



**LOS ANGELES COUNTY
SANITATION DISTRICTS**

Converting Waste Into Resources

LACSD Wet Weather Preparation

CASA-Clean Water SoCal Joint Collection Systems Meeting

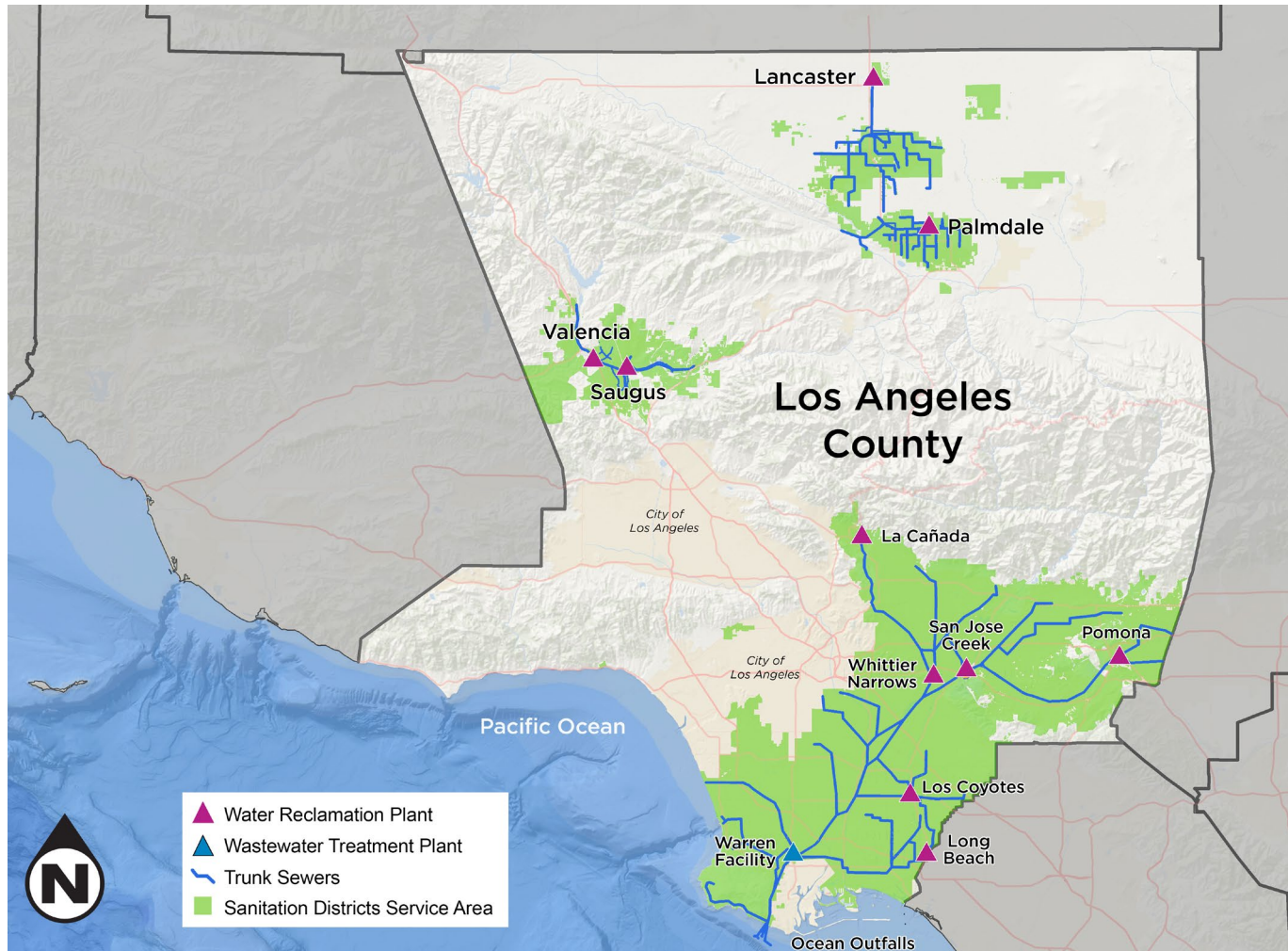
Jenny Tanphanich, P.E.

