RECYCLE THE RUNOFF

A ROADMAP FOR STORMWATER DIVERSIONS

A TECHNICAL WEBINAR WITH
LA COUNTY
SANITATION DISTRICTS

NOVEMBER 10, 9A-11A

COUNCIL FOR
WATERSHED HEALTH

LOS ANGELES COUNTY
SANITATION DISTRICTS
Converting Waste Into Resources

SOUTHERN
CALIFORNIA
WATER
COALITION

WELCOME

COLLABORATIVE PARTNERS

CASQA
CALIFORNIA STORMWATER QUALITY ASSOCIATION

SCAP
SOUTHERN CALIFORNIA ALLIANCE OF PUBLICLY OWNED TREATMENT WORKS
REUSE · WASTE · TREATMENT · BRINGING WATER FULL CIRCLE

CASA

SOUTHERN CALIFORNIA WATER COALITION

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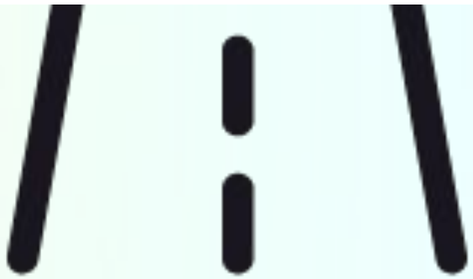
Reinventing tomorrow.

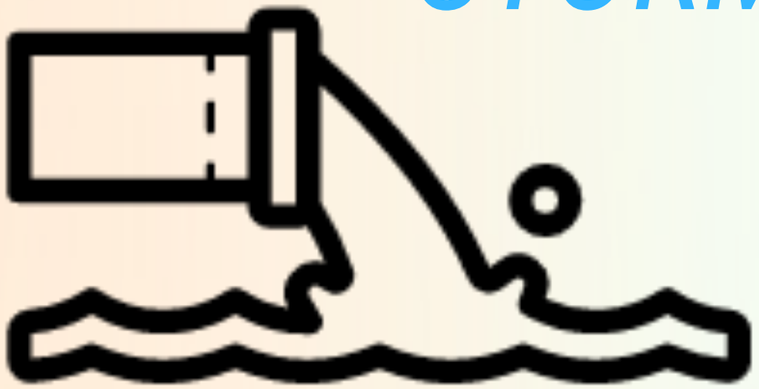
CWH MISSION & LAND ACKNOWLEDGEMENT

Our mission is to advance the health and sustainability of our region's watersheds, rivers, and habitats - both in natural areas and urban neighborhoods. We do this through science-based research, education, and inclusive stakeholder engagement

TODAY'S WORKSHOP



A ROADMAP TO STORMWATER DIVERSIONS



WORKSHOP AGENDA

9:00 - 9:05a	**Welcome**
9:05 - 9:15a	Mark Lombos: MS4 Permittee and the Statewide Perspective
9:15 - 9:25a	Steve Jepsen: Benefits of Stormwater Diversions for the Region
9:25 - 9:45a	Kristen Ruffell: Diversion Project Types, Examples and Considerations
9:45 - 10:05a	Erika Bensch: Water Quality and Water Rights
10:05 - 10:20a	Peter Carlstrom: Industrial Waste and the Permitting Process
10:20 - 10:28a	Rosann Paracuelles: Considerations for Design and Best Practices
10:28 - 10:35a	Danielle Thomas: Buildovers and Processes for Protecting RightofWays
10:35 - 10:40a	**Wrap-up**
10:40 - 11:00a	**Panel Q&A**

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MS4 Permittee and the Statewide Perspective

MARK LOMBOS

Director

California Stormwater Quality Association

CASQA

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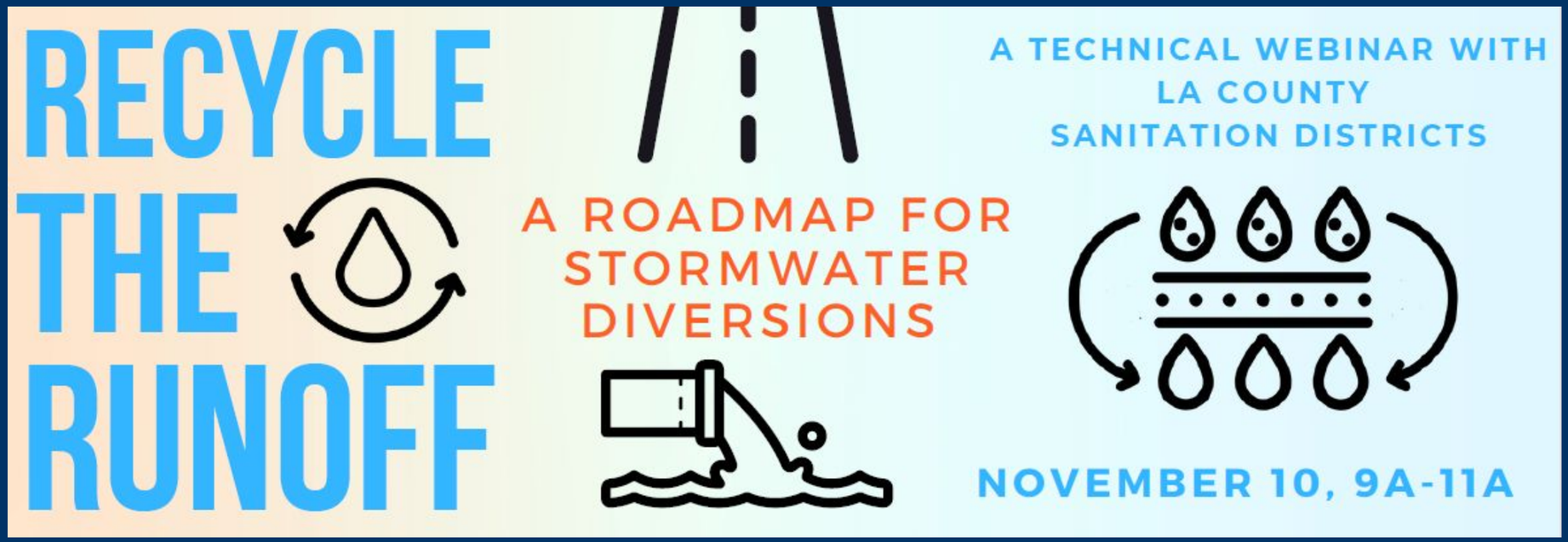
CASQA's Vision for Sustainable Stormwater Management



CASQA represents over 26 million Californians

How We Operate

From its founding, CASQA has a long history of serving as an advisor and partner to regulators. CASQA has therefore developed a culture of collaboration and cooperation, working with permittees, regulators, and other stakeholders to develop solutions to complex challenges.

CASQA Members Include:

- **Counties:** 23

  San Diego
  Riverside
  Los Angeles
  Orange
  San Bernardino
  Santa Barbara
  Ventura
  Sacramento
  Alameda
  Marin
  Contra Costa
  Napa
  Santa Cruz
  Stanislaus
  Lake
  San Mateo
  Placer
  Monterey
  San Luis Obispo
  Fresno
  El Dorado
  San Joaquin
  Santa Clara

- **Cities:** more than 180
- **Ports:**

  Los Angeles, Oakland, Stockton, Long Beach, San Diego
- **Government Agencies:**

  US Army Corps of Engineers, Caltrans, California Department of Parks and Recreation
- **Educational Facilities:**

  UC Davis, UC San Diego, UC Riverside, Stanford, Cal Lutheran, Cal State Sacramento, CSU Channel Islands, Cal State Northridge, San Diego Unified School District
- **Conservation Organizations:**

  Golden Gate National Parks Conservancy, Monterey Bay Aquarium
- **Water Districts / Utilities Providers:**

  Metropolitan Water District of Southern California, County Sanitation Districts of Los Angeles County, Orange County Sanitation District, Los Angeles Department of Water and Power, Southern California Edison

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CASQA's Strategic Plan outlines who we are as an organization and what we want to accomplish

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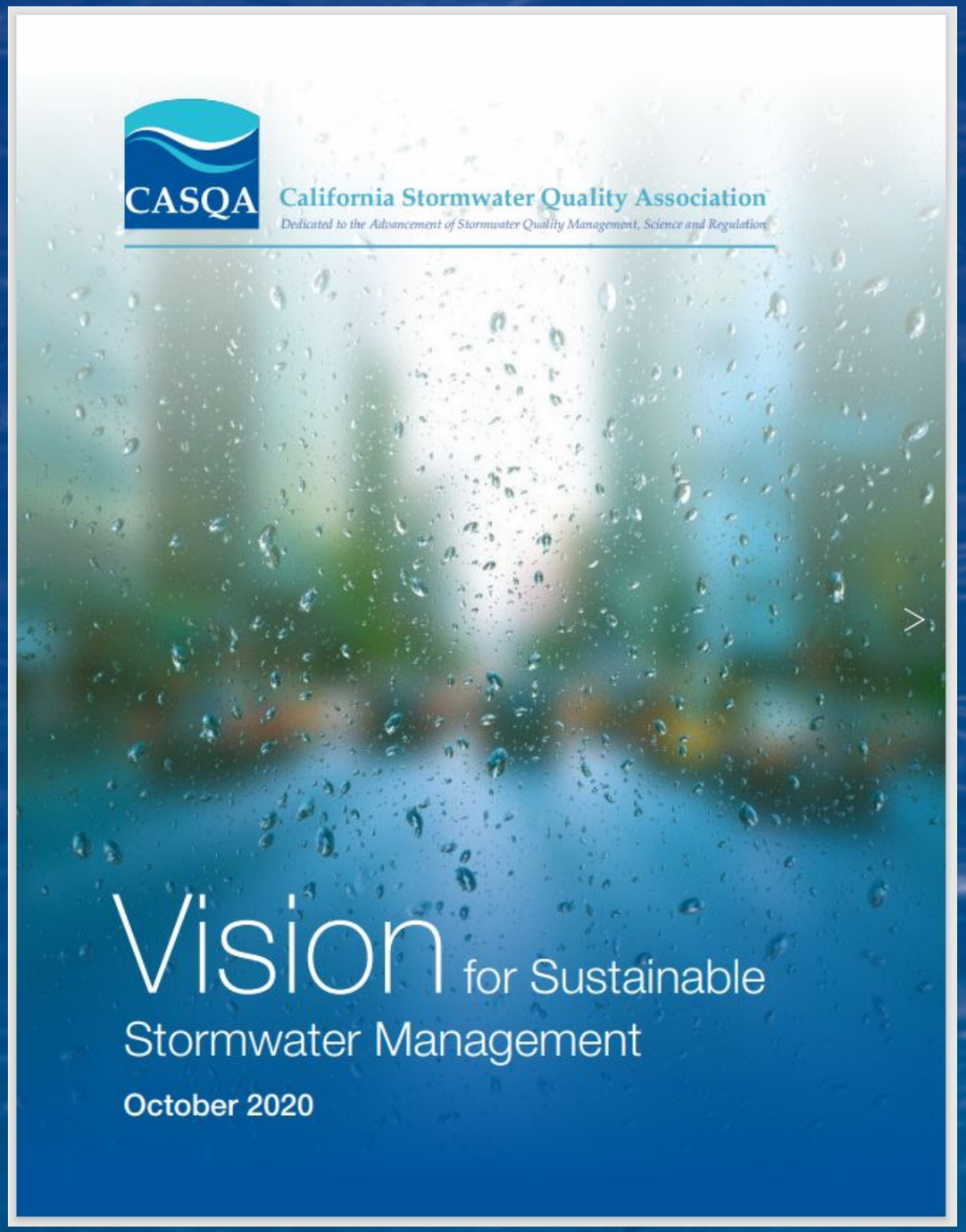

Vision for Sustainable Stormwater

California sustainably manages stormwater as an essential component of the state's water resources that supports human and ecological needs, protects water quality, and enhances and restores our waterways.

Guiding Principles

- Principle #1: Program Implementation
- Principle #2: Permits, Regulations, and Legislation
- Principle #3: Public Education
- Principle #4: Funding

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Making our Vision a Reality

Principle #1: Program Implementation

Support sustainable stormwater management by:

- Treating stormwater as a resource
- Maximizing stormwater capture
- Utilizing a multi-benefit approach

Principle #2: Permits, Regulations, and Legislation

Explore how regulations and guidelines can support actionable steps towards sustainable stormwater management:

- SB-485 County of Los Angeles: sanitation districts.(2015-2016)
- SB-273 Water quality: municipal wastewater agencies.(2021-2022)

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Making our Vision a Reality

Principle #3: Public Education

Public support is essential when it comes to local funding and implementing multi-benefit projects. In order to gain that support, we should aim to:

- Educate the public
- Educate elected officials

Principle #4: Funding

One of the greatest challenges facing stormwater programs is the lack of funding. In addition to securing dedicated funding, we need to ensure that funding is sustainable by:

- Increasing/maximizing funding for stormwater
- Leveraging partnerships

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CALIFORNIA STORMWATER QUALITY ASSOCIATION®

Working together we can make a difference!

Karen Cowan (Executive Director)
karen.cowan@casqa.org

Amanda Carr (Chair of the Board)
amanda.carr@ocpw.ocgov.com

Mark Lombos (Board of Director)
mlombos@pw.lacounty.gov

Visit us at www.CASQA.org
Twitter: CASQA_org
LinkedIn: CASQA

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Benefits of Stormwater Diversions for the Region & SB273

STEPHEN JEPSEN

Southern California Alliance of Publicly Owned Treatment Works

Benefits of Stormwater Diversions

Steve Jepsen
Southern California Alliance
of Publicly Owned Treatment Works

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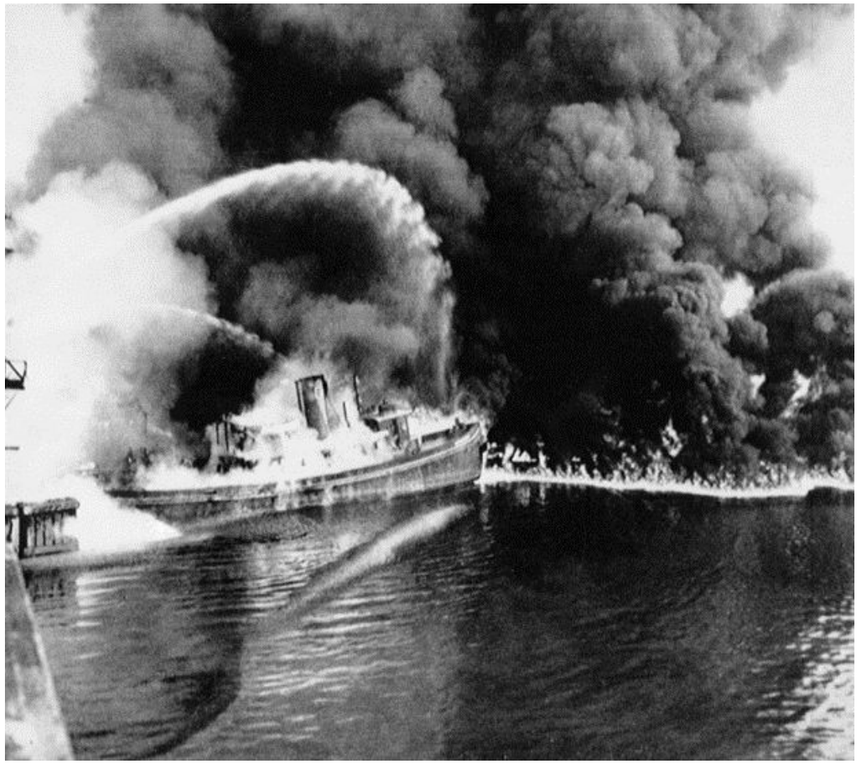
A History of Water Quality

