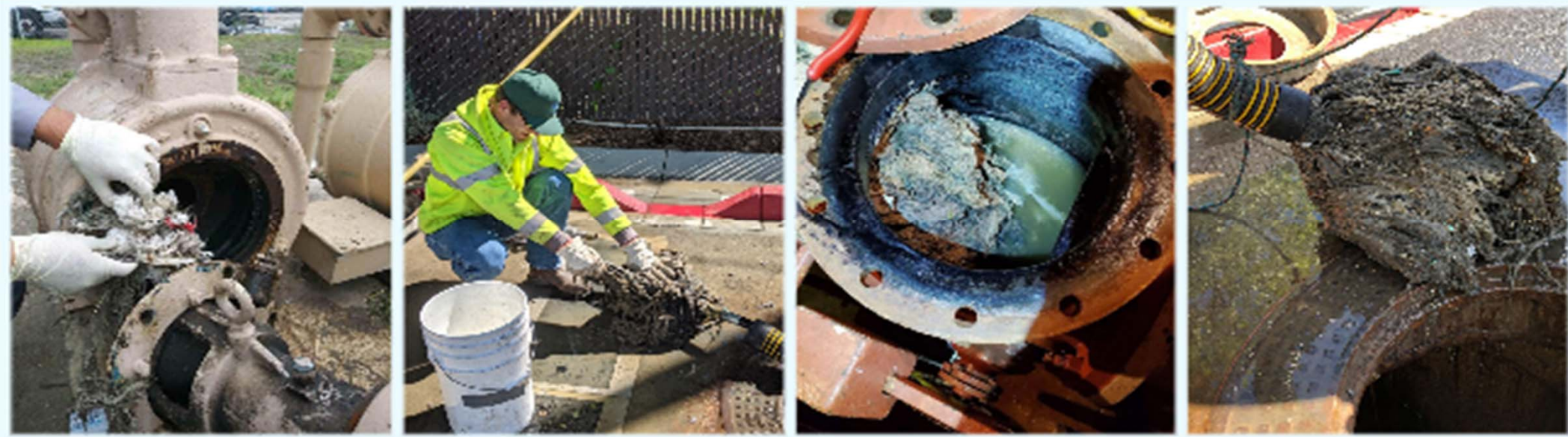




#WipesClogPipes



Welcome

CASA-CWEA Wipes Webinar 2: O&M and Technology Strategies

June 25, 2020 • 11 am – 12:30 pm



#WipesClogPipes



Wendy Wert

Introducer and CWEA President
Civil Engineer, LACSD



Useful attention to wipes.



Joel Greene
Curiosity Quest Host




Where wipes build-up in our systems.



Manual removal is labor intensive.



Comprehensive solutions include outreach.




**WIPES
CLOG
PIPES**



During this coronavirus outbreak, some people are using more disinfecting wipes and alternatives to toilet paper like “flushable” wipes, paper towels, baby wipes, and facial tissue.


These items generally do not break down and should go in the trash. If flushed, these items can clog the sewer lines in your home and street and result in a sewage overflow.

Remember, only the 3 P’s—pee, poo, and (toilet) paper—belong in the toilet.

Let’s all do our part to keep our sewers from clogging!

 **LOS ANGELES COUNTY
SANITATION DISTRICTS**
Converting Waste Into Resources

 SanDistricts
 SanitationDistrictsLACounty
www.lacsd.org/wipesclogpipes





CWEA, its Board members and volunteers are not responsible for the actions of speakers or the content of their sessions. No endorsement is implied or given of any persons or their philosophies, ideas or statements; nor of any products or processes; nor of any organizations or companies who volunteer to serve as speakers in educational programs.