May 13, 2026



OUR SERVICE AREA

Los Angeles County Sanitation Districts



**Collect and treat sewage
from ~5.5 million people**

GOVERNANCE

24 special districts with one administrative staff

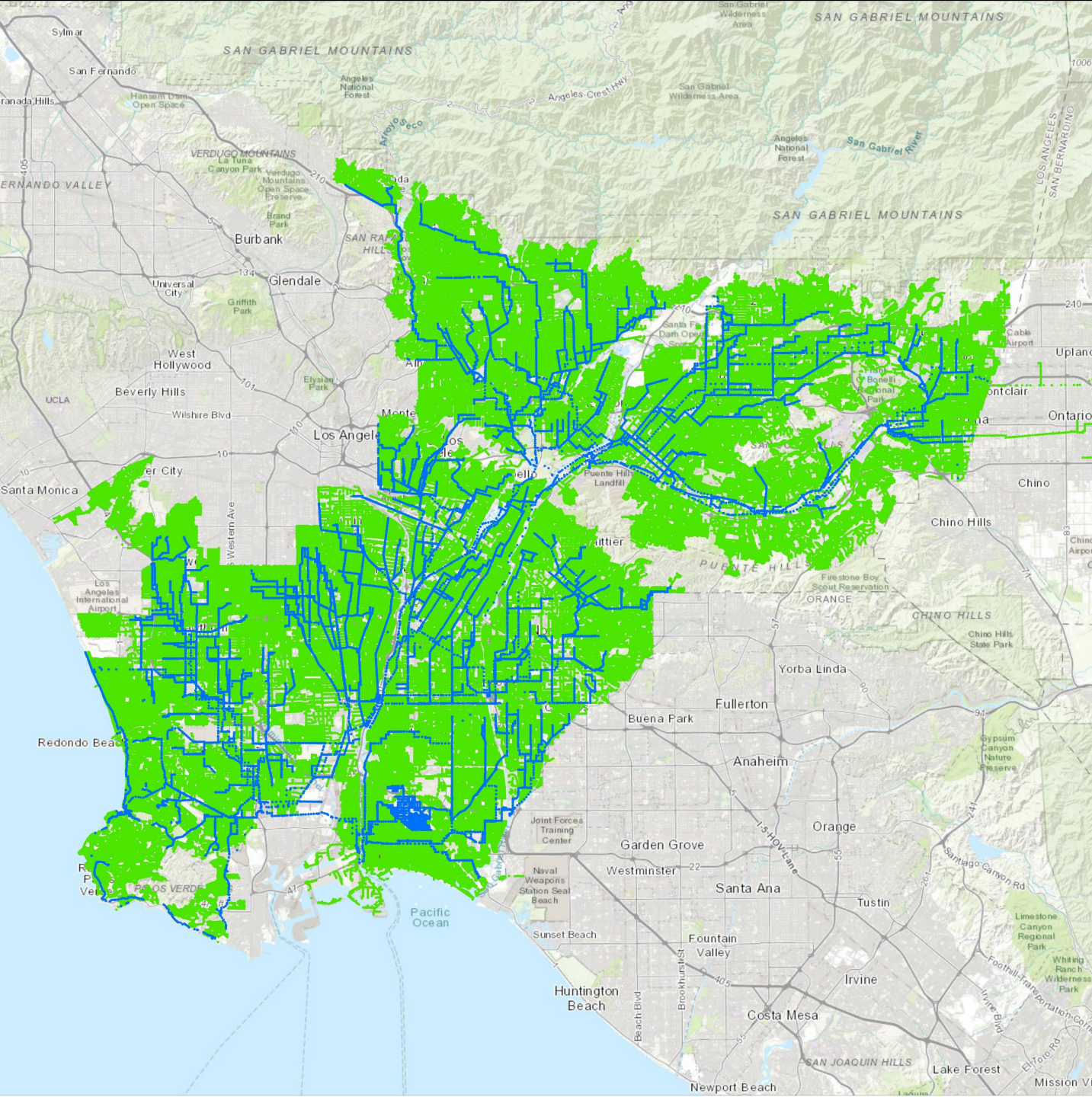
SERVICE AREA

78 cities & unincorporated county
824 square miles

INFRASTRUCTURE

1,400 miles of sewers
11 wastewater treatment plants
Ocean outfall system





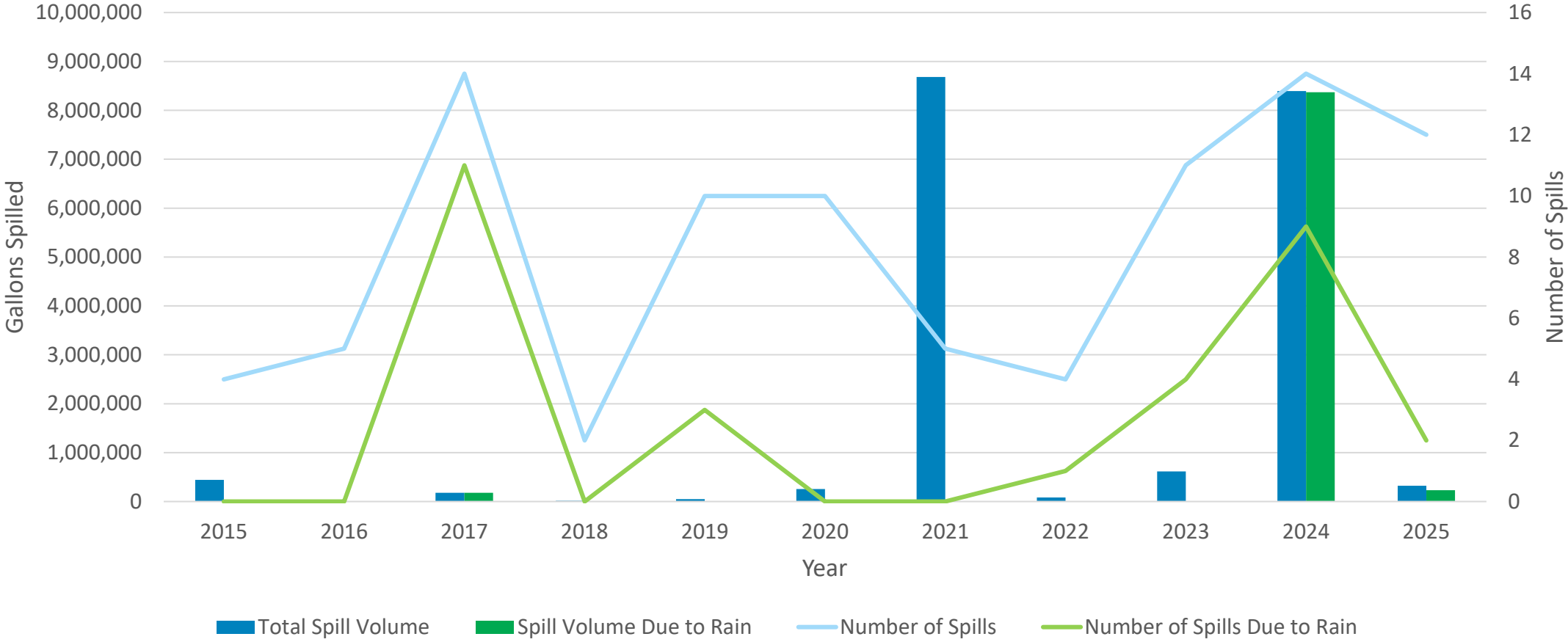
Sewer Systems Tributary to the Joint Outfall System

202,389 local manholes tributary to the Joint Outfall System

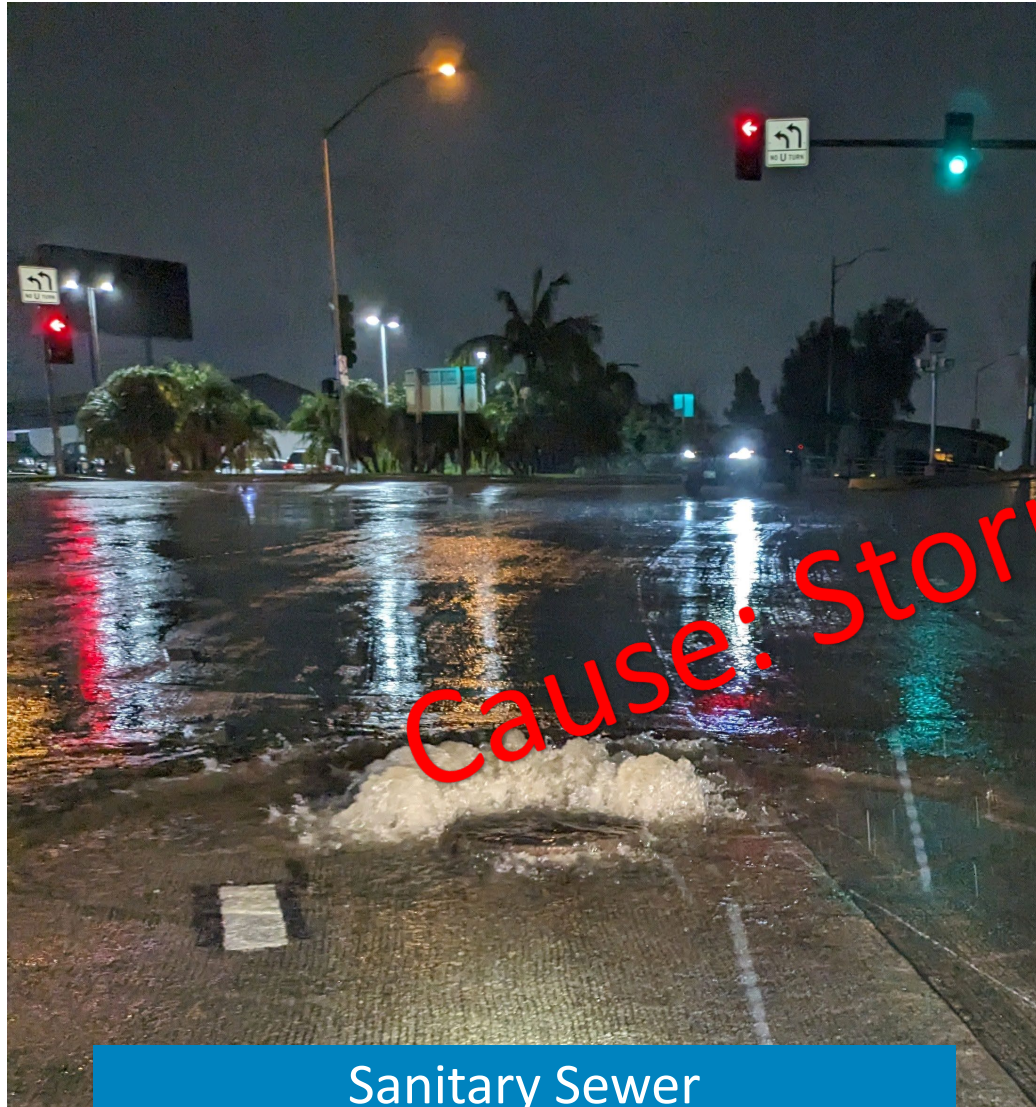
21,600 Districts manholes in the Joint Outfall System



