



LA Sanitation & Environment Hyperion Water Reclamation Plant

JULY 11, 2021 INCIDENT REPORT

*Presentation to the LA City Council Energy, Climate Change,
Environmental Justice, and River Committee*



www.lacitysan.org/hyperion2021recovery

Thursday, August 5, 2021



July 11, 2021 - Headworks flooded



July 11, 2021 - plant roads flooded



SEWER SYSTEM OVERVIEW

About LASAN

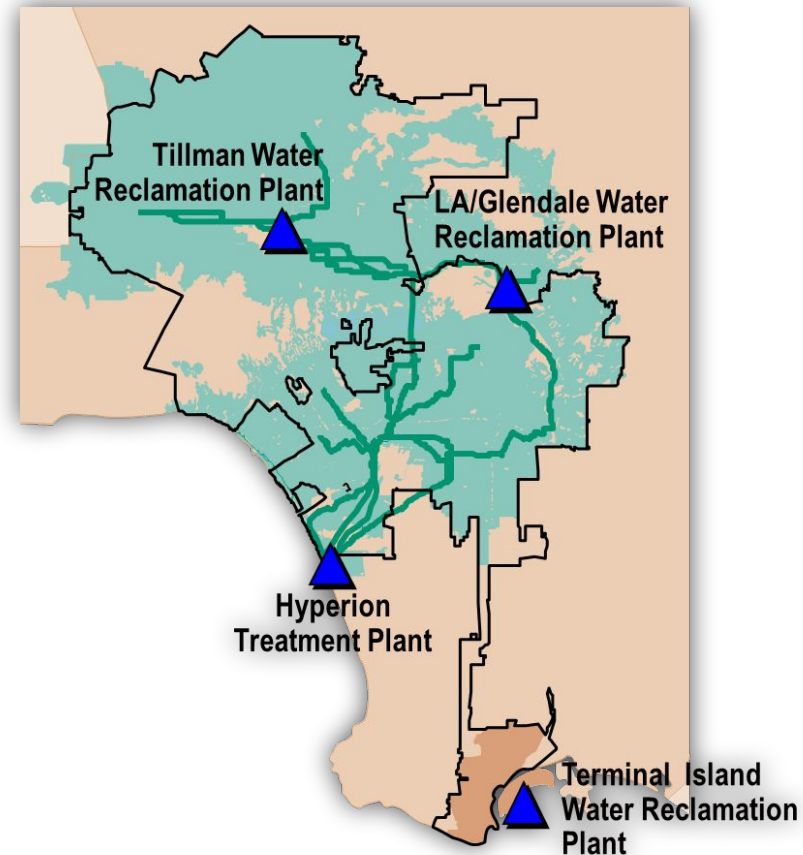
- 4.7 million people served
- 600 square miles
- 29 contract agencies
- 6,700 miles of sewer lines
- Average System Flow: 320 million gallons per day (MGD)

Hyperion Service Area: 3 Interconnected Plants

- Tillman Water Reclamation Plant (WRP) (100% Recycled Flow)
- Los Angeles-Glendale WRP (100% Recycled Flow)
- Hyperion WRP (27% Recycled Flow)

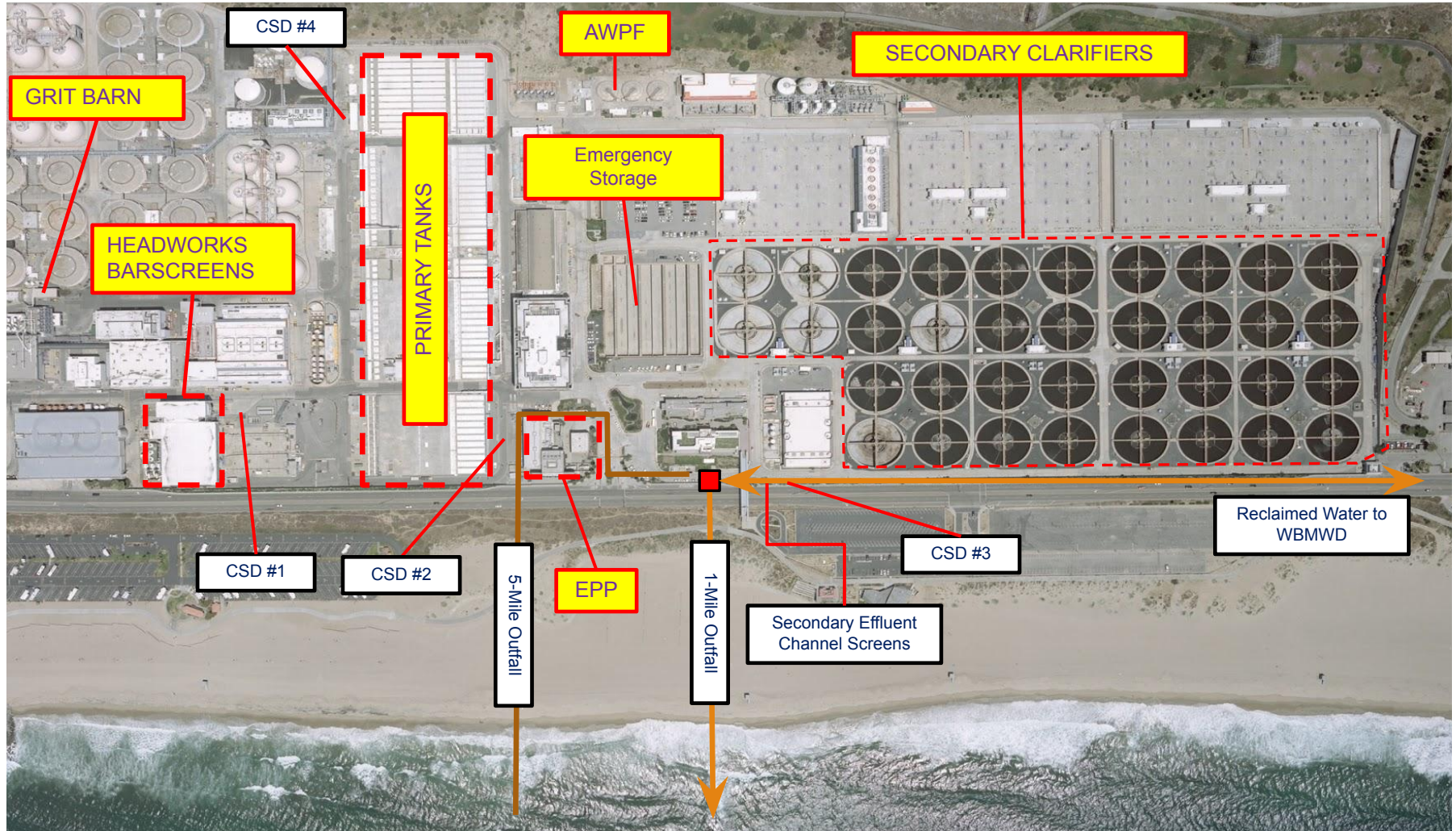
Terminal Island Service Area

- Terminal Island WRP (100% Recycled Flow)



HYPERION WATER RECLAMATION PLANT

LAYOUT

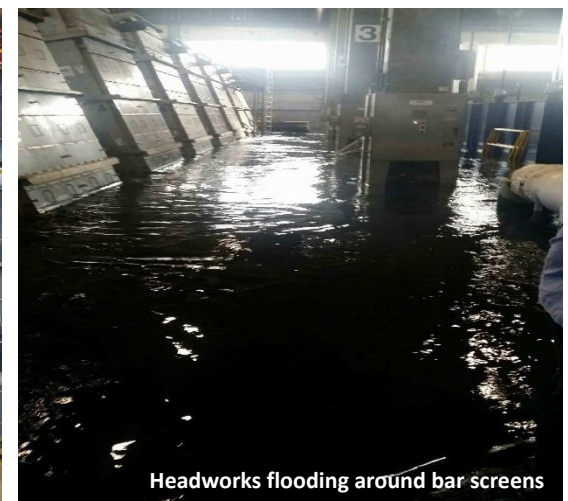


CSD: spell out; AWPf: Advanced Water Purification Facility; WBMWD: West Basin...