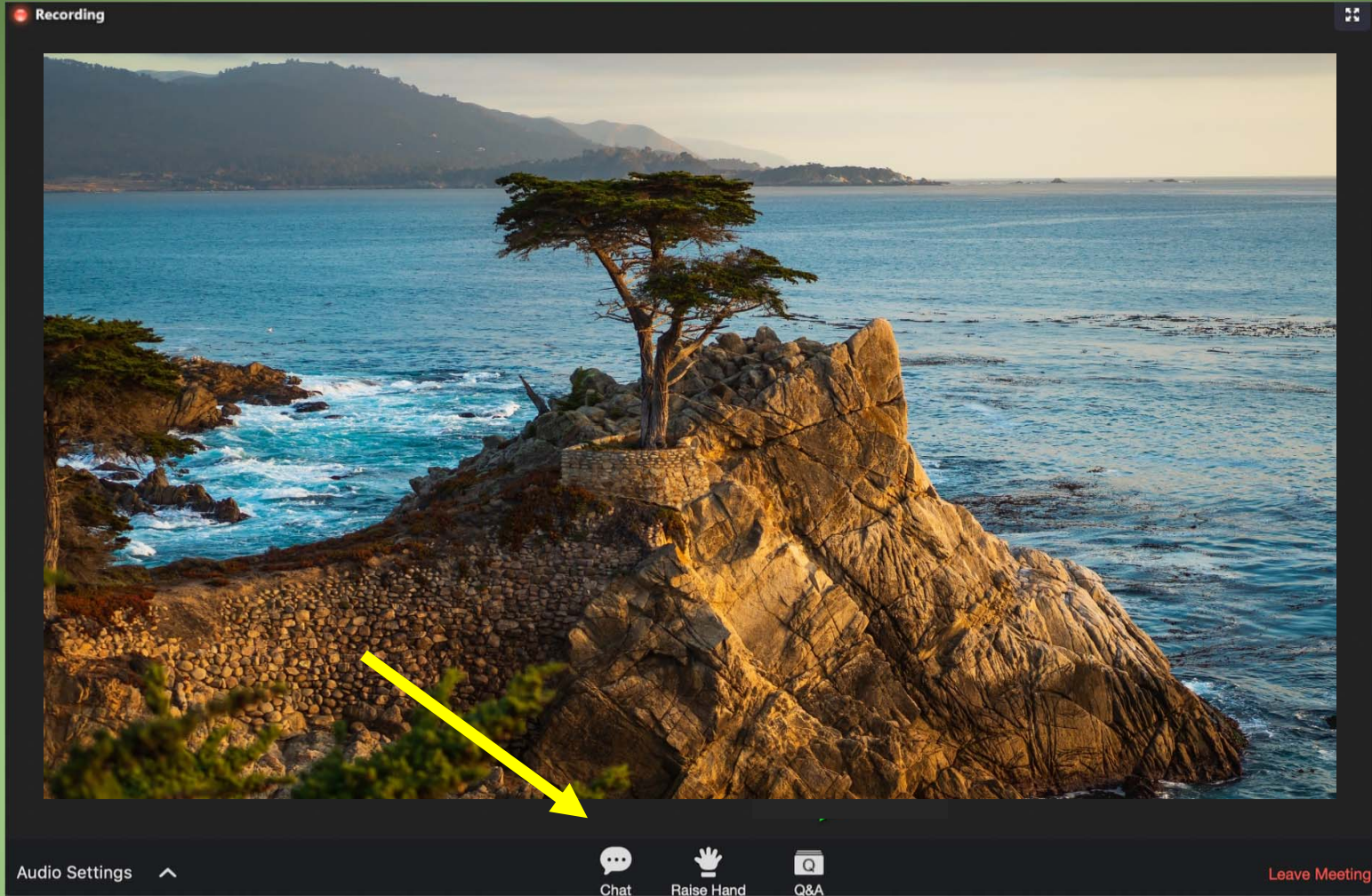
#WipesClogPipes



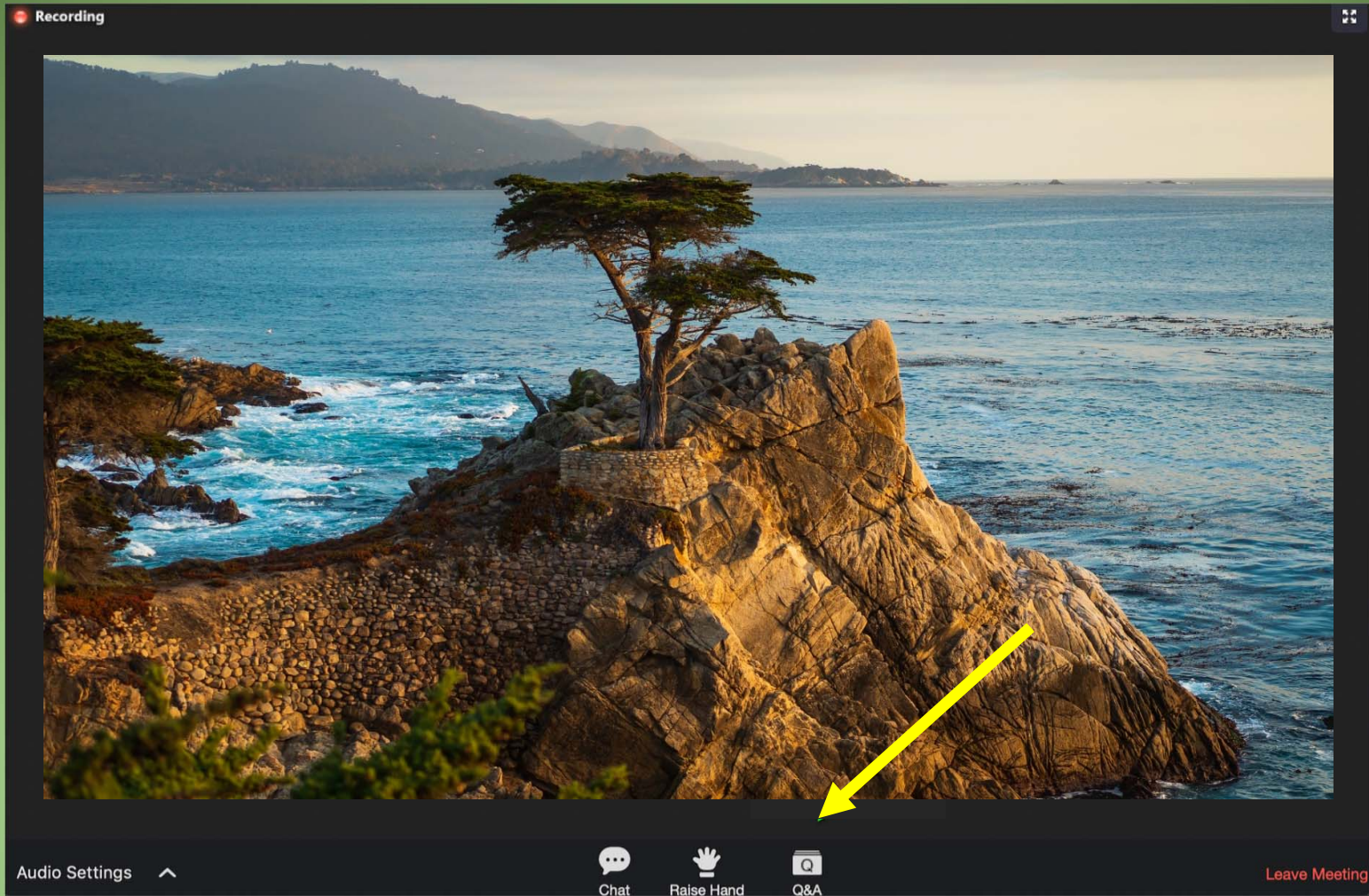
Diana Messina

Regulatory Permitting Chief
State Water Board

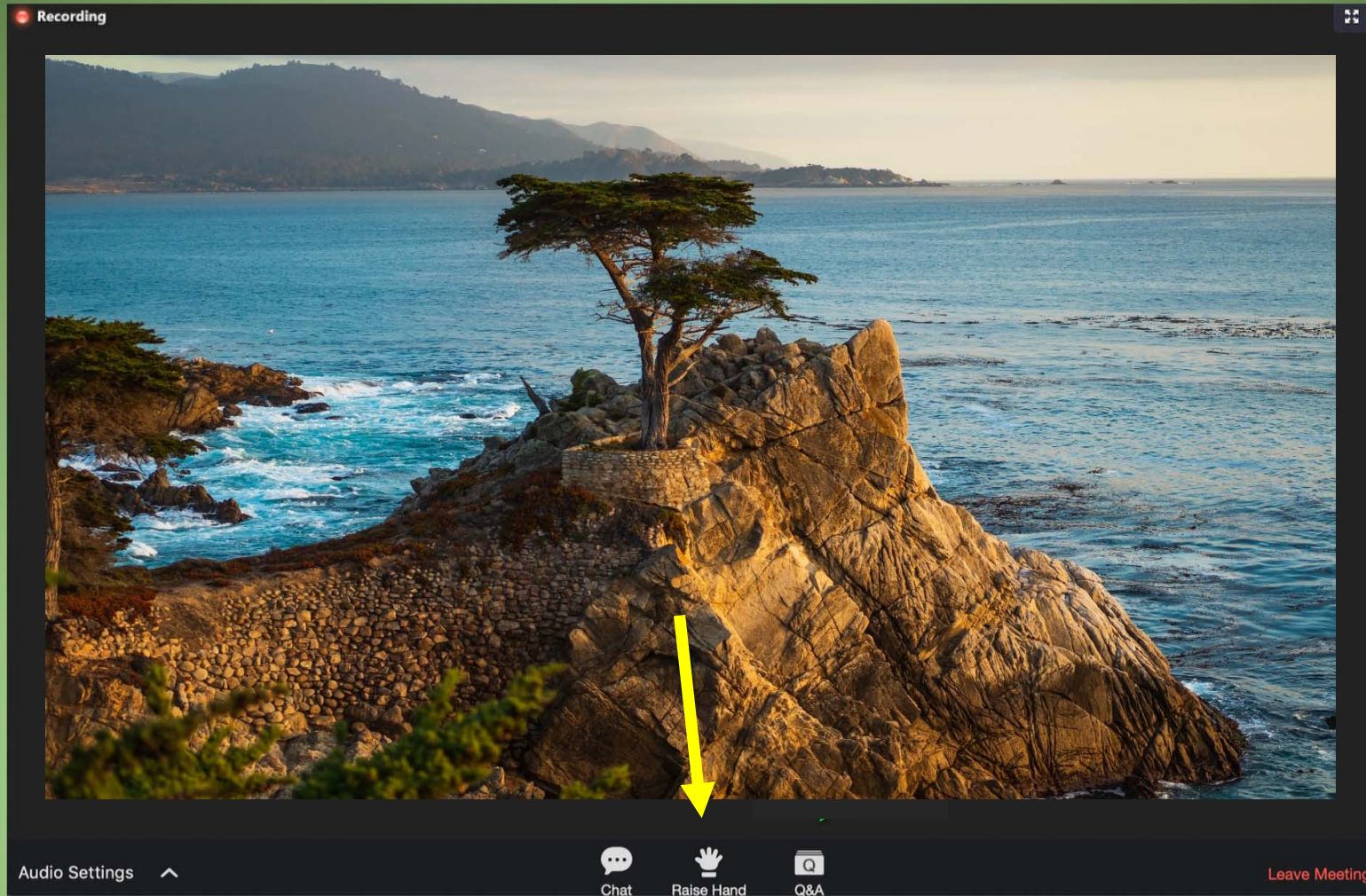




Zoom Controls: Chat for Comments



Zoom Controls: Q&A for Questions



Zoom Controls: Raise Hand Feature Not Used in Today's Webinar



Poll Question: Increase in Wipes



#WipesClogPipes

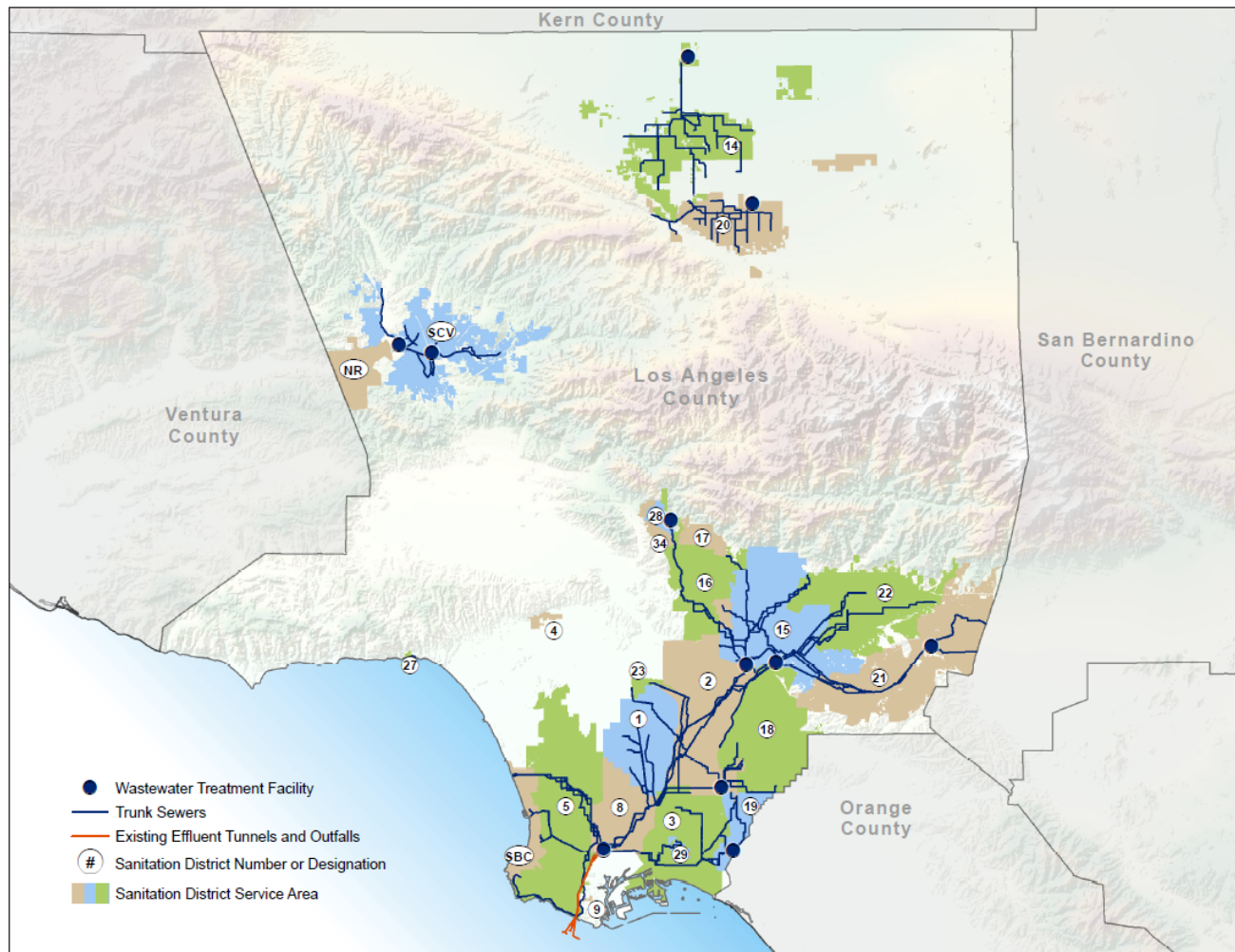


Wendy Wert

Introducer and CWEA President
Civil Engineer, LACSD



We serve 5.6 million people.



We manage community resources.

The Financial Landscape

Actual Spending in Fiscal Year 2018-19

WHERE THE MONEY GOES

SOLID WASTE 26%

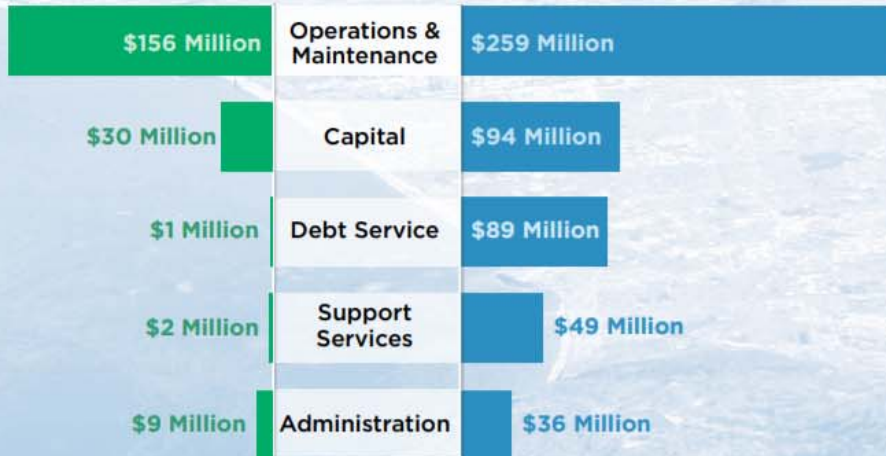
WASTEWATER 74%

\$187 Million

\$526 Million

SOLID WASTE

WASTEWATER



WHERE THE MONEY COMES FROM

SOLID WASTE

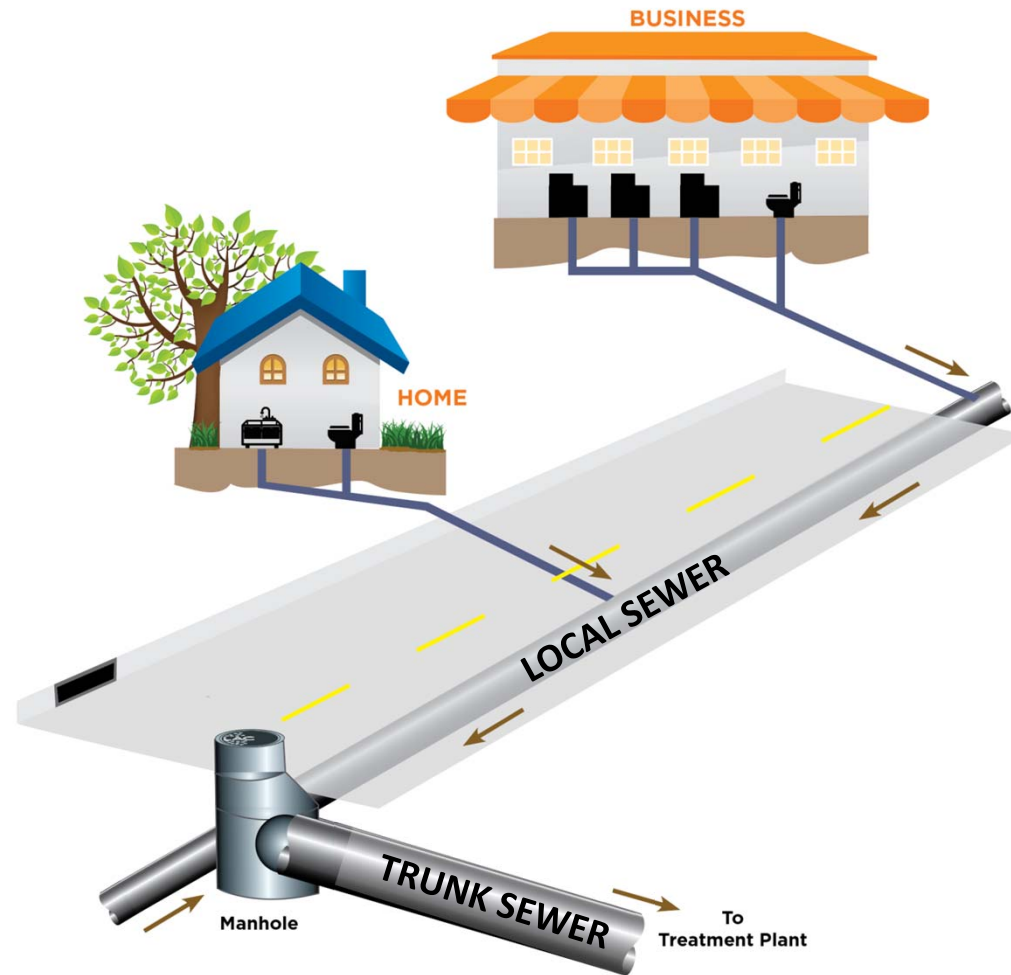
WASTEWATER



CONVERTING WASTE INTO RESOURCES (& INCOME)



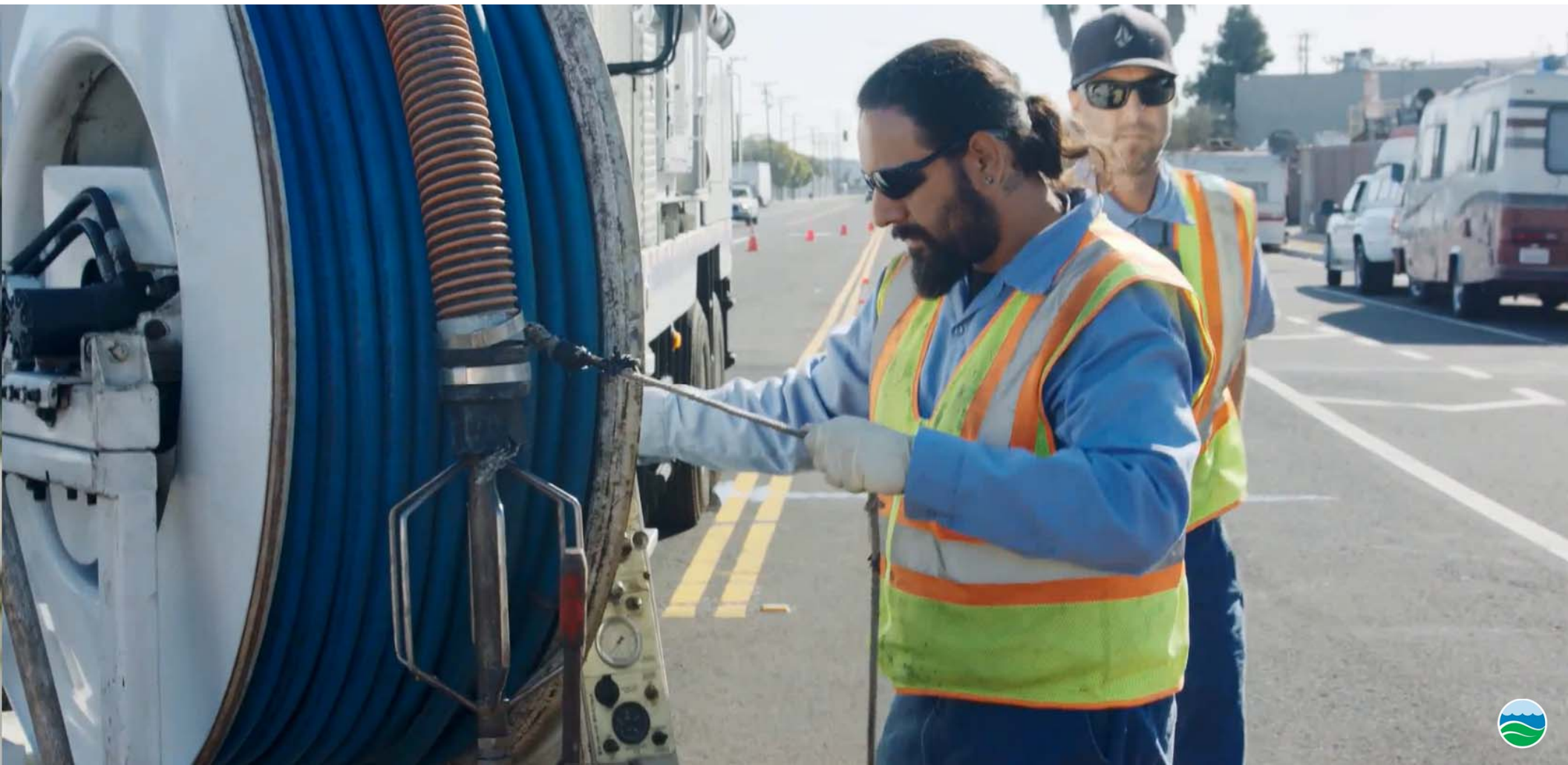
We are a regional system.