Number and Volume of Sewer Overflows

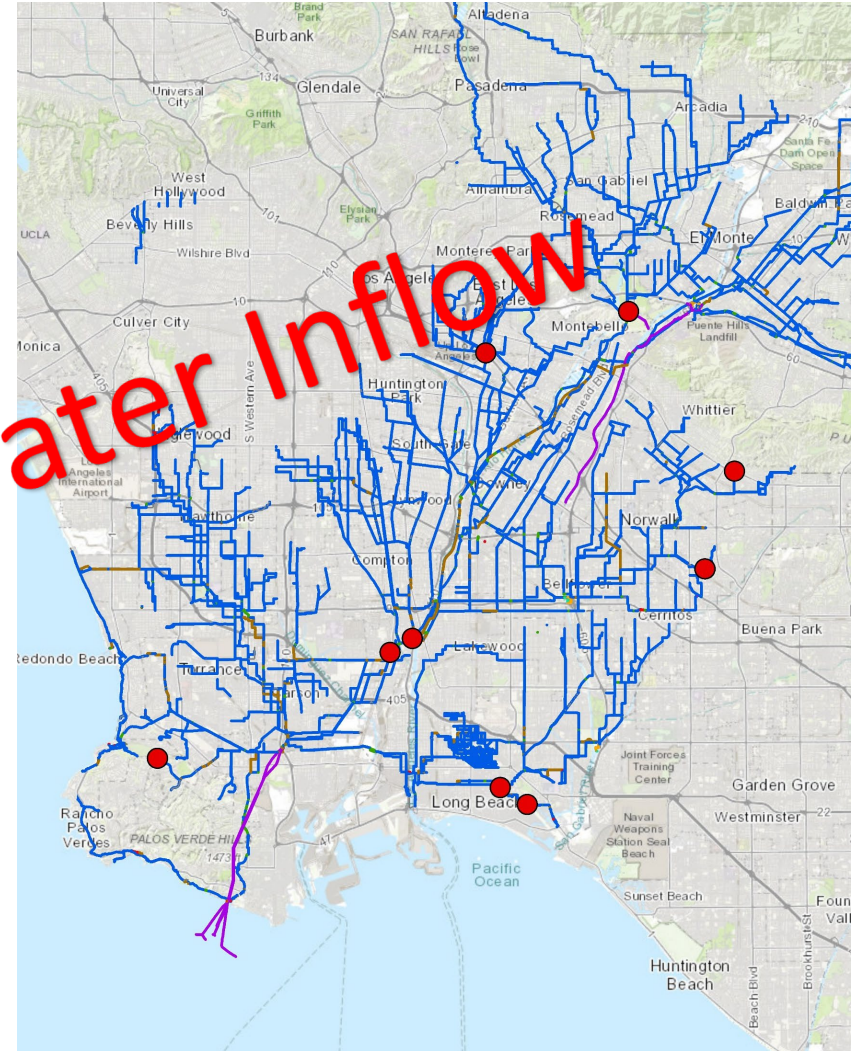


February 2024 Storms



Sanitary Sewer
Overflows

Cause: Stormwater Inflow

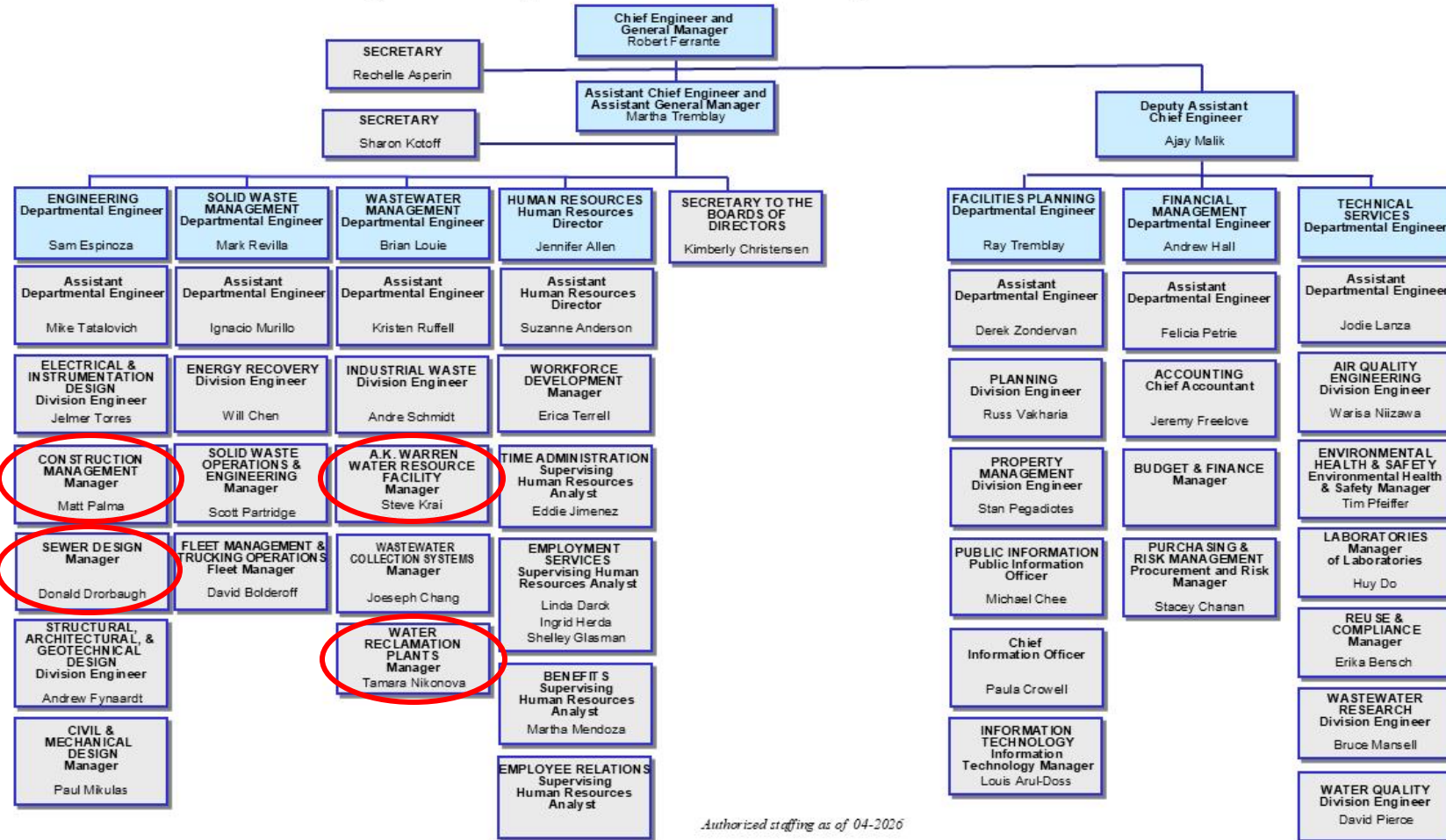


9 Spill Locations Totaling
8.3 Million Gallons



LACSD Wet Weather Preparation

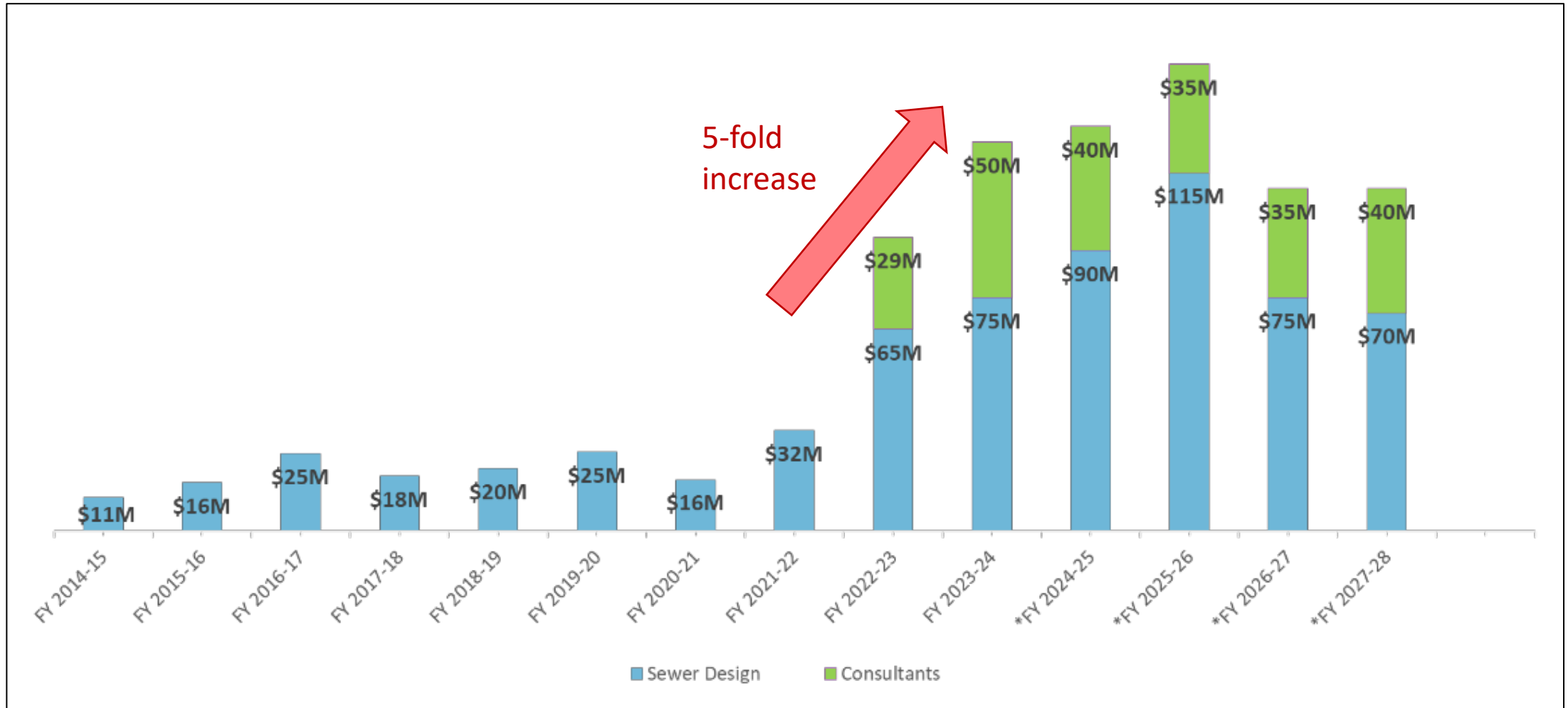
Los Angeles County Sanitation Districts Organization Chart