OVERVIEW

Unplanned Diversion to 1-Mile Outfall

- Unusually large amounts of debris clogged bar screens
- Plant was flooded with untreated wastewater
- Emergency discharge of 17 millions gallons of untreated wastewater via 1-mile outfall
- Flooding prevented safe removal of bypass gate until 4:30am when flow naturally decreases



OVERVIEW

Unplanned Diversion to 1-Mile Outfall

- Debris included trash, grease, wood chips, and more
- The source of the unusual amount of debris is currently under investigation

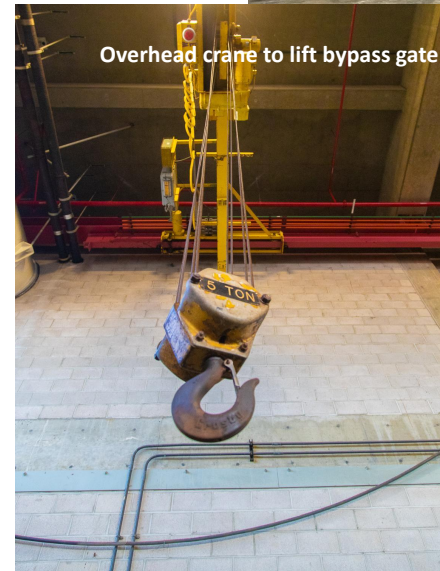


TIMELINE OF EVENTS

Prevention and Mitigation

7/11/21 12:00pm through 7/12/21 7:00am

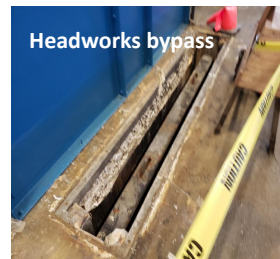
- 12:00pm - Bar screens at headworks started to become overwhelmed by excessive amounts of debris
- 3:00pm - Flooding begins; wastewater overflow onto plant roads and facilities. Used the plant's stormdrain system to pump wastewater back to Headworks to prevent and minimize the overflow of wastewater through the 1-mile outfall
- 7:00pm - Relief system triggered; overflows into 1-mile outfall system
- 4:30am - During low flow period, Headworks bypass gate opened with crane to stop flooding