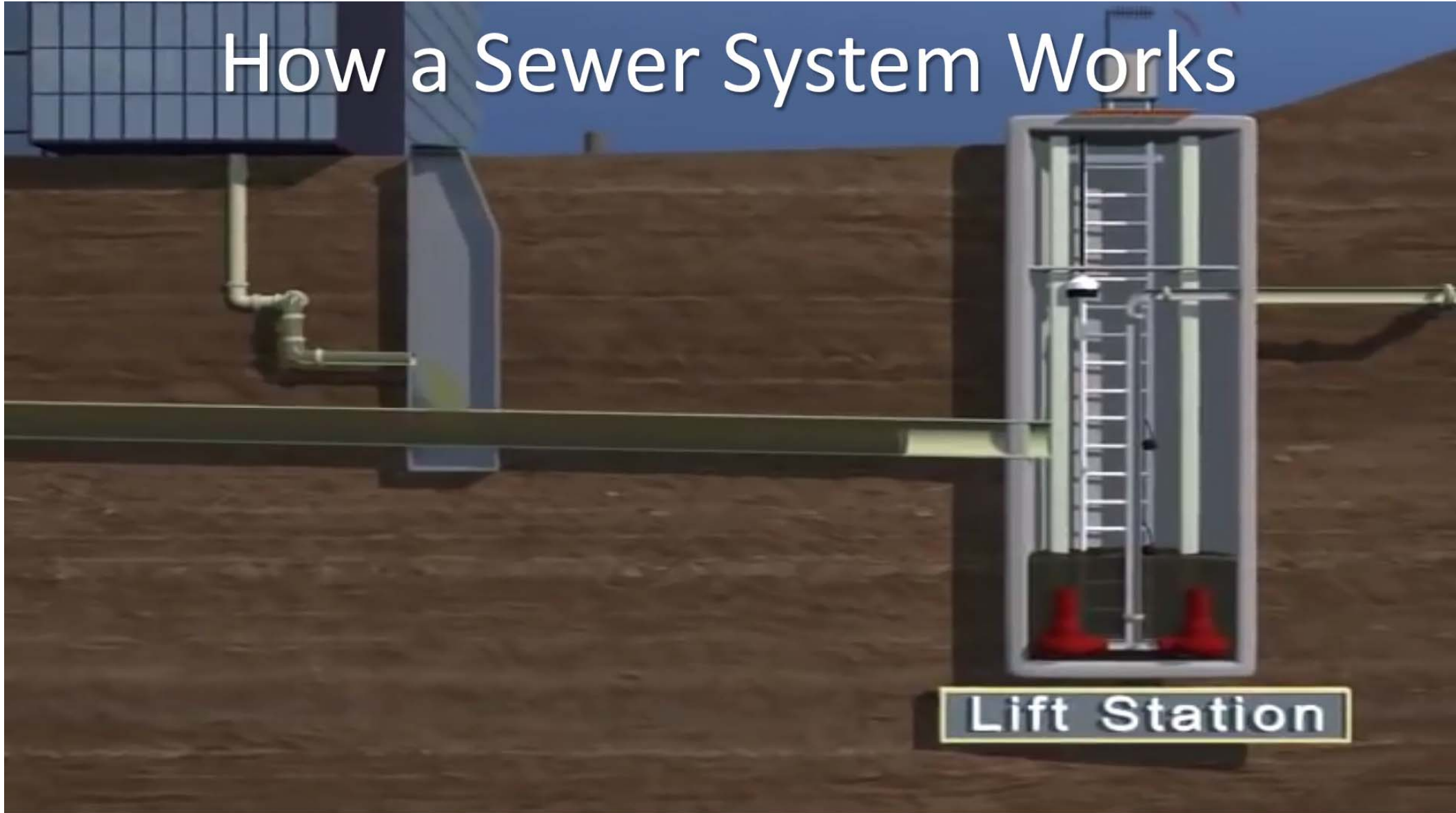
Fat's, oils, and greases adhere to wipes.



Maintenance requires heavy equipment.



How a Sewer System Works

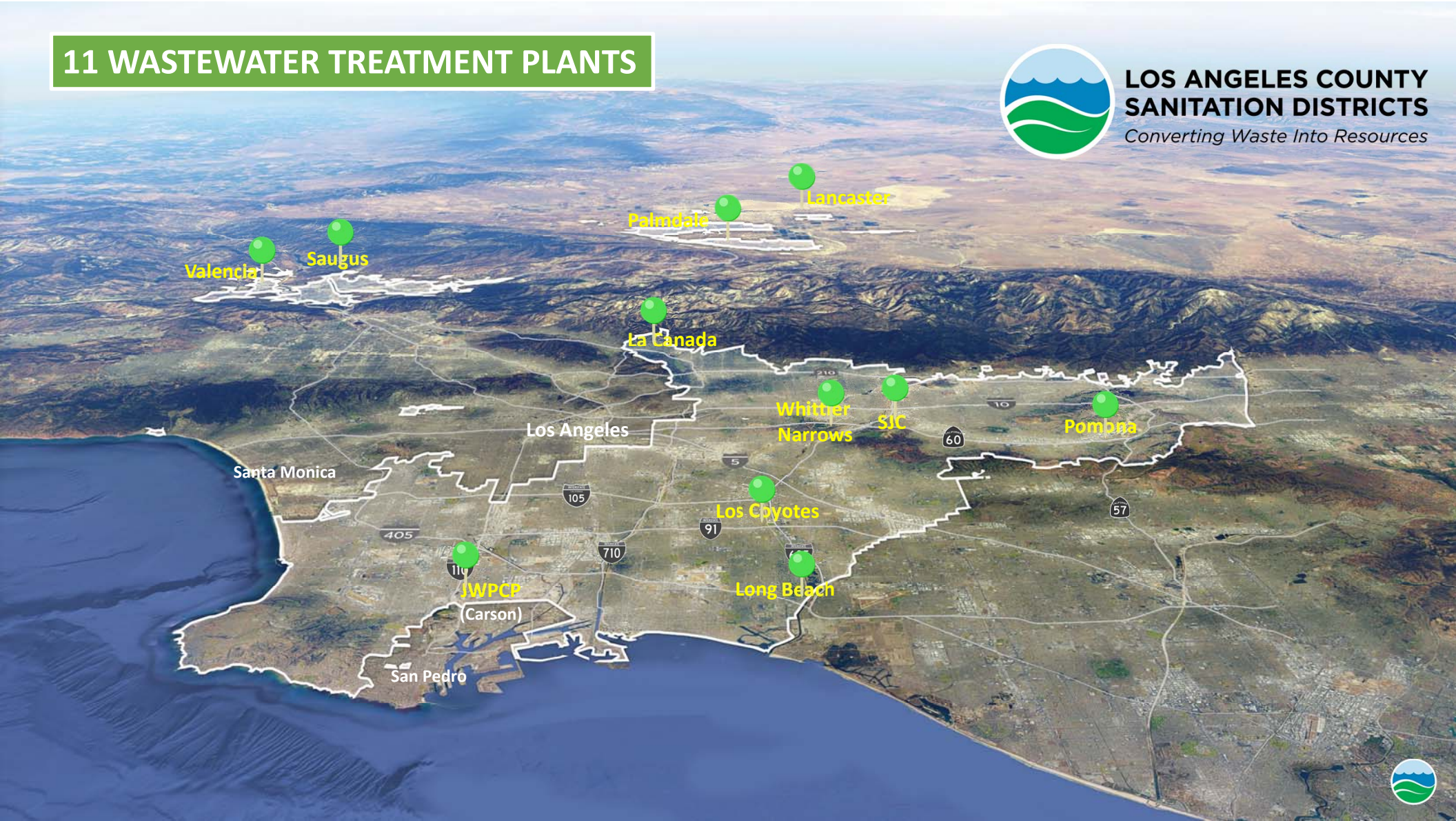


Lift Station

11 WASTEWATER TREATMENT PLANTS



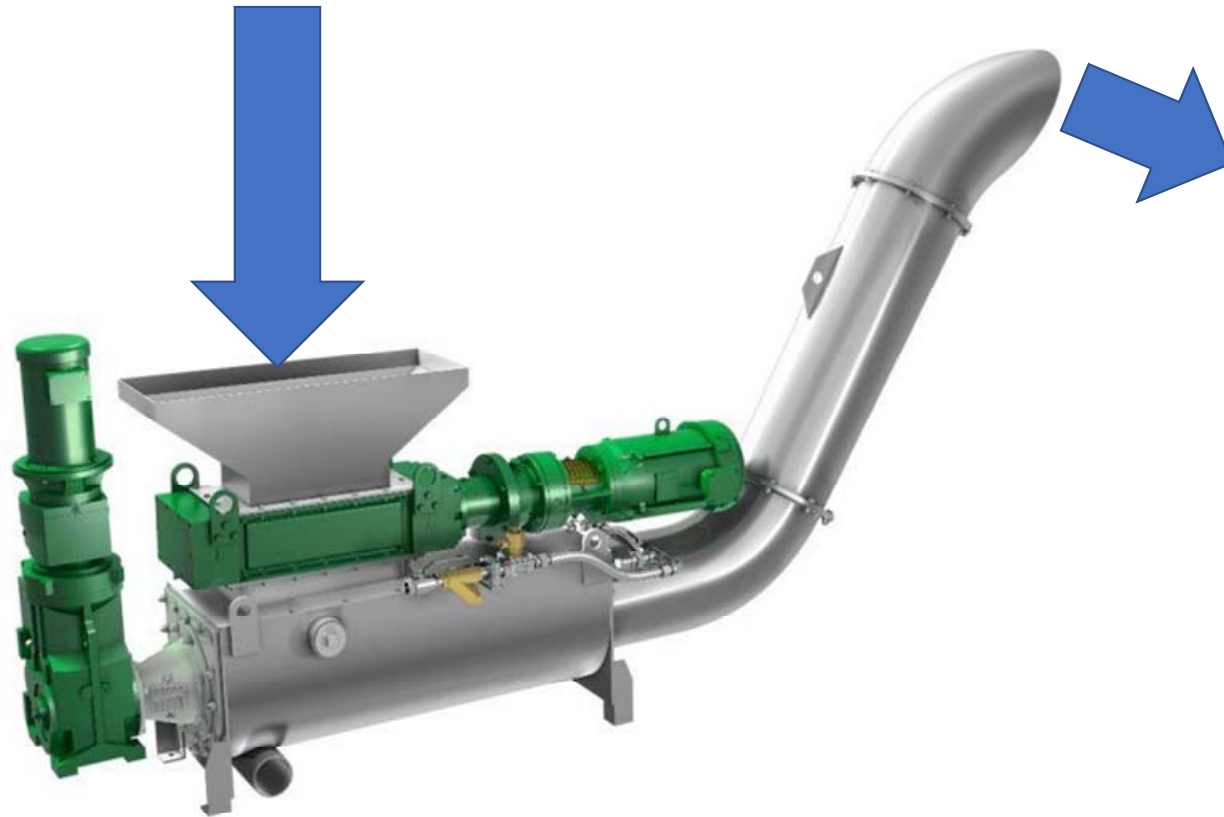
**LOS ANGELES COUNTY
SANITATION DISTRICTS**
Converting Waste Into Resources



Flex Rakes Remove Debris



Screenings go through compactor.







Connecting With Our Community

Community engagement has long been a key to achieving the Sanitation Districts' mission. These efforts allow us to tell you about what we do and the challenges we face. Community engagement also provides us an opportunity to listen to you so that we can better serve you.



STUDENTS PARTICIPATING IN SEWER SCIENCE
6,000



17 TOURS OF BIXBY MARSHLAND



PRESENTATIONS AT COMMUNITY MEETINGS
46

14 COMMUNITY MEETINGS HOSTED



ACTIVE ENGAGEMENT THROUGH SOCIAL MEDIA

PARTICIPATED IN **20** COMMUNITY EVENTS

TOURS OF OUR FACILITIES
137

HOSTED OVER **2,000** COMMUNITY MEMBERS AT OUR 13TH ANNUAL EARTH DAY CELEBRATION





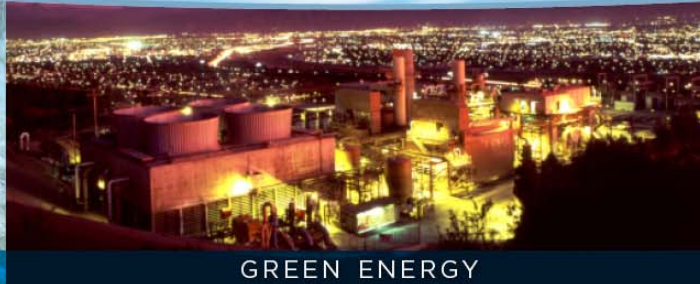
**LOS ANGELES COUNTY
SANITATION DISTRICTS**
Converting Waste Into Resources

OUR MISSION

To protect public health and the environment through innovative and cost-effective wastewater and solid waste management and, in doing so, convert waste into resources such as recycled water, energy, and recycled materials.