Authorized staffing as of 04-2026

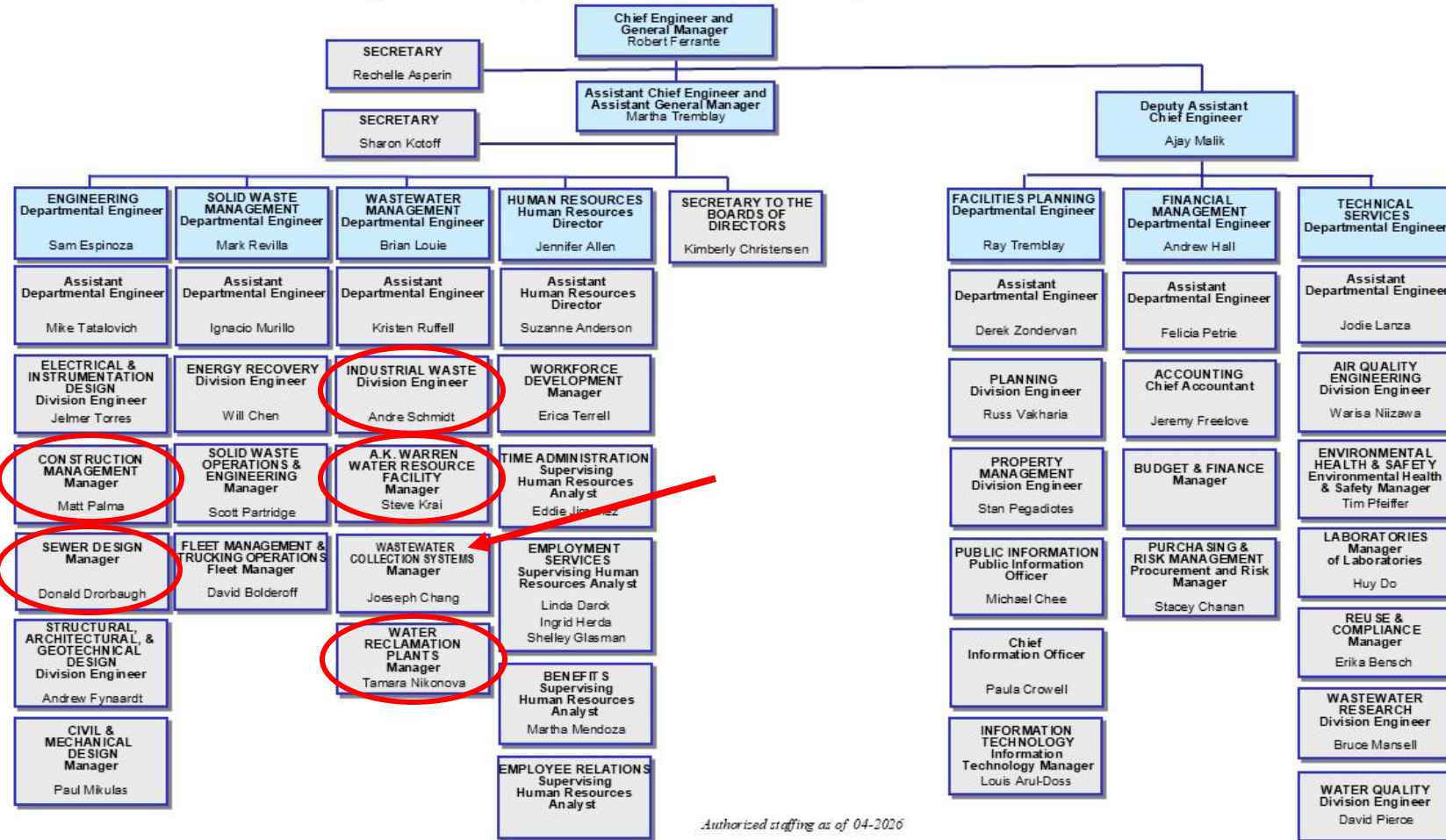


CIP Sewer Rehabilitation Expansion



LACSD Wet Weather Preparation

Los Angeles County Sanitation Districts Organization Chart



Authorized staffing as of 04-2026



WCS Wet Weather Action Plan

1. Seal manholes and check pressure covers
2. Reposition stoplogs/flow controls
3. Line cleaning and checking
4. Pumping plant rounds
5. Flow monitoring and alarms
6. I&I reduction
7. Post-storm response