1. Roman Empire – 800 BC mains
2. Industrial Revolution – 1800s
3. Porter-Cologne Act - 1969
4. Clean Water Act – 1972
5. CMOM - 1998
6. SSS WDR – 2006 (2022)
7. MS4 WDR



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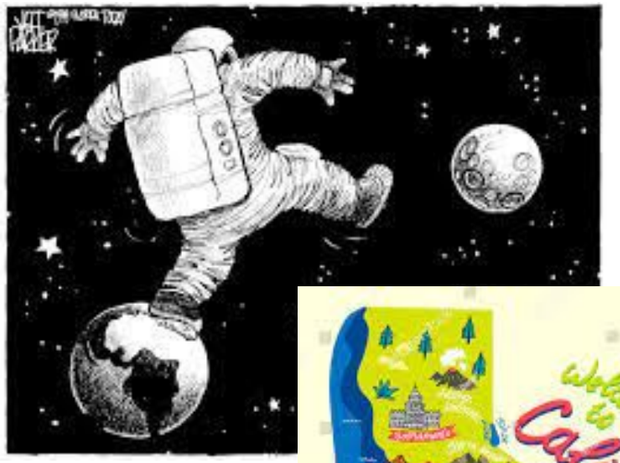
Purpose of POTWs

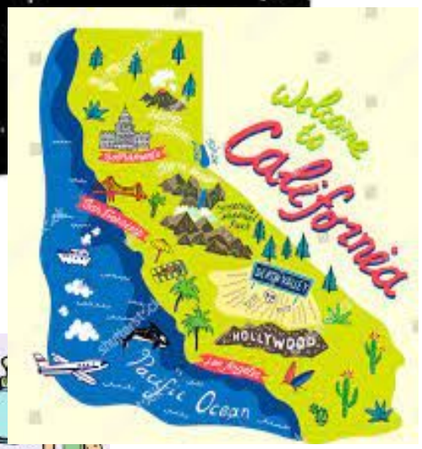
CLEAN WATER
You Make the Difference

Biosolids

Wastewater systems are a great cleaning tool

- 120,000 miles of collection system piping in CA
- 260 POTWs over 1 MGD permitted capacity in all types of communities in CA
- Highly regulated and closely monitored
- Many coastal cities have been using dry weather urban water diversions to sewer to reduce bacteria at beaches
- Bacteria and Nutrients are a consistent priority in watersheds





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How Many Workers?

- 20
- 50
- 100
- 200
- None of the above

SB 273 Cortese-Knox-Hertzberg

- A previous barrier to stormwater diversion projects were legal restrictions

- IRWD, OC SAN and LACSD passed their own specific legislation to implement diversion projects

- On September 23, 2021 the Governor signed SB 273
  - This CASA/Coastkeeper bill provides authority for all types of wastewater agencies to accept, treat and discharge stormwater where it is viable and economically feasible

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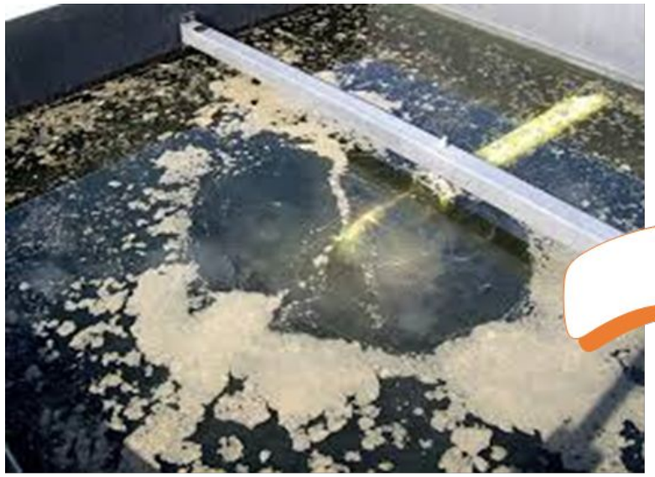
How to get started…



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CVSan

The Path To ZERO WASTE

NEW AGREEMENT THROUGH 2029

CITY OF RIVERSIDE

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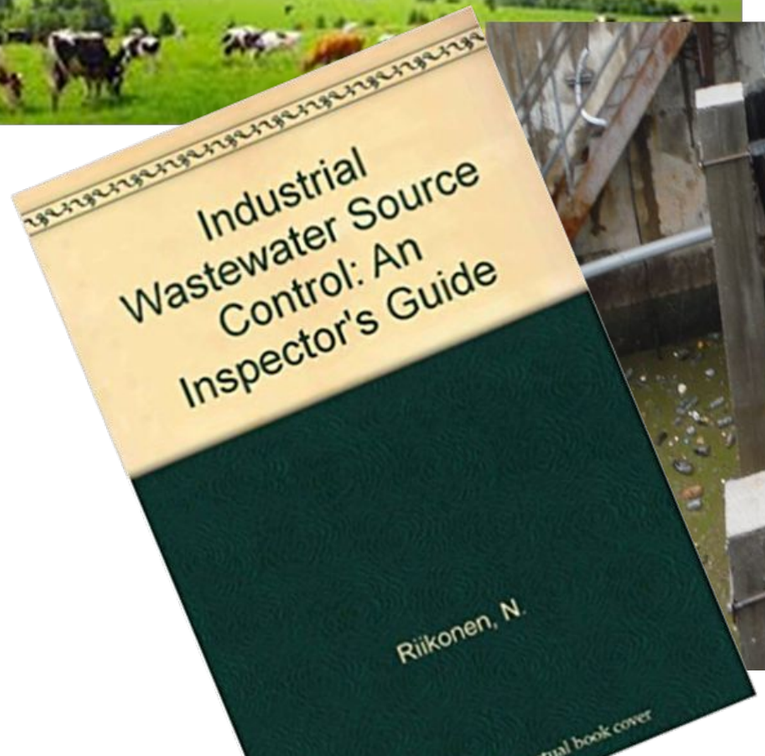
What's Next?


Industrial
Wastewater Source
Control: An
Inspector's Guide
Riikonen, N.

Protecting
Water Quality
NPDES
State Water Resources Control Board

Overview of Diversion Project Types, Examples & Other Considerations

KRISTEN RUFFELL

Division Engineer - Water Quality

LA County Sanitation Districts

LOS ANGELES COUNTY SANITATION DISTRICTS

Converting Waste Into Resources

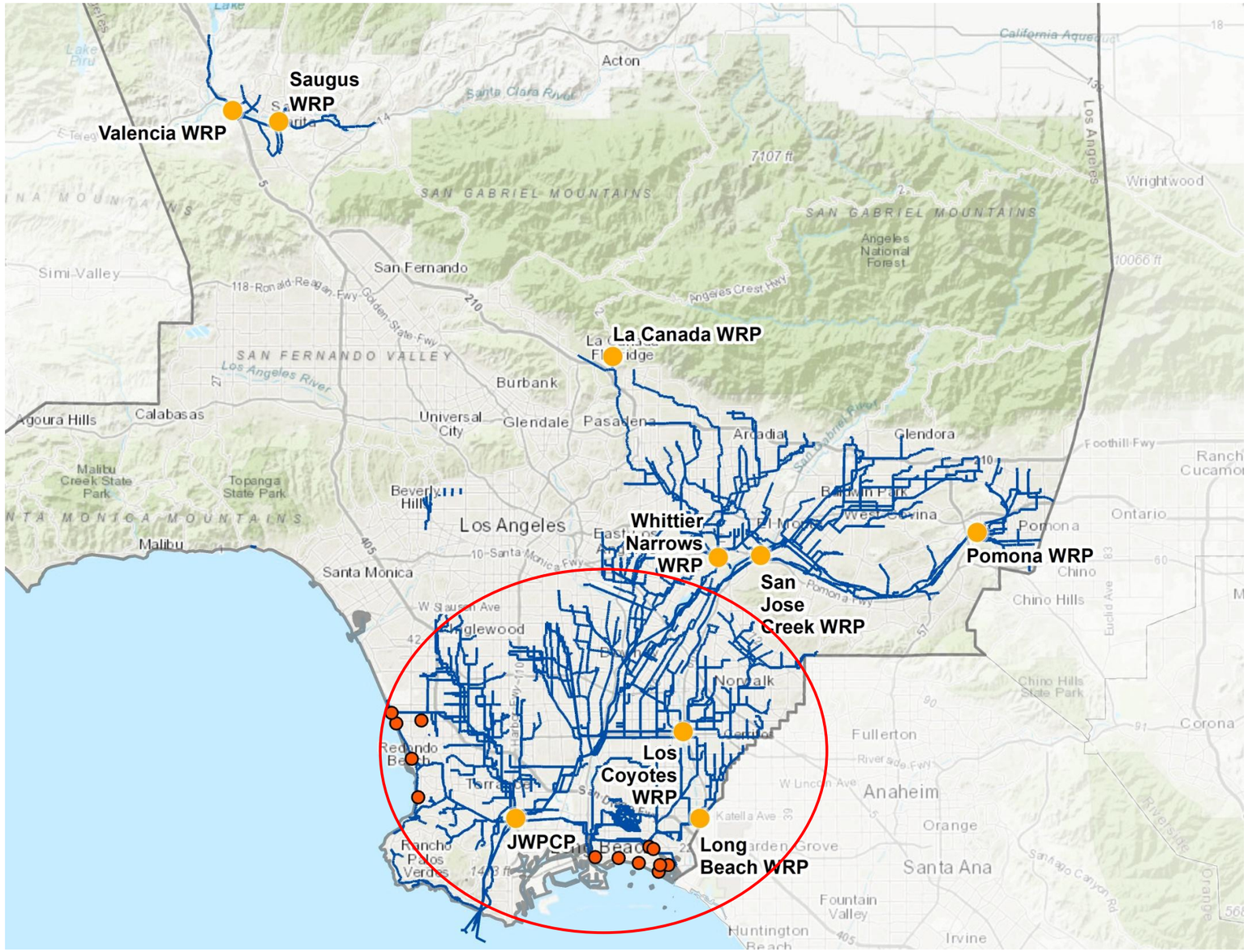
Recycle the Runoff

Developing Diversion Projects

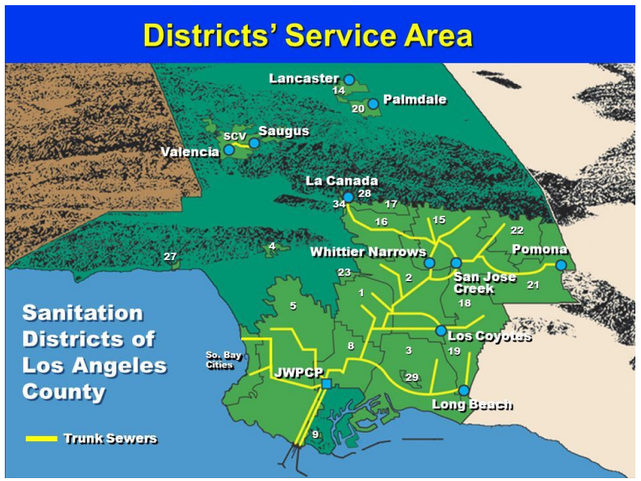
Kristen Ruffell, P.E.

Division Engineer Water Quality

Wastewater Collection System



Summary of SB 485



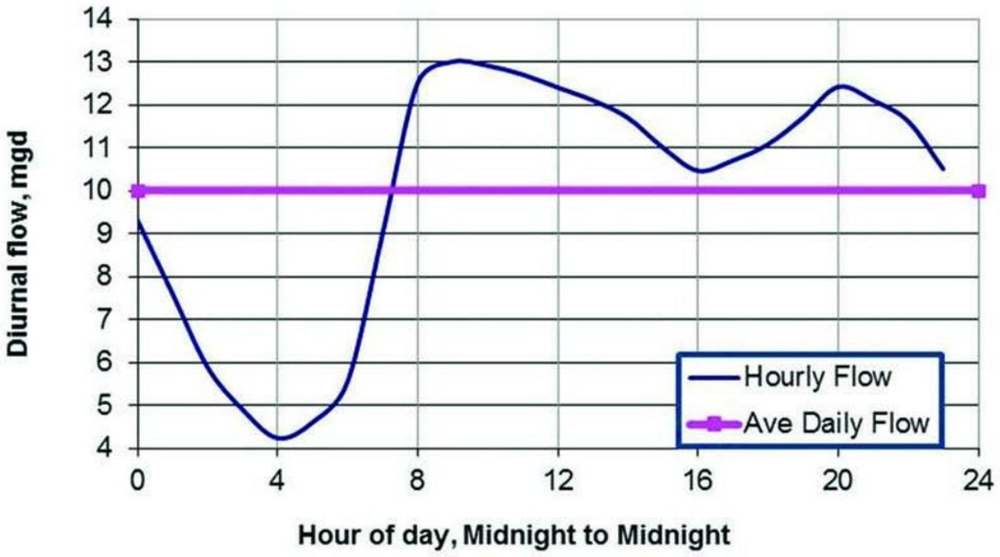
Participation is voluntary, and costs are borne by jurisdictions requesting the service

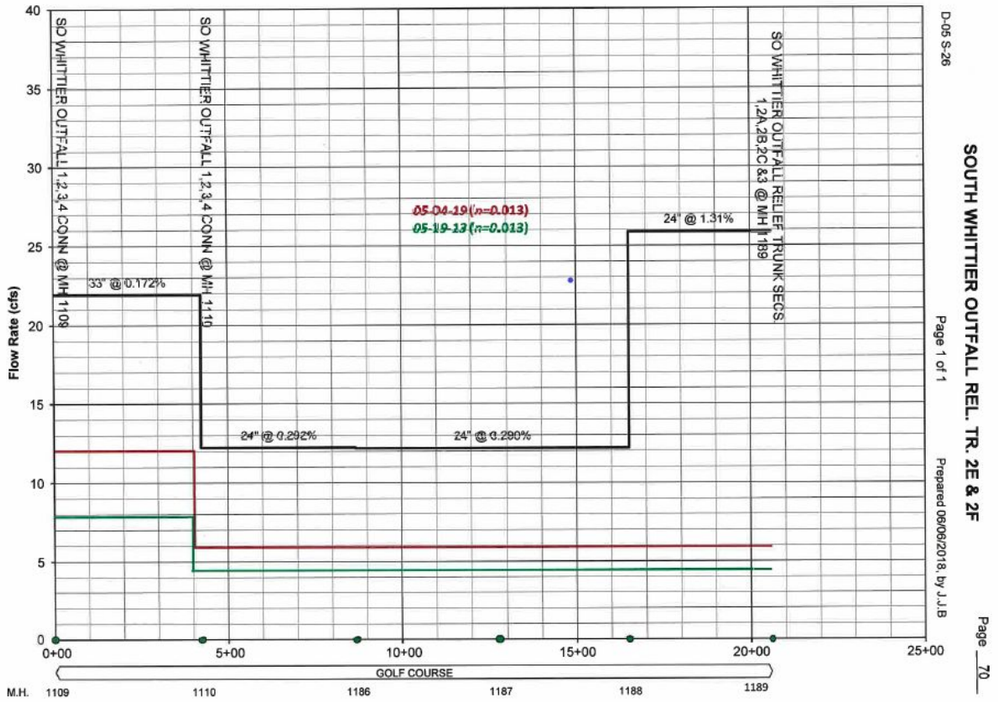
Types of Diversions

Dry Weather Diversion	Typically very low flow
Real Time Diversion directly to a WWTP	Realtime feedback and near instant ability to stop diversion
Stored Stormwater Diversion (distant from WWTP)	Discharge limited to periods of understood capacity
Realtime Stormwater Diversion (distant from WWTP)	Long travel time and unknown I&I impacts