Overhead crane to lift bypass gate



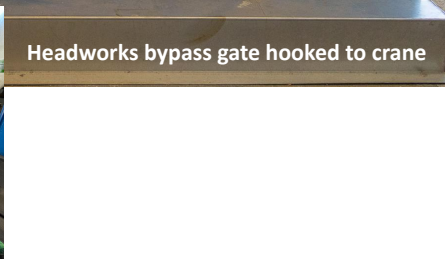
Headworks bypass gate, side view



Headworks bypass



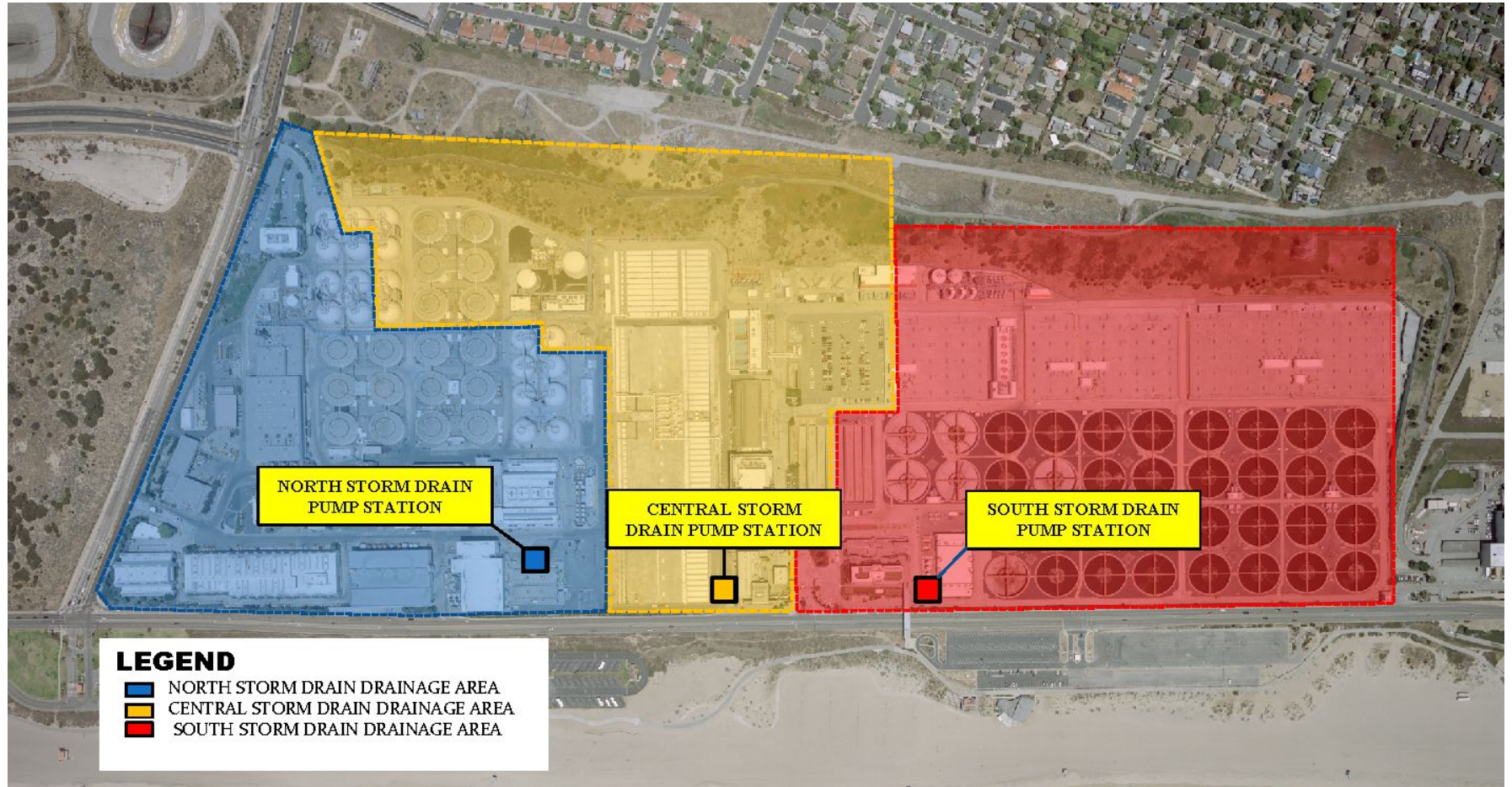
Headworks bypass gate



Headworks bypass gate hooked to crane

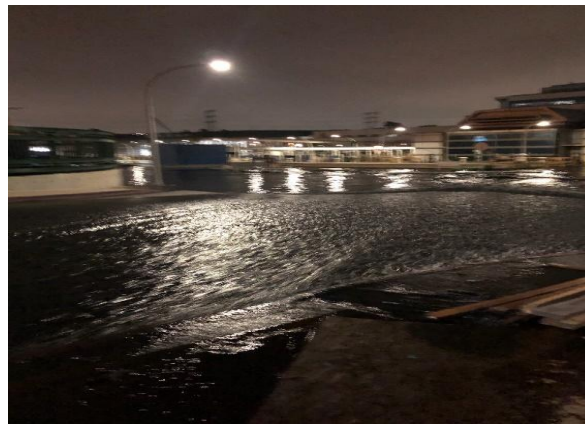
IMPACT TO HWRP

Above ground flooding in blue and yellow areas, north end of plant



IMPACT TO HWRP

Plant was flooded with untreated wastewater: damaging equipment and threatening the safety of staff; offices and elevators compromised



IMPACT TO HWRP

Advanced Water Purification Facility construction site flooded



EMERGENCY RESPONSE MEASURES

Recirculated wastewater overflow from plant storm drain system back to the Headworks

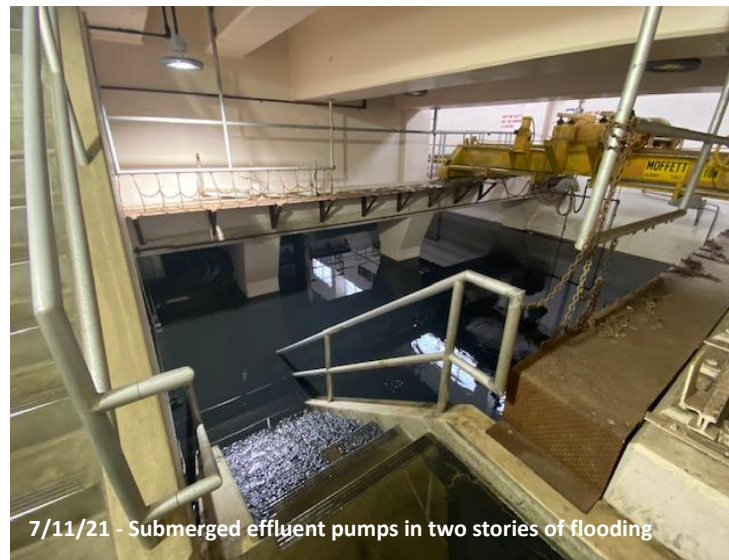
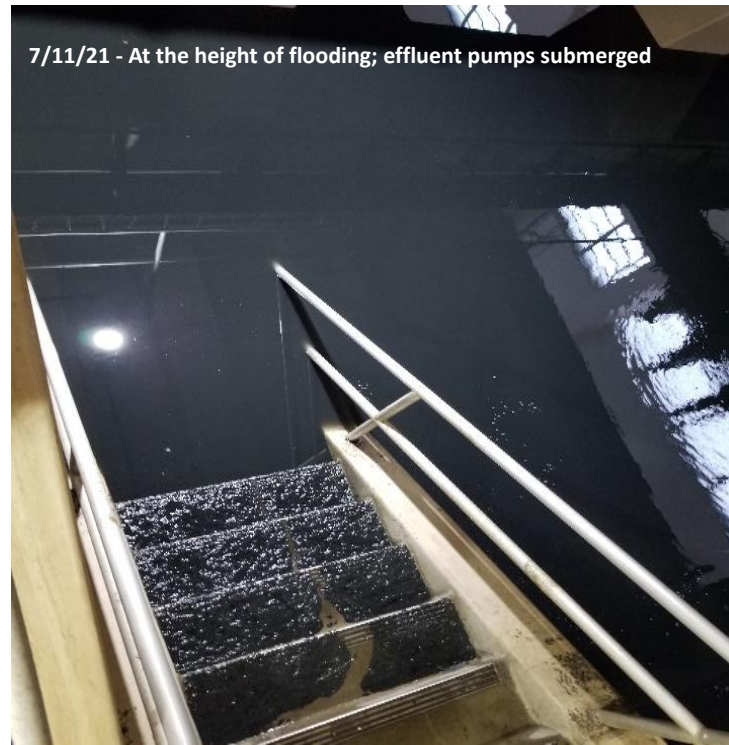