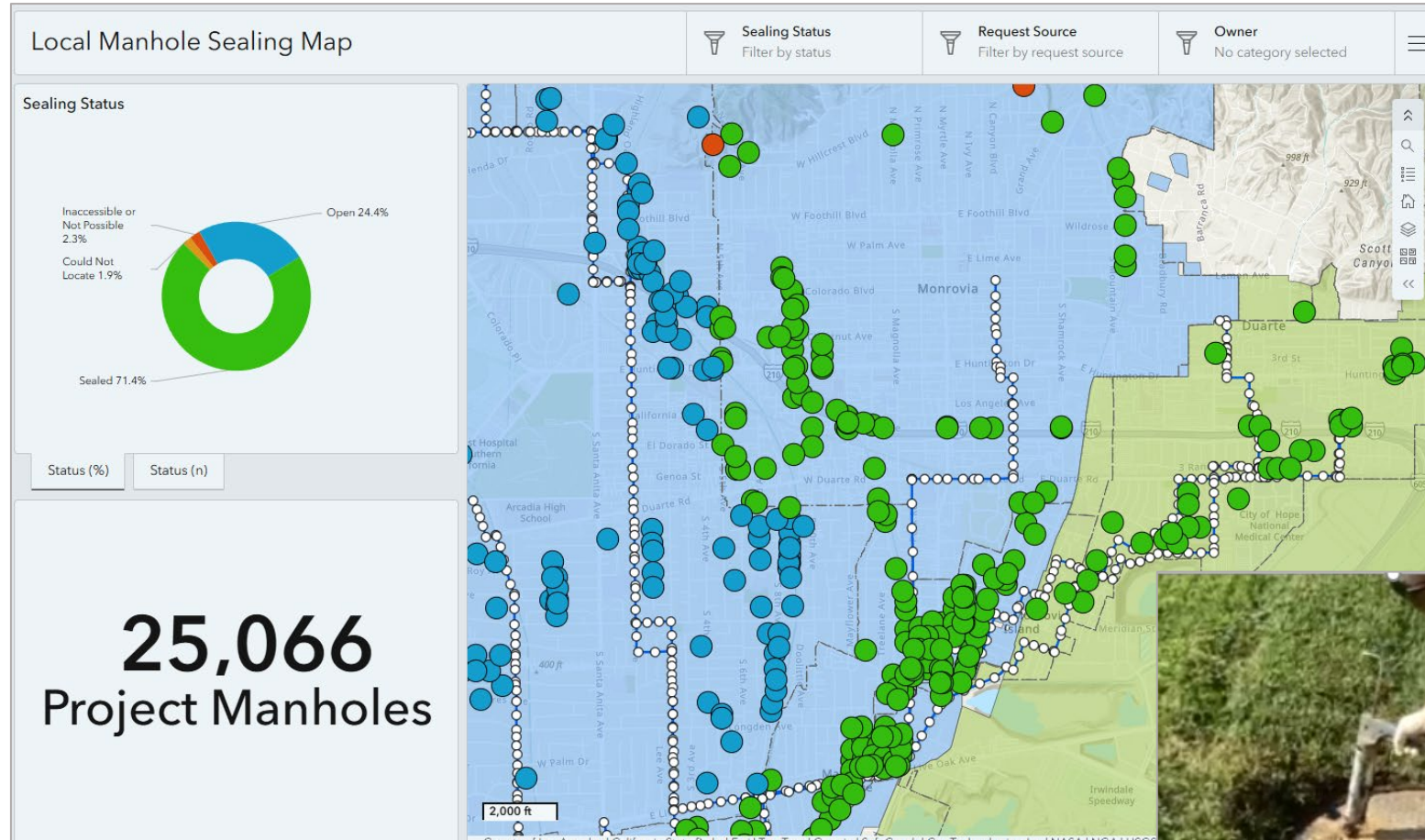


1. Seal Manholes Subject to Flooding and Check PCs

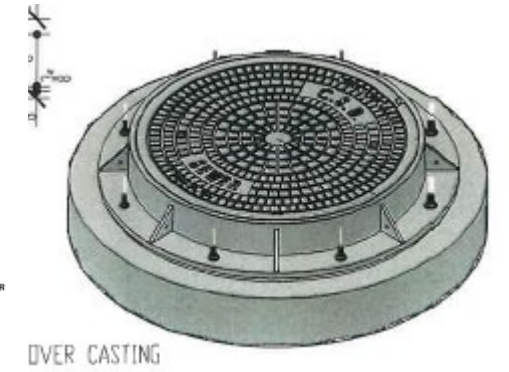
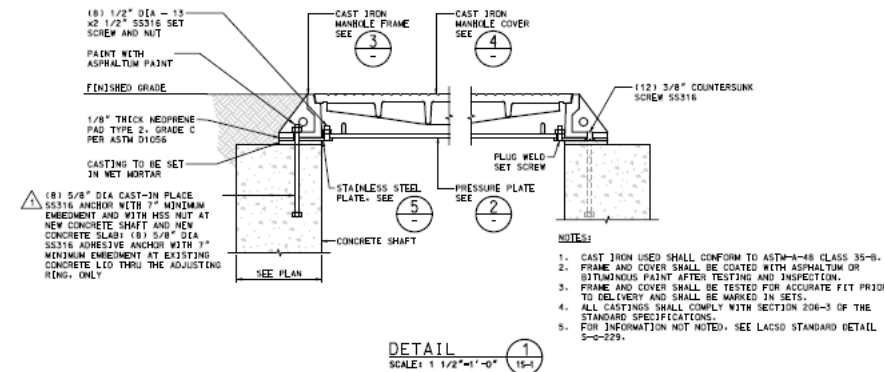
Task Description	Schedule Date	Required Date	PM	DMS	Comments	Status	Action by	Link	NOTES - NOT TO INCLUDE IN PRINT	Additional notes
1. Seal Manholes Subject to Submergence and Check Pressure Covers										
Complete work orders to seal manholes subject to submergence	01 Oct 26		014799; 014800; 014802; 014803; 015309; 015310,; 015336 thru 015342, 015344 thru 015348; 015351; 023443; 023514; 026199; 026200; 026201; 026202		Sealing manholes includes using corks and silicone to prevent inflow, especially at manholes known to be located at: -areas known to flood during rain events -drainage swales. See DMS 6756723 for local sewers in South Pasadena (PM 14800) New PMs: 26199 - Madison St. Trunk MHs 2158 to 2127 26200 - Palos Verdes North Slope Relief MHs 2126 to 2113 26201 - Oak Street-Center Ave. MHs 2111 to 2109 26202 - Lomita Trunk Extension Relief and JOJ-2D MHs 2107 to J63 2025: Additional WOs for Sealing LACSD MHs recieved from NW for I & I prevention (205): 1140398, 1140403, 1140404, 1140405, 1140406, 1161977, 1161979, 1161980, 1161981, 1161982, 1161983, 1161984, 1161985 (26-27 will need to be added to annual PMs for Maximo)		Mouawad Miranda CFO SGVFO		Note So. Pasadena spot check is under PM 014800. 014801 eliminated (Redondo City changed their covers w/solid-no hole type) 2017: PM 015311, Duarte TS canceled because relief sewer built. MHs on Removed 2 MHs (747 and 745) from PM 015311, South Inglewood-Orange Avenue Trunk Sewer, because MHs abandoned. PM 15343 05 INGLEWOOD TRUNK #1 closed. No record found of who or why PMs 26199 TO 26202 added. Additional WOs for Sealing LACSD MHs (205): 1140398, 1140403, 1140404, 1140405, 1140406, 1161977, 1161979, 1161980, 1161981, 1161982, 1161983, 1161984, 1161985 [Madison 1165639 Palos 1165640 Oak 1165641 Lomita 1165642 COMC5 All Completed. Additional Sealing CFO Completed.	All work orders have cycled. See activated work orders for details.
Check that pressure covers are bolted on and in good condition	01 Oct 26		015358; 016750; 016752; 016898; 016899; 016900; 016901; 024970.	3181708 3181712 3181718 3181718 3181724 3181731 3181727 3181728	Pressure covers function to keep water in the collection system and to prevent inflow. Checking pressure covers includes inspecting integrity of the cover and tightening the bolts with a wrench. Some work orders include both check and bolt pressure covers and seal manhole covers. JOB-2A MH B216A3 meter in place permanently. Write work request to check JOB-1C PCs if rain is forecasted		Palino Miranda CFO SGVFO		PMs for new PCs added after Feb 2024 storm; [015358, 116750, 016572, 024970 Completed All CFO work completed.]	MAKE SURE PCS ON JOB-9B ARE CHECKED. THESE WERE OPENED BY PRO-PIPE IN JANUARY 2017. All work orders have cycled. Recommend deleting PM 016749 because it is for the JOC-1, and relief has been provided for it. MHs pressure covers should be bolted and MH F/C should be in good condition. See DMS #3657911 for list of MHs at Whittier Narrows Dam Basin Area requiring repair or replacement. See DMS #3880950 for list of PCs repaired under work order 0592876 for PCs at Whittier Narrows Dam Basin Area.
1) Request LB Water to cork and seal MHs upstream of Marina Trunk, Sec. 1A 2) Write follow up work request.	01 Oct 26		no PM	4758334 4758333 7013153 7013151 7013150	1) Send email to Long Beach Utilities (Michael.Herrbach@lbwater.org) requesting cork and seal of MHs upstream of Marina Trunk Sewer Sec. 1A. 2) Write work request to check if manhole sealing work is complete. 3) 24-25 LACSD staff sealed these sites		Mouawad Tanphanich/ Chang	DMS-#7634223-Corking and Sealing Manholes in	Flow data taken in early 2018 showed response to rainfall (I&I) at local sewers coming in from the west at MH 342 and coming in from the south at MH 351.	



Local Manhole Sealing



Pressure Cover Checks



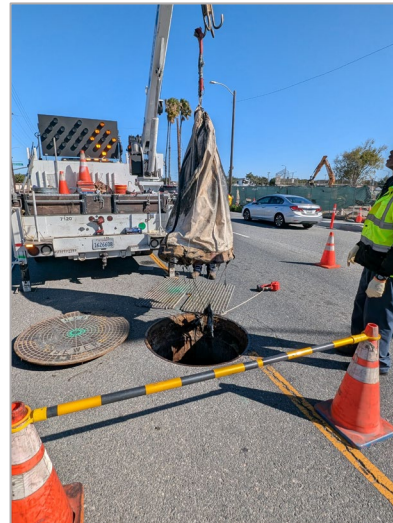
2. Reposition Stoplogs/Flow Controls

Task Description	Schedule Date	Required Date	PM	DMS	Comments	Status	Action by	Link	NOTES - NOT TO INCLUDE IN PRINT	Additional notes
2. Re-Position Stoplogs / Flow Controls										
Check S/L at MH 2273 Monterey Park Extension Trunk	01 Oct 26		015365	529061	Stoplog should be fully pulled out in order to utilize capacity in the Monterey Park Extension Relief TS SSO occurred at Monterey Park Extension Trunk MHs 1679 and 1680.		SGVFO	529061		See work order description for details
Remove S/L at MH B925 JO B - Unit 1A	TBD		015363(out) 015364(in)	1172890	stoplog raised to maximize collection system capacity in the JOB 9A and 1B and parallel JOB-9B & 9C TS		CFO/Palino	1172890		work order for stoplog removal has cycled (0596912) Requires crane rental, oversize transport permit; notify JWPCP (heavy debris). (Steve Krai cell 310-4220055 ext 5255). Corrosion of JOB 1A requires to use it only during WWF. CCTV and crown spray programs take advantage of flow change to enable work to proceed downstream. Contact information shown on PM description is OK. Create flow control change when work is complete.
Check S/L is raised at MH A934 to send flow to LCWRP.	01 Oct 26		no PM		Stoplog should be raised to maximize flow to LCWRP. Flow meter at MH A209 indicates if flow in LCWRP Interceptor.		CFO			
Check SLs at MH A508	01 Oct 26		026695		SLs are lowered for siphon cleaning d/s at MH D51 to MH D52. Distributes flow downstream between District 5 Interceptor, District #5 Main, and JOD - Unit 3		CFO			
Raise SLs at MH A400	01 Oct 26		026233	6756725	The stoplog on Allen Ave TS Section 3 should be moved to the UP position to minimize risk of SSO d/s of MH A393 splitting flow between the Allen Ave TS and JOA-1A. (SSO occurred 11/8/22 with SLs down.). Notify WRP that stoplogs are raised. 2024: PM to be added to lower stoplogs in the Spring.		SGVFO		Add P	hope@lacsds.org l.org l.org acsd.org
A 1348: Divert flow into Tyler Avenue Relief Trunk Sewer	Before storm				set stoplogs to separate sewers; raise 24" Tyler Ave Rlf (south) and lower 36" JOA-1A SJC Interceptor (west); notify WRP that stops are set	Before MAJOR storm event	SGVFO/ Palino	7375434	Stoplog labor,	hope@lacsds.org l.org l.org acsd.org
Review stoplog manholes to divert flow from SJCWRP in emergency	NA			6274305	Move stoplogs at the SJCWRP Interceptor on an emergency basis in the event of an urgent operational problem at SJCWRP. Notify WNWWRP if the stoplogs are moved. See DMS 6274305 for stoplog diagram. Copy work request 2203836.		Palino/SGVFO	6274305	Revisi 74023	



