METRO TAC AGENDA
(Technical Advisory Committee to Metro JPA)

TO: Metro TAC Representatives and Metro Commissioners

DATE: Wednesday, July 21, 2021

TIME: 11:00 a.m. to 1:30 p.m.

LOCATION: The health and well-being of the MetroTAC members/alternates and participating staff during the COVID-19 outbreak remains our top priority. The MetroTAC is taking steps to ensure the safety of all involved by holding its September meeting electronically via Zoom.

E-mail containing information on how to participate in the meeting will be distributed to the MetroTAC members e-mail list and approved San Diego City Staff by Monday, July 19, 2021 at 5:00 p.m. If you do not receive the e-mail, please contact Lori Peoples at lpeoples@ci.chula-vista.ca.us PRIOR to the meeting date

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1. Review and Approve MetroTAC Action Minutes for the Meeting of May 19, 2021 (**Attachment**)
2. Metro Commission/JPA Board Meeting Recap (Standing Item)
3. **INFORMATION:** Review of Amended and Restated Agreement No. 1 (Scott, Dexter, Roberto) (**Attachment**)
4. **PRESENTATION:** San Diego River Investigative Order – Southern California Coastal Water Research Project (SCCWRP) (Ken Schiff/John Griffith) (**Attachment**)
5. **UPDATE:** Industrial Wastewater Control Committee (Beth Gentry)
6. **UPDATE:** Metro Wastewater (Financial) (Standing Item) (Edgar Patino)
7. **UPDATE:** Metro Wastewater (General) (Standing Item) (Tom Rosales)
   a. Replacement of Pt. Loma Treatment Plant Road
   b. April 10, 2020 Spill Update
8. **UPDATE:** Metro Capital Improvement Program and Funding Sources (Standing Item) (Tung Phung) (NO REPORT FOR JULY)
9. **UPDATE:** Pure Water Program (Standing Item) (John Stufflebean)
   a. Equalization Cost Without Pure Water – (Doug Owen) (**Attachment**)
10. **UPDATE:** Financial (Standing Item) (Karyn Keese)
11. **REPORT**: IRWMP Update (Standing Item) (Beth Gentry)
12. **ACTION**: Consideration and Possible Action to Recommend to the Metro Comm/Metro Wastewater JPA Approval of Reimbursement to Imperial Beach for the Purchase of Computer Equipment for Board Secretary (Karyn Keese)

13. MetroTAC Work Plan (Standing Item) (Roberto Yano) (**Attachment**)

14. Review of Items to be Brought Forward to the Regular Metro Commission/Metro JPA Meeting (**August 5, 2021**)

15. Other Business of Metro TAC

16. Adjournment (To the next Regular Meeting August 18, 2021)

Metro TAC 2021 Meeting Schedule

January 18	May 19	September 15
February 17	June 16	October 20
March 17	July 21	November 17
April 21	August 18	December 15

ATTACHMENT 1

ACTION MINUTES FOR THE MEETING OF MAY 19, 2021

Metro TAC

(Technical Advisory Committee to Metro Commission/JPA)

ACTION MINUTES

DATE OF MEETING: May 19, 2021

TIME: 11:00 AM

LOCATION: Zoom Meeting held On Line

MEETING ATTENDANCE:

Roberto Yano, National City
Beth Gentry, Chula Vista
Bill Valle, Chula Vista
Ed Walton, Coronado
Yazmin Arellano, El Cajon
Blake Behringer, El Cajon
Dennis Davies, El Cajon
Eric Minicilli, Imperial Beach
Mike James, Lemon Grove
Hamed Hashemian, La Mesa
Steven Beppler, Otay WD
Bob Kennedy, Otay WD
Kevin Koeppen, Otay WD
Mark Niemiec, Padre Dam MWD
Angela Martinez, Poway
Jessica Parks, Poway
Dan Brogadir, County of San Diego
P.J. Tubongbanua, County of San Diego

Dexter Wilson, Wilson Engineering
Scott Tulloch, NV5
Carmen Kasner, NV5
Karyn Keese, the Keze Group
Lori Anne Peoples, MetroTAC

John Stufflebean, City of San Diego
Tom Rosales, City of San Diego
Edgar Patino, City of San Diego
Charlette Strong Williams, City of San Diego
Andrea Demich, City of San Diego
Lisa Celaya, City of San Diego
Adam Jones, City of San Diego
T.P. Hung, City of San Diego

Mark Elliott, Jacobs

Doug Owen, Stantec

1. Review and Approve MetroTAC Action Minutes for the Meeting of April 21, 2021

ACTION: Motion by Eric Minicilli, seconded by Ed Walton, the Minutes be approved. Motion carried unanimously.

2. Metro Commission/JPA Board Meeting Recap

MetroTAC Chair Roberto Yano had not been present at the May JPA meeting and requested Vice MetroTAC Chair Minicilli and Karyn Keese provide the recap.

Vice MetroTAC Chair Eric Minicilli noted that the JPA had passed the budget and contract renewals as well as the new contract with the City of El Cajon for Treasurer services. They will be working on transitioning all contracts as well as the General Counsel to be 5 years with annual reviews; they requested the City of San Diego provide an update on the April 2020 spill as well as the access road to the Point Loma Wastewater Treatment Plant; the

second equivalency passed the House with only 2 negative votes and now moves on to the Senate.

Karyn Keese stated that they passed the concept of PA billings at 50% for the upcoming year which still leaves $200,000 over required reserves.

3. <u>ACTION</u>: Consideration and Possible Action to Recommend to the Metro Commission/Metro Wastewater JPA Authorize the Hiring of a Facilitator for the Second Amended and Restated Agreement

Dexter Wilson, Wilson Engineering explained that the City of San Diego thought it would be a good idea to have a facilitator for the second Amended Restated Agreement (ARA) and he and Scott Tulloch agreed. The City of San Diego has not been able to enter into the contract with the facilitator and asked if the JPA could get the agreement done and the City of San Diego would then reimburse the JPA 70% of the costs. The facilitator would attend the meetings and assist on issues such as the cost share issue that is coming up as well as the issue at North Cities. They all feel having a facilitator would help reach concurrence and may be something they decide to use going forward with issues related to the Metro Systems.

John Stufflebean, City of San Diego stated he thinks it is a good idea and is very supportive of having a neutral facilitator.

Karyn Keese noted the total cost of the contract is $24,900 and therefore the JPA would only be responsible for $7,470. Further that Vice MetroTAC Chair Eric Minicilli was working with General Counsel Nicholaus Norvell on the contract.

Dan Brogadir with the County of San Diego inquired as to the proposed facilitator's background and the selection process. John Stufflebean responded and Dexter stated he and Scott had reviewed qualifications and agreed that Mr. Brown would be the best fit for the issues coming up.

ACTION: Motion by Robert Kennedy, seconded by Beth Gentry, to recommend to the Metro JPA to approve the hiring of the facilitator for the second Amended and Restated Agreement with a reimbursement agreement with the City of San Diego. Motion carried unanimously

4. <u>ACTION</u>: Consideration and Possible Action to Recommend to the Metro Commission/Metro Wastewater JPA Approval of Pure Water Program – Amendment 2 to the Agreement with CH2M Hill Engineers, Inc. for Design Engineering Services for the North City Water Reclamation Plant Expansion Project

John Stufflebean introduced Andrea Demich who made a brief verbal presentation of the staff report noting that the increase was due to additional work due to the 18 month delay caused by litigation. The City of San Diego had to repeat advertisement and also added new work including meetings; submittal consultants to review; additional support in getting the plans through DSD; design consultant on site; assistance during commissioning process; preparing of a replica model to train the operators; geotech and structural engineering during construction to observe and answer questions.

Robert Kennedy requested additional information be added to the staff report such as the expenses to date and change order amounts at the front of the report for presentation to the

JPA.

Andrea was requested to work with Dexter Wilson and Karyn Keese to clear the issues up and revise the report prior to taking it to the JPA.

Mark Niemiec inquired as to if there was an opportunity to identify costs related to the 18 month delay. It would be helpful to know what costs were due to the lawsuit. He also requested information on the City of San Diego CAD updates.

ACTION: Motion by Eric Minicilli; seconded by Hamed Hashemian to recommend the Metro JPA approve it with modifications and additional information requested included. Motion carried unanimously

5. ACTION: Consideration and Possible Action to Recommend to the Metro Commission/Metro Wastewater JPA Approval of Pure Water Program – Amendment No. 3 to Agreement with AECOM Technical Services, Inc. for Design Engineering Services for the Morena Pump Station and Conveyance System Project

Andrea Demich made a brief verbal presentation of the staff report and noted that this was adding $5.8 million and 5 years to the original contract. This will take the past construction and add the new amount bringing the total to $21.7 million. The additional dollars are due to the 18 month delay and some is due to the litigation. They added additional hours for pre construction; additional meetings during construction; design consultant to monitor the equipment function; preparation of the as built and support during the warranty period. The estimated cost is $1.7 million to the JPA which I s 33.5% of the Metro Wastewater costs not including the original cost.