TIMELINE OF EVENTS

Assessment and Response

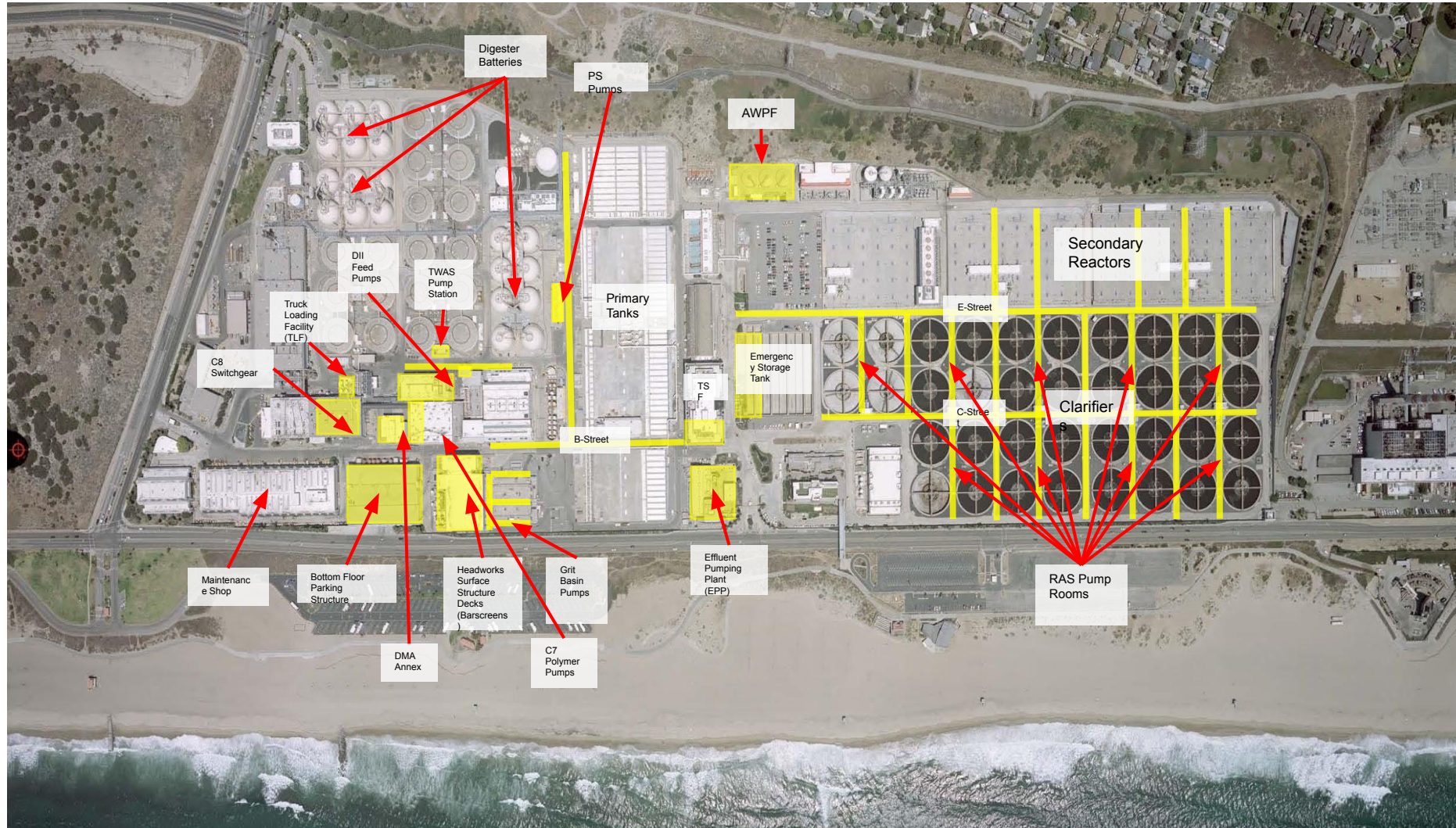
7/12/21 7:00am through 7/12/21 4:30pm

- 8:40am - Two bar screens back in service, overflow to 1-mile outfall stops
- RAS pumps, Primary sludge pumps, Primary Sludge Pumping Station pumps, Polymer System pumps, and dewatering centrifuges flooded
- Effluent Pumping Plant pumps completed submerged beneath two stories of water
- Truck loading facility out of service due to electrical equipment being offline



IMPACT TO HWRP

Below Ground Flooding



TIMELINE OF EVENTS

Recovery process

7/12/21 after 4:30pm

- 7/16 - all 8 bar screens back online
- 7/17 - first RAS pump working
- 7/29 - RAS sending some sludge from clarifiers to digesters; first WAST centrifuge back online
- 7/30 - primary sludge pumps sending some sludge from primary tanks to digesters; polymer system back online in manual operation
- 7/31 - primary sludge pumping stations pumps begin pumping sludge to digesters
- 8/1 - 5 of 6 WAST centrifuges back online
- Continuous cleaning and sanitizing of facility and equipment
- Installed temporary final clarifier microorganisms recirculation pumps



HYPERION WATER RECLAMATION PLANT EMERGENCY RESPONSE MEASURES

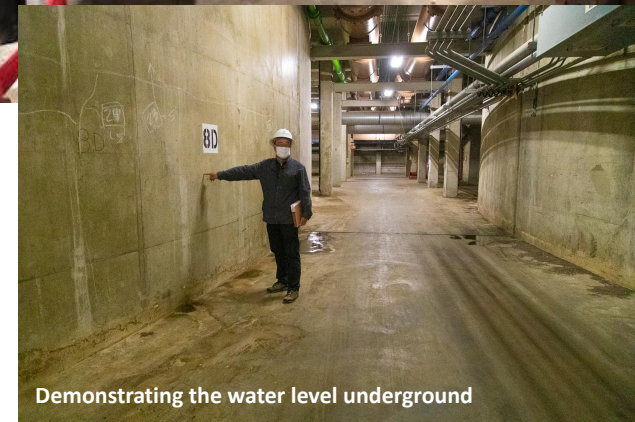
July 12-16, 2021: conducted 5 days of beach water quality monitoring

- Shoreline samples north and south at 100m, 0.5mi, 1mi, 3mi, 5mi, 7m
- Sampling sites from Santa Monica Pier to Avenue A in Redondo Beach
- Tested for total coliforms, E. coli, and enterococcus
- Bacteria levels normal, below state limits
- Ocean monitoring vessel sampled at 1-mile and 5-mile outfalls
- Beaches reopened on July 14



HWRP PROCESS RECOVERY EFFORTS

Water removal from underground galleries and pump bypasses - an ongoing process



Demonstrating the water level underground

HWRP PROCESS RECOVERY EFFORTS

Built bypasses for closed valves that can't be opened without power



New and refurbished motors for RAS pumps



HWRP PROCESS RECOVERY EFFORTS

Sludge pumping bypass system



REGULATORY OVERSIGHT

NPDES Permit

CITY OF LOS ANGELES
HYPERION TREATMENT PLANT

ORDER R4-2017-0045
NPDES NO. CA0109991

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD LOS ANGELES REGION

320 West 4th Street, Suite 200, Los Angeles, California, 90013
(213) 578-6600 • Fax (213) 578-6783
<http://www.waterboards.ca.gov/losangeles>

U.S. ENVIRONMENTAL PROTECTION AGENCY REGION IX

75 Hawthorne Street, San Francisco, California 94105-3901
Phone: (415) 947-8707 • Fax: (415) 947-3545
<http://www.epa.gov/region09>

ORDER R4-2017-0045
NPDES NO. CA0109991

WASTE DISCHARGE REQUIREMENTS AND NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT FOR THE CITY OF LOS ANGELES, HYPERION TREATMENT PLANT DISCHARGE TO THE PACIFIC OCEAN

The following Permittee is subject to state Waste Discharge Requirements (WDRs) and federal National Pollutant Discharge Elimination System (NPDES) permit requirements, as set forth in this Order/Permit:

Table 1. Discharger Information

Discharger	City of Los Angeles (City, Permittee, or Discharger)
Name of Facility	Hyperion Treatment Plant (HTP or Facility)
	12000 Vista del Mar Boulevard
Facility Address	Playa del Rey, CA 90293
	Los Angeles County

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001 (1-Mile Outfall)	Secondary treated wastewater	33.918333° N	118.447500° W	Pacific Ocean
002 (Y-shaped diffuser) (5-Mile Outfall) North Leg	Secondary treated wastewater	33.911967° N	118.521450° W	Pacific Ocean
South Leg		33.919333° N	118.528483° W	
		33.900650° N	118.527267° W	

Adopted: 02/02/17

[Click here to download the full permit](#)

included in the permit application. Pursuant to 40 CFR § 122.44(j)(1), the Permittee shall annually identify and report, in terms of character and volume of pollutants, any Significant industrial Users discharging to the POTW subject to Pretreatment Standards under section 307(b) of the CWA and 40 CFR § 403.

- iv. The Permittee shall evaluate whether its pretreatment local limits are adequate to meet the requirements of this Order/Permit (including mass emission benchmarks) and shall submit a written technical report as required under section II of Attachment I. The Permittee shall submit revised local limits to the Regional Water Board and USEPA for approval, as necessary. In addition, the Permittee shall consider collection system overflow protection from such constituents as oil and grease, etc.
- v. The Permittee shall comply with requirements contained in Attachment I – Pretreatment Reporting Requirements.