Flow Monitoring Program

- Program to monitor each sewer once every 4-5 years
- Monitoring conducted at select locations over a 2-week period during dry weather
- Used to generate Clearance Diagrams (identifying capacity available during dry weather peak flow)





Dry-Weather Diversions

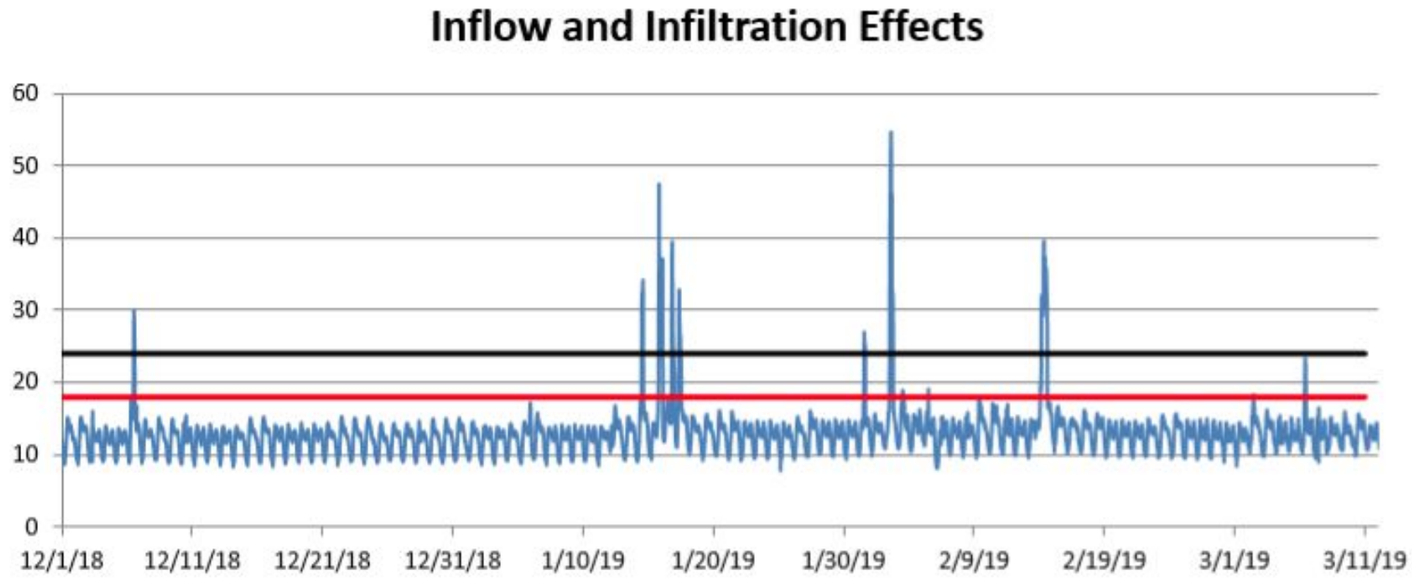
- Good data available
- Water conservation has led to decreased dry-weather flow
- Most sewers have capacity during dry weather
  - Higher flow rates available off-peak
  - Requires case-by-case analysis
- Stored stormwater diversions need to consider post-storm flows that are not captured on the Clearance Diagrams
  - Variable speed pumps are required

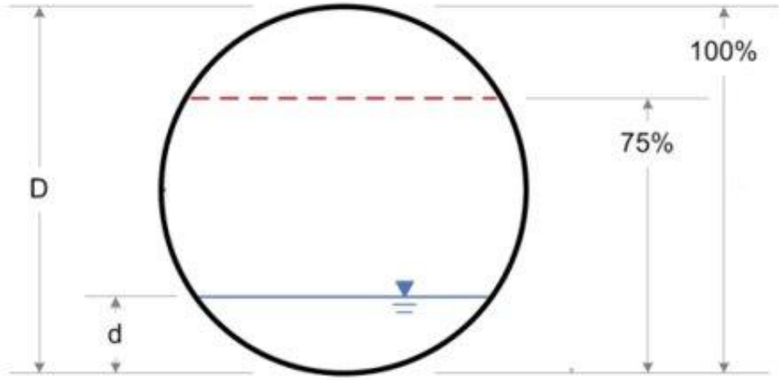
Dry Weather Diversion:

A diversion of non-stormwater flows from the storm drain system to the sanitary sewer system. Also referred to as low flow diversion (LFD)

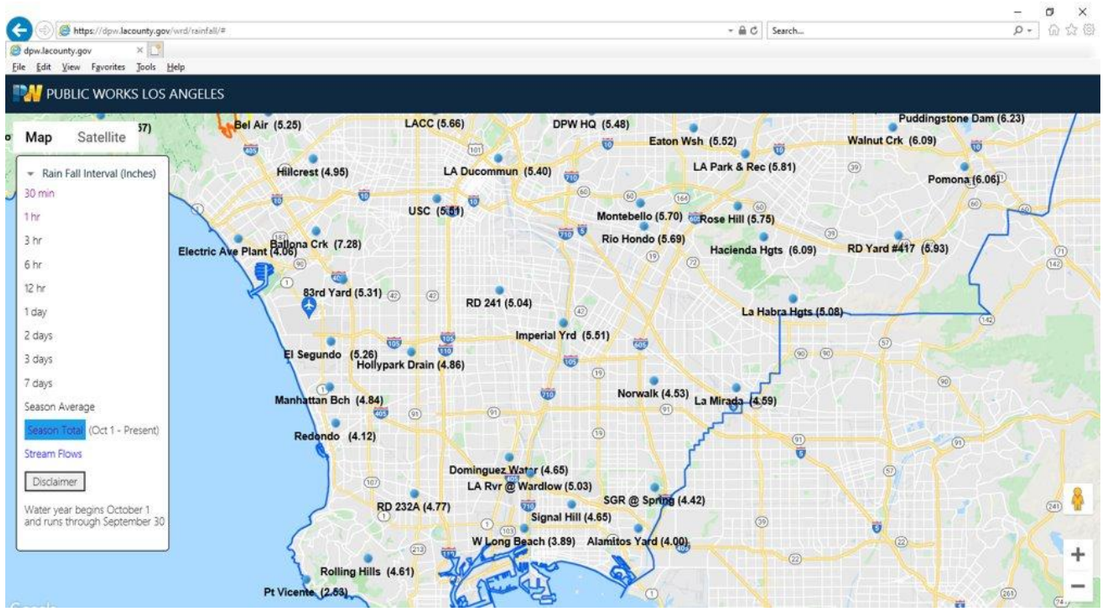
Wet-Weather Challenges for Sewers

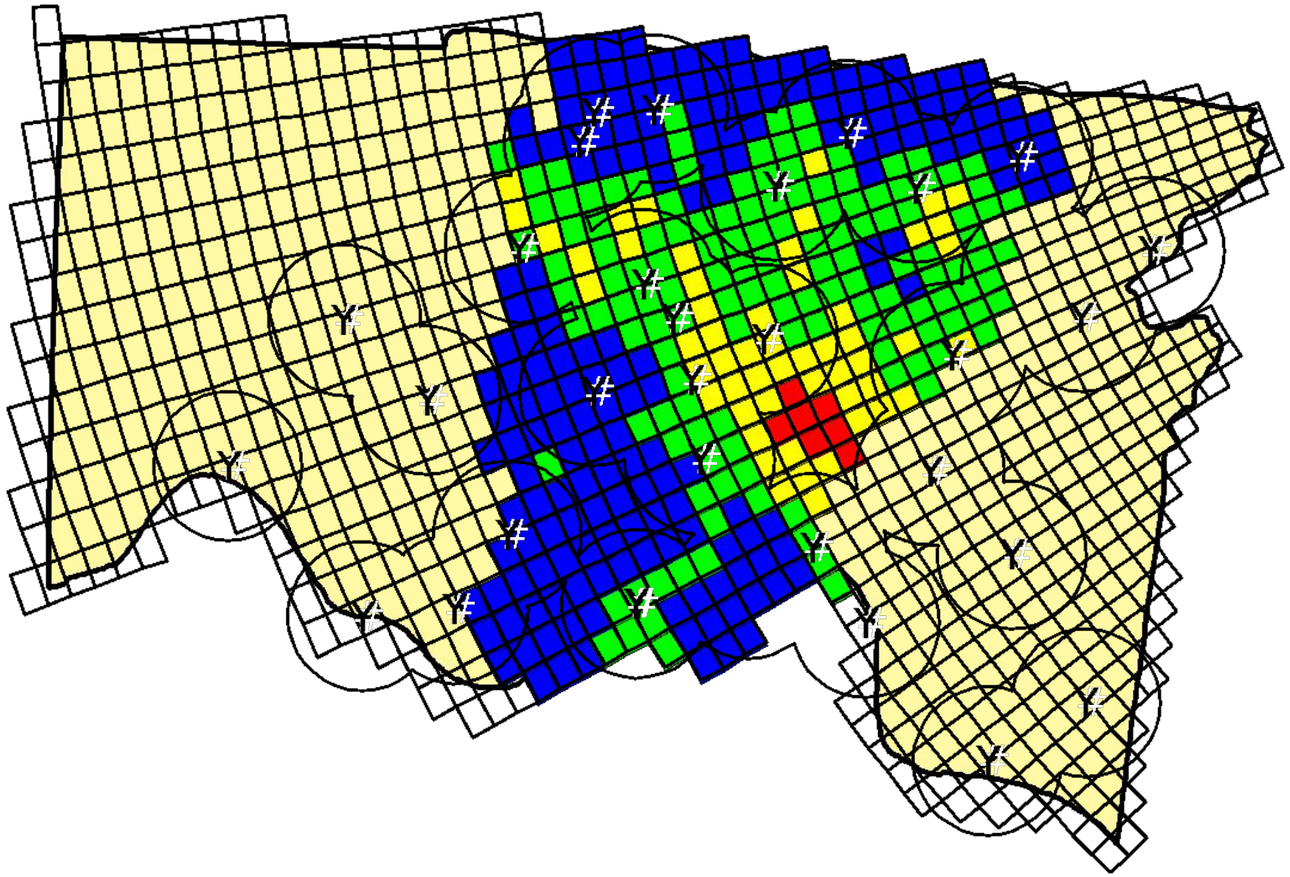
- Inflow and Infiltration
- Large system with long travel times (up to 8 hours) and limited real-time information
- Zero tolerance for sanitary sewer overflows (SSOs)





Data Needs to Evaluate Realtime Diversions





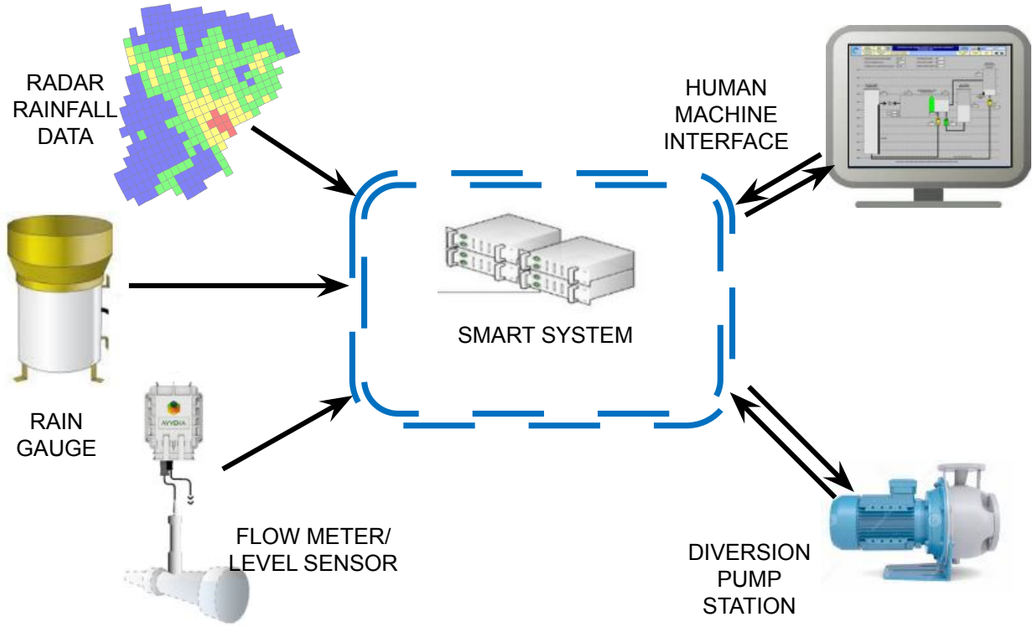
Gauge Adjusted Radar Rainfall (GARR) is needed to identify heavy rainfall occurring between gauges

Process to move toward Realtime Diversion

Phase 1:
Integrate real-time data

Phase 2:
Develop rules based on data

Phase 3:
Develop predictive logic to respond to wet weather



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Wet Weather Conclusions

- Projects that need sewer conveyance can store within the watershed and divert when capacity available (Stored stormwater diversions)
- Water Reclamation Plants must prioritize sanitary flow during wet weather, but there may be opportunities to send early flows directly to headworks with a real-time control system
    - Coupled with storage
- Additional instrumentation and modeling is required before real-time diversions could be accepted at a locations located away from a WWTP
- Variable speed pumps are required