Karyn Keese noted that the same split is shown in the change order and is still under negotiations. Adam Jones of the City of San Diego will get with Dexter to make sure the split is accurate and up to date.

Hamed Hashemian inquired as to why there were extra costs for construction meetings, why delays, why wasn't this not anticipated as the required level of meetings needed previously.

Adam Jones responded that the additional money and additional construction meetings were due to this project having been treated as a "normal project". It is not a normal project it is a huge project which will require more meetings than usual.

ACTION: Motion by Ed Walton; seconded by Hamed Hashemian to recommend the Metro JPA approve it with modifications and additional information requested included as in the prior item. Motion carried unanimously

6. UPDATE: Industrial Wastewater Control Committee

Beth Gentry provided the following update:

The TAC Industrial Wastewater Control Committee had a meeting with San Diego staff Joy Newman and John Steger to go through the different types of entities that would need to apply for an Industrial User Discharge Permit. Provided in the TAC Agenda a highlighted table with typical dischargers into the SD Metro system.

San Diego asked for each PA to provide procedures on how entities are referred to SD for permitting by September. Each jurisdiction is responsible for Industrial Permitting in their service area. This may be as simple as:

1. Review the Table 1 categories and flagged the entity as possibly needing an Industrial Discharge Permit.
2. Review flow quantities and flag any discharger greater than 25,000 gpd.
3. Notify the entity of their requirement to submit an Industrial User Discharge Permit and provided the permit holder a link to the permit application.
4. Notify San Diego Industrial Wastewater Control Program of the potential applicant and forwarded the documentation that the entity was notified.

San Diego plans to review the San Diego County GIS (SanGIS) database of business licenses to identify entities that may need to apply for a permit if they do not already have one. This is a long-term goal due to amount of data and limited resources.

7. Metro Wastewater Update (Financial)

Edgar Paterno City of San Diego stated he had no report.

a. Adam Jones provided an overview of the MetroDebt Schedule.

8. Metro Wastewater Update (General)

Tom Rosales; City of San Diego provided a brief report on the following:

a. Infrastructure Planning Update

Tom stated he had no report.

b. April 10, 2020 Sanitary Overflow Incident Update

Tom provided an update on the Sanitary overflow noting that they will be meeting with the Regional Board on June 3rd who they are expecting will ask questions and request technical information. He stated that he Shana and Juan Guerrero have since had cleaned all siphons system wide and established a cleaning/inspection frequency; all 6 pumps are available and ready to go; and they made repairs to the overflow structure

9. Metro Capital Improvement Program and Funding Sources

Tung Fung provided a quick update on the Metro projects for the 3rd quarter. He was requested to provide a copy of the North and South Metro Structures and descriptions of stormwater projects to Dexter.

10. Pure Water Program Update

John Stufflebean; City of San Diego reported that they had several projects under construction and that the Pure Water Facility contractor was on site and starting the excavation. Additionally he noted the Marina Pump Station and Pure Water Pipeline projects were ready to start they were just waiting on signatures to start the excavation for the Reclamation Plant; local limits were being worked on; outreach efforts in working groups

on the pipeline alignment; Phase II Miramar or Lake Murray; and looking at and commenting on the Draft that came out.

11. Financial Update:

Karyn Keese stated that she and Dexter are reviewing each awarded contract as they are awarded to determine cost allocation; early site work has been done – currently working on the Morena Pump Station.

12. REPORT: IRWM - Industrial Wastewater Control Committee Update

Beth Gentry; City of Chula Vista stated that there was no report.

13. MetroTAC Work Plan

Roberto Yano; TAC Chair stated that the work plan was attached to the agenda.

14. Review of Items to be Brought Forward to the Regular Metro Commission/Metro Wastewater JPA Meeting May 6; 2021

Roberto Yano; TAC Chair stated that items 3-6 will go forward and that San Diego will provide an update on the spill and the Amended and Restated Agreement

15. Other Business of MetroTAC

Dan Brogadir wanted to make everyone aware that they are trying to move along the proposed Mutual Aide Agreement for wastewater agencies and suggested TAC set up a subcommittee. Chula Vista, National Cit and Lemon Grove expressed interest. An email will be sent out requesting interest in participating and a meeting will be scheduled.

Eric Minicilli noted that a workgroup also needs to be established for the 2nd Amended and Restated Agreement related to military bases and Navy billings. He would like to have a TAC working group to discuss how to make the Navy billing/capacity uniform.

16. Adjournment to the Next Regular Meeting June 16, 2021

There being no further business; MetroTAC Chair Roberto Yano adjourned the meeting at 1:08 p.m.

ATTACHMENT 3

REVIEW OF AMENDED AND RESTATED AGREEMENT NO. 1

AMENDED AND RESTATED WASTEWATER DISPOSAL AGREEMENT TO ACCOMMODATE PURE WATER PROGRAM

AMENDED AND RESTATED WASTEWATER DISPOSAL AGREEMENT TO ACCOMMODATE PURE WATER PROGRAM

- Accommodate Pure Water Phase 1
- Provide fair split of facility cost between water and wastewater
- Provide maximum cap on financial exposure to wastewater customers from Pure Water Program
- Provide sharing of future water revenues

CURRENT APPROVAL STATUS OF AMENDMENT

- All participating agencies have signed. Effective date is May 22, 2021.

ACCOMMODATE PURE WATER PHASE I

- Split capital cost based on future capacity needs
- Identify items for further discussion to promote Pure Water

PRINCIPLES FOR WATER/WASTEWATER SPLIT

- Wastewater pays for costs for ocean disposal secondary
- Obligation is for 83 MGD of safe reliable potable water including ECAWP

PROVIDE MAXIMUM FINANCIAL EXPOSURE TO WASTEWATER CUSTOMERS FROM PURE WATER PROGRAM

- Establish a $1.8 billion ceiling for wastewater customers for Pure Water and Point Loma upgrade
  - July 2019 ENR LA CCI = 12011.35
  - July 2021 ENR LA CCI = 13017.52
  - 1.8 billion is now 1.95 billion

PROVIDE SHARING OF FUTURE WATER REVENUES

- Equivalency point cost for Pure Water and imported water established
- Cost share to be based initially on capital investment of water and wastewater

ITEMS FOR FUTURE NEGOTIATION – TO BE SETTLED BY MAY 22, 2022

Item	Status	Notable Issues
Cost split between water and wastewater (Phase 2)		• Preliminary Split for Alt. 1E Completed • Percentage split should be used for soft cost split
Alternative billing methodologies		
The exclusion of costs of industrial discharge inspection and monitoring		
The inclusion of costs for regional, non-metro system potable reuse projects in calculating the capital expense rate		
Sample calculations of repurified water revenue		
The conveyance and treatment of wastewater generated at US Military bases under this agreement		

Green = Complete
Yellow = In Progress
Red = Not Started

CITY OF SAN DIEGO EAST COUNTY NEGOTIATIONS

- Residuals Agreement Complete
  - Provides framework for pipelines for Brine, Centrate, and Peak Flows

ATTACHMENT 4

SO. CAL. COASTAL WATER RESEARCH PROJECT (SAN DIEGO RIVER INVESTIGATIVE ORDER)

Southern California Coastal Water Research Project

Kenneth Schiff

Deputy Director

www.sccwrp.org

SCCWRP Creation and Mission

Established in 1969 as a public agency

Joint Powers Authority

- unique blend of regulatory and regulated agencies

Mission is to understand the impact of human activities on the environment

- communicate to decisionmakers
- facilitate science and promote partnerships

SCCWRP Member Agencies

- City of San Diego
- Orange County Sanitation District
- Los Angeles County Sanitation District
- City of Los Angeles
- County of San Diego Environmental Health
- Orange County Public Works Department
- Los Angeles County Department of Public Works
- Ventura County Watershed Protection Division
- San Diego RWQCB
- Santa Ana RWQCB
- Los Angeles RWQCB
- State Water Resources Control Board
- California Ocean Protection Council
- US Environmental Protection Agency, Region IX

“The Thin Line”