6. Collection System Requirements

The Permittee is subject to the requirements of, and must comply with State Water Resources Control Board (State Water Board) Order 2006-0003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, including monitoring and reporting requirements as amended by State Water Board Order WQ 2013-0058-EXEC and any subsequent order.

7. Spill Reporting Requirements for POTWs

a. Initial Notification

Although State and Regional Water Board staff do not have duties as first responders, this requirement is an appropriate mechanism to ensure that the agencies that do have first responder duties are notified in a timely manner in order to protect public health and beneficial uses. For certain spills, overflows and bypasses, the Permittee shall make notifications as required below:

- i. In accordance with the requirements of Health and Safety Code section 5411.5, the Permittee shall provide notification to the local health officer or the director of environmental health with jurisdiction over the affected water body of any unauthorized release of sewage or other waste that causes, or probably will cause, a discharge to any waters of the state as soon as possible, but no later than **two hours** after becoming aware of the release.
- ii. In accordance with the requirements of CWC section 13271, the Permittee shall provide notification to the California Office of Emergency Services (Cal OES) of the release of reportable amounts of hazardous substances or sewage that causes, or probably will cause, a discharge to any waters of the state as soon as possible, but not later than two hours after becoming aware of the release. The CCR, Title 23, section 2250, defines a reportable amount of sewage as being 1,000 gallons. The phone number for reporting these releases to the Cal OES is (800) 852-7550. In addition, the Permittee shall notify Heal the Bay of any such sewage spill.
- iii. The Permittee shall notify the Regional Water Board and USEPA of any unauthorized release of sewage from its POTW that causes, or probably will cause, a discharge to a water of the state as soon as possible, but not later than **two hours** after becoming aware of the release. This initial notification

REGULATORY OVERSIGHT

7/29/21 new order from Water Board



Los Angeles Regional Water Quality Control Board

July 29, 2021

Barbara Romero, Director and
General Manager
City of Los Angeles
LA Sanitation and Environment
1149 South Broadway Street, 9th Floor
Los Angeles, CA 90015-2213

Via FedEx
Tracking Number: 8167 1684 4743

REQUIREMENT FOR MONITORING AND STATUS REPORTS PURSUANT TO CALIFORNIA WATER CODE SECTION 13383 ORDER NO. R4-2021-0107 FOR AN UNAUTHORIZED DISCHARGE OF RAW SEWAGE INTO THE PACIFIC OCEAN, CITY OF LOS ANGELES LA SANITATION AND ENVIRONMENT, HYPERION TREATMENT PLANT, CALIFORNIA (NPDES NO. CA0109991, ORDER NO. R4-2017-0045)

Dear Barbara Romero:

The California Regional Water Quality Control Board, Los Angeles Region (Regional Water Board), is the public agency with primary responsibility for the protection of ground and surface water quality within major portions of Los Angeles and Ventura Counties.

As part of our effort to protect water quality, enclosed is Order No. R4-2021-0107 (Order) issued pursuant to California Water Code section 13383. The Regional Water Board issues this Order in response to the unauthorized discharge of raw sewage that occurred from July 11, 2021 through July 12, 2021 from the Hyperion Treatment Plant (HTP). The required monitoring is necessary to assess impacts on the receiving water due to the spill event and ongoing effluent permit limit exceedances caused by HTP's reduced operational abilities because of the spill event. This Order requires the City of Los Angeles, LA Sanitation and Environment (LASAN) to submit monitoring and status reports as required in this Order.

Barbara Romero
City of Los Angeles
LA Sanitation and Environment

- 2 -

July 29, 2021

If you have any questions regarding this matter, please call Andrew Choi at (213) 576-6791 / andrew.choi@waterboards.ca.gov or Ching Yin To at (213) 620-6373 / ching-yin.to@waterboards.ca.gov.

Sincerely,

R Purdy
Digitally signed by R Purdy
Date: 2021.07.29 17:06:03 -07'00'
Renee Purdy
Executive Officer

Enclosure: Order No. R4-2021-0107

cc: [via email]
Environmental Protection Agency, Region 9, Permits Branch (WTR-5)
NOAA, National Marine Fisheries Service
Department of Interior, U.S. Fish and Wildlife Service
State Water Resources Control Board, Office of Chief Counsel
State Water Resources Control Board, Office of Enforcement
State Water Resources Control Board, Division of Drinking Water
Department of Fish and Wildlife, Region 5
California State Parks and Recreation
California Coastal Conservancy
California Coastal Commission, South Coast Region
Heal the Bay
Environment Now
Natural Resources Defense Council
U.S. Army Corps of Engineers
U.S. Fish and Wildlife Service
Los Angeles County Department of Public Works
Southern California Coastal Water Research Project
Los Angeles Waterkeeper
Water Replenishment District of Southern California
City of Los Angeles, Department of Water and Power
Los Angeles County Sanitation Districts
Surfrider Foundation

LAWRENCE YEE, CHAIR | RENEE PURDY, EXECUTIVE OFFICER

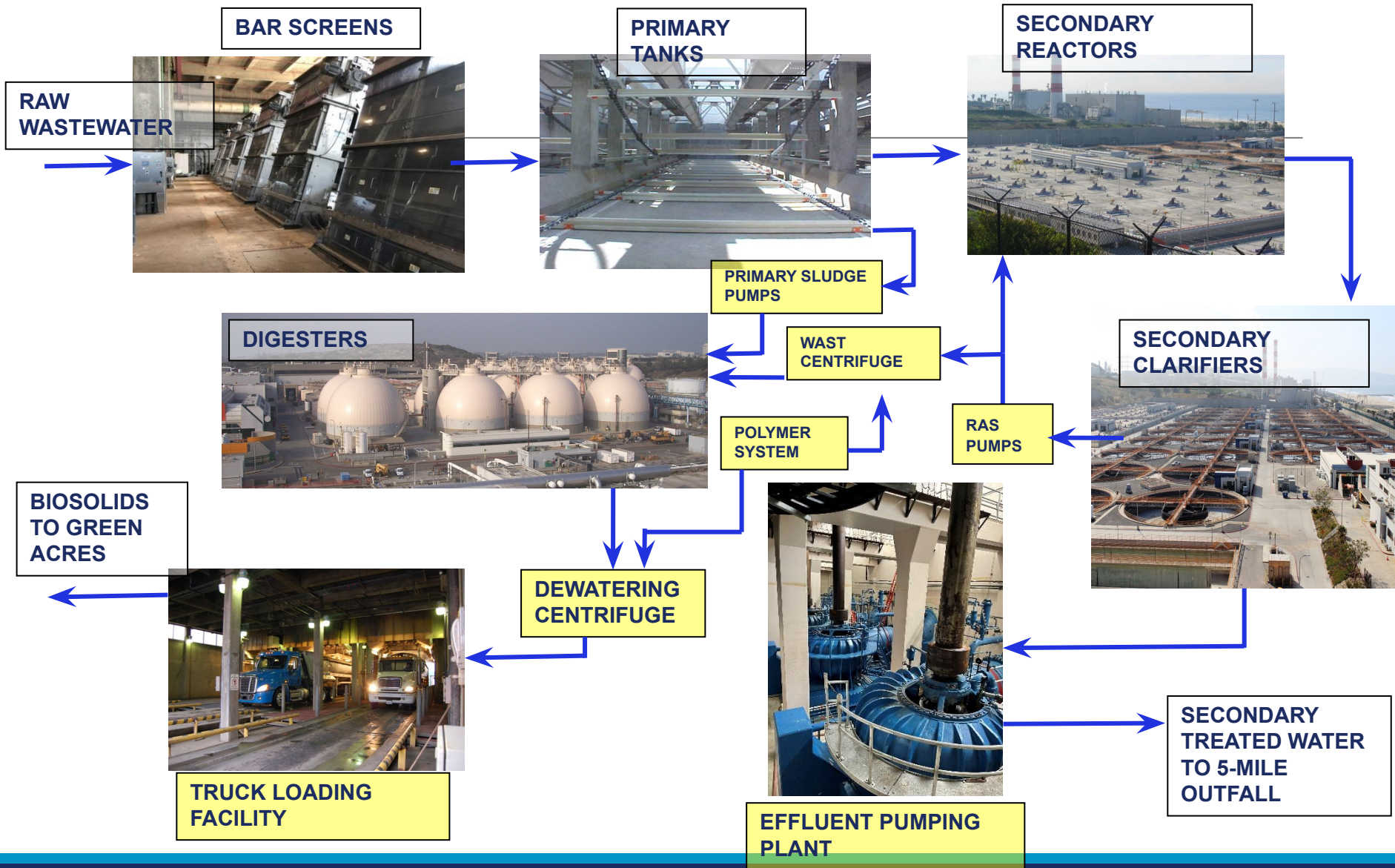
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LAWRENCE YEE, CHAIR | RENEE PURDY, EXECUTIVE OFFICER