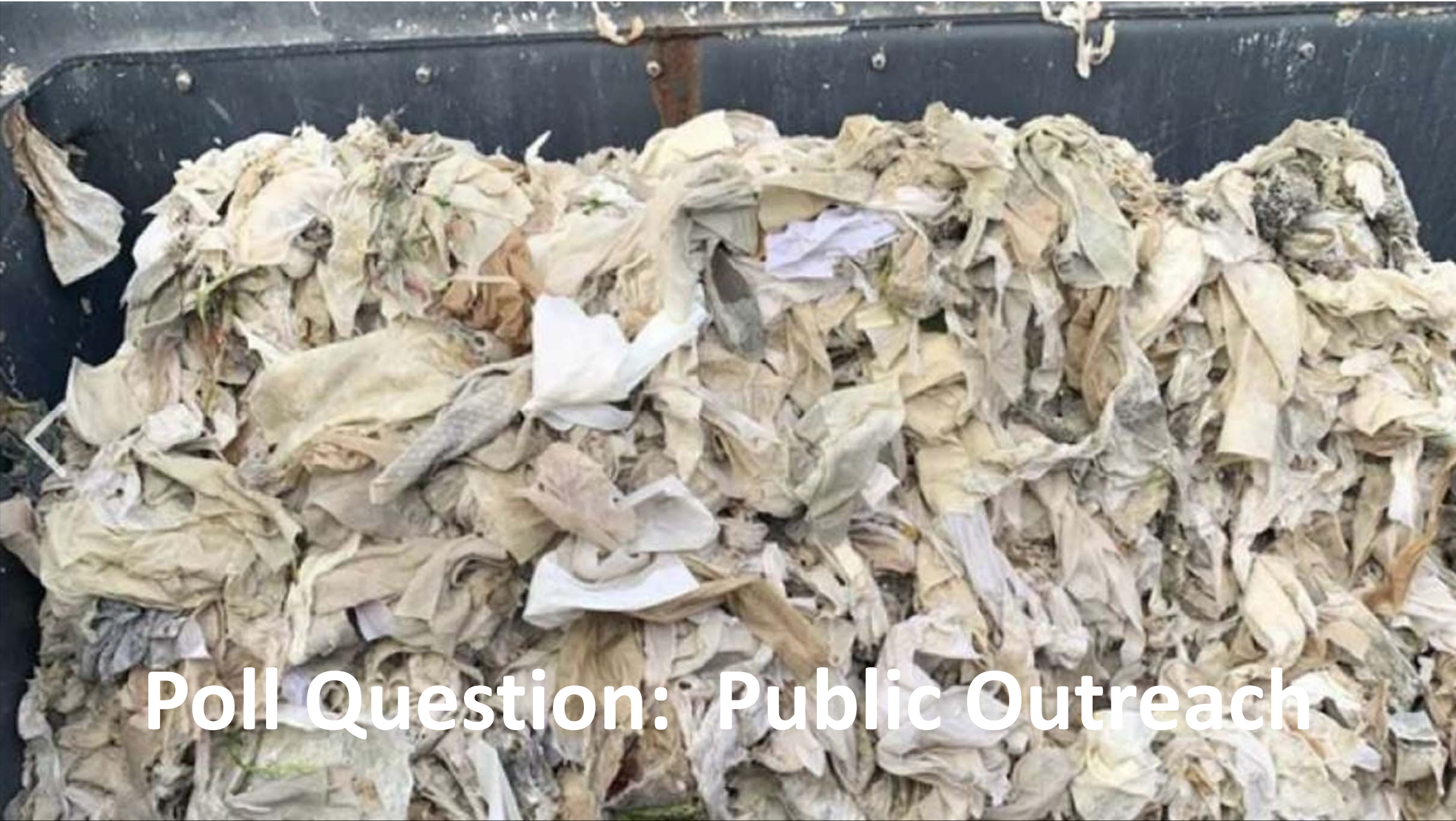
WATER RECYCLING



GREEN ENERGY



MATERIALS RECYCLING



Poll Question: Public Outreach



#WipesClogPipes



Steve Moore

General Manager
Ross Valley Sanitary District

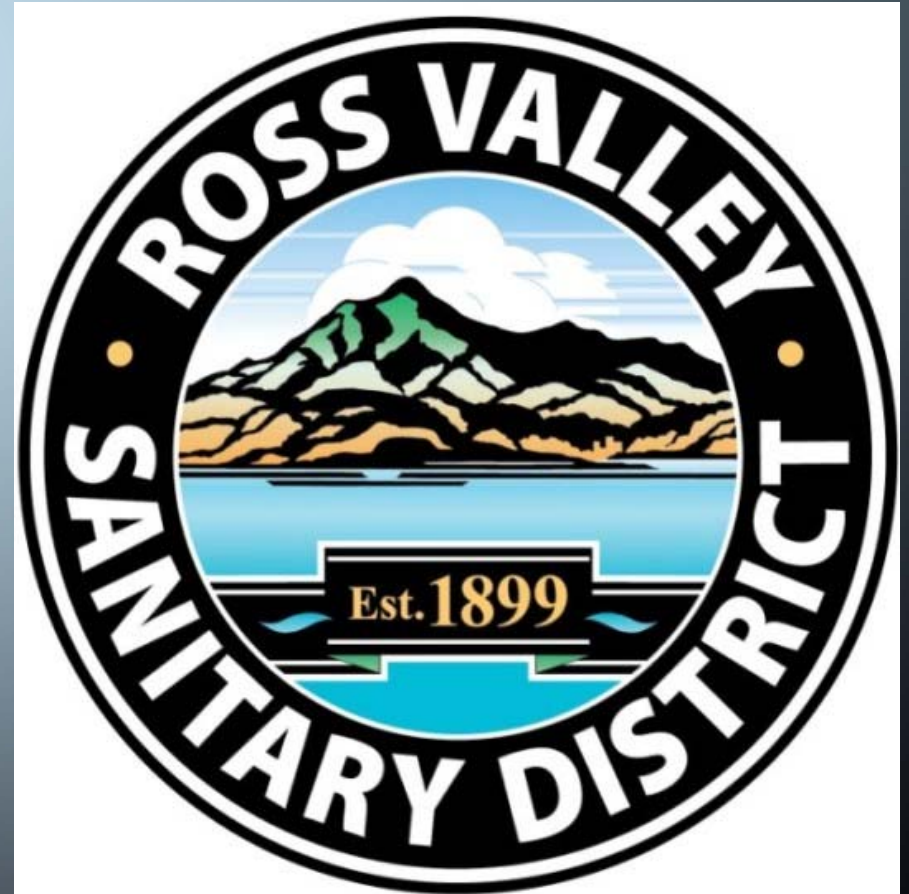
WIPES WEBINAR

STEVE MOORE

ROSS VALLEY SANITARY DISTRICT

MARIN COUNTY, CALIFORNIA

JUNE 25, 2020



THE ISSUE IS TISSUE



*Wipes, Paper Towels,
And Other
Non-Degradable
Accumulation at
Kentfield Pump Station
Bar Screens
June 16, 2020*

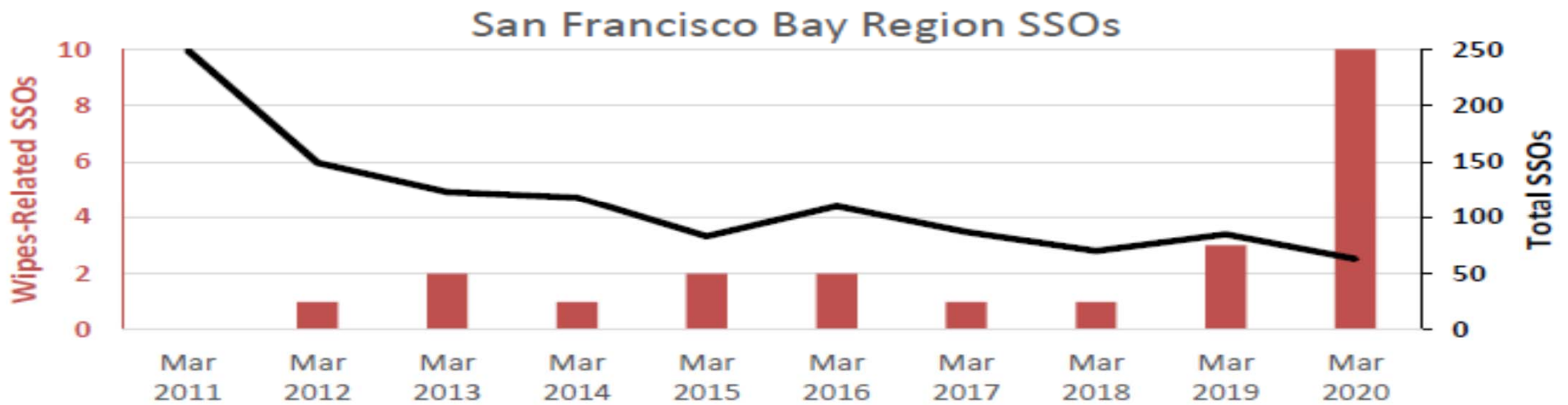
KEY QUESTIONS ABOUT WIPES

Wipes Can Cause Overflows. Are wipes in pipes getting better or worse?

Is the COVID-19 Shelter-In-Place resulting in more or less “Toilet Paper Alternatives” being found in the collection system?

Can Education and Outreach Reduce Wipes in Pipes?

WIPES CAUSE SANITARY SEWER OVERFLOWS

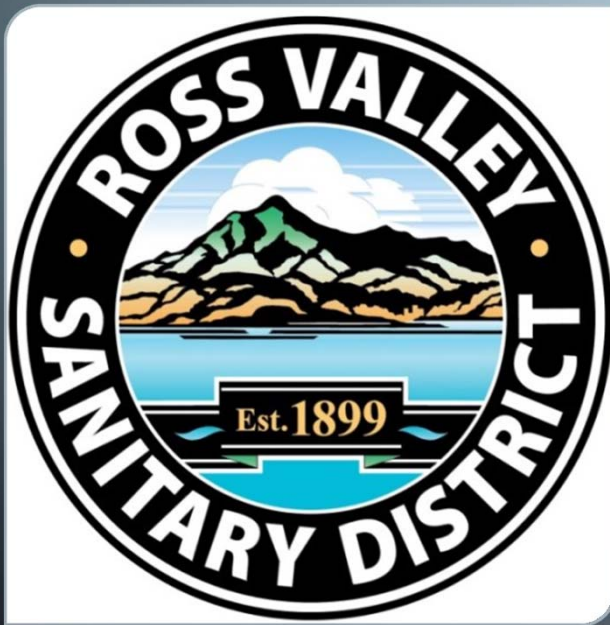


Source: SF Bay Regional Water Board Executive Officer's Report, May 2020

RVSD – SOURCE CONTROL STRATEGY NEEDED

- 73 % of Collection System is 6-inch Diameter or Less (vulnerable to Wipes and FOG)
- Sensitive Receiving Waters
- History of High Number of Sanitary Sewer Overflows, Recently Improving

OUTREACH STRATEGY



- Education and Outreach Committee of Board
 - Cable TV-Public Service Announcements (PSAs), also on YouTube (February 2019)
 - Banners at Highly Visible Community Locations
 - Door Hangers for Wipes and FOG – Incident Response
- Partnership with Neighboring Sanitary Districts
 - Share Costs of Airing Cable TV PSAs/YouTube
- Participate in CASA Statewide Wipes Study



Do Not Flush Wipes



Copy link

FLUSHABLE WIPES

PSA BY
GOLDSTREET
DESIGNS,
BEND, OR



MORE VIDEOS

0:09 / 0:30

CC BY-ND YouTube



COST TO AIR CABLE TV PSA AND YOUTUBE

- \$15,000 for 3 Months (divided by 9 agencies = \$555 / month, **\$6,700 / year**)
- \$26,600 in Development Costs
- YouTube is \$750/mo. (**\$9,000 / year**)

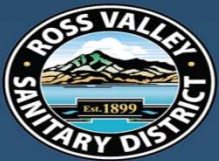
AVOIDED COSTS:

- One SSO Diverts a Whole Crew for Cleanup, Sampling, Investigation
 - \$2,700 per day per 4-person crew. 3 days of effort costs the District about **\$8,000**
 - Overtime or Standby Costs for Service Calls - Multiplier
- Claims and Cleanup Costs, Fines - **Multiple \$10,000's**

BANNERS AT HIGHLY VISIBLE COMMUNITY LOCATIONS

HELP PREVENT BACKUPS

**WIPES CLOG
PIPES**

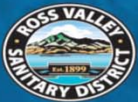


**KEEP FATS,
OILS & GREASE
OUT OF YOUR DRAIN!**



COVID-19 MESSAGING

NEVER flush paper alternatives down the toilet. They cause sewer backups!