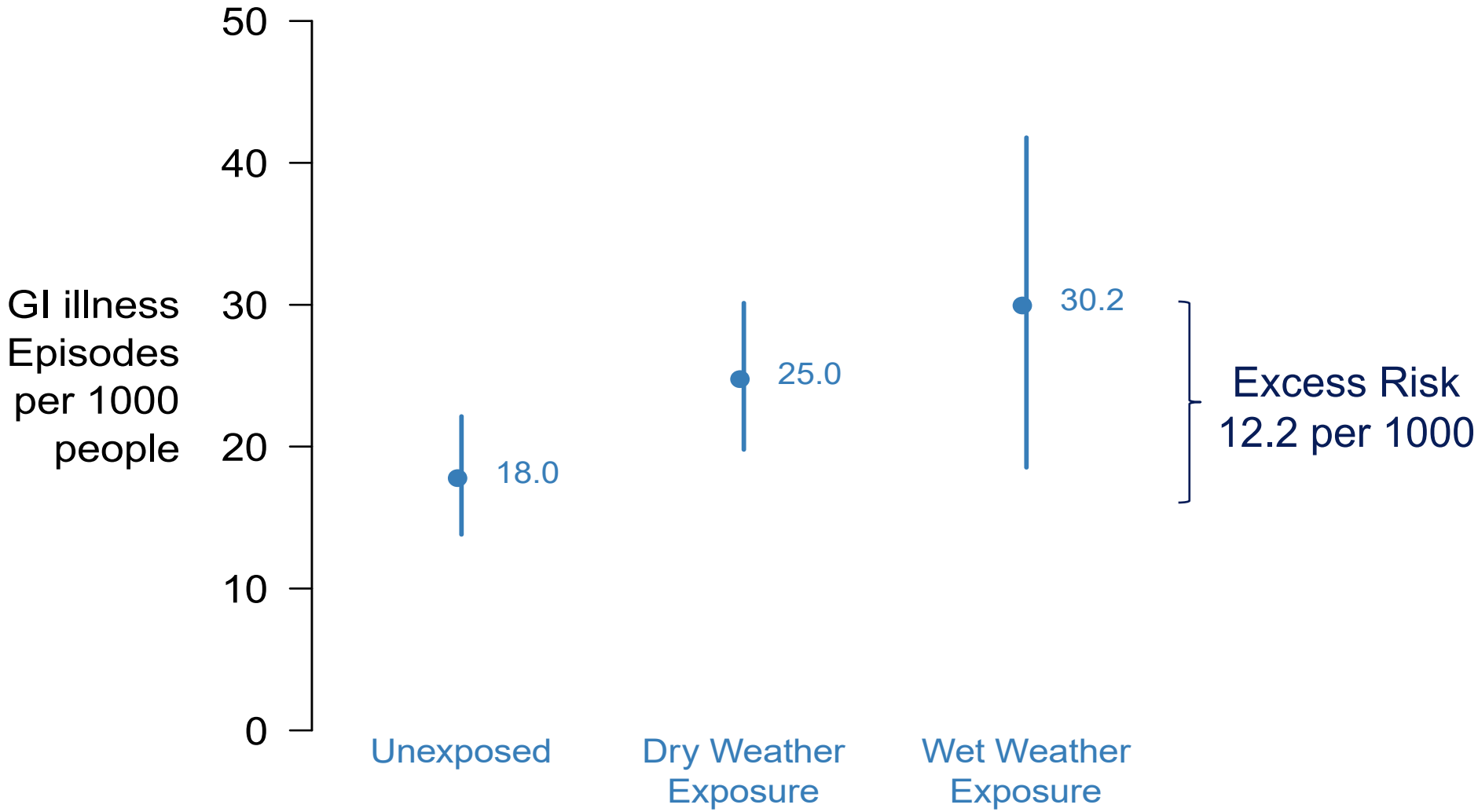
- SCCWRP does not advocate
- We aim to build scientific consensus
- We recognize that our science influences beyond our member agencies
- Partnership is the best path forward

San Diego Investigative Order (IO): Quantifying Human Fecal Loading to the San Diego River

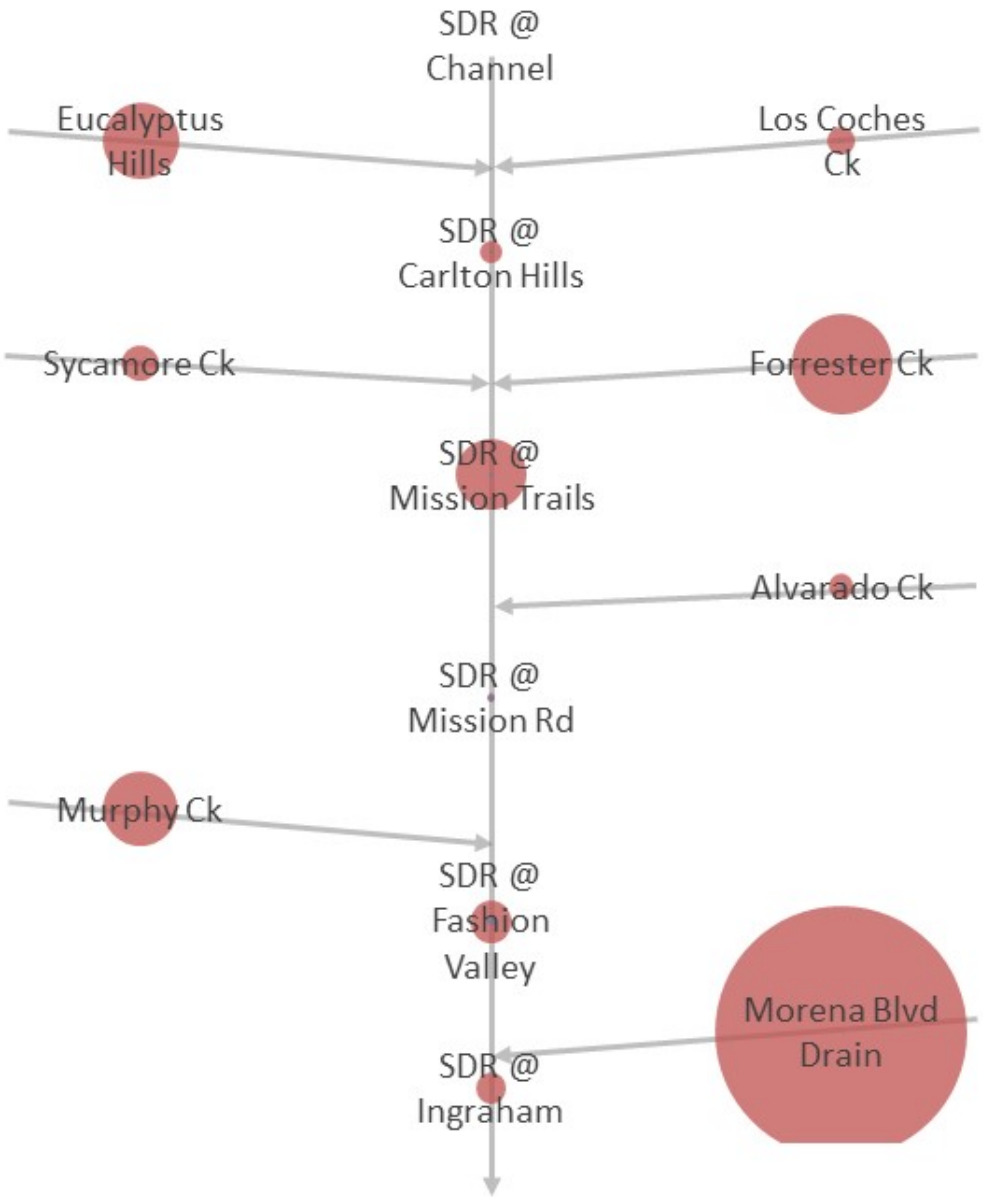
Some Background

- There is a wet weather bacteria TMDL in San Diego
  - Compliance deadlines imminent
- The risk of surfer illness increased following wet weather compared to no exposure or dry weather exposure
  - Wet weather discharges from the San Diego River contain human pathogens as well as human source markers (HF183)
- Cost of compliance is estimated in the $billions
  - Cost-Benefit Analysis deemed reducing human sources of fecal contamination the most cost-effective solution to protect human health

Cumulative Incidence of Gastrointestinal Illness



Concentrations Human Marker (HF183) In SD River



Storm Date: 1/31-2/1/2016

The Investigative Order (Section 13267)

Issued by the San Diego RWQCB in 2019

- Names 10 regulated parties

Does not spell out any details

- Requires a workplan, QA Plan, Semi-Annual and Final Reporting

Does name the human sources to be quantified

- Desires relative proportions of human contributions

Which Human Source?

- Public Sewer
  - Sanitary sewer overflows (SSOs)
  - Exfiltration
- Sewer Laterals and Septic Systems
- Homeless Populations
- Illicit Connections/Illegal Discharges (IC/ID)

The Role of SCCWRP

Asked by the named parties to create a workplan to satisfy the IO

- All of the tasks to quantify sources require new research

Asked to deliver the technical foundation to comply with the IO

- SCCWRP is not addressing implementation actions

Asked to facilitate a Steering Committee of named parties, regulators and non-governmental organizations

- Convene a Technical Review Committee comprised of national thought leaders

Goals of the IO Conceptual Workplan

Quantify loading of human fecal contamination from different sources to the San Diego River

- This is not a “hot spot” identification and removal program

Use the loading estimates to compare relative contributions among the sources of human fecal inputs

- Which is the greatest potential source?

Identify the factors that might lead to the greatest risk of loading

- Where and when does the greatest loading occur?