Capacity Evaluation

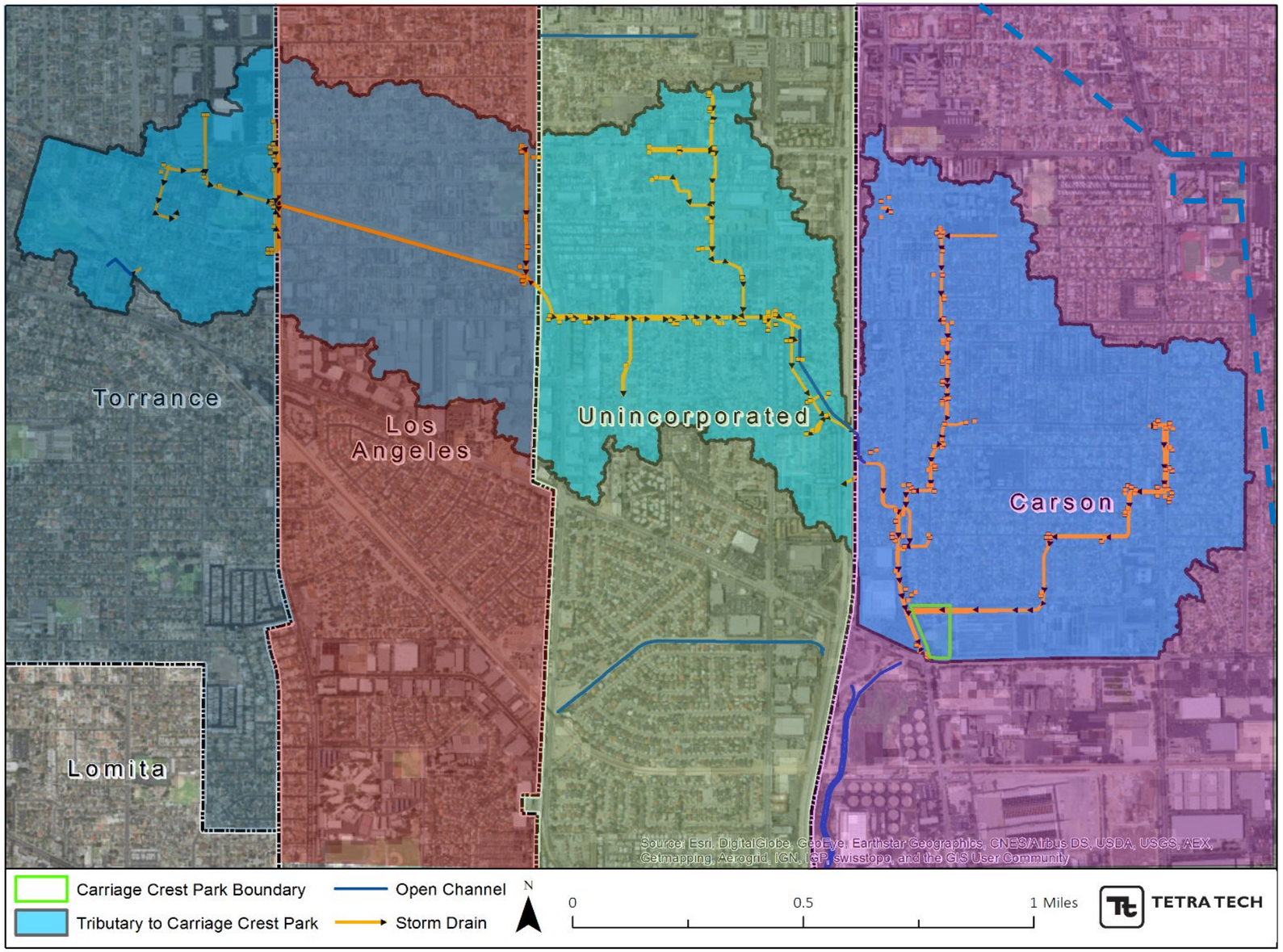
Diversion type	Capacity determination	Discharge permissive control points
Dry weather (no storage)	Clearance diagrams (additional off-peak evaluation if needed)	Rain switch at project location
Real-time at Treatment Plant (includes storage for peak flows)	Off-peak evaluation for max flowrate, rainfall response modeling at plant	Sewer level at connection point, permissive signal from treatment plant, variable speed pump
Stored stormwater to a tributary sewer	Clearance diagrams, off-peak evaluation, sewer travel time evaluation, coincident flow evaluation	Rain switch at project location, potential future signal from regional control (for multiple projects sharing capacity in a critical sewer), variable speed pump
Realtime to a tributary sewer (includes storage for peak flows)	Dry weather off-peak evaluation for max flowrate, rainfall response modeling in sewer (potentially a multi-year effort to develop and calibrate)	Realtime gauge-adjusted radar rainfall data, permissive signal from real-time sewer level at critical locations downstream, permissive signal from rainfall response model, variable speed pump

Example Projects

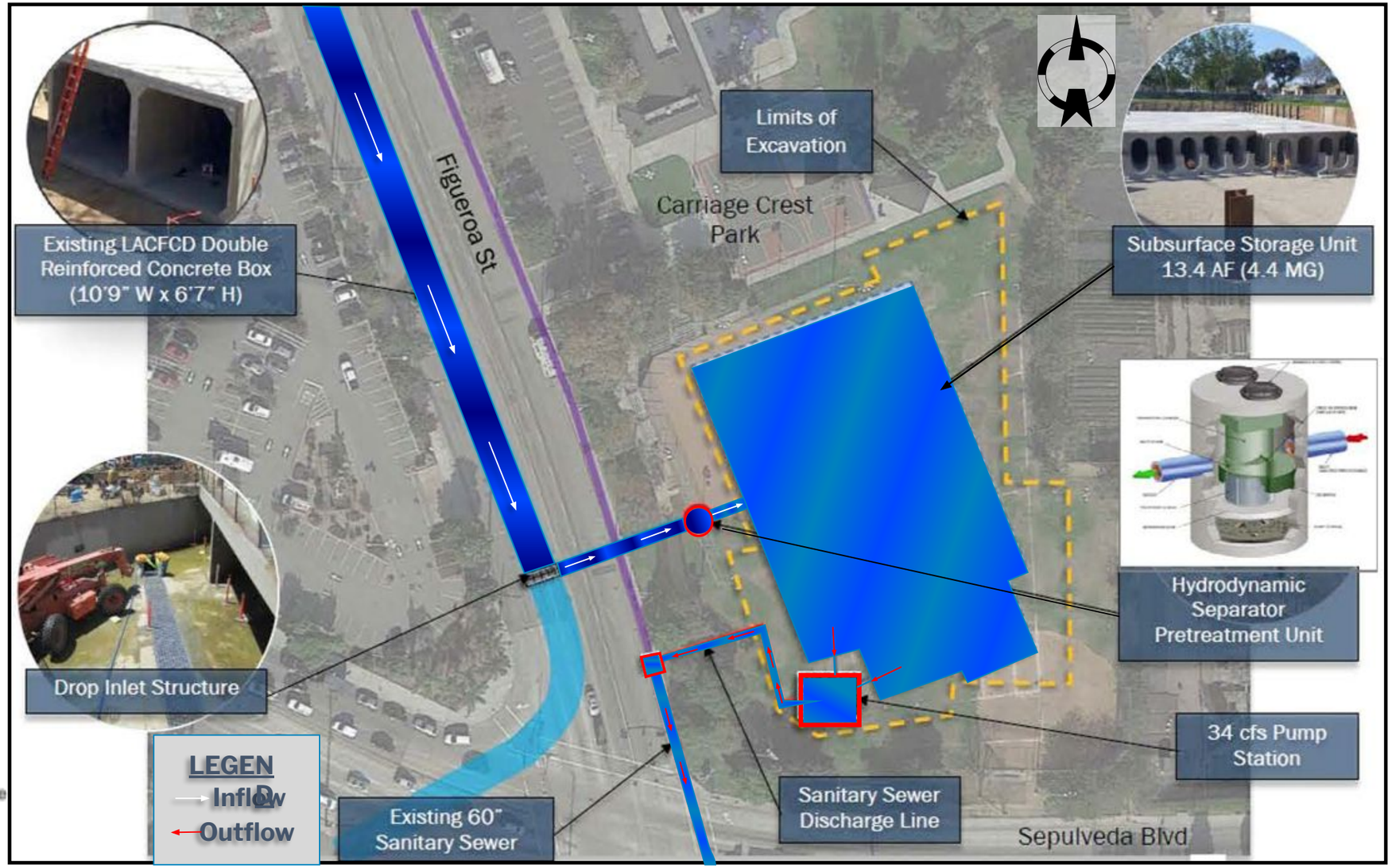
Dry Weather (low flow) Diversion	Example	Numerous along the coast
Real Time Diversion directly to a WWTP	Example	Carriage Crest Park El Dorado Park*
Stored Stormwater Diversion (distant from WWTP)	Example	Alondra Park Adventure Park
Realtime Stormwater Diversion (distant from WWTP)	Example	Obregon Park/ LA River Segment B*