3. Line Cleaning and Checking

Task Description	Schedule Date	Required Date	PM	DMS	Comments	Status	Action by	Link	NOTES - NOT TO INCLUDE IN PRINT	Additional notes
4. Line Cleaning / Checking										
Prioritize and complete line cleaning work orders in wet weather action plan	01 Oct 26		000435; 000535; 000609; 000677; 001283; 001284; 001286; 001574; 001575; 001939		SmartCover set at Arlington Avenue Extension Trunk MH 2327, pressure cover at MH 2328 (PM 535).		CFO, SGVFO Miranda			



4. Pumping Plants

Task Description	Schedule Date	Required Date	PM	DMS	Comments	Status	Action by	Link	NOTES - NOT TO INCLUDE IN PRINT	Additional notes
6. Pumping Plants										
Clean out roof drains(rd) or deck lid cover(dlc) drains on underground plants; seal access hatches	01 Oct 26		015313 (rd) 015352(dlc)				Stafford		8/18/14 Print list and update for access hatch. See list under routes COSMWW1(RD) and COSPPWW1(DLC) 11/12 Update list (D27 PP out, Gridley PP out, Slauson out, New Access Hatch design at multiple PPs impacts)	All work orders have cycled. See activated work orders for details.
Check Levels of storage emergency sumps at Clifton/Green Lane/Indiana/White Point	after MAJOR storm event		no PM		SmartCovers installed at Green Lane, Indiana St., and at White Point emergency storage sumps.	After Major Storm Event	Mouawad			
Rent a generator for Gardena PP	01 Oct 26		no PM		PM to meet requirement for power redundancy. Requisition in progress.		D. Kim	PP Genera	DURING A POWER OUTAGE, THE EXISTING GENERATOR IS ONLY ABLE TO SUPPORT OPERATION OF ONE PUMP IN EACH PUMPING PLANT AND CANNOT SUPPORT THE ELECTRICAL LOAD ASSOCIATED WITH ALL FOUR PUMPS IN OPERATION. DURING THE UPCOMING 2021-22 RAINY SEASON, THE RENTAL GENERATOR WILL BE TEMPORARILY CONNECTED BY WCS STAFF. THE GENERATOR RENTAL WILL ASSURE THAT ALL FOUR PUMPS ARE ABLE TO START UP DURING AN ELECTRICAL POWER OUTAGE.	Standby generator needed for power redundancy. The stated goal is to have the standby generator in place by November 15.
Marina Pumping Plant No. 3 Echos	01 Oct 26		no PM		Review Wet Weather Pump Operating Procedure with pumping plant operators. Echos at MH 345 and at MH 383 can provide pumping plant operators feedback during severe wet weather events in order to optimize plant flow between upstream and downstream sewers. MH 03 380 in active construction area.		Staff Pal		Wet Weather Pump Operating Procedure updated March 2019. Pumping plant	Add to PPO operator alarm training for wet weather 25-26
Abalone Cove Emergency Storage pump out	01 Oct 26		26324		Check for water intrusion from MH J263 to MH J256, Pump water out if needed. This section of sewer is near the slide area and is out of service. The out of service sewer serves as emergency storage in the event of Abalone Cove pumping plant failure. New for 2023.		Mira			