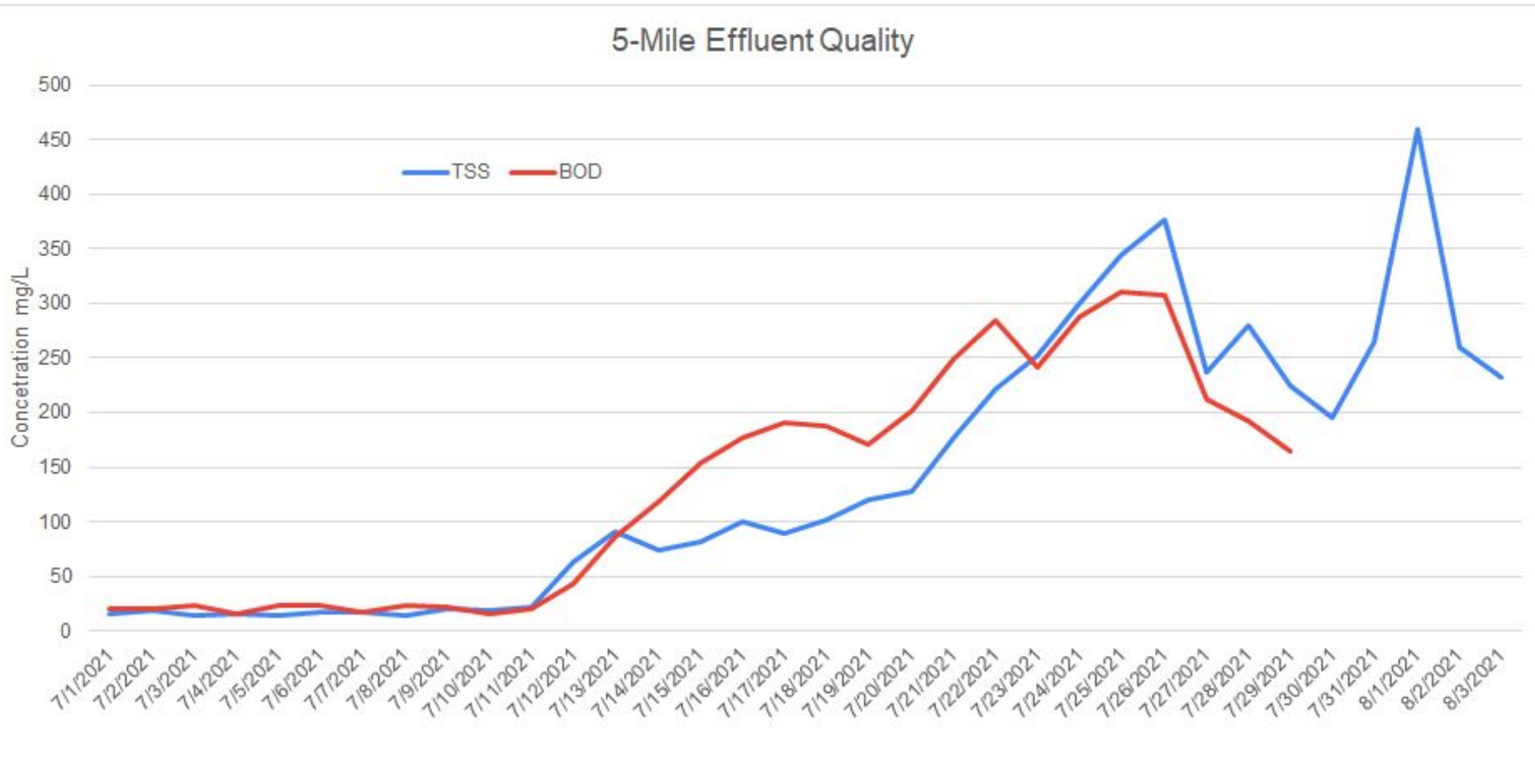
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HYPERION WATER RECLAMATION PLANT PROCESS RECOVERY EFFORTS

