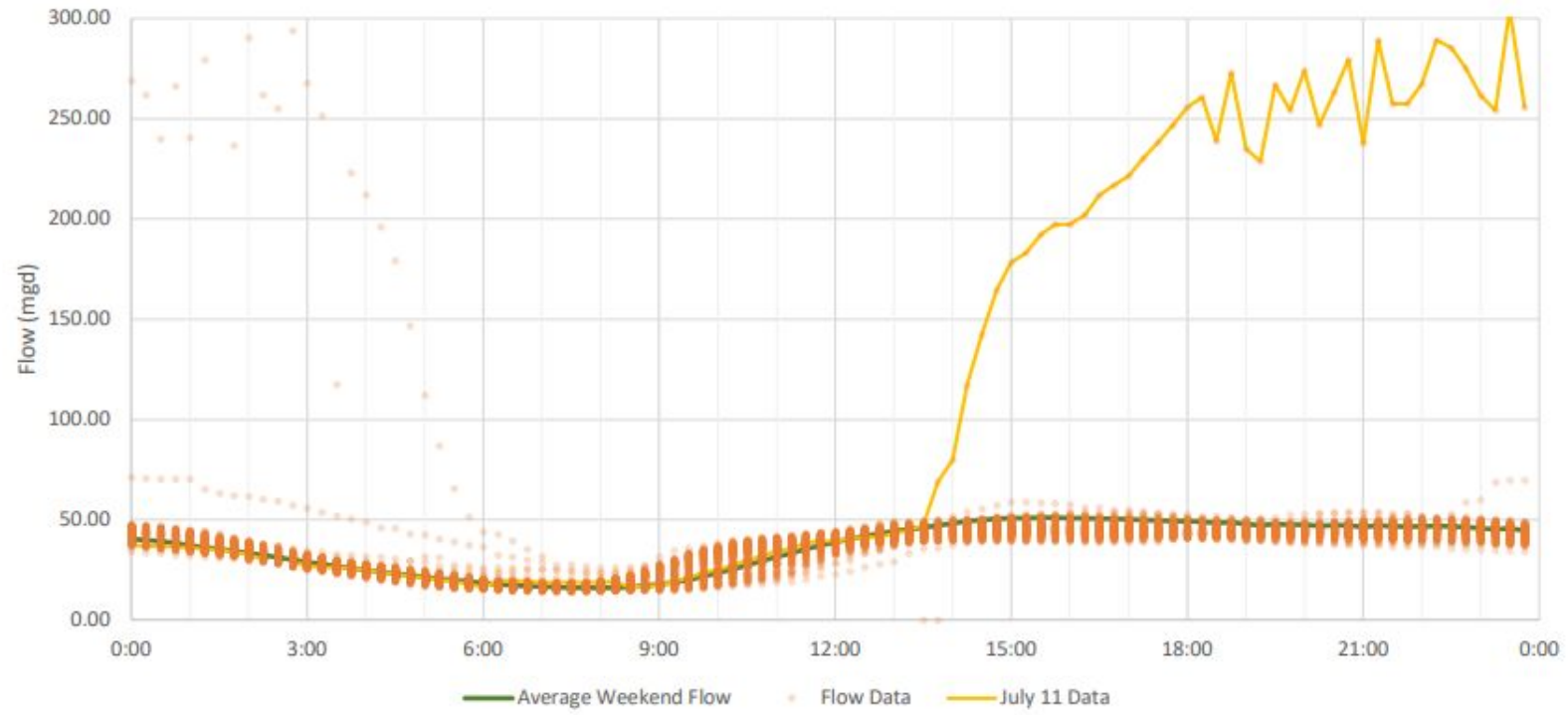


# CIS - 6 Months Flow Data - Weekend Only

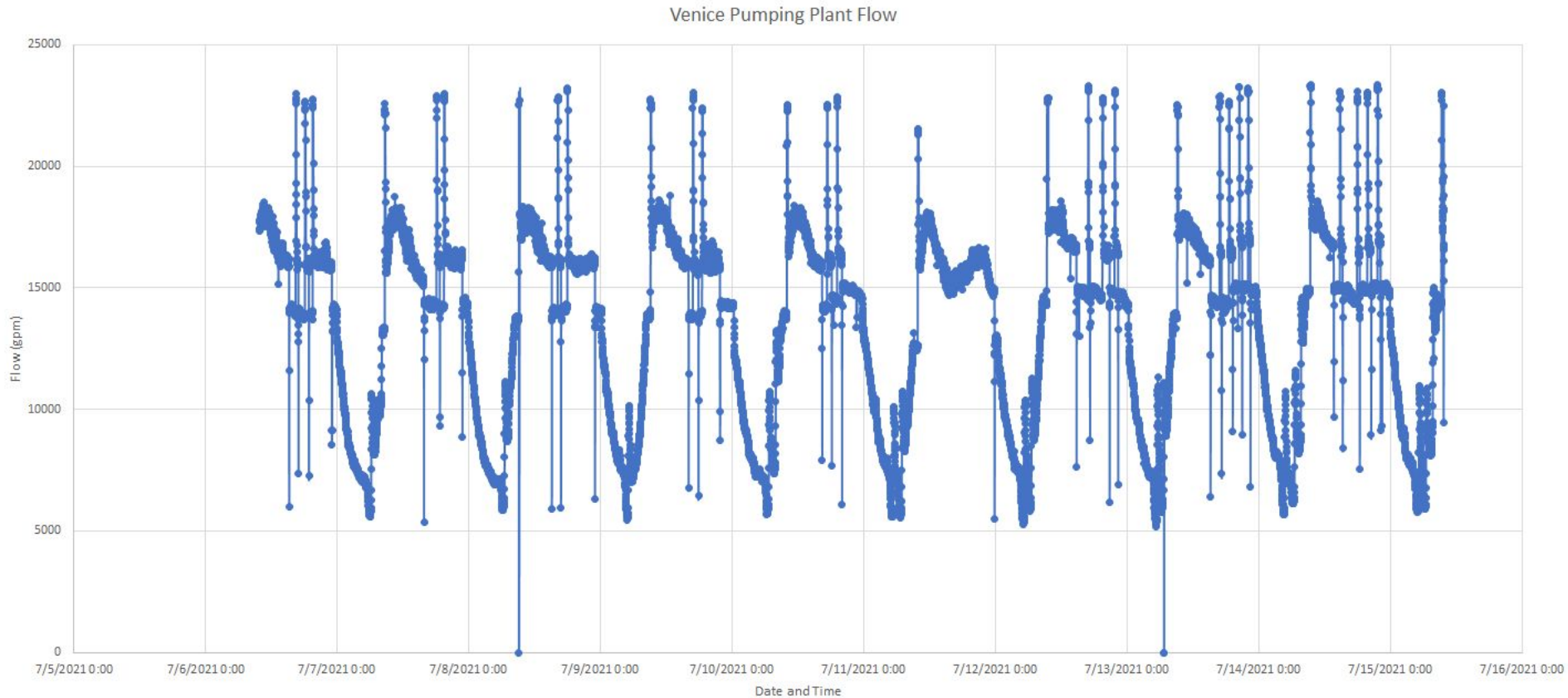


# NCOS - 6 Months Flow Data - Weekend Only

NCOS - MH 56314001  
Weekend Flow Pattern with July 11 Data  
Data Range: 01/01/2021 - 07/16/21



# Venice Pumping Plant - Pumping Plant Data





# DCT - AVORS d/s - 429-07-102

42907102\_96

Start Date: 2021-07-03 00:00

End Date: 2021-07-12 23:59

Final Flow (MGD)    QAQC Baseline Flow (MGD)