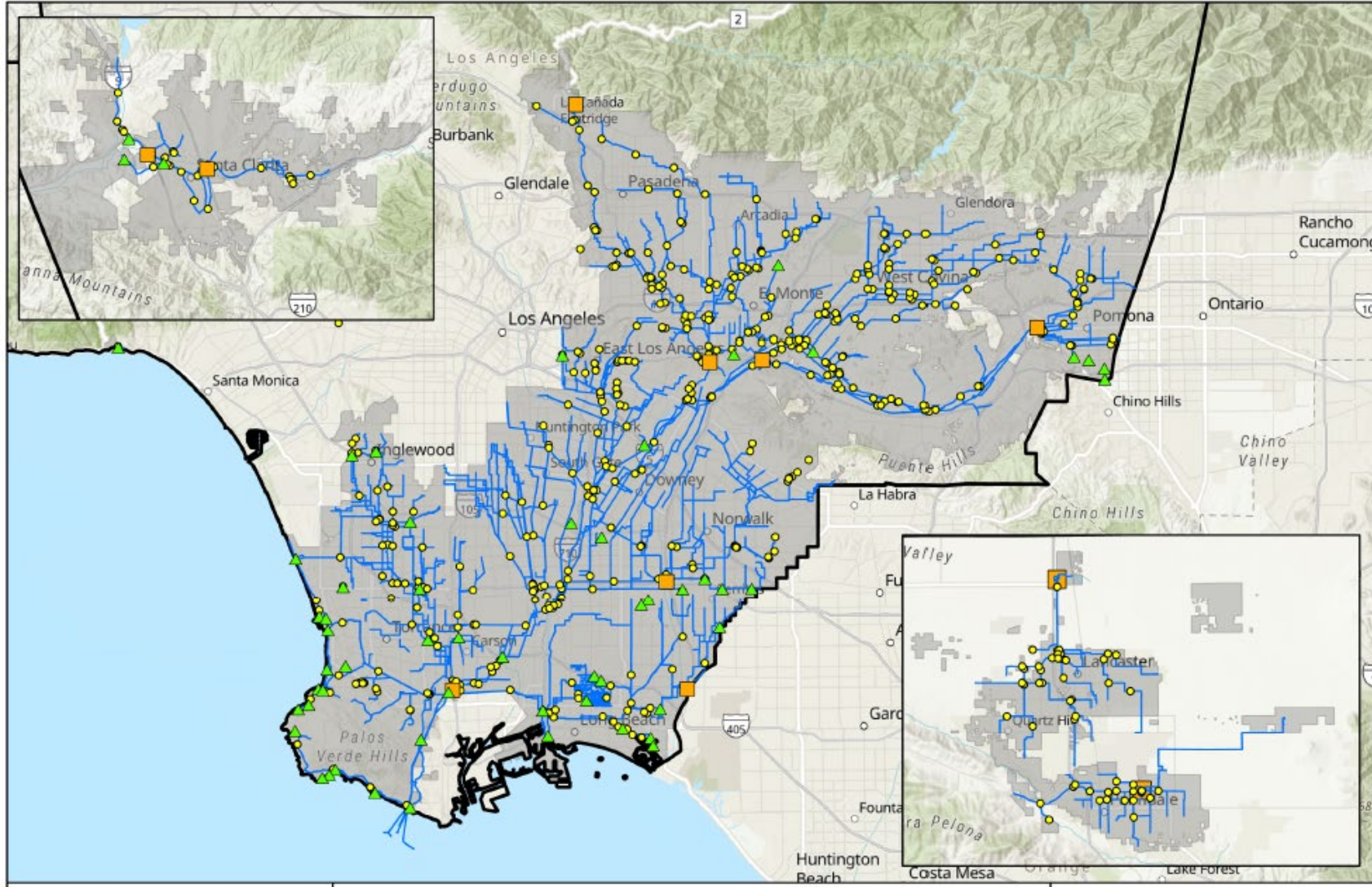


5. Flow Monitoring and Alarms

Task Description	Schedule Date	Required Date	PM	DMS	Comments	Status	Action by	Link	NOTES - NOT TO INCLUDE IN PRINT	Additional notes
3. Flow Monitoring & Alarms										
Set wet weather flow meters (CIP and non-CIP related locations)	01 Oct 26	01 Nov 26	015505	3064903	25-26 locations include new development locations for planning and historical CIP monitoring locations. Do not take into account sites identified by the flow model with capacity issues due to high number of sites and known wet weather impacts.		Flows/ Palino	3064903		
Turn off full pipe/high alarms for non-spill prevention sites	Before storm				Contact vendor to turn off full pipe/high alarms before storm and turn them back on after storm	Before MAJOR storm event	Palino/ Mouawad/Flows			
Pumping Plant Operator Flow Meter Response Training	01 Nov 26			7192618	Annual refresher training for responding to flow meter alarms; schedule for September		Palino/ Mouawad	7192618		
Deserts M&C Flow Meter Alarm Response Training	01 Nov 26				Annual refresher training for responding to flow meter alarms; schedule for September		Palino	7192618		
Notify Program Engineers of wet weather monitoring locations	01 Nov 26				Final list will be sent to crown spray and cctv program engineers and Brian		Palino			
Review SmartCover alarm procedures for JOH-5A MH H375	01 Oct 26			3888081	LBMPP operators to notify SJCWRP East if alarm sounds and verify that the WRP is taking in as much flow as possible (call x3008). Sensor dead band 42-52 inches below rim. LBMPP to dispatch staff to MH H375 to monitor onsite in case of sensor failure during high water conditions.		Mouawad	3888081	include in PPO training	Add to PPO operator alarm training for wet weather 25-26
I & I Flow Monitoring	01 Nov 25				Develop list of I & I flow monitoring locations and coordinate installation	Ongoing	Palino	7432548	next step: submit memo	
Check Alarm Sites (SmartCover Systems and ADS Prism)	check websites before storm event			3888105 2567128	Regularly done by LBM Emergency Center. In addition, check before storms. SmartCovers send an email alert notification if the unit is not communicating with the server. level sensor do not have that capability. 9/17/2024: District 2 Main SmartCover relocated to 271 DMS 2567128 has information that indicates what action to be taken at each site in the event of an alarm notification		Mouawad/ Palino/ LBMPP Operators	3888105 2567128	2025: Problem Manholes DMS Document needs updating DMS 7130520; highlight new smartcovers and relocations	Regularly done by LBM Emergency Center. In addition, check before storms. List includes all Contract flow equipment in WCS. Contract alarm sites list updated (2567128).

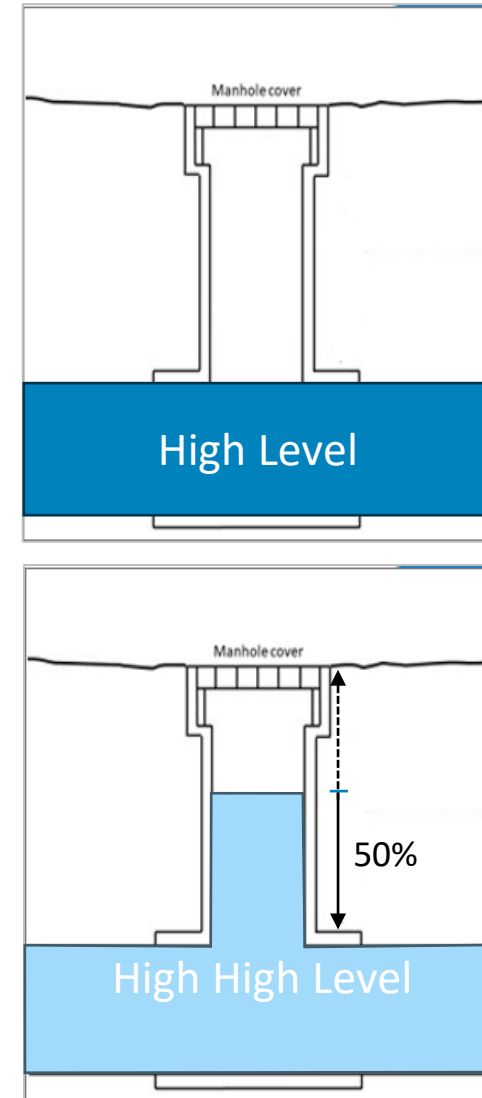


Flow Monitoring and Alarms

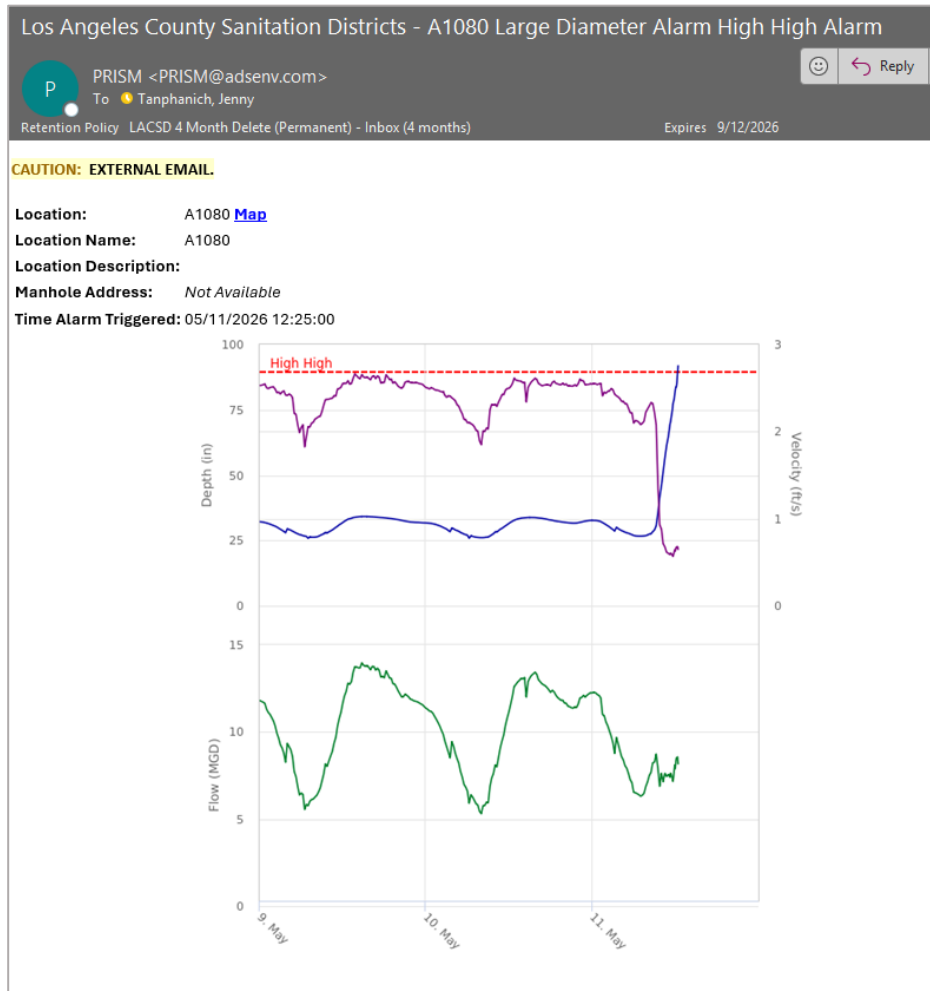


Flow Monitoring Alarms

- All flow meters alarms set for the following conditions:
 - High level: Full pipe
 - High High level: 50% rim to invert
- High High alarms mobilize field staff response 24/7