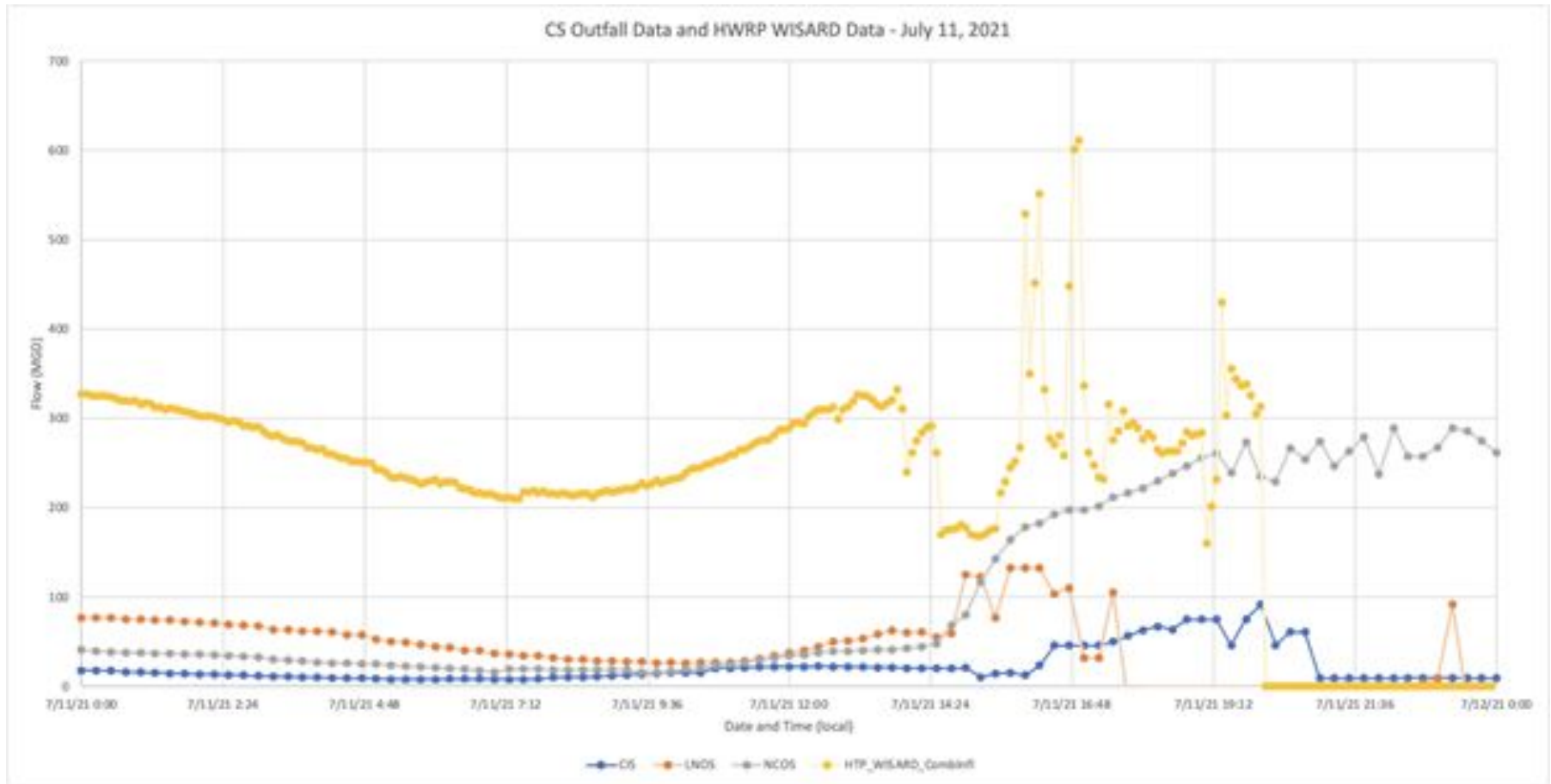


HYPERION WATER RECLAMATION PLANT PROCESS RECOVERY EFFORTS



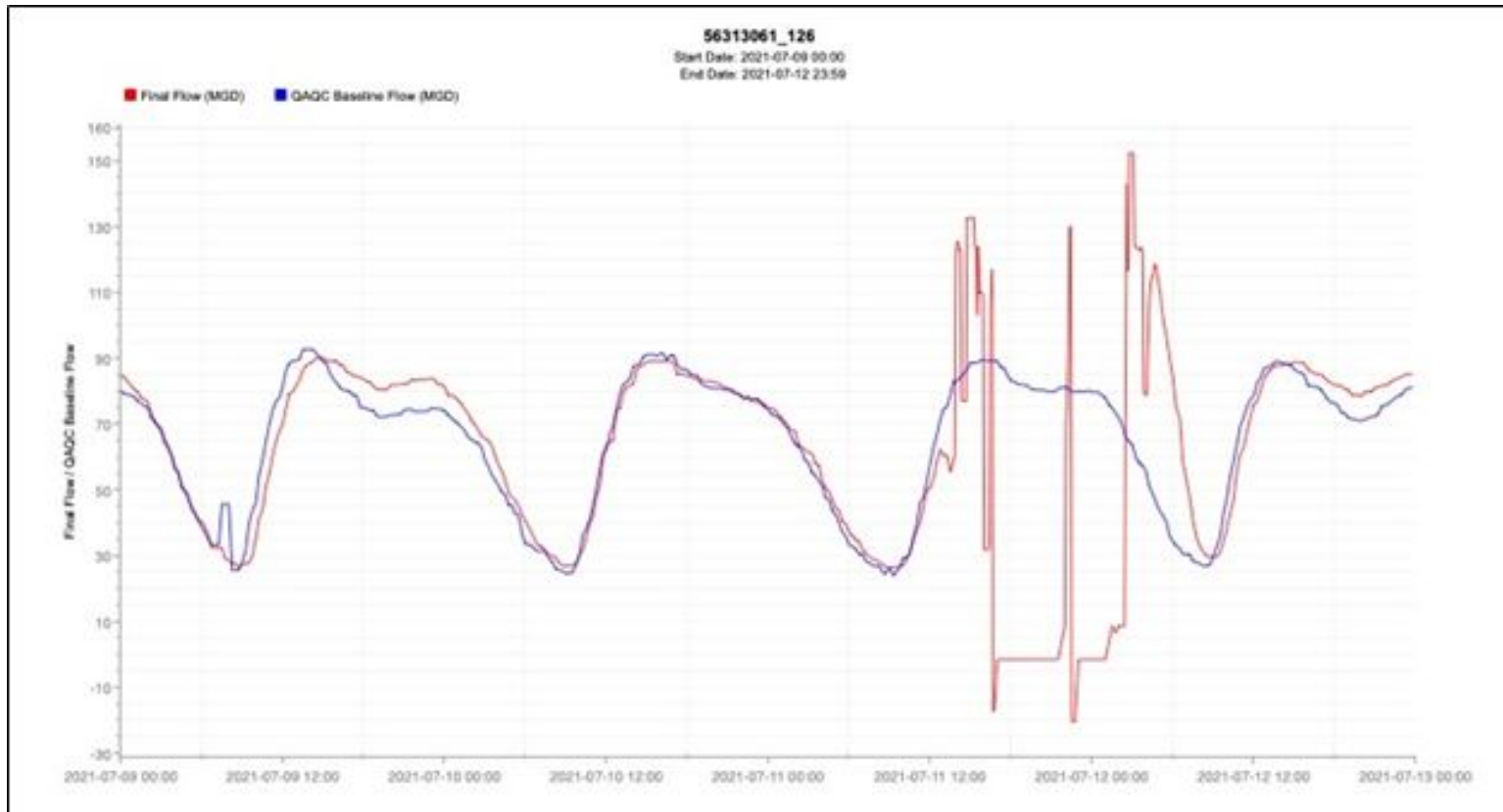
INITIAL INVESTIGATION OF CAUSE

- July 11 flow monitoring data from the five major outfall sewers into Hyperion reviewed for anomalies in flow
- The data verifies major flow deviation in outfall sewers correlating w reports of significant debris at Hyperion



INITIAL INVESTIGATION OF CAUSE

- Analyzed flow data on all 200 flow monitoring sites for:
 - change in depth of flow
 - sudden changes in flow velocity & depth
 - any backflow, surcharge, hydraulic abnormality
- To-date visual inspection of 362 of 900 structures looking for:
 - access by outsiders; debris residuals; abnormal flow conditions