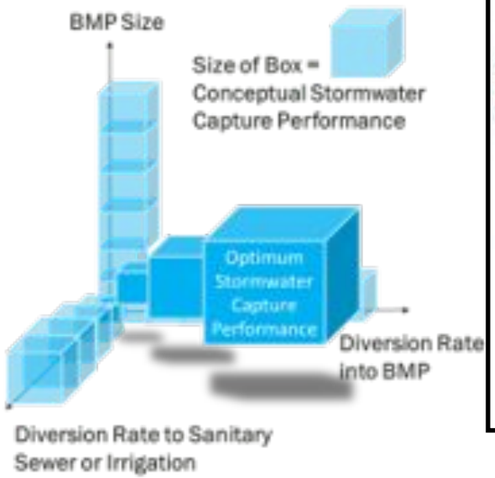
* Conceptual project in development

Carriage Crest

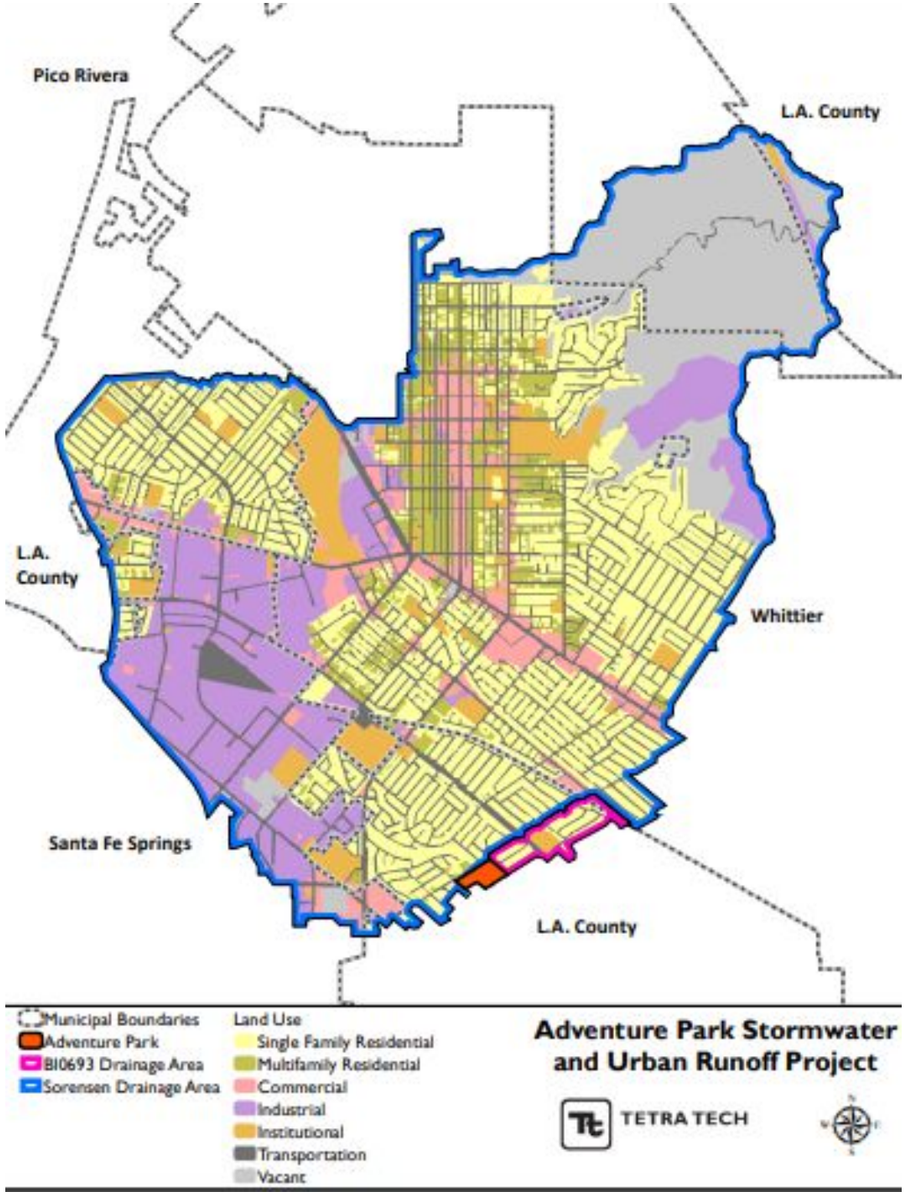


Carriage Crest

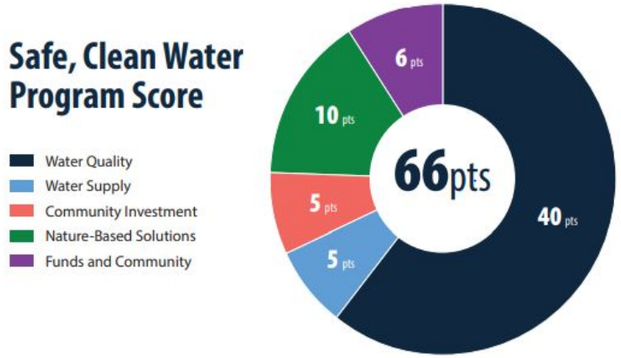




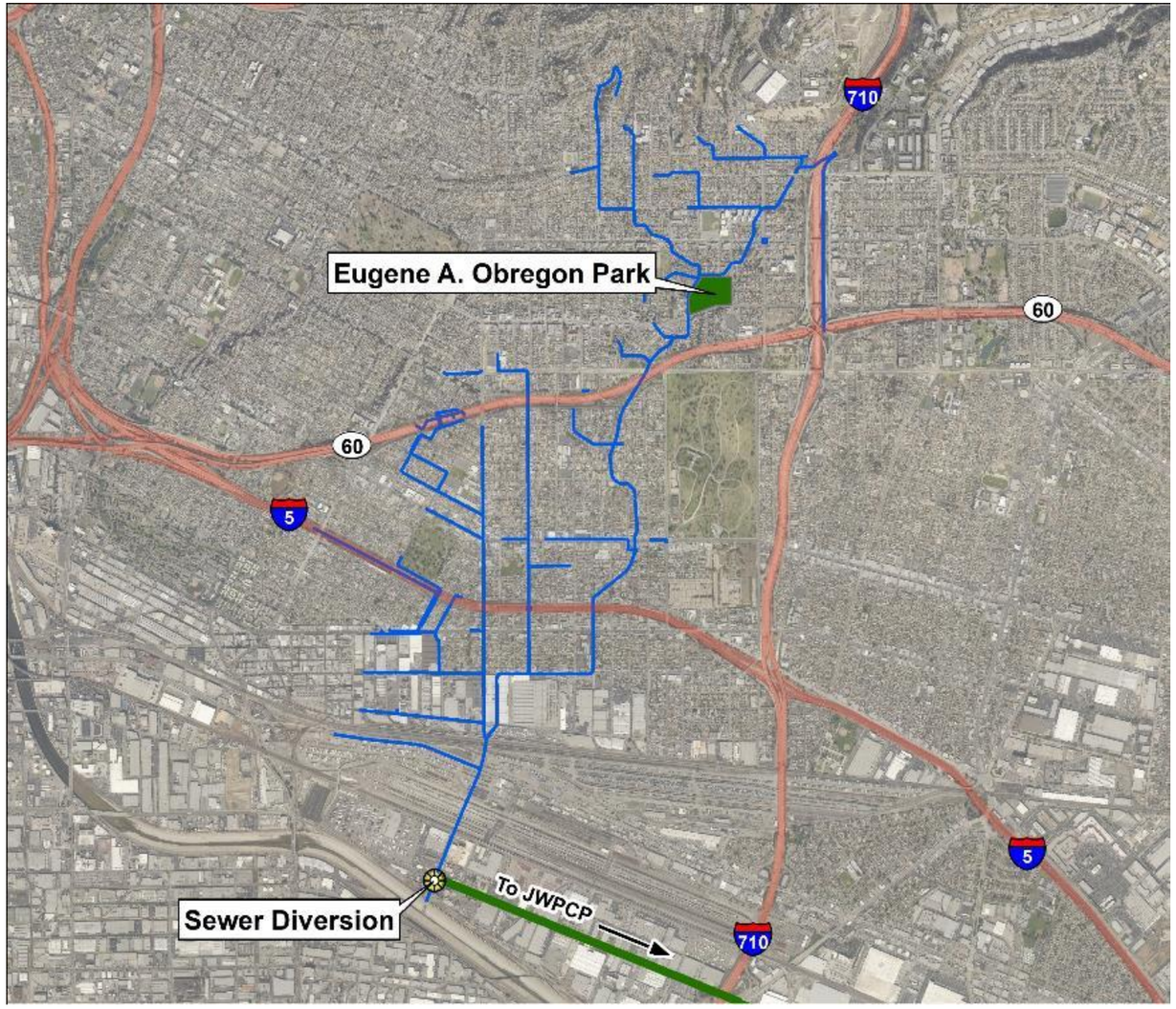
Adventure Park



Safe, Clean Water Program Score



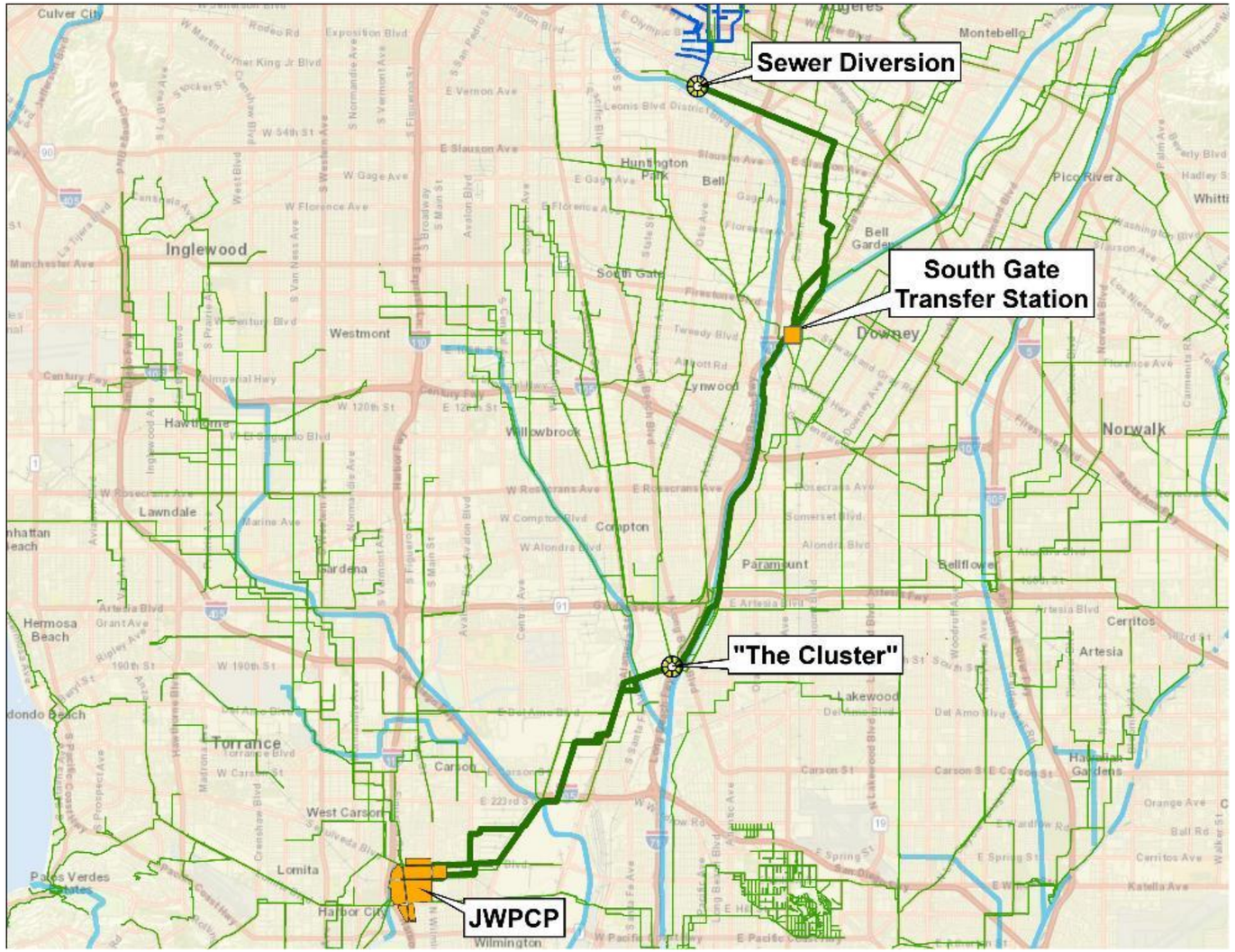
Obregon Park



Proposed Combined Project

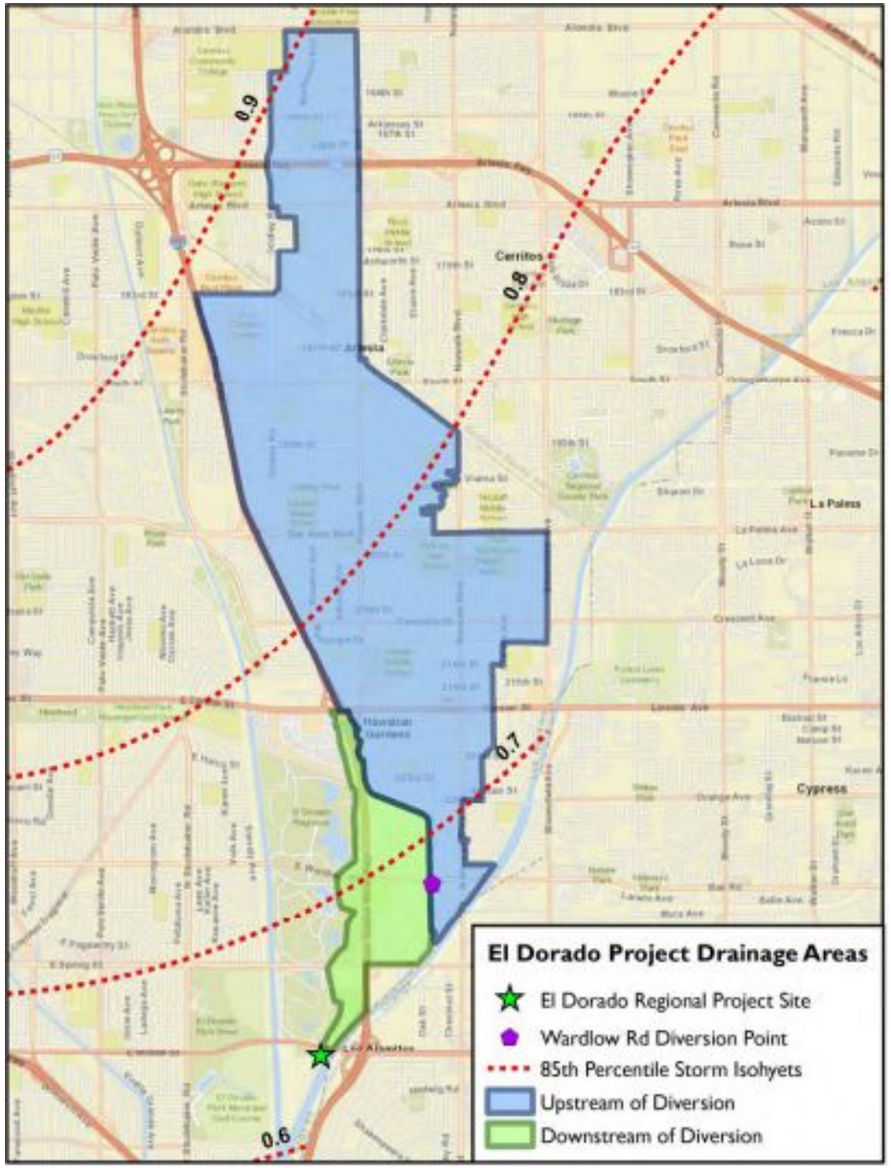
- Dry/Wet weather Diversion
- One Sewer Connection at LA River Segment B
- Obregon Park cistern
- Smart System
- Real Time Info (Sewer, Storm Drain, Rainfall)
- Time discharge from storm drain to sewer based on sewer capacity
- Operate discharge from Obregon based on rainfall and sewer capacity
- Discharge to LA County Sanitation District can be peak or off-peak based on calculations
- Variable Speed Pump

Obregon Park



- Receiving sewer has excess capacity during dry weather and no capacity during significant storms
- Long travel times in sewer
- SCADA tied sewer level monitoring at critical downstream locations
  - Existing at Cluster
  - Additional work would be needed at South Gate Transfer Station

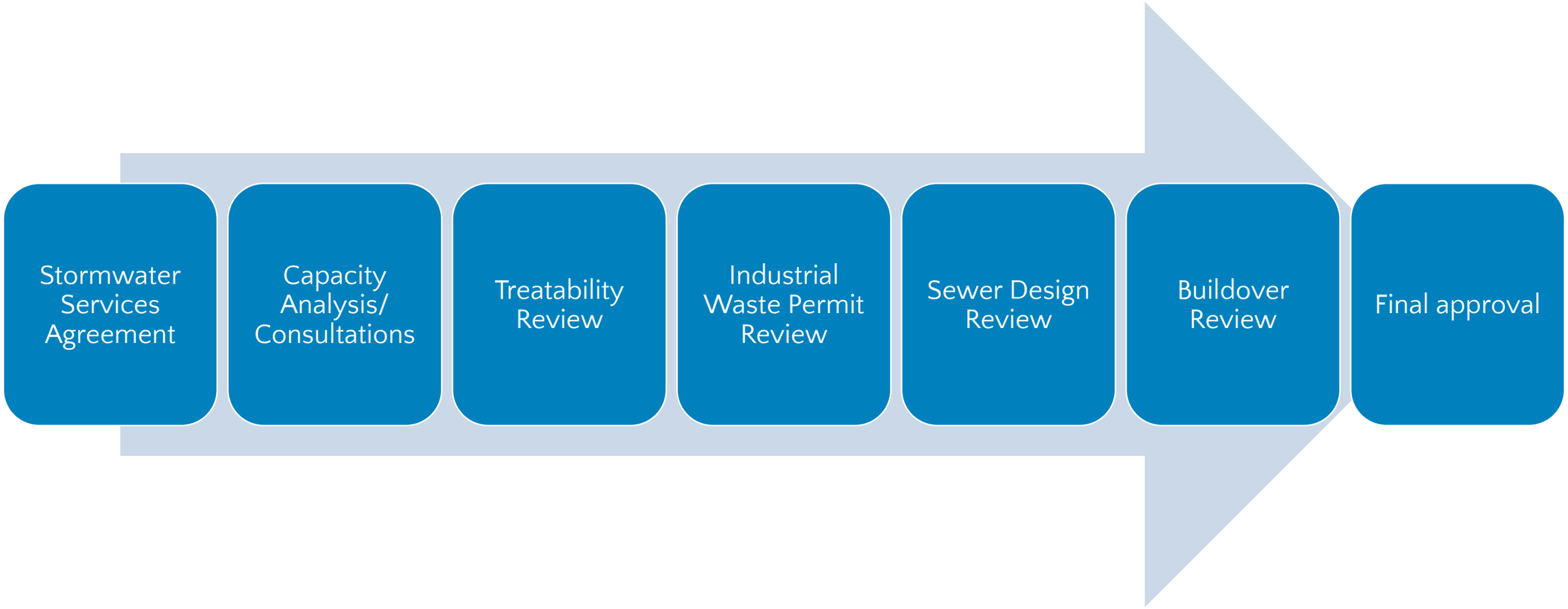
El Dorado Park



Final Thoughts

- All projects are evaluated case-by-case
- Partnering early in the project development process can identify solutions that neither entity could identify working alone
- Projects need an internal champion at the sewer agency

Districts' Process



WATER QUALITY AND WATER RIGHTS

ERIKA BENSCH

Division Engineer - Reuse & Compliance

LA County Sanitation Districts

LOS ANGELES COUNTY
SANITATION DISTRICTS
Converting Waste Into Resources

Recycled Water

Water Quality and Water Rights

Erika Bensch

Division Engineer, Reuse & Compliance

LACSD Wastewater Service Area

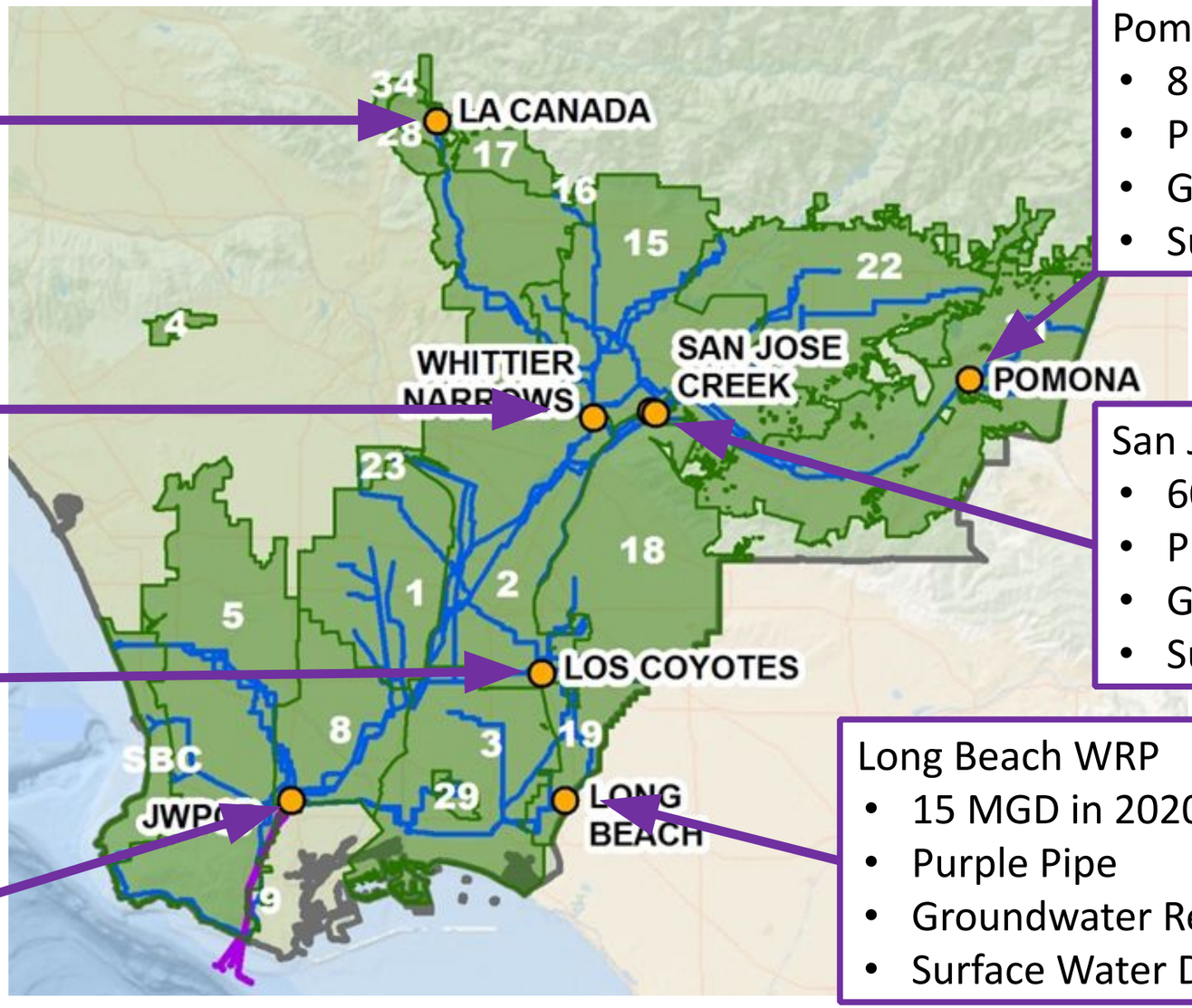
Joint Outfall System (JOS)