Help Protect Our Community and Environment.
www.rvsd.org



Kentfield Pump Station

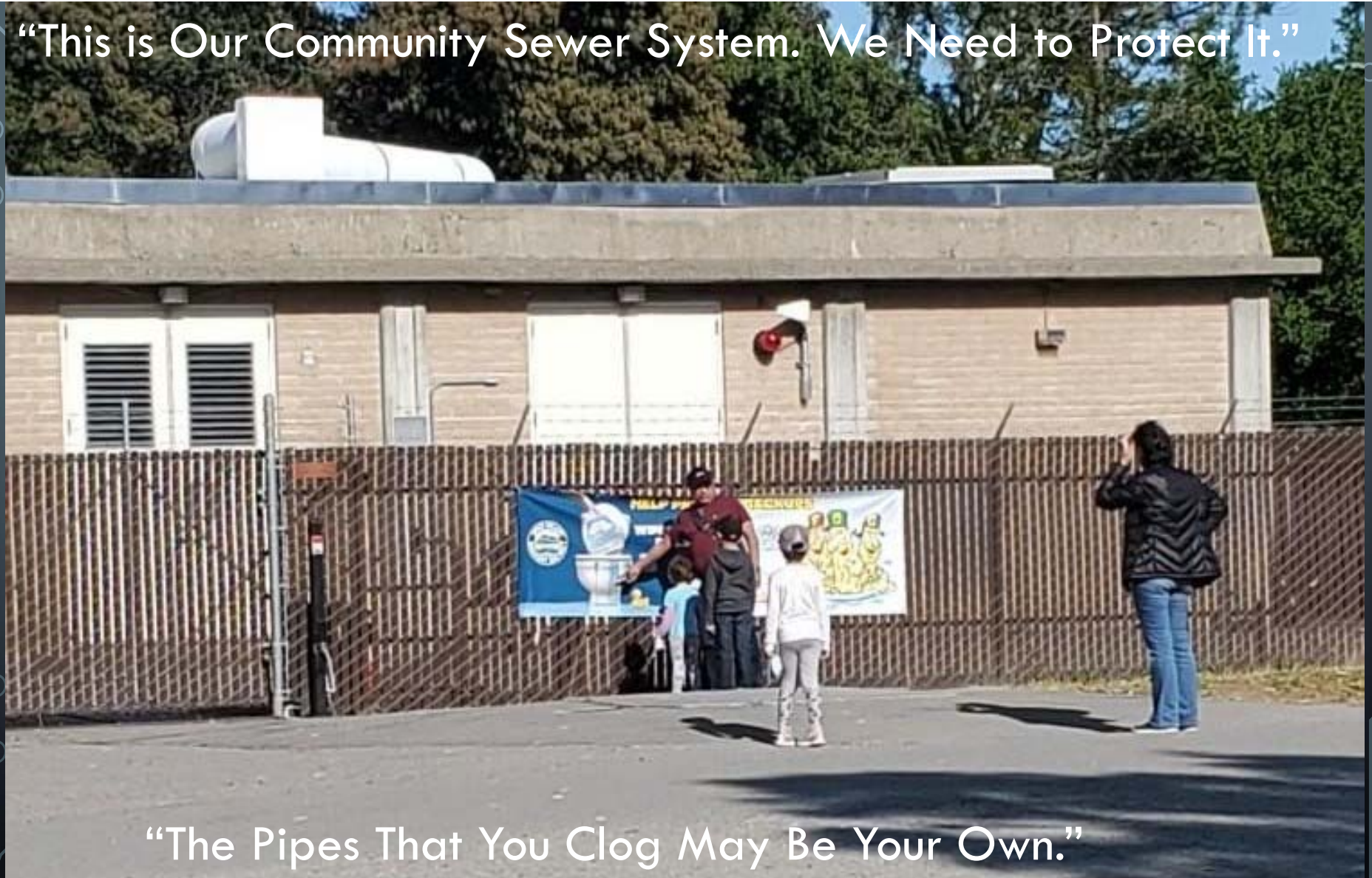
43 mgd PWWF

2 mgd ADWF

Located on
Multi-Use
Pathway by
Corte
Madera Creek



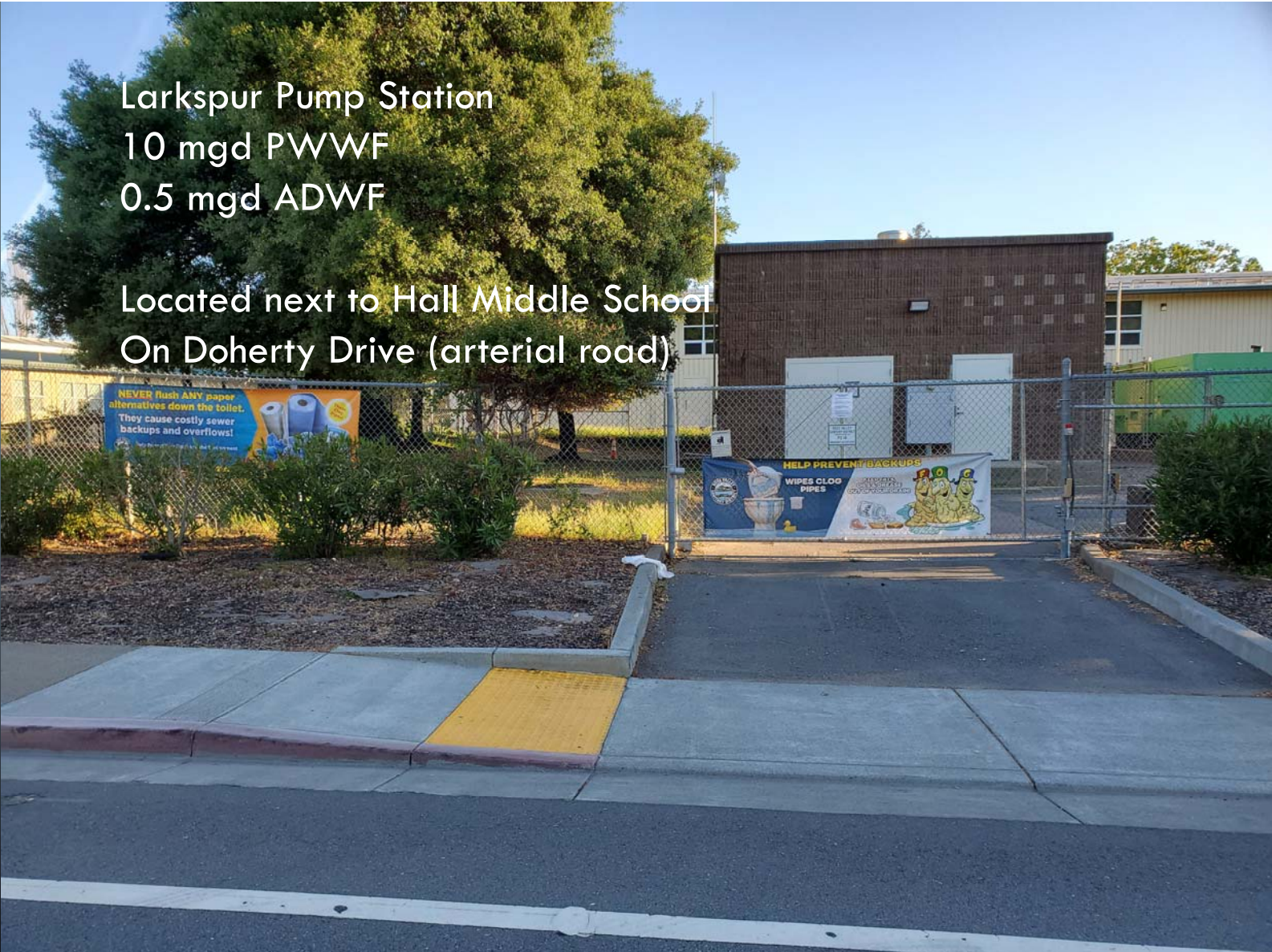
“This is Our Community Sewer System. We Need to Protect It.”



“The Pipes That You Clog May Be Your Own.”

Larkspur Pump Station
10 mgd PWWF
0.5 mgd ADWF

Located next to Hall Middle School
On Doherty Drive (arterial road)



CASA WIPES STUDY, NOV. 2019

- 30-minute Travel Time in steep sewer system
- Difficult to Isolate Experimental Wipes among majority of Background Wipes





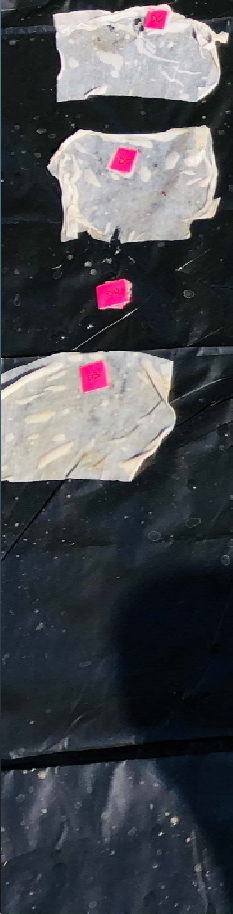
#4
Prep. H Wipes

#5
Dude Wipes

#6
Handi-Bath wipes

#7
Kirkland Signature Wipes

#8
Charmin Fresh Wipes



OUTCOMES – OBSERVATIONS /MEASUREMENT

- YouTube Impressions of “Flushable” Wipes PSA – targeted to Zip codes
 - **31% of 195,803** impressions watched 100% of 30 sec. video - very favorable
 - Expect 21% or less to not “Skip Ad”
- Wipes Measurement at Pump Station Bar Screens – Approximately 20% Increase During COVID-19
 - 1 week pump station shutdown, typically 10 5-gal. buckets of “rags” removed
 - June 10-16, 2020: 12 5-gal. buckets of “rags” removed
- No Wipes-Related SSOs at RVSD (so far) in 2020

KENTFIELD PUMP STATION BAR SCREENS WIPES AND RAGS LEVELS



Typical Amount of Rags, March 2020

~20% Higher Amount, June 2020



CONCLUSIONS

RVSD Wipes in Pipes were about the same before and after COVID-19, perhaps due to outreach that began a year before.

RVSD Wipes in Pipes appear to be increasing lately as the COVID-19 pandemic wears on, but outreach on Cable TV/YouTube and Banners continues.

RVSD has not experienced a Wipes-Caused SSO since COVID-19. There were 10 Wipes-Caused SSOs in the Bay Area in March 2020.

RVSD Wipes in Pipes Outreach Annual Costs, sharing with other Districts, are offset by Avoided Costs and there are Community Engagement Benefits.



**Poll Question: Percentage of Spills
Caused by Wipes**



CWEA

#WipesClogPipes



John N. Hicks

Wastewater Maintenance Superintendent
City of Glendale



Operational Challenges Following Transition to High Efficiency Pumps

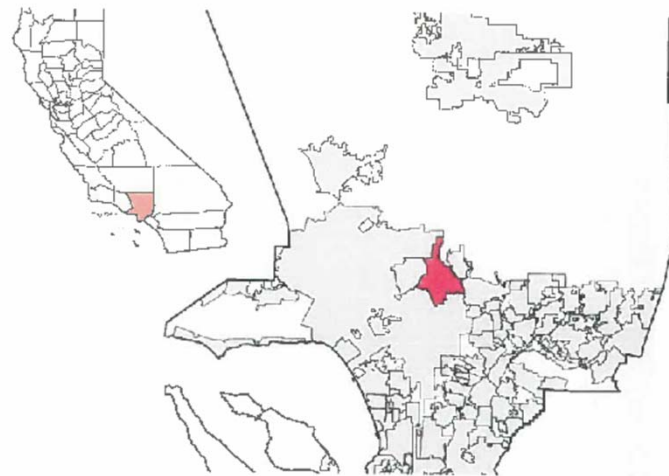
Experience at Glendale's Doran Sanitary Lift
Station after the 2011-2012 Station Overhaul

John N. Hicks

Wastewater Maintenance Superintendent

The City of Glendale

- Located in the heart of Los Angeles County.
- Built on the foothills of the Verdugo Mountains and the Angeles Crest.
- Where the San Fernando and San Gabriel Valley's meet.
- Home to approximately 207,000 people.