INFORMATION SHARING

Hyperion 2021 Recovery web page

- All LASAN lab results
- Correspondence with regulatory agency including violation notices
- Critical process equipment status

Plant Visits

- Invitations extended to media, elected officials, and NGOs to visit Hyperion
- Facility and equipment photos shared

Media and Regulatory Agencies

- Full cooperation including inspections, investigations, and sharing of data
- Sending frequent statements with updates

Modernized Communications

- Enhanced relationships with stakeholders and neighboring cities
- More active communications with LA County

		#1	#2	#3	#4	#5	#6	#7	#7.5	#8	#9	#10	
Date	time	Gate A - base of hill (ppb)	DSF (ppb)	Weather Vane - LOCAT (ppb)	Top of hills-Primaries (ppb)	IPS/ Flares (ppb)	Reactor #9 (ppb)	OGF-Reactor #7 (ppb)	Reactor #5 (ppb)	Weather Vane - Reactor #4 (ppb)	Reactor #3 (ppb)	Corner of HTP - Reactor #1 (ppb)	Meas Instr
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	Jeror
	1:35 PM	0.00	0.00	0.00	0.00	0.00	0.00	0.00		143.27	0.00	151.67	Jeror
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	Jeror
	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	Jeror
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	Jeror
	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	Jeror
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	Jeror
	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	Jeror
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	Jeror
	1:30 PM	0.00	0.00	4.35	15.68	15.96	0.00	8.72	4.85	22.07	109.3	175	Jeror
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	Jeror
	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	Jeror
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	Jeror
	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	Jeror
ppb = parts per billion													
* Further reductions in odors will occur as we accelerate sludge pumping from primary sedimentation tanks and final clarifiers into digesters.													

NEXT STEPS

Several third party assessments required

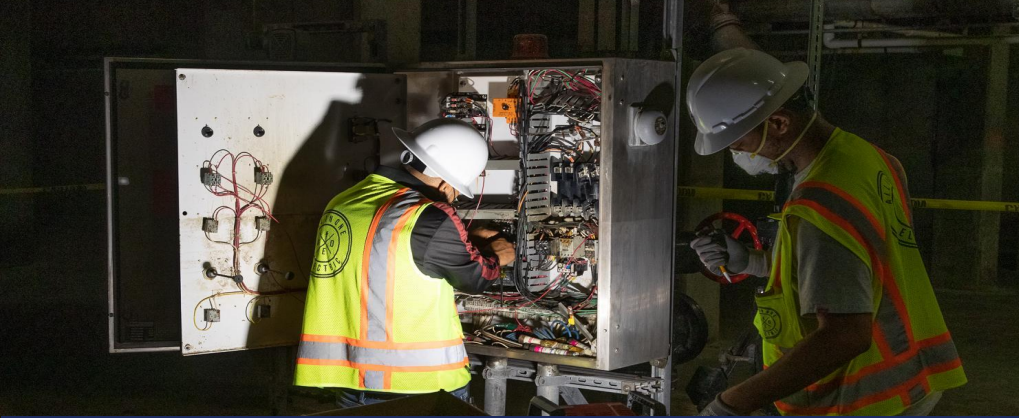
- Plant protocols and procedures
- Conveyance system
- Communications: education campaign, notification procedures, enhanced collaboration

Facility and Process Improvements

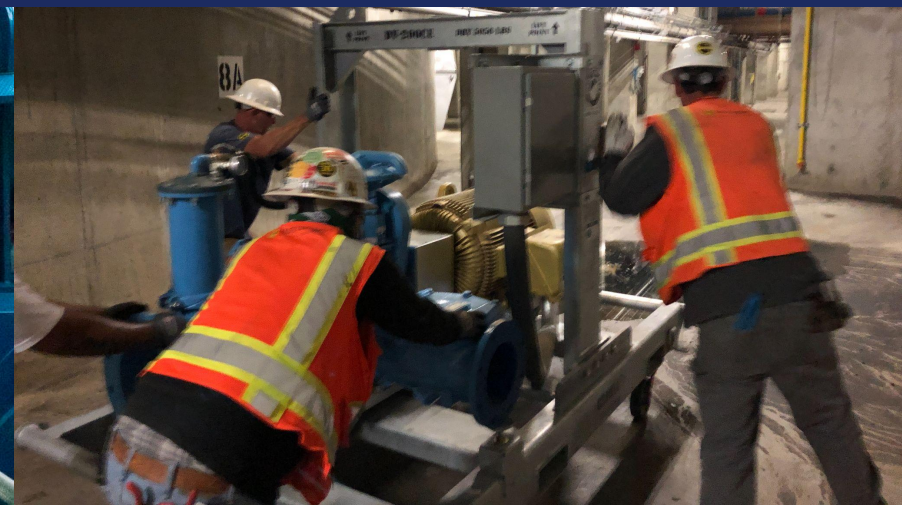
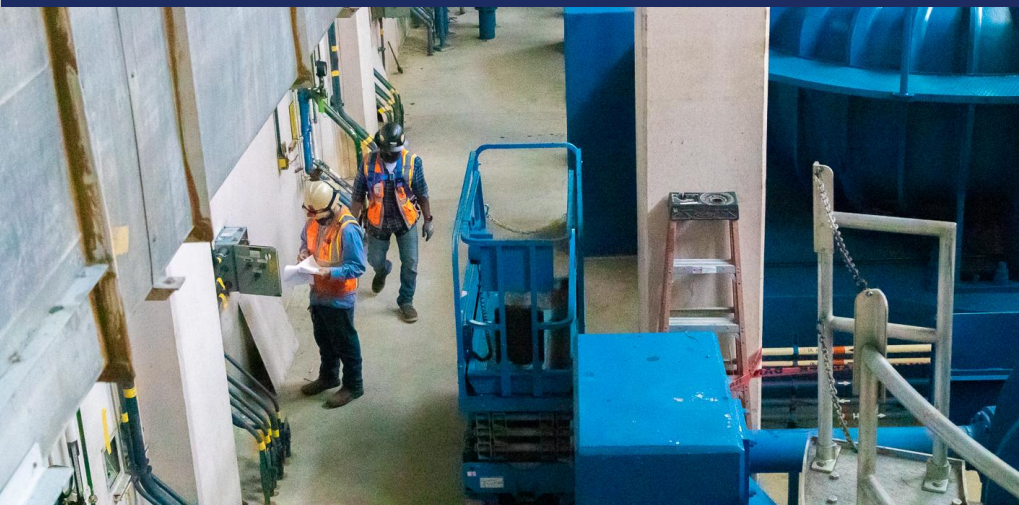
- Implement procedures to open bypass gate at pre-specified water levels
- Seal and waterproof doors to prevent damage to equipment inside plant facilities (46-50 doors)
- Provide multiple connections to reroute flows from the plant storm drain system and minimize overflow of wastewater into Santa Monica Bay in the event of a spill
- Work with AQMD to evaluate and improve air quality monitoring

Findings and recommendations





QUESTIONS?



For more information about Hyperion Water Reclamation Plant, this incident, and next steps, please visit our website:

www.lacitysan.org/hyperion2021recovery

or call our 24-hour Customer Care Center at 1-800-773-2489