Alarm Response Training



What to Check for During a Flow Meter Alarm

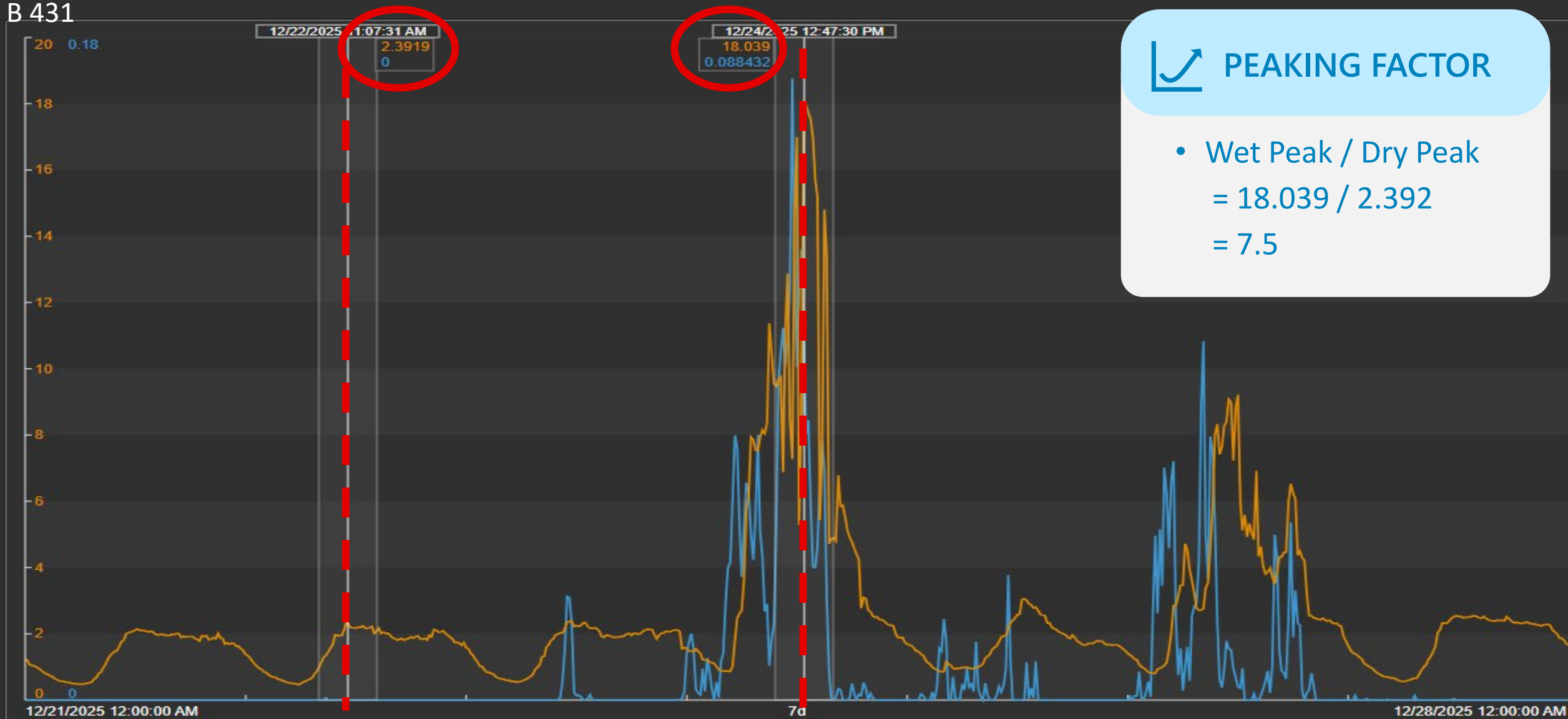
- **Surcharge**
 - If surcharged, contact supervisor and begin checking downstream for source of the issue
- **Flow Meter**
 - Is the flow meter still in the manhole? If no, go downstream until you find it
- **Sensor is in the correct place**
 - Sensor is mounted to band in upstream pipe;
 - If sensor and band are downstream, they have become detached and will need to be removed along with debris before causing a blockage or SSO. Contact supervisor to coordinate removal and cleaning if needed


When in doubt send someone out (or ask your supervisor)



6. I&I Reduction

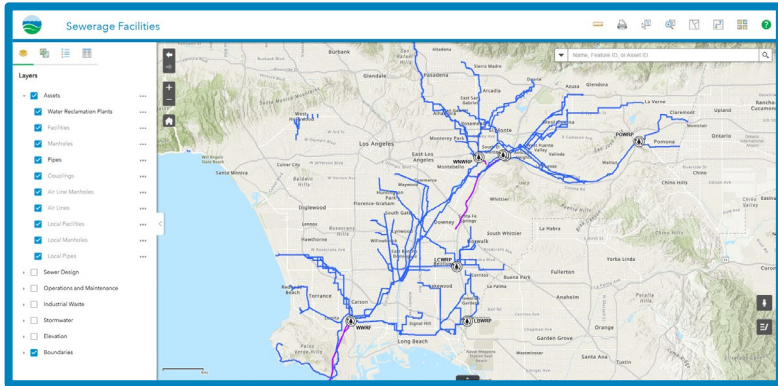
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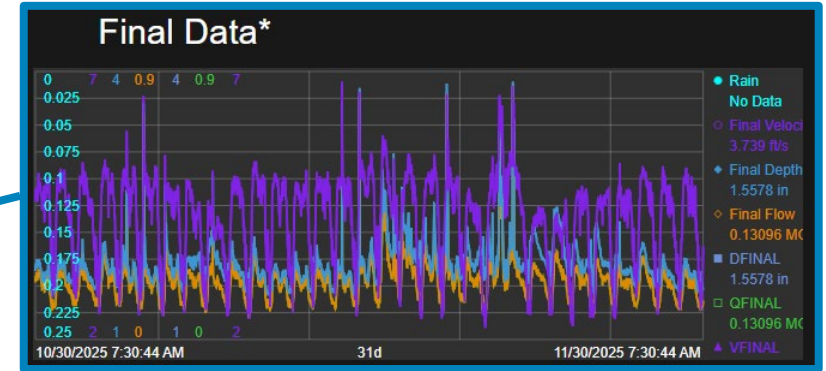
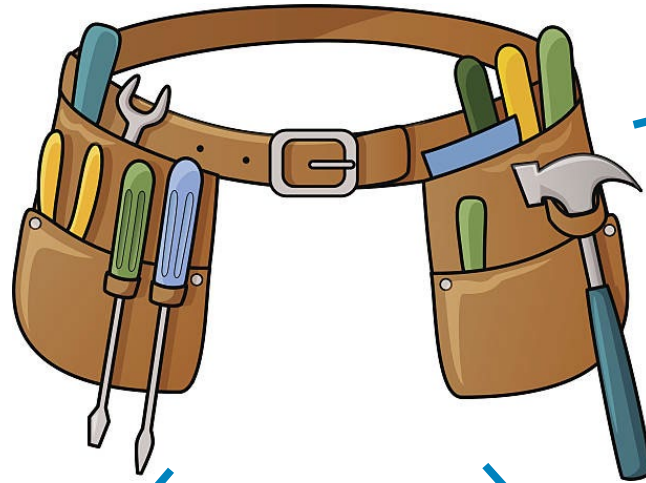
 **PEAKING FACTOR**

- Wet Peak / Dry Peak
= 18.039 / 2.392
= 7.5

I&I Reduction Toolbelt



Geographic Information Software



Flow Meters



Inspection Staff



Trail Cameras



Clear Sphere



Stormwater Policy



7. Post-Storm Response

Task Description	Schedule Date	Required Date	PM	DMS	Comments	Status	Action by	Link	NOTES - NOT TO INCLUDE IN PRINT	Additional notes
7. Actions to Consider AFTER Significant Rain Events										
Inspect (above ground and CCTV) sewers crossing unimproved river bodies (or unimproved bottoms)	after MAJOR storm event		013299; 017112; 017121; 017746; 020568;	1535163	Sewers subject to erosion; perform after storm event	After Major Storm Event	Pivovarov	1535163	D16= JOB -6J D3= JOJ-1E, JOJ-1G, 03 NO LONG BEACH TR, D8= JOB - 9A, JOA - 3C, JOB - 9B . 8/14 PMS have been automatically set up for monthly reminder to Walton. To be scheduled after significant rain event	
CCTV inspect CR="0" after heavy rain event.	after MAJOR storm event			7352154	After heavy rain event inspect CR="0" sewers; 2024 Next step: review list in PowerBI and see if anything else should be added or any reaches have been lined	After Major Storm Event	Chang/ Westergaard/ Gaboudian	7352154		
Flow Data Review	after MAJOR storm event				Review flow meter data after storm events for potential issues	After Major Storm Event	Palino/ Tanphanich	Aveva PI		



Other Considerations

- SSO Training
- Review supplies, go-bags
- Staff scheduling

Before You Leave the Office

Goal: Best prepare yourself for being on-site, with unknown conditions

- Coordinate with Supervising Engineer responding to spill
 - Confirm your assignment location - at spill site or containment site
- Use GIS to quickly familiarize yourself with site. Look up manholes, nearby sewers, storm drains/catch basins, downstream storm channels, and surface waters. Print map if needed.
- Safety PPE (water, sunscreen, boots, hat, vest, go-bags)
- Paper and pen for note taking, business cards
- Phone and charger
- Tape measure
- Use the bathroom

Install on your phone if you haven't already!

- Sewerage Facilities app
- One Drive
- Microsoft Teams

At the Spill Site

Your role and goals:

- Safety first – Assess the situation and use good judgment
 - Stay within cordoned/coned off areas or on sidewalks when feasible
 - Stay out of path of street traffic, and emergency response vehicles and staff
- Professional Recorder
 - Collect data for regulatory reporting
- Represent LACSD
 - Balance between informing/responding to public and collecting data
 - Keep calm if you encounter an irate person and refer them to your Supervisor or Public Info





**LOS ANGELES COUNTY
SANITATION DISTRICTS**

Converting Waste Into Resources

Questions?

Jenny Tanphanich

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OUR SERVICE AREA