La Cañada WRP
- 0.07 MGD in 2020
- Limited Irrigation

Whittier Narrows WRP
- 10 MGD in 2020
- Purple Pipe
- Groundwater Recharge
- Surface Water Discharge

Los Coyotes WRP
- 23 MGD in 2020
- Purple Pipe
- Surface Water Discharge

Joint Water Pollution Control Plant
- 250 MGD in 2020
- Ocean Discharge



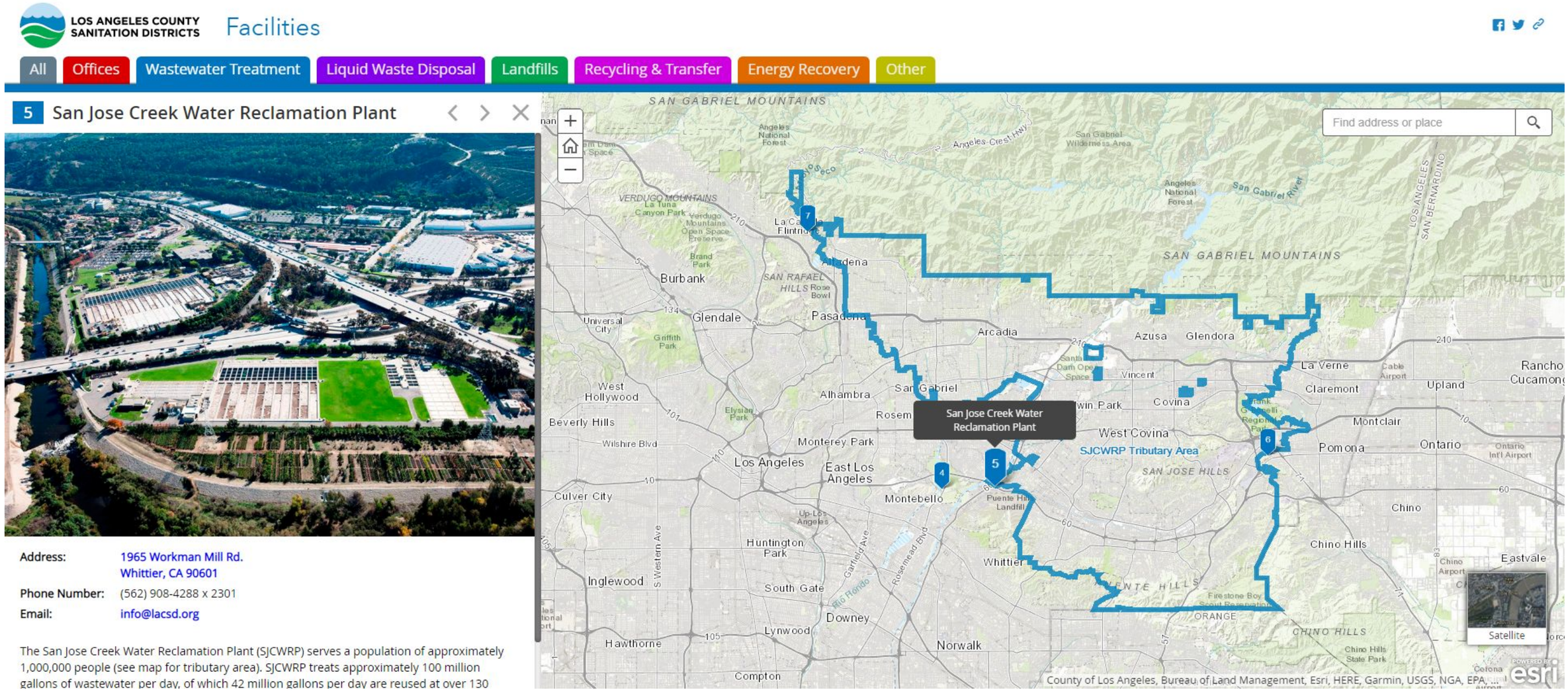
Pomona WRP
- 8 MGD in 2020
- Purple Pipe
- Groundwater Recharge
- Surface Water Discharge

San Jose Creek WRP
- 60 MGD in 2020
- Purple Pipe
- Groundwater Recharge
- Surface Water Discharge

Long Beach WRP
- 15 MGD in 2020
- Purple Pipe
- Groundwater Recharge
- Surface Water Discharge

Where does the sewage go?

- Visit LACSD.org (https://www.app.lacsd.org/facilities)



Pre-Project Sampling For Water Quality

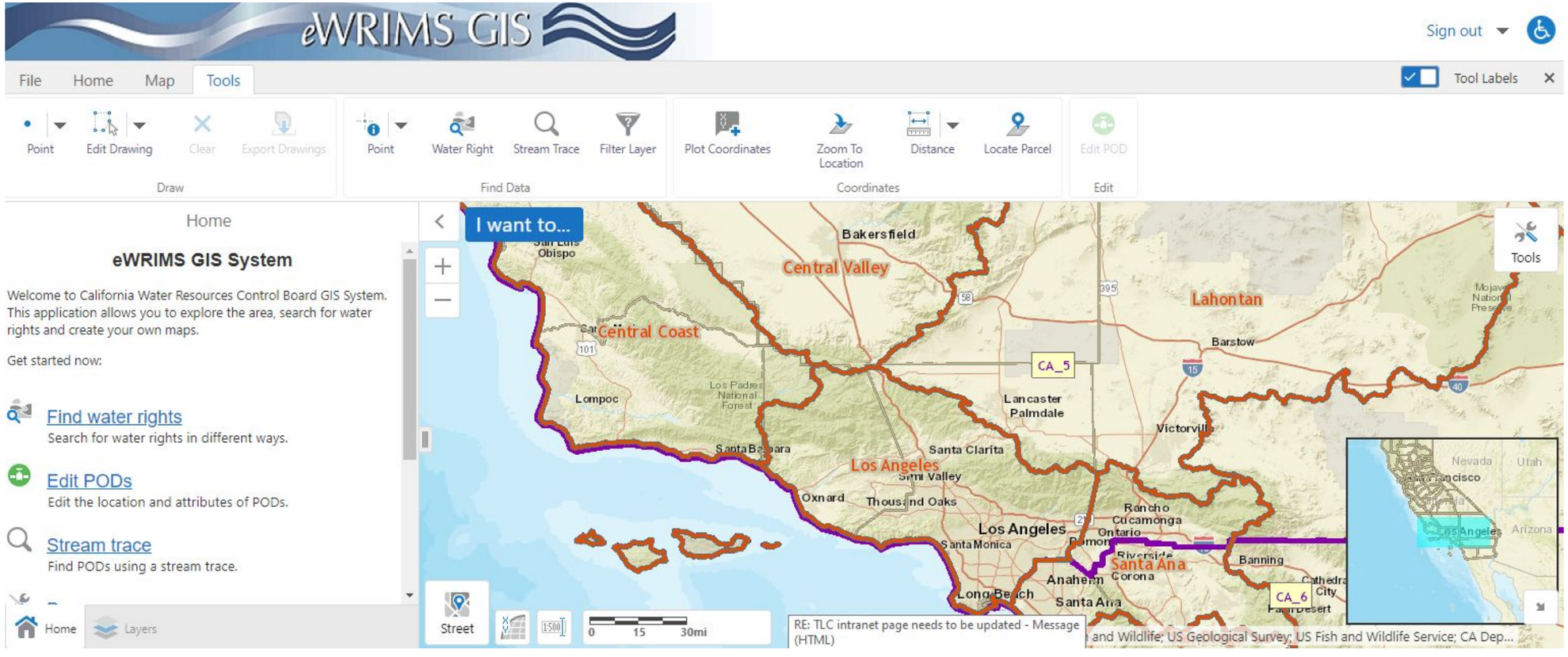
- To provide information on water quality
- To determine feasibility of the project
- To protect our sewers, our WRPs, recycled water users, human health, and the environment
- Treatment plant discharge limits are driven by basin plan objectives, protecting beneficial uses that often include aquatic life, and drinking water standards.

Analytes for Analysis

- Metals
  - Antimony, Arsenic, Barium, Cadmium, Chromium, Copper, Iron, Lead, Mercury, Nickel, Selenium, Zinc
- Organics
  - 1,2,3-TCP, 1,4-Dioxane, Perchlorate, TBA, PFAS
- Pesticides
  - 2,4-D, Fipronil, Fipronil Desulfinyl, Fipronil, Sulfide, Fipronil Sulfone, Bifenthrin, Cyfluthrin, Cypermethrin, Lambda-cyhalothrin, Permethrin
- Salts
  - Conductivity, TDS, Chloride, Sulfate, Dissolved Sulfides
- Other
  - pH, COD, SS, Turbidity, Boron, Fluoride

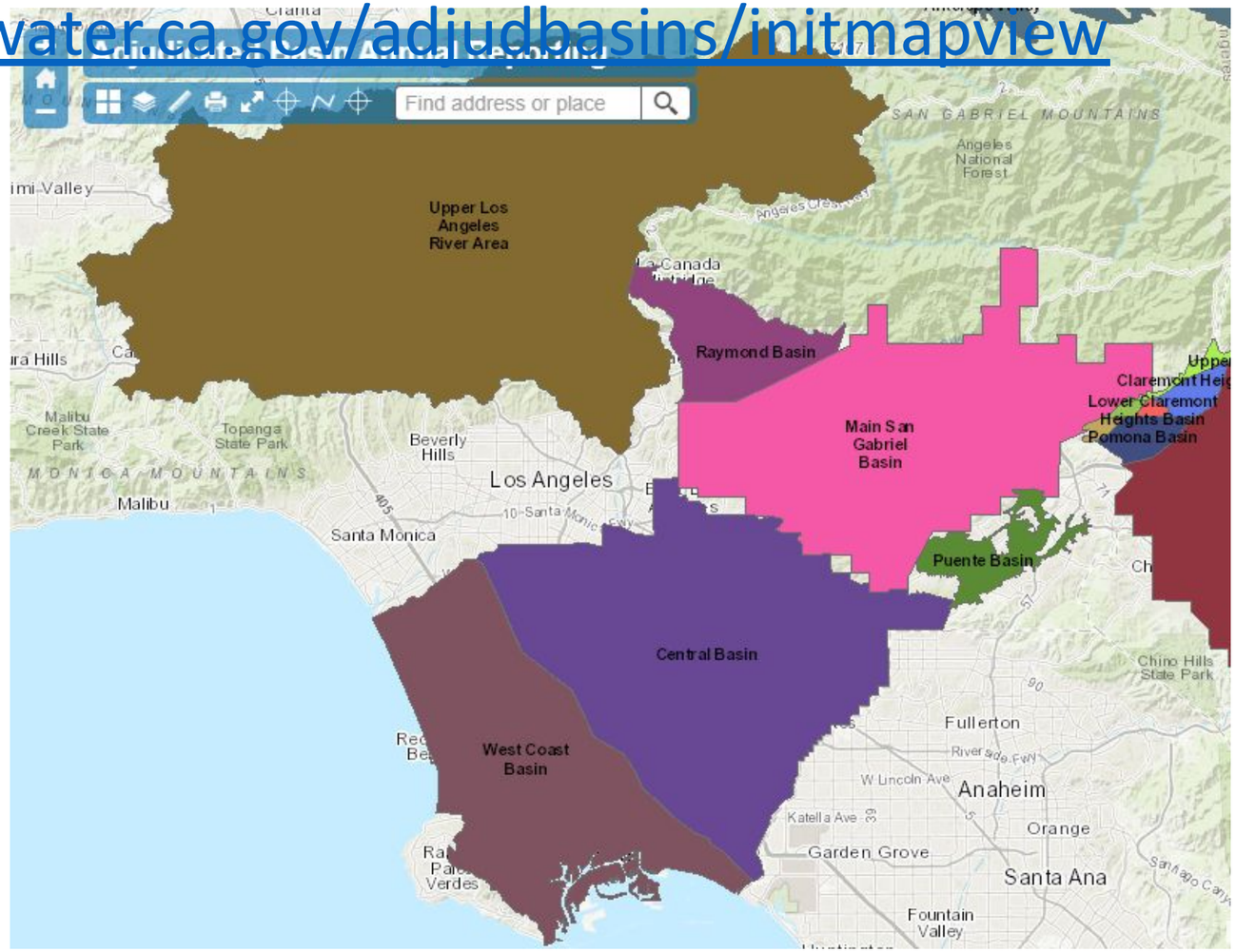
Water Rights

- Check with State Water Resources Control Board, Division of Water Rights (www.waterboards.ca.gov/waterrights)
- Electronic Water Rights Information Management System (eWRIMS)



Water Rights

- Adjudicated Basins: https://sgma.water.ca.gov/adjudbasins/initmapview



Water Rights

- Adjudicated Basins:
  - Main San Gabriel Basin Watermaster - https://www.watermaster.org
  - Central Basin Watermaster - http://www.cbwatermaster.org
  - West Coast Basin Watermaster - https://www.wbwa.info
  - Raymond Basin Management Board: www.raymondbasin.org
  - Puente Basin Watermaster: https://puentebasin.com
  - Six Basins Watermaster: http://www.6bwm.com
  - Upper Los Angeles River Area (ULARA): http://www.ularawatermaster.com
- Adjudicated River: San Gabriel River Watermaster