Two Approaches for Detecting and Measuring Public Sewer Exfiltration

- Utilize DNA signature of bacterial biofilm found in sewer pipes to detect exfiltration or SSOs in receiving waters

- Direct measurements of volumetric loss to quantify exfiltration

Using Biofilms as a Tracer for Sanitary Sewers

Sewer pipes are a unique environment which promotes growth of a specific bacterial biofilm community

Biofilm continuously sloughs off and has been used as a tracer for Combined Sewer Overflows in the mid-west

- Takes advantage of the newest DNA technology

SCCWRP is adapting sanitary sewer biofilm detection for use in So Ca

Approach to Biofilm Development

Sample dozens of sanitary sewer pipes and storm drain pipes in dry weather

- Focus on variety of land uses, sources, materials of construction, etc.

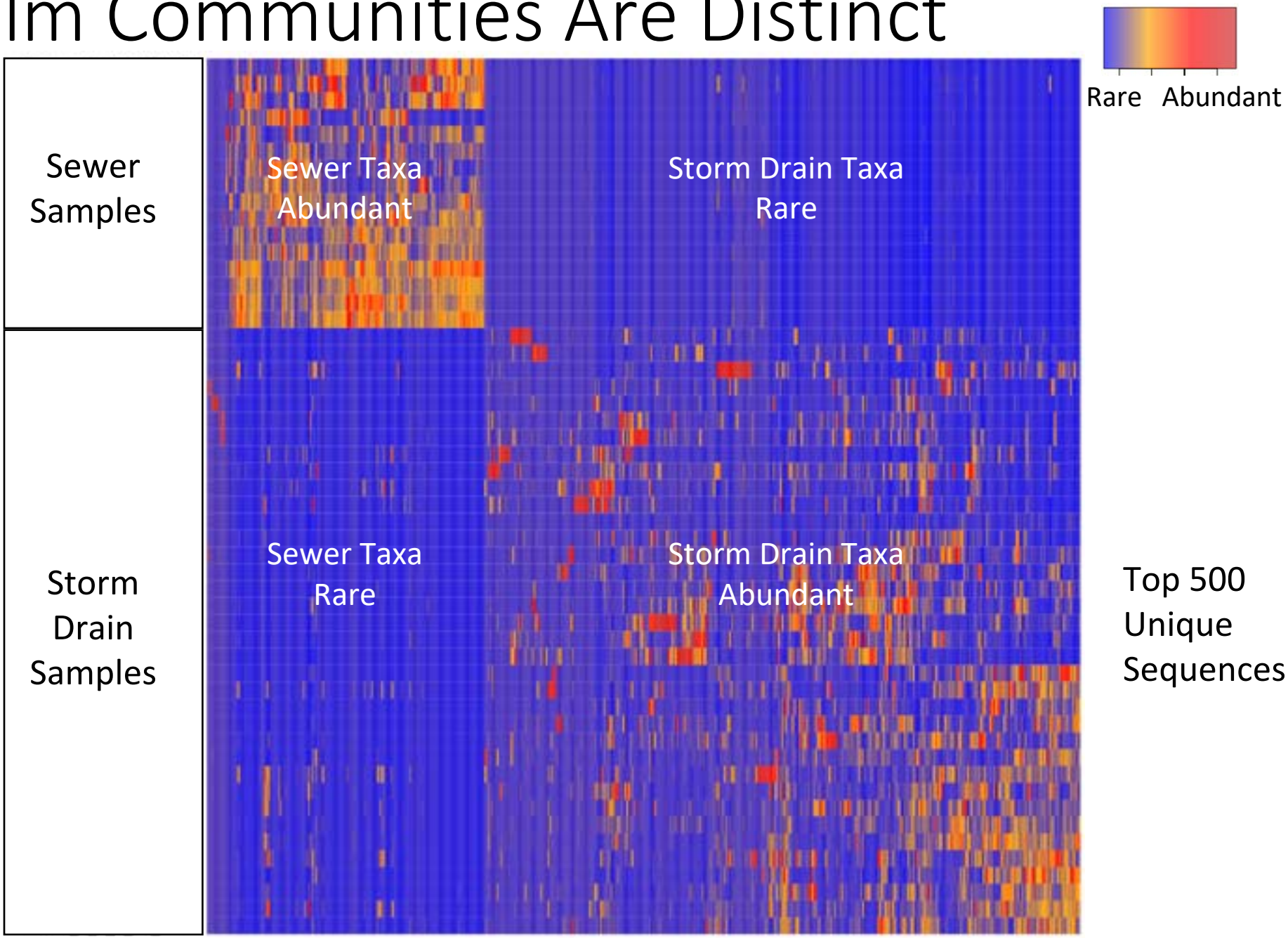
Measure the entire community of microbes using high-throughput DNA sequencing

Determine if sewers and storm drains support different microbial communities

If so, then look for sanitary sewer biofilms in storm drains during wet weather

Biofilm Collection

Biofilm Communities Are Distinct



Status for Biofilm Task

Sampled wet weather runoff last winter

- Mainstem and major tributaries along the San Diego River

Finishing spatial and temporal sampling to ensure persistence

- We want to make sure you can use this technology anytime, anywhere

Finalizing protocols and preparing SOPs for technology transfer to others

Two Approaches for Detecting and Measuring Public Sewer Exfiltration

- Utilize DNA signature of bacterial biofilm found in sewer pipes to detect exfiltration or SSOs in receiving waters

- Direct measurements of volumetric loss to quantify exfiltration

pproach to Direct Measurement of Exfiltration

Isolate a section of sanitary sewer pipe

- Artificially create wet weather flows using pumps
- Measure volumetric loss across replicate tests at a site

Designing and constructing prototype sampling device now

- Completed preliminary field testing

We won't be measuring one pipe and multiplying by 1,000's of pipe miles

- Factorial based design based on prioritized risk factors for extrapolation to similar pipe types