The Sanitary Collection System and Its' People

- 360 Miles
- 23 miles is sewer easements. Some very difficult to access.
- 35,000 service connections.
- Flows to both the Hyperion and LA/Glendale WWTP's
- City of Los Angeles (Eagle Rock) tributary to City's system.
- 18 MGD- Average Daily Dry Weather
- Blessed by gravity- one large sanitary lift station.
- 15 member team includes a full-time FOG Program compliance inspector



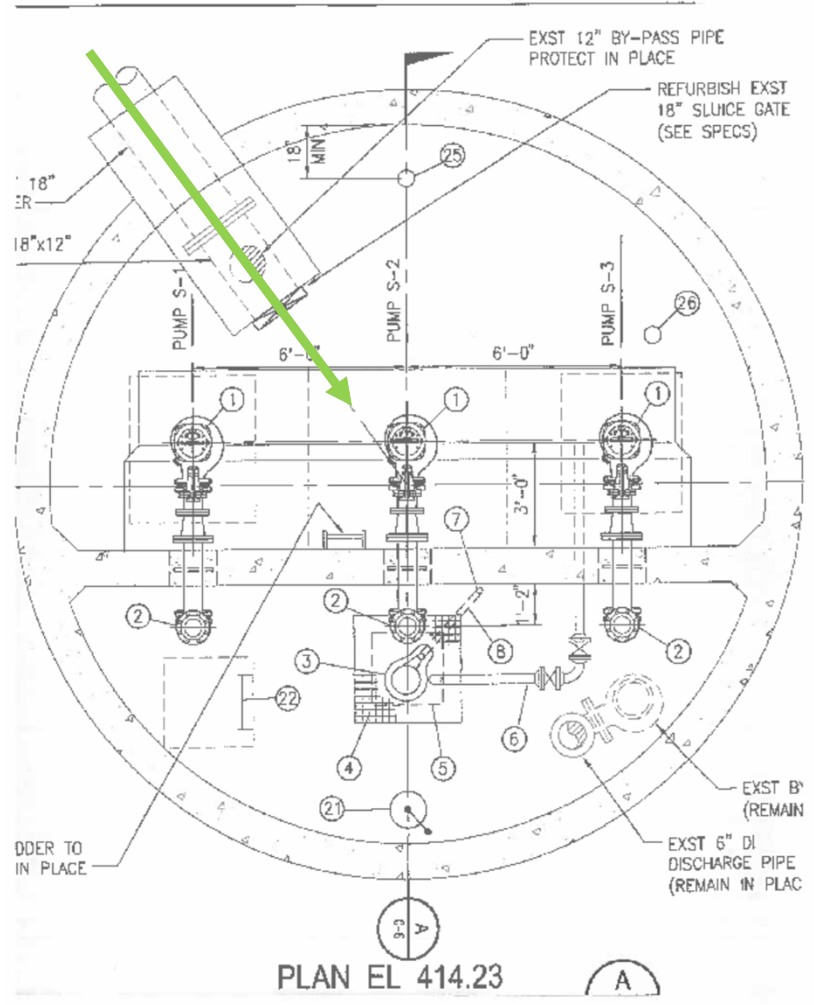
The Team

Doran Street Sanitary Lift Station

Overview:

- Located at the confluence of the Verdugo Wash and the Los Angeles River.
- Westbound 134 Fwy overhead.
- Approximately 1MGD.
- Triplex (3 main pumps) station.
- Wet and dry sides.
- Auto alternation.
- Main pumps on soft-starts. No VFD's.
- Emergency diesel generator back-up
- SCADA System provides remote indication and alarm notification.





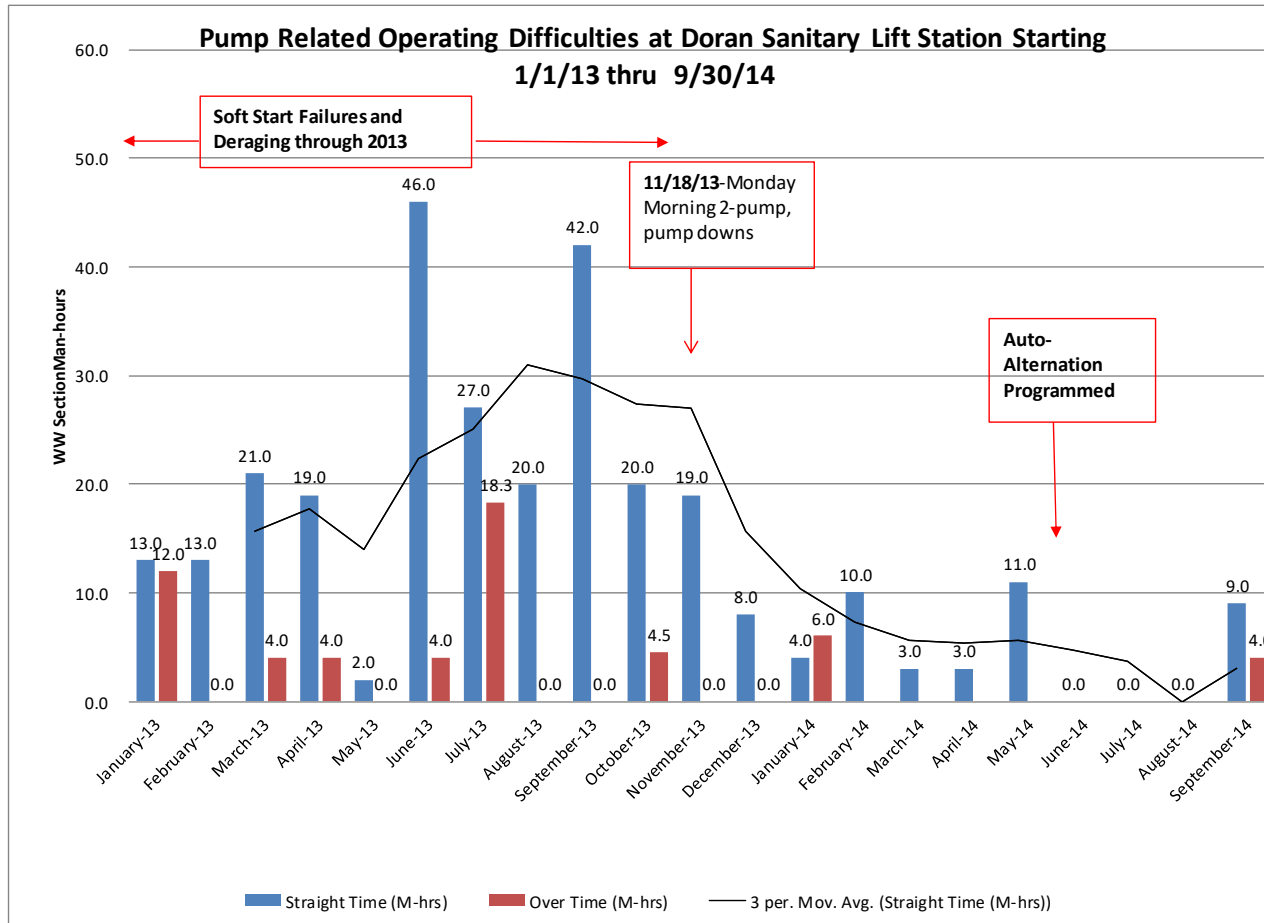


Doran Sanitary Lift Station

Main Control Room

2011-2012 Station Refurbishment

- High Efficiency pumps – reduced horsepower requirements as the result of impeller design and much closer tolerances between wetted components.
- Complete piping replacement.
- First SCADA system in stations history.
- Added a restroom.
- Numerous safety improvements for the team- upper level railing systems, eyewashes throughout and decontamination shower.
- Start-up: Late October and November 2012.



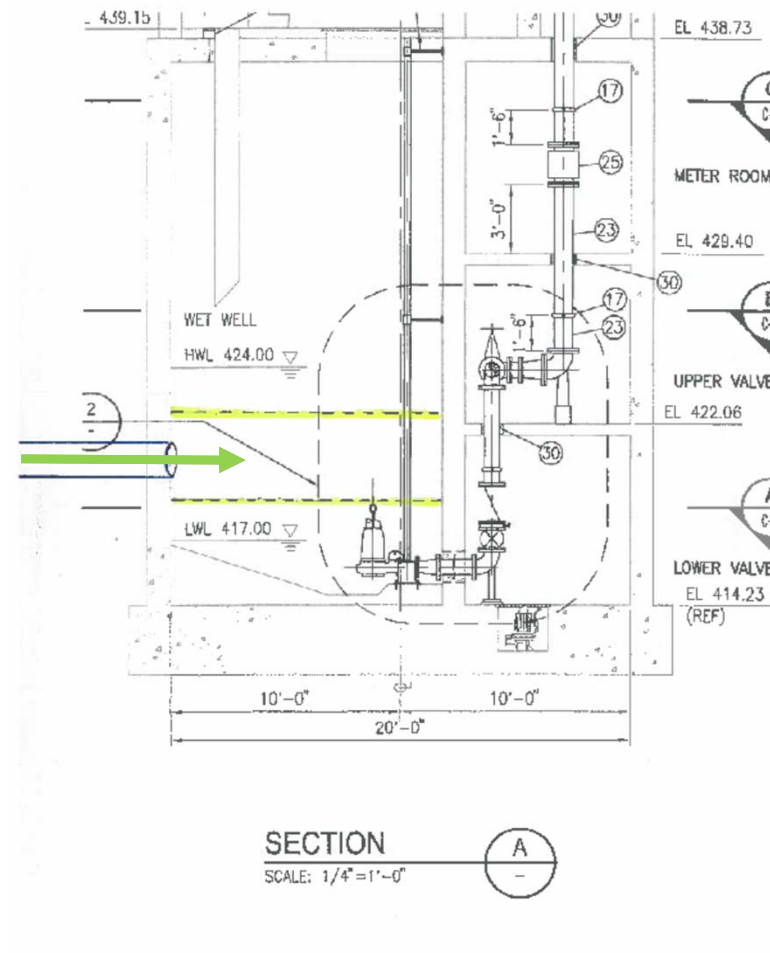
“ Houston, we have a problem.”

Early in 2013, we realized that our new pumps were much more susceptible to being fouled by “junk” in the incoming wastewater stream.

Start-Up Level Control Set Points

Why did we start here?

- Somewhat arbitrary.
- Where our controls contractor set them for start-up.
- **Note:** Engineers who designed the overhaul based out year (2030's) throughput needs on a flooded condition in the next manhole upstream to get the requisite driving head for the 16 inch line feeding the he station.



2013- Lots of Time at the Pump Station

- By early January, we knew we had more than start-up issues.
- Pretty discouraging after our 2-year, multi-million-dollar pump station upgrade.
- Might have been saving on power but were expending lots of labor responding to soft-start failures and deragging pumps.
- Late November 2013, we began weekly pump-downs using two pumps and pumping down to just above where suction lost.