Industrial Waste Permitting Process

PETER CARLSTROM

Environmental Scientist - Industrial Waste

LA County Sanitation Districts

LOS ANGELES COUNTY
SANITATION DISTRICTS
Converting Waste Into Resources

Recycle The Runoff: A Roadmap for Stormwater Diversions

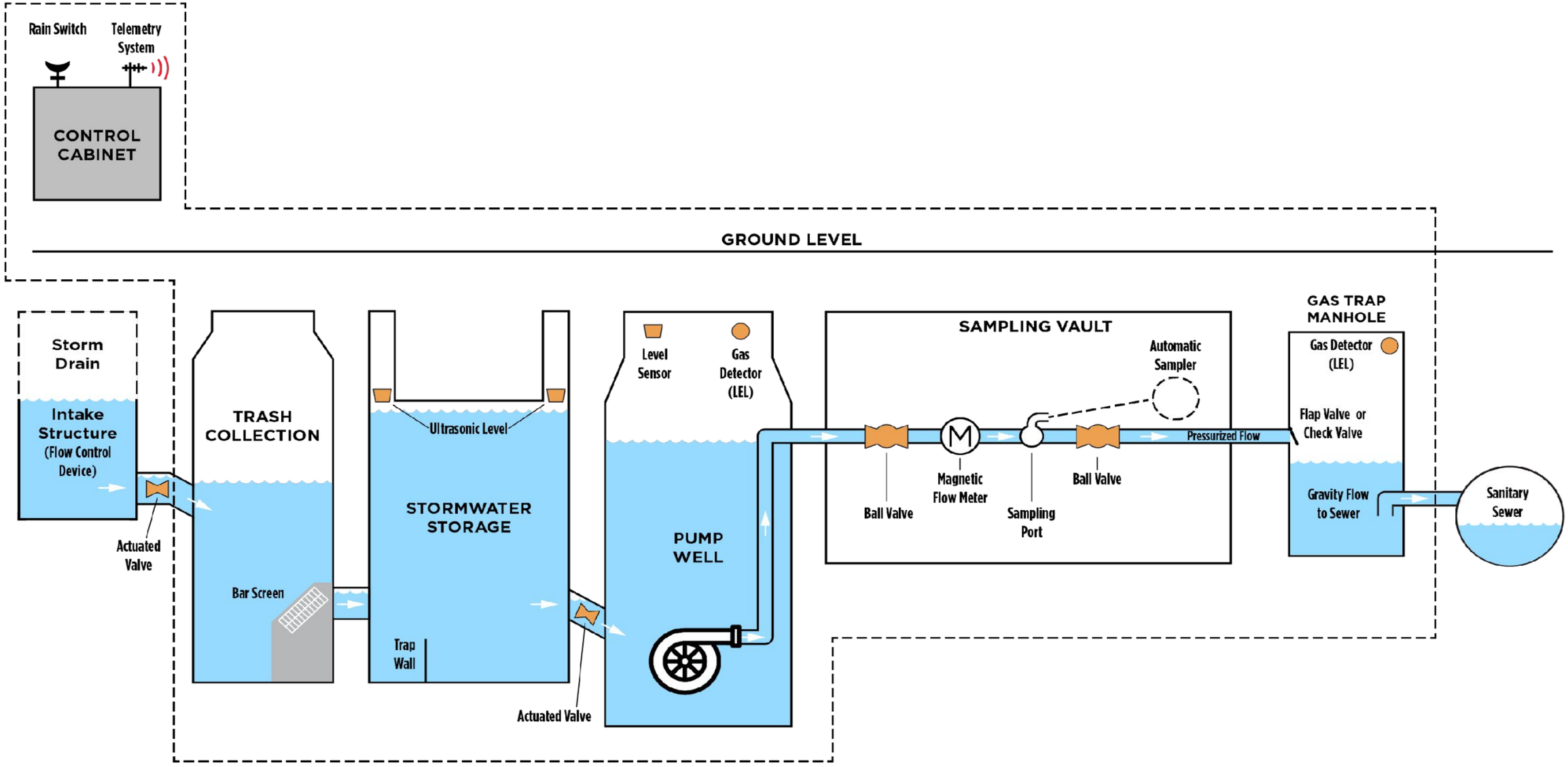
Permitting

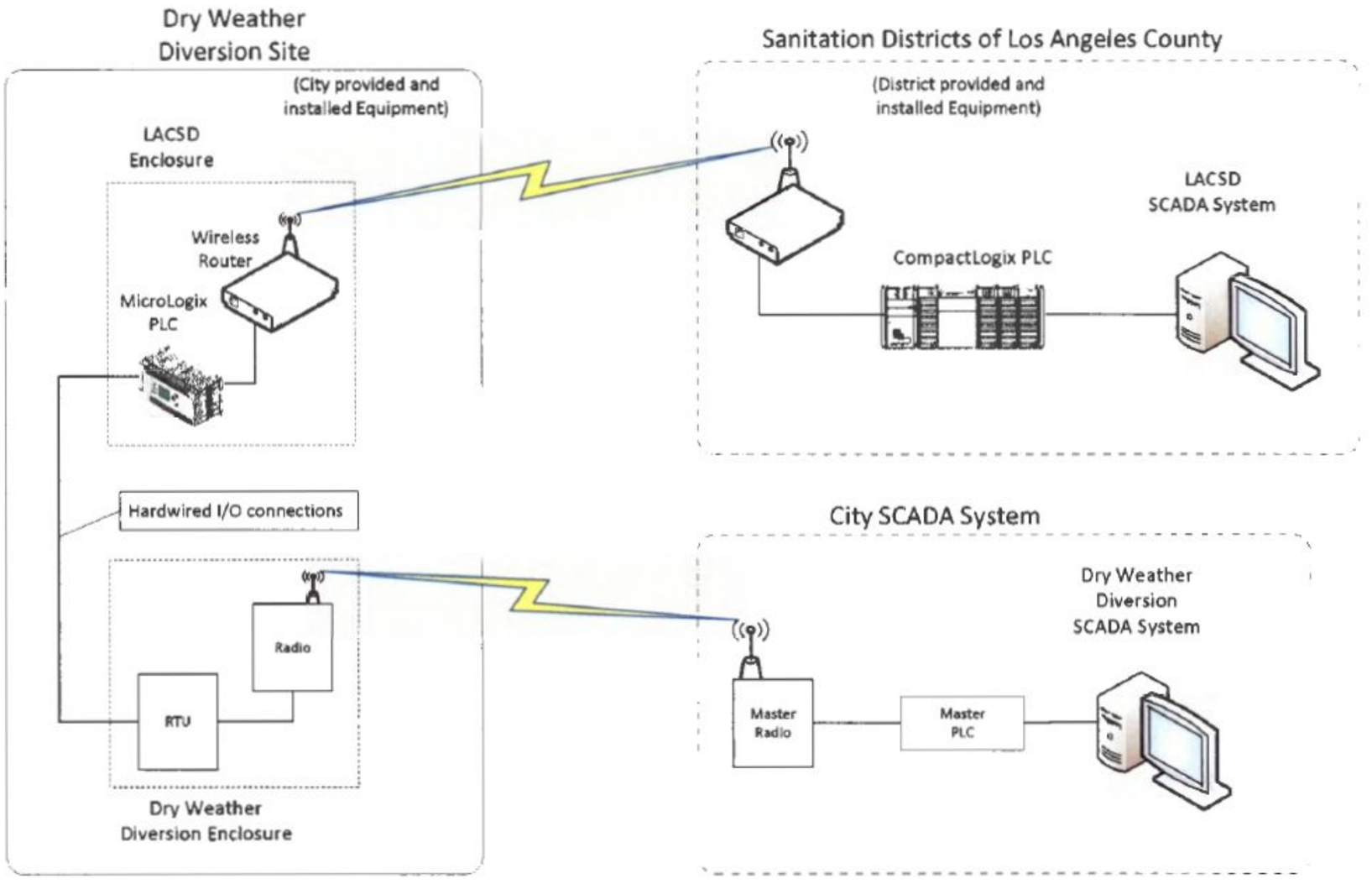
Peter Carlstrom
Assoc. Environmental Scientist
Industrial Waste Section
pcarlstrom@lacsd.org

November 10, 2021

Flow Schematic

for Stormwater Diversion System





Stormwater Diversion System

Telemetry

For specific requirements contact:

Gary Mc Daniels:
gmcdaniels@lacsd.org
ext. 1712

or

Thao Le
thaole@lacsd.org
ext. 1705

Permit Cycle

- Application package submitted to the Local Agency
- LACSD review
- Connection fee payment (if applicable)
- Approval and issuance of a discharge permit
- Compliance inspections, monitoring and surcharge
- 5-year permit renewal. Submit application 6 months before expiration

Permit Application

Required Forms

- Application Form
- Applicant Questionnaire (Form A)
- Estimation of Industrial Wastewater Discharge Flow (Form B)
- Tank Schedule and Spill Containment Calculations, if applicable (Form C)
- Checklist (Form D)

Permit application forms and instructions are available on the Sanitation Districts' Website or by contacting the Industrial Waste Section at (562) 908-4288, extension 2900.

Supporting Documents

Drawings

- **Sewerage Plan**
- **Plot Plan**
- **Equipment Plans**
- **Monitoring Facilities**
- **Spill Containment** - if applicable, such as chemical storage area
- **Flow Measurement**
- **Rainwater Management System**
- **Combustible Gas Monitoring System**

Additional Information

- **Project Description** – purpose and scope, operating procedures, flow estimation, proposed pretreatment and monitoring systems
- **Map of the Drainage Area** - showing storm drains tributary to the diversion point and all NPDES permit flows identified.
- **Equipment Catalog Cuts**
- **Safety Data Sheets**
- **Wastewater Analysis** – Pre-project sample results

What It Costs

Connection Fee

- One-time fee to fund capital facilities that increase sewer and treatment plant capacity
- Local governmental diversions are exempt under Section 3.01 of the Connection Fee Ordinance
- Non-exempt diversions pay a connection fee prior to permit approval or when sewer usage exceeds the baseline capacity by more than 25%
- Charge is based on the average daily flow rate and strength of the wastewater

Surcharge

- Annual charge to fund wastewater collection, treatment, and disposal services
- 1 - 6 MGY can file short or long form
- Over 6 MGY must file long form
- Charge is based on annual flow volume, strength and peak to average flow ratio.
- Keep costs down with pretreatment for COD, TSS. Avoid high peak flow charges by discharging a steady flow rate during the day, or off-peak between 10:00 pm and 08:00 am

Monitoring Requirements

Self-Monitoring

- Permittee must sample semiannually for COD, suspended solids and pollutants of concern (listed on the Permit Data Sheet)
- Blank Self-Monitoring Report forms are mailed to the permittee prior to the reporting period
- The Districts' monitoring is a minimum of once per year

Surcharge Sampling

- Long form filers sample COD and suspended solids at a frequency based on the annual flow volume
- Sampling is quarterly for flows less than 15 MGY, up to twice per week over 250 MGY.
- Modified testing schedule may be necessary due to seasonal and irregular nature of stormwater discharges

LOS ANGELES COUNTY
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Thank you

Helpful Links:

- Discharge Permit Forms
- Policies and Guidelines
- Surcharge and Connection Fee

Considerations for Design & Best Practices

ROSANN PARACUELLES

Supervising Engineer - Sewer Design

LA County Sanitation Districts

LOS ANGELES COUNTY
SANITATION DISTRICTS
Converting Waste Into Resources

Recycle The Runoff

General Requirements and Design Considerations for Direct Connections to Districts' Trunk Sewers

Rosann Paracuelles

Supervising Engineer, Sewer Design

District's Wastewater Ordinance

Section 301 of the Districts' Wastewater Ordinance states:

- "No person, other than the employees of the Districts, persons contracting to do work for the Districts, or maintenance workers of the local sewering agency, shall construct or cause to be altered, any public sewer, lateral sewer, house connection or industrial connection sewer over six (6) inches in diameter, wastewater pumping plant, wastewater treatment plants, or other sewerage facility within the Districts where existing or proposed wastewater flows will discharge directly or indirectly to facilities of the Districts without first obtaining approval of sewerage construction plans from the Chief Engineer."

Direct Connection Plan Reviews

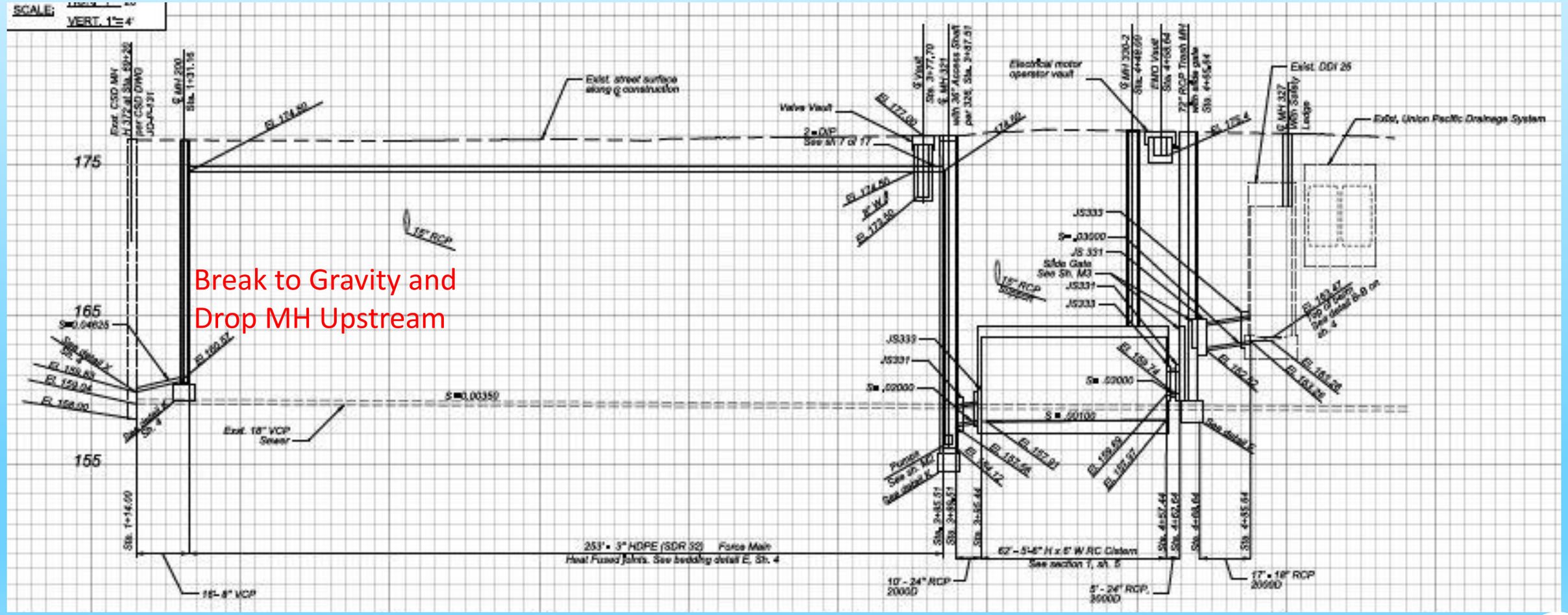
- 8-inch or larger sewer connections to District's Trunk Sewer
  - Connection via an Existing or Proposed Manhole (MH)
  - District only owns and maintains connection at the MH
- Located within public or private Right-of-Way (ROW)
  - Private ROW and in District's easement – Buildover Review
- Sewer Plan and Profile with MH Detail for Review and Approval
  - Plans signed by Civil, Chemical or Structural registered in CA
  - Submit to Sewer Design Section for Review and Approval
  - Allow 3-4 weeks for Review
- Submittals - Submit for Review and Approval to Sewer Design Section
- Inspection – District's staff

Design Considerations

- Force Main Must Break to Gravity Prior to Connection
- Connection to be perpendicular to District's Trunk Sewer
- Invert Elevation
  - Match Water Surface Elevation
  - No Drop Connections at District's MH
- Slope of Proposed Connection (V≥2 fps, V≤10 fps)
- New MH Construction
  - Type of MH (Ex. and Prop. Pipe Diameter, Depth of Cover)
  - Condition of Existing Sewer Reach
- Flow in District's Sewer
  - Flow Through Plug
  - Precast Channel