Volume loss is only part of the equation

- Unique tracers to quantify transport to receiving waters

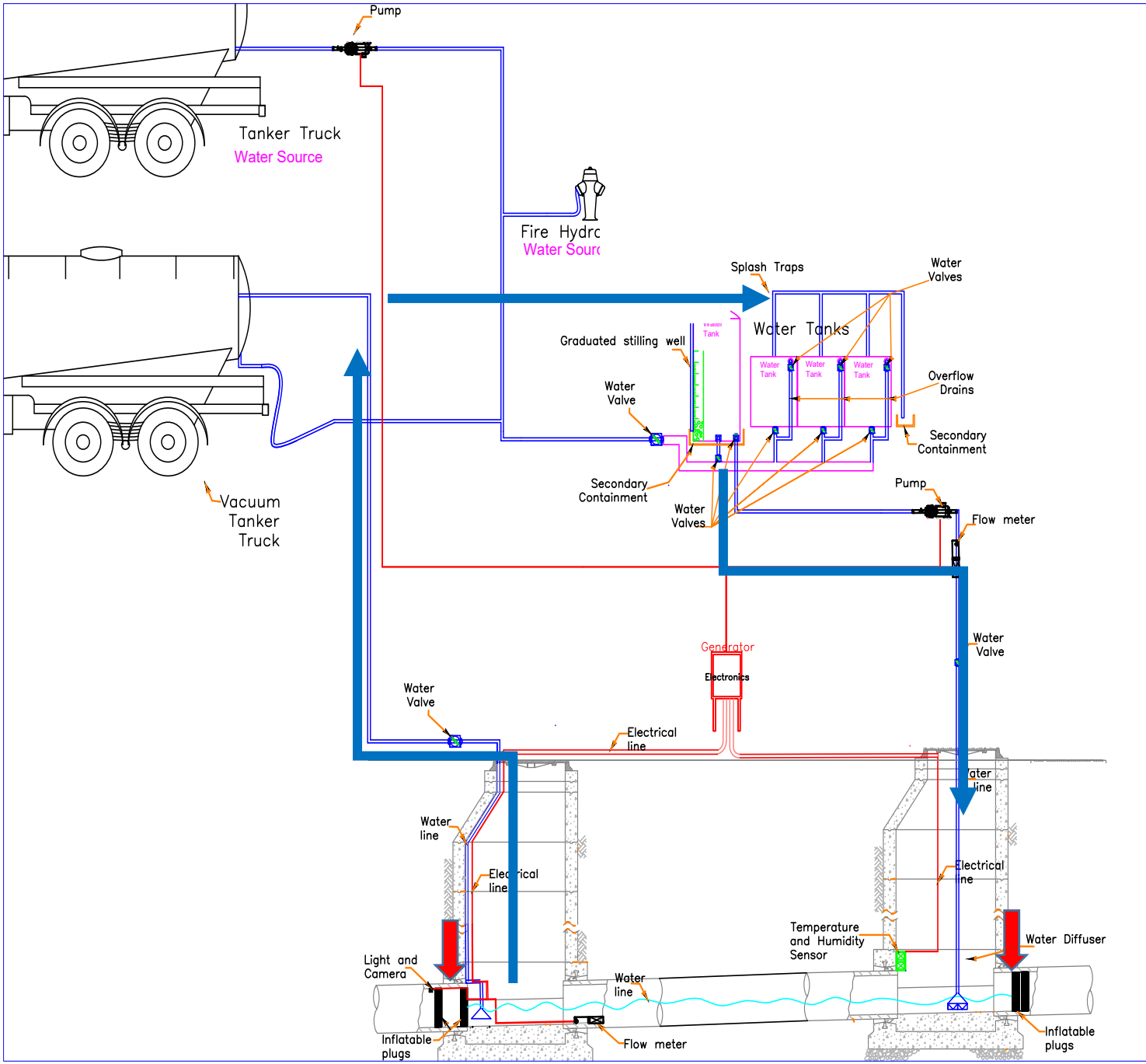
ign Process

chtop prototype
200 Gallons

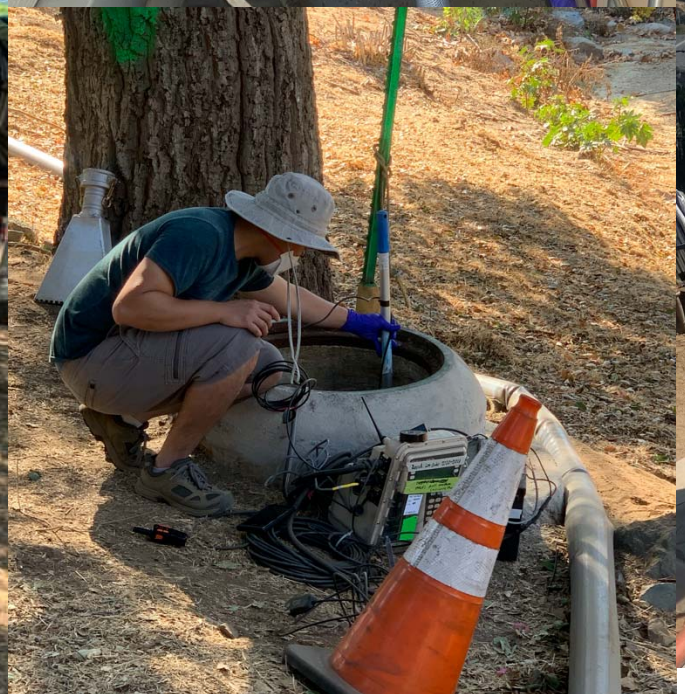
eased scale and
ormed field test
1,200 gallons

ned design to
ease sensitivity and
ormed second field

1,200 gallons at varying
ow rates
nown volume removal




CleanHarbors
GAL. CAP. 3200
CA188448



Pilot Field Test Results

The prototype exfiltration sampler and experimental design appear to be working

- We have a draft SOP

We consistently recovered 99.9% of ~1,200 gallons pumped

- We measured a consistent loss of ~1.3 gallons

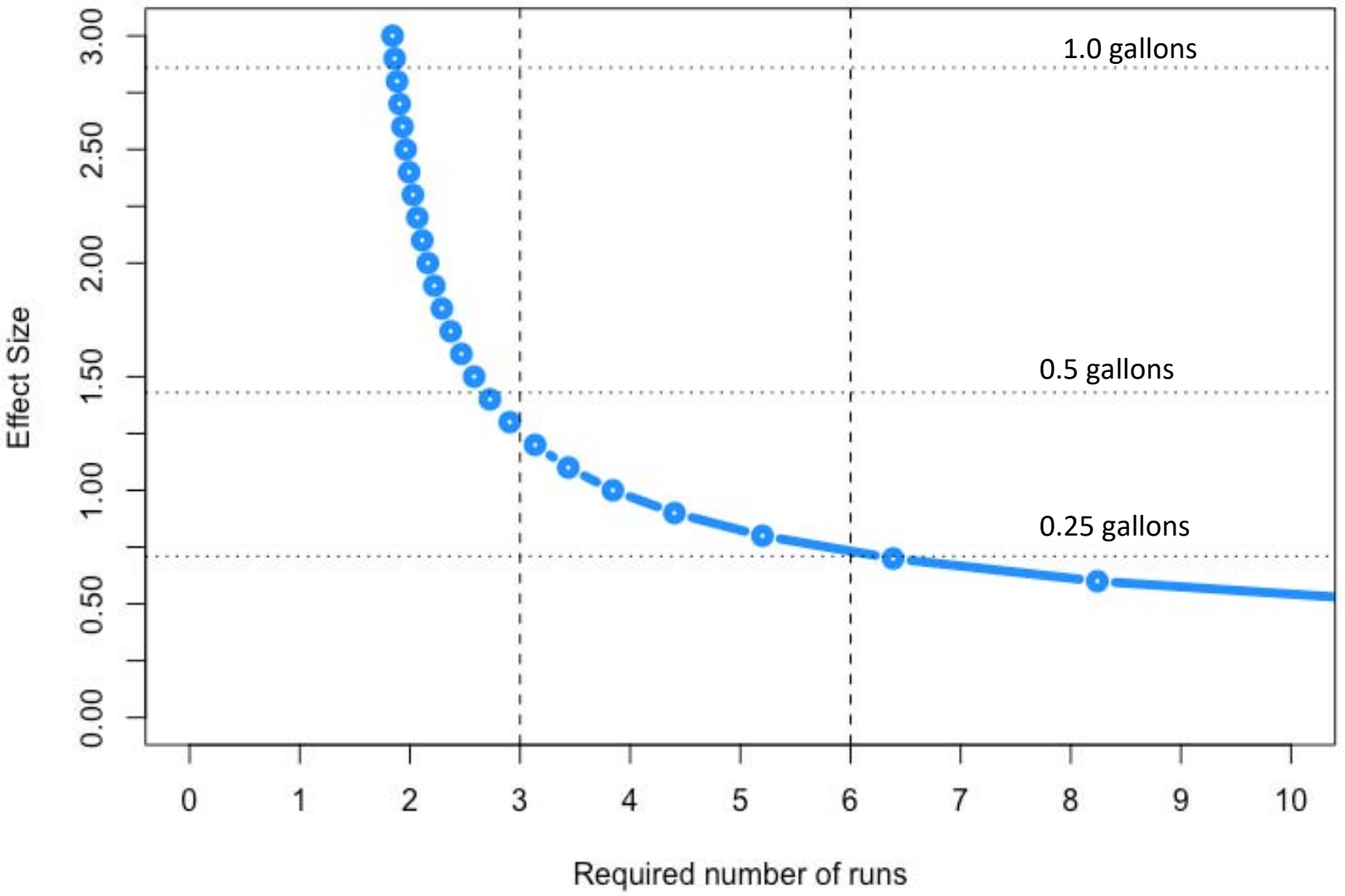
Across 6 runs, our variability was 0.035%

- We are statistically powered to detect exfiltration as low as 0.25 gallon

We are moving onto trial experimental testing

- 6 sites with different characteristics within the SD River watershed

Power analysis



Exfiltration Risk Factors

Materials of construction (clay, concrete, PVC, CIP lining)
Age (<10, 10-25, >25 years)
Condition scores (no action, maintenance required, repair/replace)
High frequency cleaning list
Groundwater height
Soil type
Land use
Flow rate
Depth of pipe relative to storm drain
Proximity to surface water