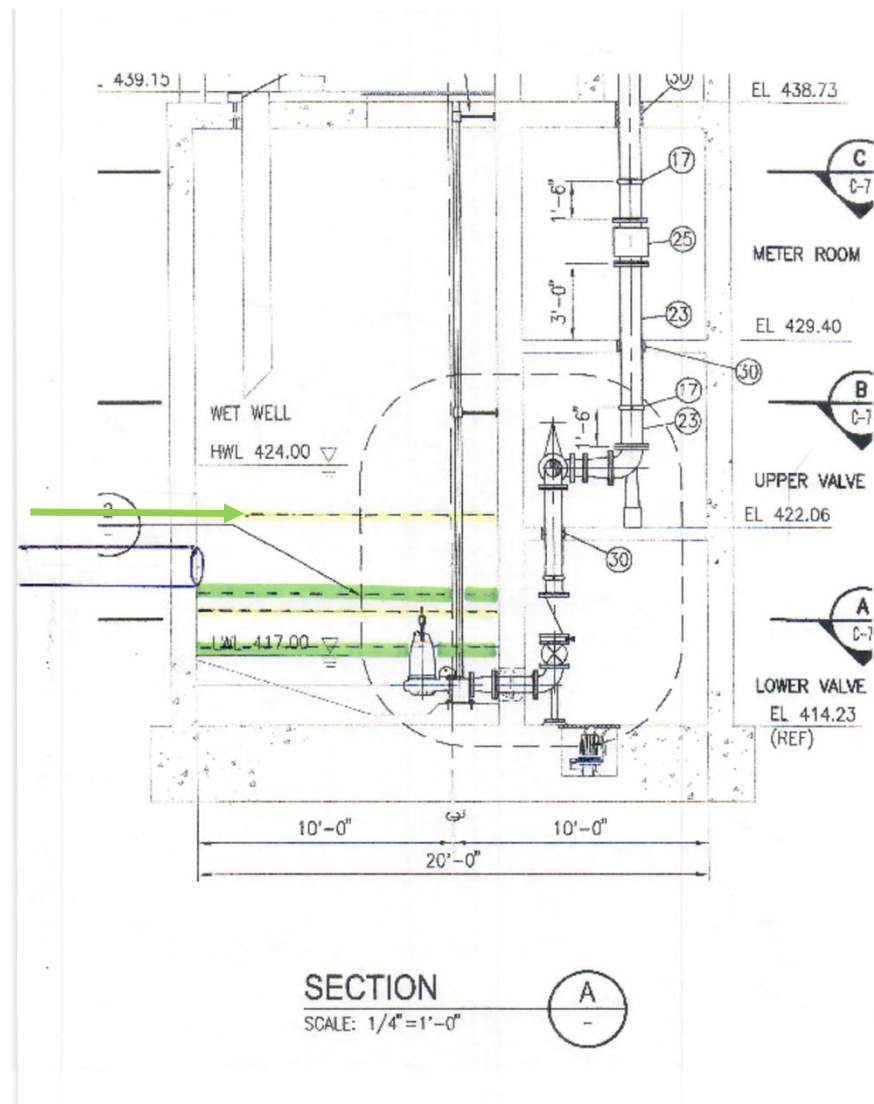


2013- Lot's of Time at the Pump Station

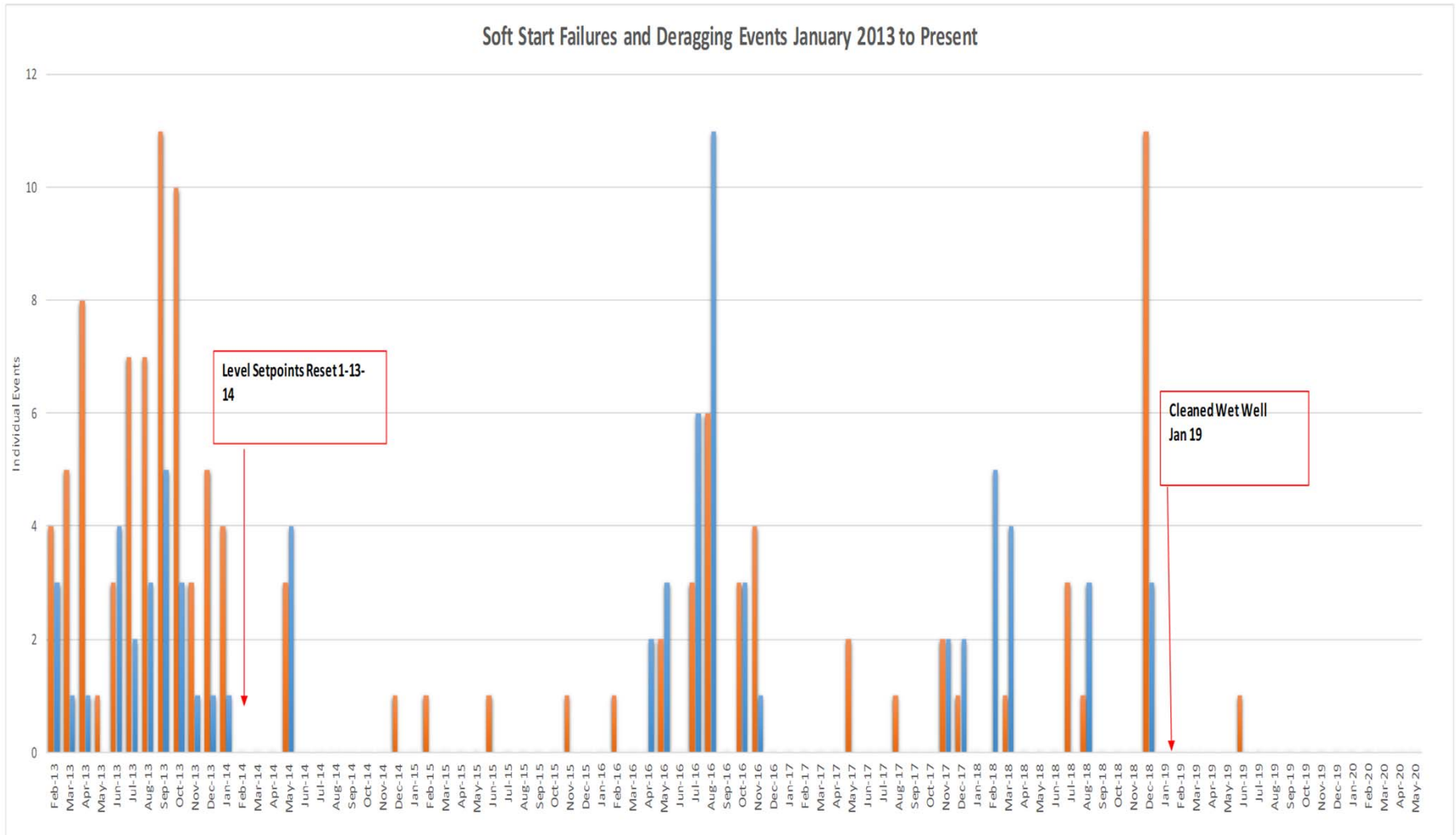


Revised Level Control Set Points

- The Monday morning pump downs definitely helped.
- The idea for lowering the control band actually came from a contact we had made through a CWEA event in late 2013.
- One of our Sr. Operator's reached-out and the result is what you see.



Operating History Since Resetting Operating Band



Conclusions

- The line feeding the station has very little grade ($S=0.004$).
- When fully submerged for some or all of the operating cycle, debris including wipes tends to accumulate in the incoming line rather than be swept through more quickly.
- Weekly two-pump, pump downs helped clear debris accumulations in the wet well.
- Lowering the level set points helped minimize debris accumulations in the feed line.
- Soft start failures and the need to derag reduced until grit-debris began to accumulate in the wet well.

Questions

- My Contact Information
 - jhicks@glendaleca.gov
 - 818-550-3413.
-
- Thanks for joining today's webinar



#WipesClogPipes



Dan DuCasse

Sewer Operations Manager
Jurupa Community Services District

DISTRICT VISION

Since 1956, the Jurupa Community Services District has steadily evolved to effectively meet the growing needs of the community it serves. Over the years, the rising demand, cultural changes, supply challenges and political and economic threats facing the area have presented the District with opportunities to assess obligations and resources and develop thoughtful, innovative solutions to preserving residents' quality of life. The District's acute awareness of customers' priorities, and its capacity to adapt to and reflect the complexities of the needs in its service area is an achievement to be celebrated.

Jurupa Community Services District has a responsibility to evolve – to meeting the shifting, changing needs and demands of its customers, now and into the future. To sustain this progression, the Board of Directors' vision includes:

Water Resources

Ensure high quality water service for the community and diversify water portfolio to maximize economic and operational efficiencies and to secure supply reliability into the future.

Sewer Services

Provide superior sanitary service and operate an industrial waste sewer system that results in no Sewer System Overflows, meets best practices in protecting the environment and reliably recovers water resources for the beneficial uses of our customers.

War on Wipes

Approaches

- Public Education
- Bar Screens
- Grinders
- Frequent Wetwell Cleaning
- Pump Replacement
- Pump Selection



Mayor of the City of
Jurupa Valley –
State of the City
Address: Dirty Jobs
Competition!





Focus Today Pump Selection

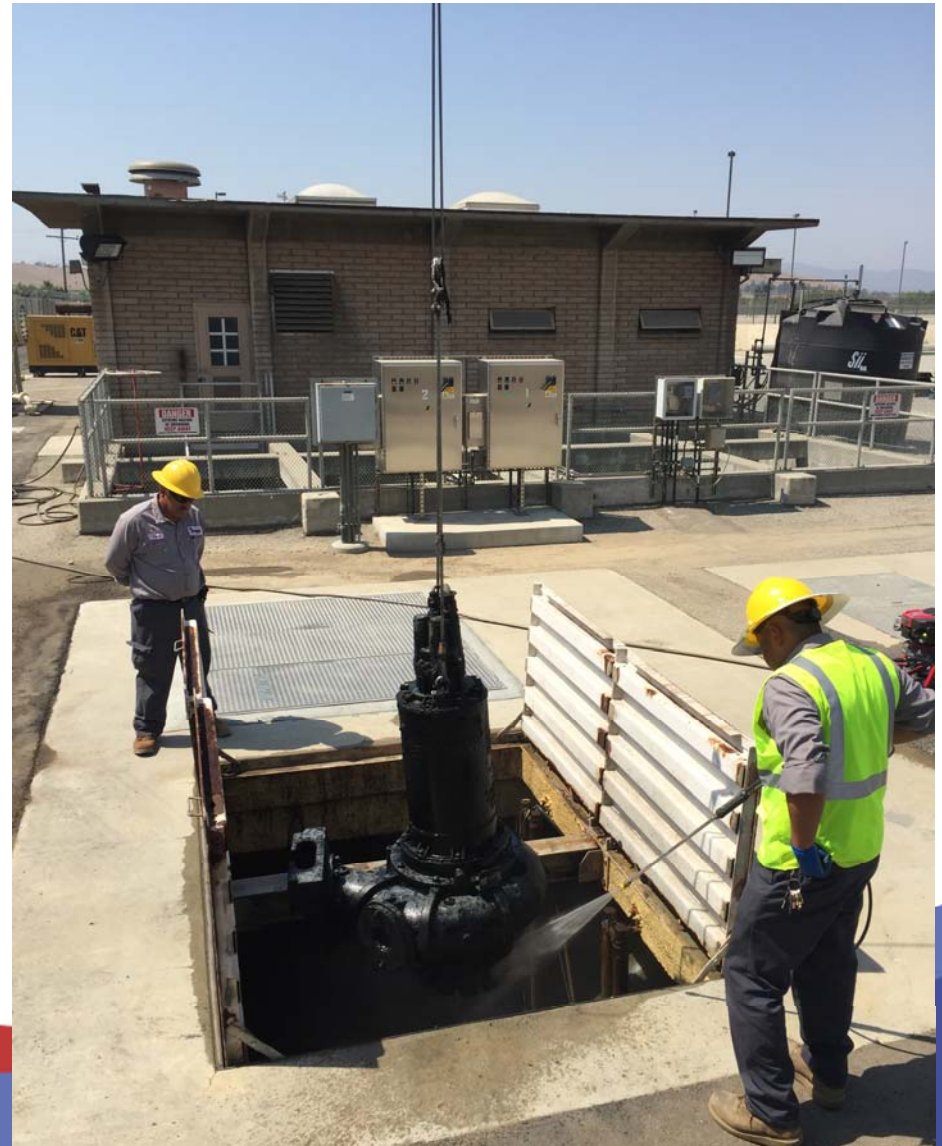
Accumulation of
stringy material on
impeller of Vertical
Turbine Solids
Handling Pump after
passing through
grinder



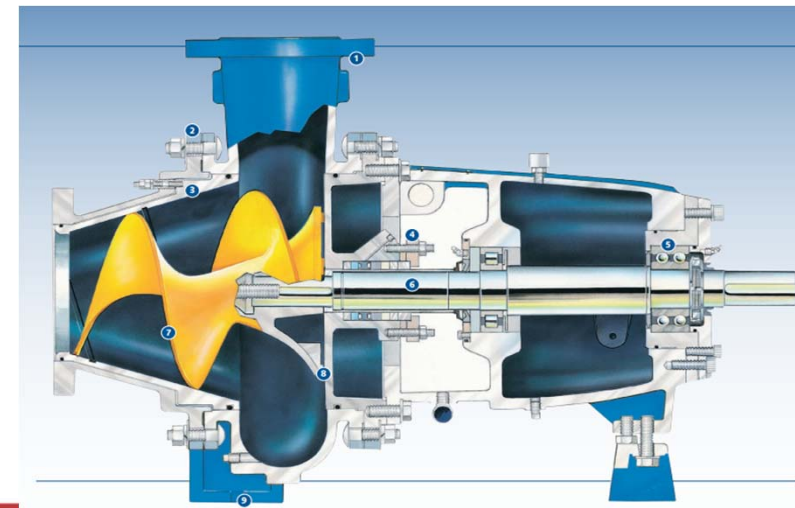
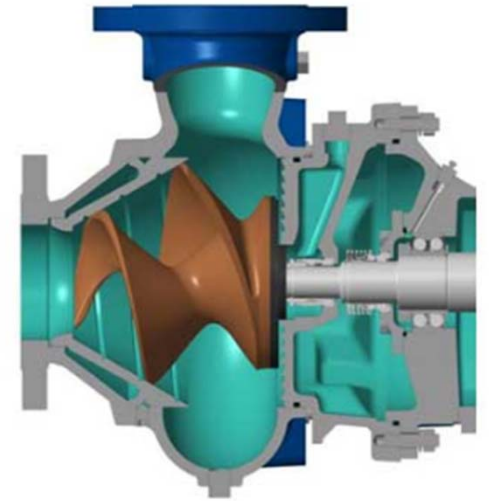
Brand new submersible pumps had to have wipes removed every week to maintain operation at one lift station.