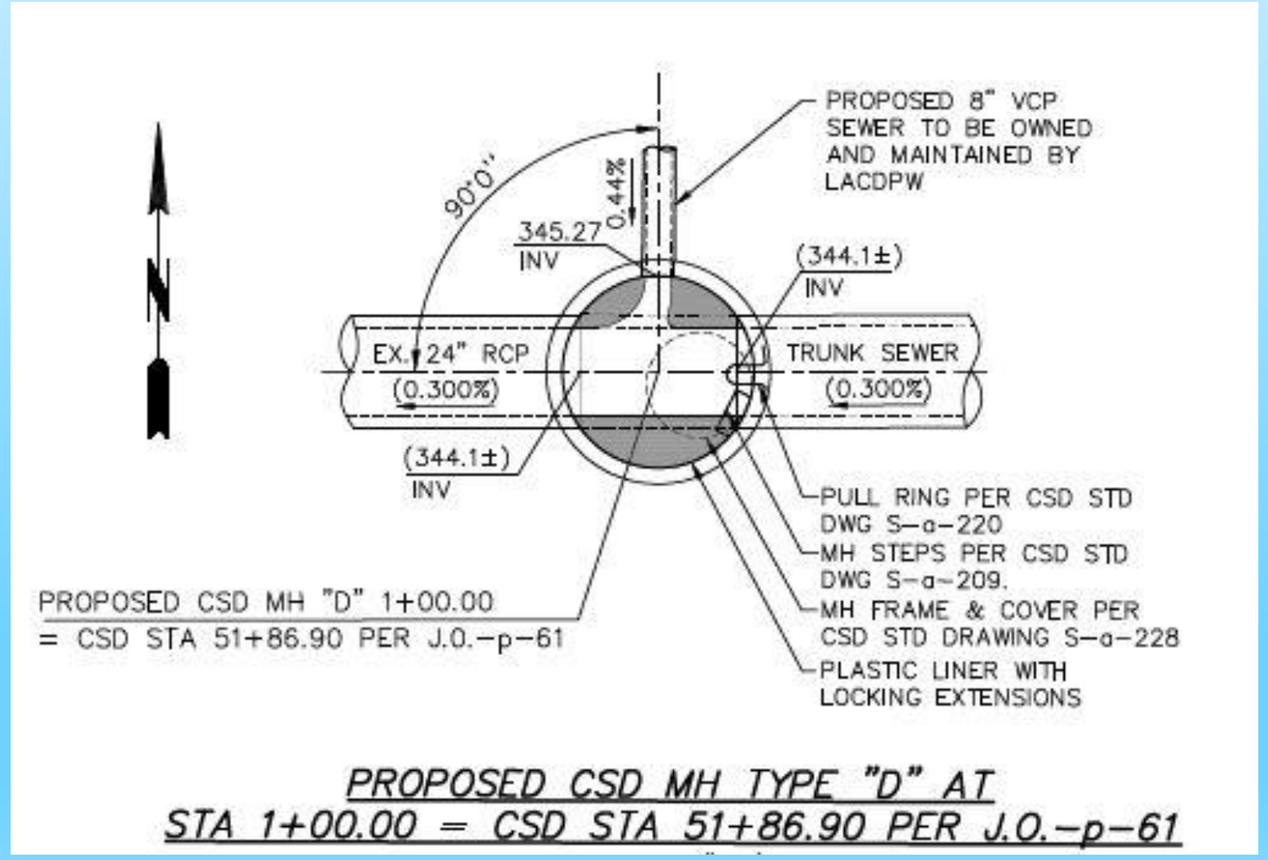
Design Considerations

Example Plan and Profile of Force Main Connection Breaking to Gravity



Design Considerations

Example Manhole Detail



List of SW Diversion Sewer Connections

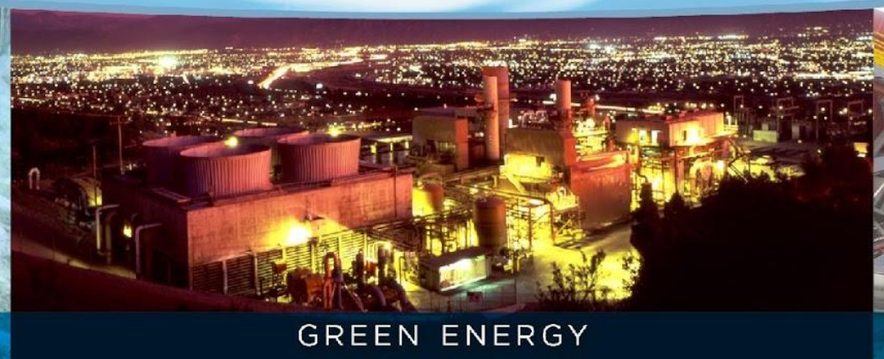
- Carriage Crest Park (Carson)
  - 24-inch sewer connection to District's existing 60-inch PEP lined RCP
  - Connection via Structure with a Precast Channel
- LA River Segment B Load Reduction (Vernon)
  - 8-inch sewer connection to District's existing 18-inch VCP sewer
  - Connection via an existing MH
- Adventure Park (Whittier)
  - 10-inch sewer connection to District's existing 30-inch VCP sewer
  - Connection via construction of a new MH (48-inch MH "D")
- Alondra Park (Lawndale)
  - 12-inch sewer connection to District's existing 54-inch RCP sewer
  - Connection via an existing structure

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

Buildovers and the Process for Protecting Sewer & Right-of-way

DANIELLE THOMAS

Project Engineer - Planning & Property Mgmt.

LA County Sanitation Districts

LOS ANGELES COUNTY
SANITATION DISTRICTS
Converting Waste Into Resources

Recycle the Runoff:

Buildovers

Presented By:
Danielle Thomas
Planning & Property Management Section

November 10, 2021

What constitutes a buildover?

Requires a Buildover Review

- Construction is proposed close to or over the route of an existing sewer or drain
- The Districts do not encourage the building of improvements over sewer easements
  - Can limit access for operations staff
  - Can damage underlying sewers

May Not Require a Buildover Review

- Sewer Connection
- Public Right of Way/No conflict
- Outside of Easement

Concerns

Non-Negotiables

- No trees due to root intrusion
- No equipment loading greater than AASHTO H-20 or HS-20

Major

- Foundations and Footings
  - Include loads
- Demolition
- Heavy equipment
- Walls, fences, grade beams, underground storage tanks or basins, etc.
- Buried utilities

Less Major

- Excavation**
- Compaction
- Grading? What's the plan and profile?
- Landscaping
- Curb and paving
- Anything and Everything!

How to Prepare

1

Download original as-builts of the impacted sewer(s)

- www.lacsd.org/ugutilities/

2

Provide construction plans, include cross-sections, and design loads (if applicable)

3

Highlight and identify sewers/easements with clear labeling

4

Fill out buildover application and provide a short description of the project

Applicant/Business Address: _____

Contact Person: _____

Phone Number: _____ Email: _____

Property Information

Construction Site Address: _____

Assessor's Parcel Number(s): _____

Property Owner Legal Name: _____

Project Information

Proposed Project (e.g., 2-story warehouse/office): _____

Type of Construction (e.g., concrete tilt-up): _____

Estimated Start Date: _____ Estimated Completion Date: _____

Description of Proposed Work In or Near Sewer Easement (check all that apply)

- ☐ Demolition:_____
- ☐ Excavation & Compaction:_____
- ☐ Grade Changes:_____
- ☐ Buried Utilities:_____
- ☐ Foundations & Footings (include loads):_____
- ☐ Curb & Paving:_____
- ☐ Landscaping (no trees allowed inside sewer easement):_____
- ☐ Other: wall, fence, grade beam, swimming pool, etc._____
- ☐ Equipment List and Operating Weights:_____

Required Project Drawings and Data (attach each as needed)

- ☐ Plan View drawings. After our initial review of your project drawings, we will provide copies of the easements and as-built drawings for the Sanitation Districts trunk sewer(s) in your project area. You will then submit revised project drawings that show the sewer(s) and drawing number(s), manhole(s), and easement(s) properly labeled (e.g., "30-inch Tri-Cities Outfall Relief Trunk Sewer (21-p-23)," "Manhole 21-590" and "LACSD 10-ft Sewer Easement") so we can perform formal review. The title sheet of your project drawings must include the following note:
  "*No grading, soil removal, soil fill or other construction activity shall be performed within the Sanitation Districts easement(s) without on-site approval of the proposed activity by a Sanitation Districts inspector. Contact the Wastewater Collection Systems Manager at (310) 638-1161 a minimum of two (2) weeks prior to the start of construction to arrange for inspection.* "
- ☐ Legal Description for the parcels that contain the sewers.
- ☐ Datum used for elevations (e.g. NAVD88, NGVD29, LA County benchmark, City of Industry benchmark).
- ☐ If your project proposes excavation, grade change, buried utility, foundation or footing, you must provide profile or cross

Buildover Application

https://www.lacsd.org/services/wastewater-programs-permits/buildover-procedures

Buildover Evaluation

Structural Engineering

- Determine the loading and capacity of the pipe, and structural integrity of the pipe to withstand additional loads
- Evaluates the need for extra protections of the pipe

Sewer Design

- Responsible for determining the pipe strength and determining the pipe loading for conditions where only soil cover has increased

Operations

- Focused on the projects' operations and maintenance impacts, such as access to manholes and potential for causing odor control issues (if tying into a sewer)

CCTV Inspections

- Pre- and post-CCTV inspections may be required for some buildover projects
- Only required on a case-by-case basis depending on project scope, sewer condition and potential for impact on the sewer
- Can be requested by Sewer Design after evaluation of the clearance/distance of the affected sewer to any proposed facilities
- Can be requested by Operations (not typical)

Buildover Review Deliverables

Buildover Approval Letter

- For projects with non-permanent structures
- Does not warrant anything to be recorded on the property title
- Does not need to be notarized
- Only requires signatures from the project team and Districts' supervisor

Buildover Agreement

- For projects with permanent structures
  - Buildings, underground stormwater systems, buried utilities, etc.
- Recorded with the county clerk on the property title
- Requires notarized signatures from an authorized party of the project (owner, etc.) and the Districts' Chief Engineer

Construction Inspection

- All construction activities within the Easement Area requires oversight, inspection, and approval of the proposed activities by a Districts inspector
- Districts requires two weeks notice prior to the start of any construction in the Buildover Area
- Districts requires the project team to support and protect the sewer in place during construction
- Extreme caution required during excavation in the vicinity of the Districts' facilities

Time Allocations

2 weeks	>4 weeks	>2 Weeks
• Initial Buildover Request • Preliminary revisions	• Buildover Review • Issuance of Buildover Review Letter	• Buildover Agreement transmittal • Record with County

Example – Alondra Park

UG Stormwater Management System in Lawndale

- Proposed Activities: underground stormwater capture project, buried utilities, and curb and paving
- Review: Recorded Buildover Agreement
- Added Requests: New MH construction, Drop MH upstream of connection
- Inspection Required: Yes

Example – Adventure Park

Underground Stormwater Capture System in Whittier

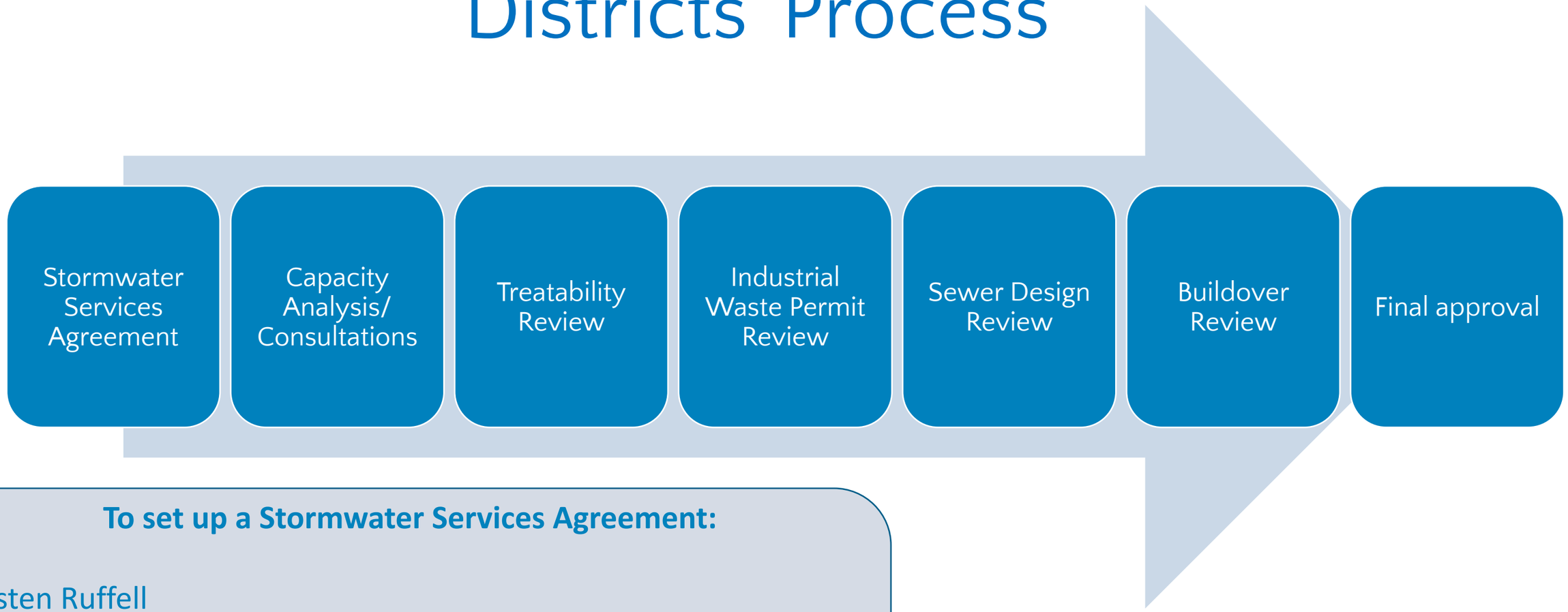
- Proposed Activities: grading adjustments, diversion structure & storage reservoir
- Review: Recorded Buildover Agreement
- Added Requests: CCTV Inspection, support and protect sewer in-place during construction**, pressure frame & cover for MH
- Inspection Required: Yes

Example – Puente Valley

UG Stormwater Management System in City of Industry

- Proposed Activities: Stormwater management and discharge system and grading adjustments
- Review: Recorded Buildover Agreement
- Added Requests: None
- Inspection Required: Yes

Districts' Process



To set up a Stormwater Services Agreement:

Kristen Ruffell
Email: kruffell@lacsd.org
Phone: (562) 908-4288, extension 2826
Mailing Address:
P. O. Box 4998
Whittier, CA 90607

LOS ANGELES COUNTY
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Converting Waste Into Resources

QUESTIONS?

Q&A

RECYCLE THE RUNOFF

A ROADMAP FOR STORMWATER DIVERSIONS

A TECHNICAL WEBINAR WITH
LA COUNTY
SANITATION DISTRICTS

NOVEMBER 10, 9A-11A

COUNCIL FOR
WATERSHED HEALTH

LOS ANGELES COUNTY
SANITATION DISTRICTS
Converting Waste Into Resources

SOUTHERN
CALIFORNIA
WATER
COALITION

WRAP-UP AND Q&A

THANK YOU!