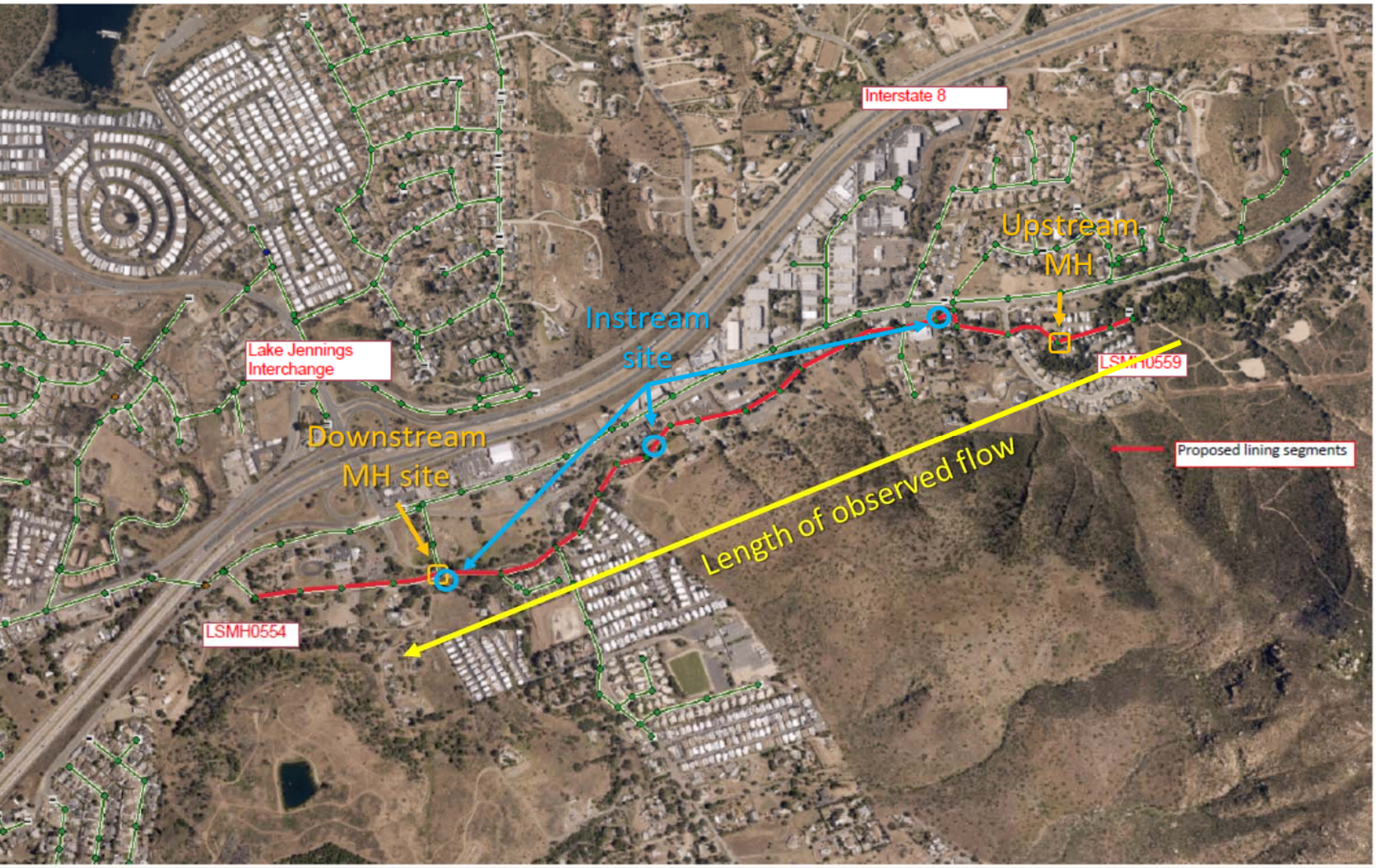
Use of Unique Tracers

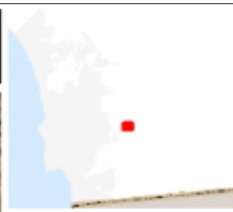
Exfiltration is one thing, but making it to receiving waters is another

We will add Rhodamine dye and salt (KBr) as conservative tracers to the sanitary sewer, and look for them in downgradient streams/drains

Our proof of concept testing at the exfiltration site indicated no hydrologic connectivity (in dry weather)

Old Highway 80





Legend

Manholes
- Abandoned Manhole
- Drop Manhole
- Standard Manhole
- Unaccepted

Dead Ends
- Dead End
- Dead End (Repaired)
- Dead End (Private)
- Dead End (Abandoned)
- Dead End (Unaccepted)

Siphon

Gravity Mains
- Gravity Main
- Gravity Main (Private)
- Gravity Main (Abandoned)

Pressurized Mains
- Pressurized Main
- Pressurized Main (Private)
- Pressurized Main (Unaccepte
- Pressurized Main (Abandone

1: 10,000

0 0.16 0.3 Miles

_1984_Web_Mercator_Auxiliary_Sphere
ing and Development Services

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.
THIS MAP IS NOT TO BE USED FOR NAVIGATION

Notes

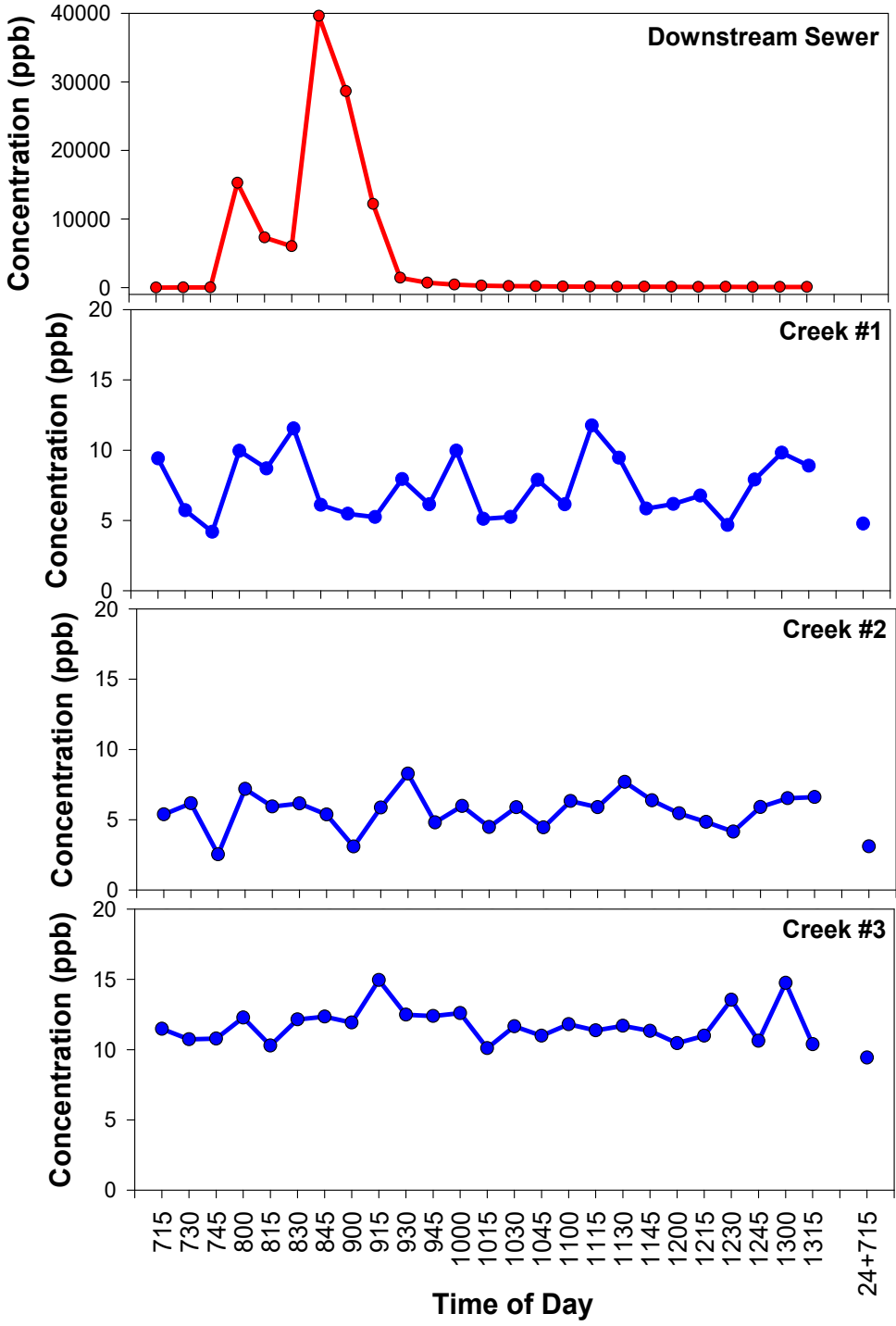
liminary Dye Results

ve stock solutions added to
stream maintenance hole (MH)

mples collected at downstream
l and 3 creek sites every 15 min
6 hours

hodamine dye quantified using
prometry

ve stock solutions 10^6 over
ckground fluorescence



Which Human Source?