Submersible Hidrostal Pump after 20 years of Service

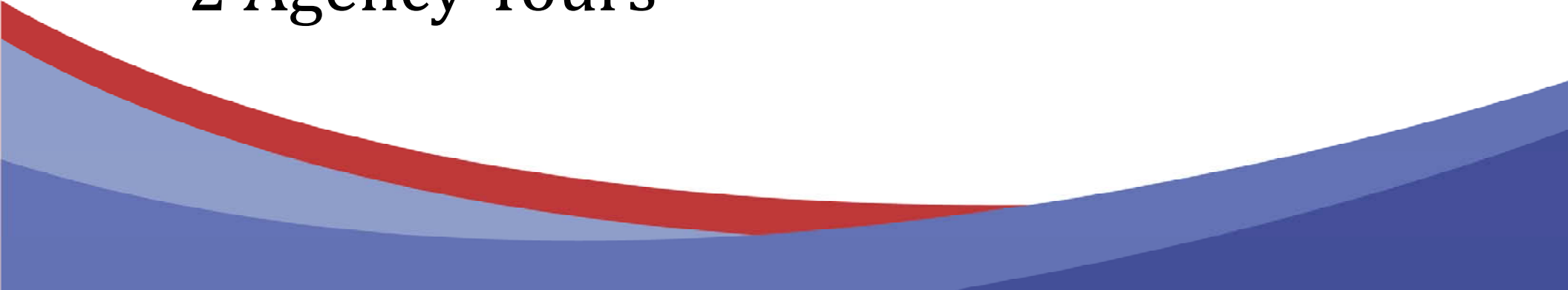


JCSD's Solution: Screw Centrifugal Pumps

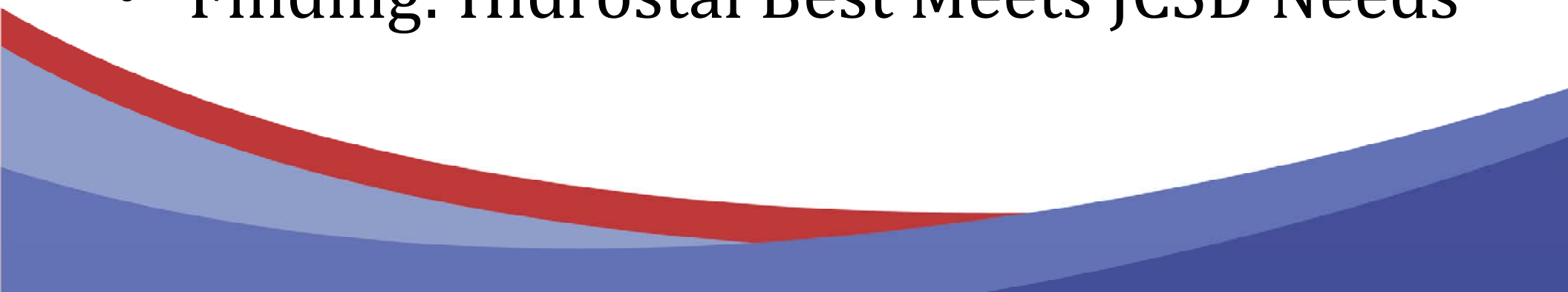


How JCSD Selected Hidrostal End Suction Screw Centrifugal Pumps

- Operations Review
 - Trade Shows – CWEA Annual and WEFTEC
 - 2 Agency Tours

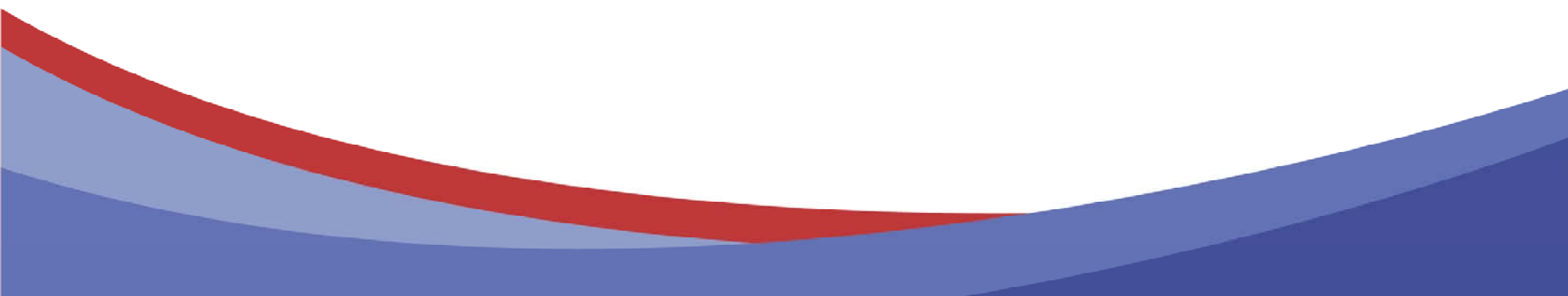


How JCSD Selected Hidrostal Screw Centrifugal Pumps

- Engineering Review
 - JCSD Engineer Recommendation
 - 3 Independent Firm Review
 - Finding: Hidrostal Best Meets JCSD Needs
- 

How JCSD Selected Hidrostal Screw Centrifugal Pumps

- Board Findings:
 - Purchase Hidrostal Pumps
 - Flo-Systems Supplier



Hidrostal Submersible Pump Ready for Installation in Wetwell



Hidrostal Dry-Pit Immersible Pumps – Fully Operational





Dan DuCasse

(951) 660-6973 | DDUCASSE@JCSD.US | JCSD.US



WATER • SEWER • PARKS & RECREATION • GRAFFITI • STREETLIGHTS



COMMUNITY SERVICES DISTRICT

Proudly serving Jurupa Valley and Eastvale



CWEA

#WipesClogPipes

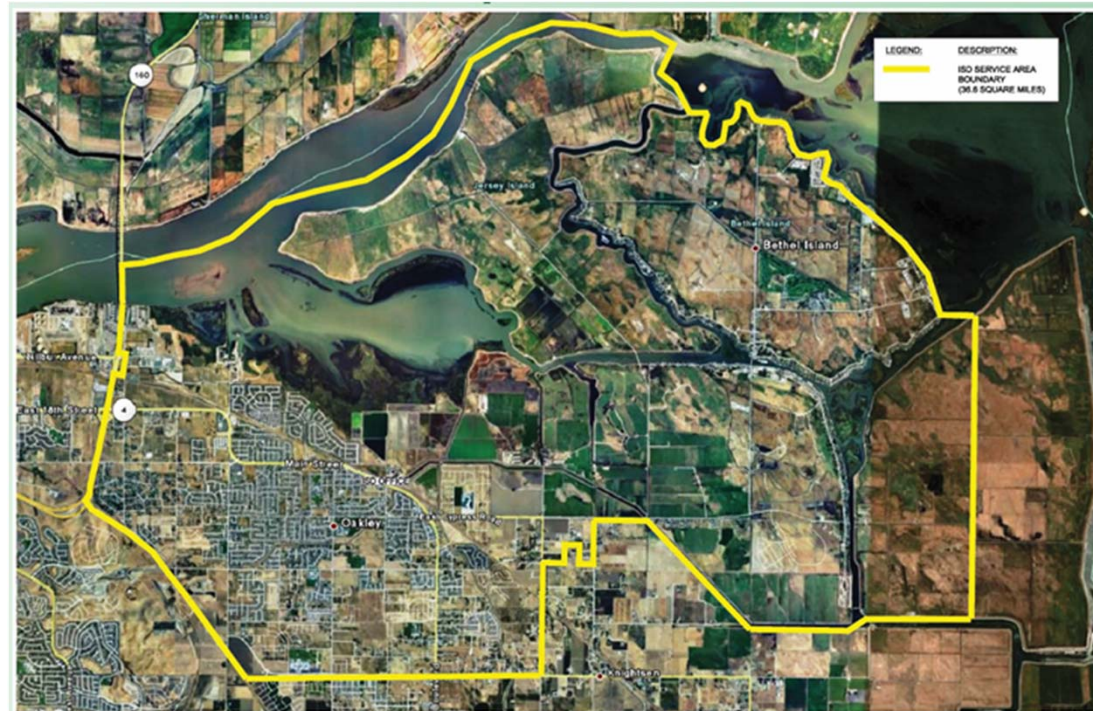


Louis Solana

Collection and Maintenance Superintendent
Ironhouse Sanitary District

An Introduction to the Ironhouse Sanitary District

- Serving the City of Oakley and unincorporated Bethel Island
- 40,000 residents and businesses with over 15,500 connections
- Established in 1945
- Current staffing level of 28 employees
- Ironhouse provides services in three areas of Operation:
 - Sewer Collection System
 - Water Recycling Facility
 - Jersey Island

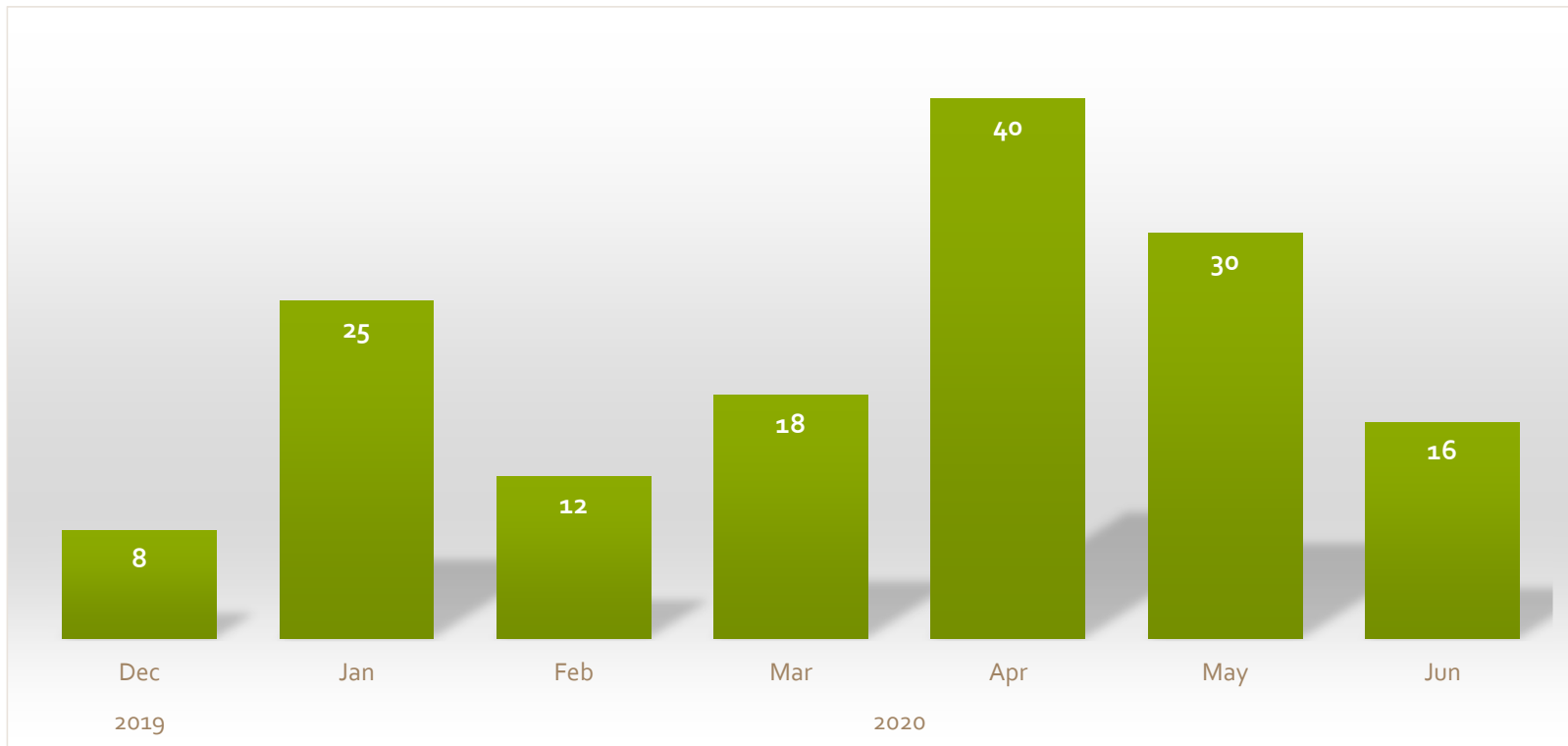


Wastewater Collection System

- Annual Operating Budget \$3M
- Sewer Pipelines
 - Gravity Sewers 125 miles
 - Force Mains 15.9 miles
- 32 Lift Stations
- Service area is very flat
- Staffed by 7 employees



Wipe Trend From December



Collection System Challenges

Partial Blockage Found During PM's



Clogged Chopper Pump



Clogged Check Valve



Collection System Challenges Continued

Clogged Submersible



Clogged Centrifugal Pump



Clogged Check Valve



Relief From Wipes

Door Hanger English

WIPES CLOG PIPES

DON'T FLUSH

- Paper towels
- Cleaning wipes
- Baby or adult wipes
- Disposable diapers
- Q-tips
- Moist towelettes
- Prescription drugs or pharmaceuticals

Even though the label may say "flushable", these products can clog and block up your sewer line.

Unlike toilet paper, these products don't break down once flushed. They can cause blockages in your on-site side sewer, and create service issues in the public sewer system and pump stations.

Save yourself and your sewer district from costly repairs and replacement bills - Put wipes, rags and towels in the trash, not the toilet.

Throw these items away every time

Examples of IISD clogged pumps

For more information, go to www.ironhousesanitarydistrict.com

Wipe Letter to Residents

IRONHOUSE SANITARY DISTRICT
450 Walnut Meadows Drive * PO box 1105
Oakley, CA 94561
Telephone: (925) 625-2279 * Fax: (925) 625-0169

June 24, 2020

To: Property Owner/Residents

From: Louis Solana

The purpose of this letter is to notify residents of a recent increase of maintenance in your neighborhood.

Over the past several weeks our crews have had to respond to this area to de-rag our pumps more than usual. The pumps are being affected by what appears to be sanitizing wipes/baby wipes. Flushable wipes as well as other fibrous material should go into the trash, not the toilet. These items are not flushable and will not break down in wastewater. In fact wipes/fibrous material tend to flow downstream to a pump where they become trapped in the rotating parts of our equipment. Collection crews have to respond to the affected site to de-rag the pumps, and to reset tripped equipment. Obstructed pumps increase maintenance and may cause premature failure, increasing operational and maintenance cost.

Sewer Ordinance 25 section 12.2 states that, "discharge of rags, plastics, or any other solid or viscous substances capable of causing obstruction to the flow in sewers" is prohibited.

We look forward to working with the community to ensure responsible, cost efficient operation of our sewer collection system.

If you have any questions, please feel free to contact me at (925) 809-3005.

Regards,

Louis Solana
Collections Superintendent

Door Hanger Spanish

LAS TOALLITAS OBSTRUYEN LAS TUBERIAS

No Enjuague

- Paños de limpieza
- Cualquier clase de toallitas húmedas incluso las de bebés y toallitas adultas
- Pañales desechables
- Q-Tips
- Toallitas húmedas
- medicamentos recetados o productos farmacéuticos

Aunque la etiqueta diga "desechables", estos productos pueden obstruir y bloquear la línea de alcantarillado.

A diferencia del papel higiénico, estos productos no se desbaratan al echarlos al inodoro pero pueden bloquear el alcantarillado de tu casa y crear problemas con el servicio e Sistema public de alcantarillado y estaciones de bombeo.

Librese a si mismo y al servicio public de costosas reparaciones y reemplazo de facturas. Ponga los trapos, toallitas de limpieza o toallitas húmedas, en las basura y no en el inodoro.

Tirar estos articulos lejos cada vez.

Examples of IISD clogged pumps

para más información, vaya a www.ironhousesanitarydistrict.com

Wipe Campaign Public Education





Poll Question: Partnerships for Outreach



CWEA

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Q&A

Join CASA's wipes group at casa.org/wipes



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