- Public Sewer
  - Sanitary sewer overflows
  - Exfiltration
- Sewer Laterals and Septics
- Homeless Populations
- Illicit Connections/Illegal Discharges

What to Expect Next from the SD River IO

Completed Illicit connection/Illegal dumping tasks (dry weather)

Completed first phase of SSO (historical data analysis)

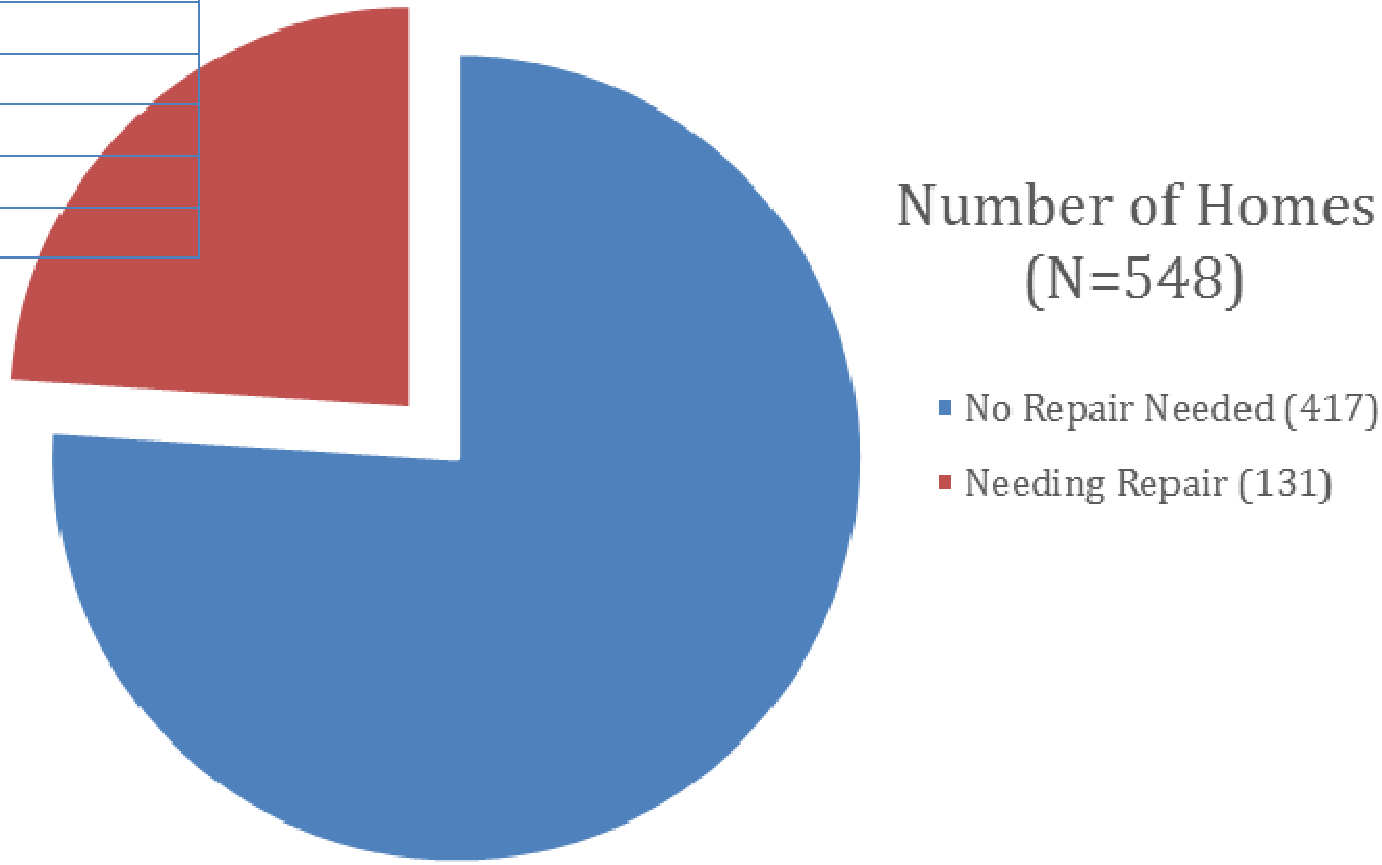
Initiating private laterals and septic system quantification

Piloted homeless encampment contributions in wet weather

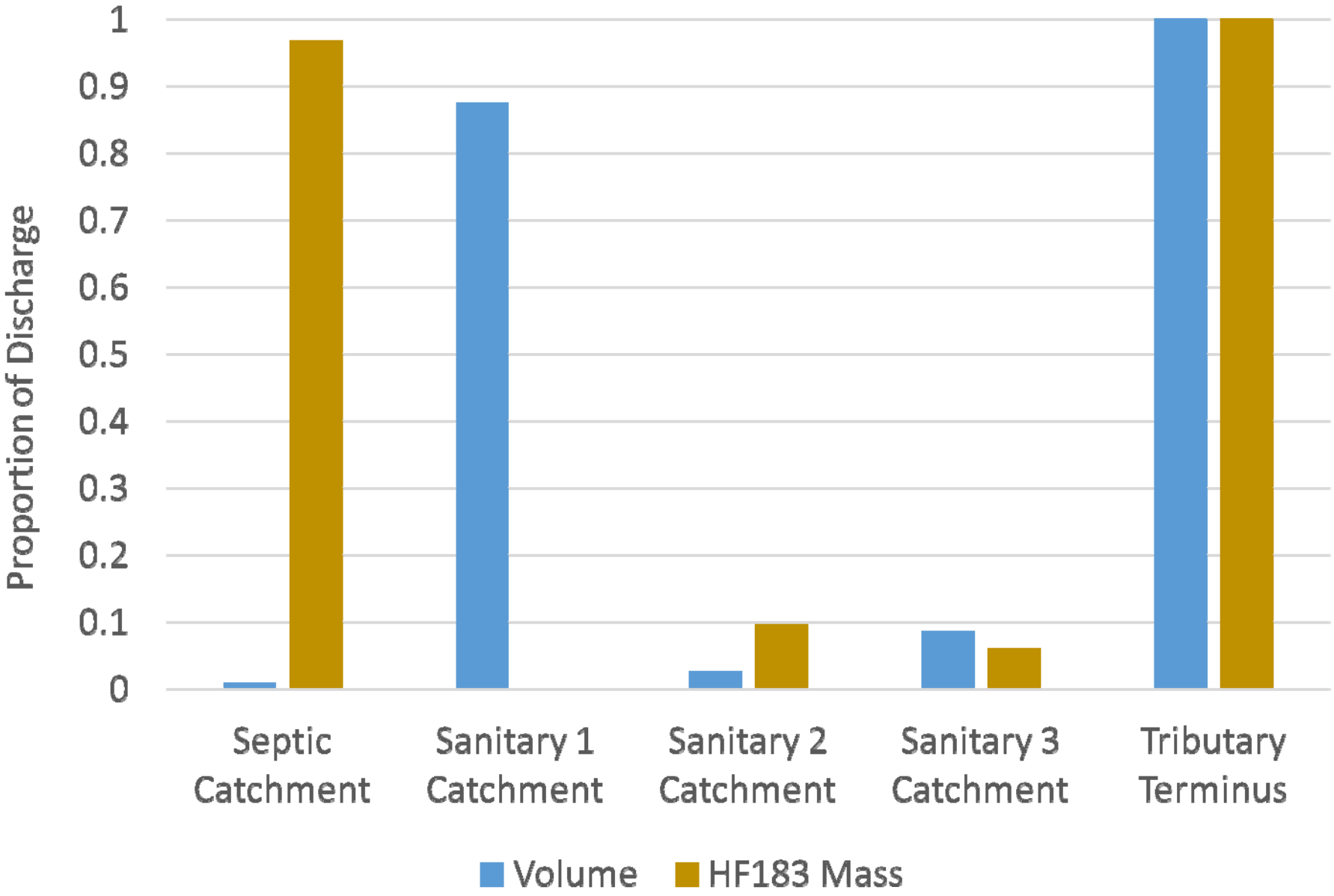
- Focused effort in the coming year

ity of El Cajon Inspection Program (2009-018)

Type of Repair	% of Laterals That Needed Repair
Root intrusion	32
Build Up	22
Broken Pipe	22
Offset	12
Sag	2
Corrosion	4
Outdated Plumbing	2



Volume and HF183 Human Marker Loading by Catchment Source



Approach for Lateral and Septic System Contributions

First step is to assess potential for leakage rates

- Stratified random design for inspections

Laterals will use the same direct exfiltration measurement strategy as used for public sanitary sewer

Septic contributions will be measured using unique tracers

- Examples: dyes, DNA markers, non-targeted chemical markers

Stratified random design will be used for extrapolating to watershed

Approach for Estimating Contributions from Homelessness

Census and survey of homelessness

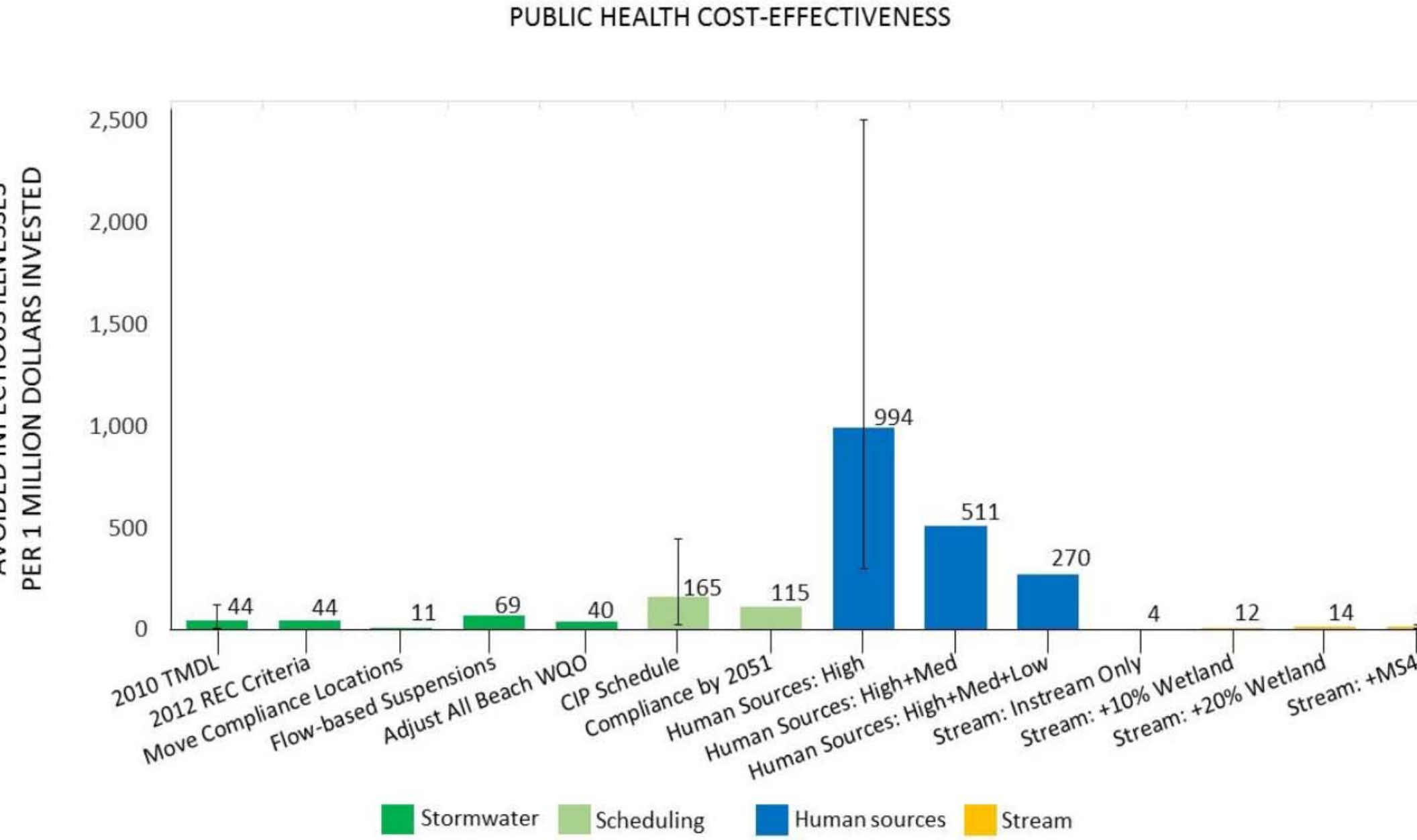
- How many potential contributors? Where? When?
- What are their sanitary habits (direct vs indirect deposit)?

Confirming homelessness contribution estimates

- Upstream-downstream sampling design

Washoff experiments for boosting empirical confidence

- Contribution from streambank latrines during wet weather



https://www.waterboards.ca.gov/sandiego/water_issues/programs/basin_plan/docs/issue3/

The SCCWRP Organization

Almost all scientists and engineers

- 48 full time staff
- 2 visiting scientists
- 85% with advanced degrees

Six Departments

- Biology
- Biogeochemistry
- Chemistry
- Microbiology
- Toxicology
- Interdisciplinary

Our Nine Research Themes

Bioassessment
Chemicals of Emerging Concern (CECs)
Climate change
Ecohydrology
Eutrophication
Microbial water quality
Regional monitoring
Stormwater and Best Management Practices (BMPs)

ATTACHMENT 9

EQUALIZATION COST WITHOUT PURE WATER

Cost Comparison of PLWTP Conversion to Secondary, Pure Water, and Peak Flow Management

Metro JPA Commission Meeting
July 21, 2021

The City of SAN DIEGO

PLWTP Conversion to Secondary

PLWTP with Secondary Tmnt and No Pure Water

Layout

PRELIMINARY – WORK IN PROGRESS

PLWTP with Secondary Tmnt and No Pure Water

High Level Cost Est PRELIMINARY – WORK IN PROGRESS

Item	Cost ($M) July 2020
Construction w/o Markup	$726
Markup[(a)]	$651
Total Construction Cost	$1,377
Delivery Cost	$468
Total Project Cost	$1,845

Assumptions

- *Metro System Flow: 202 mgd (AADF); 487 mgd (Peak Day WWF)*
- *PLWTP Influent Flow: 168 mgd (AADF); 432 mgd (Peak Day WWF)*
- *9 DDeg Cells; 48 BAF Cells*
- *Markups: Labor, Material, Subcontractor, Construction Equipment, Other-Proc Equipment, Mtl Shipping/Handling, Sales Tax, Contractor Gen Conditions, Startup & Training, Contingency, Insurance, and Bonds.*
- *Delivery Costs: Engineering, CMS, Admin, Env Permitting and Mitigation, SDG&E*

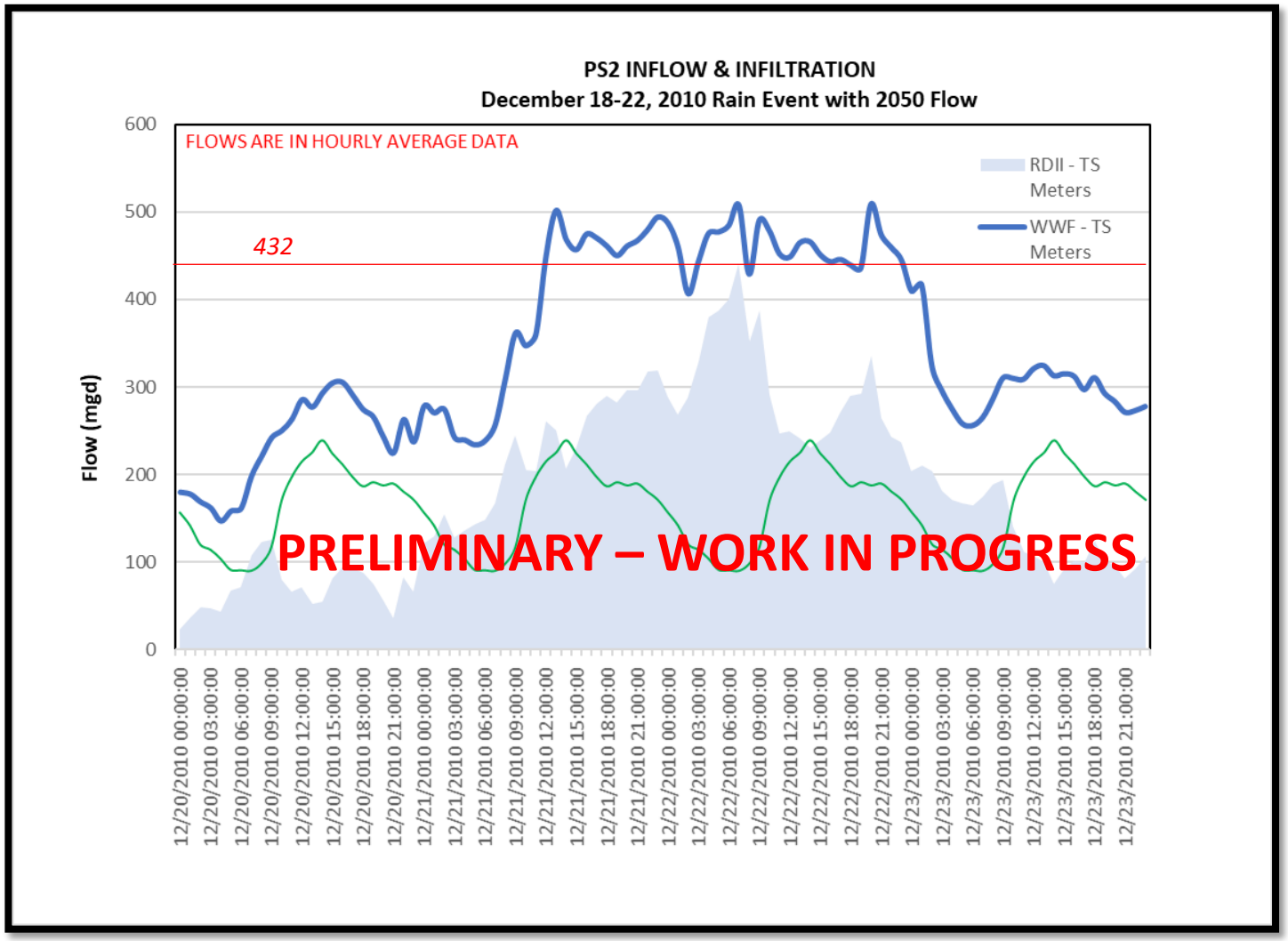
Peak Flow Management

Scenarios Evaluated

Scenario	Description	Pure Water SD Production (mgd)	ECAWP Production (mgd)
1	No Pure Water diversion; Diversion to NCWRP, SBWRP, Del Mar, OWD, and PDMWD PLWTP conversion to secondary with 432 mgd peak capacity	0	0
2	Diversion to Del Mar, OWD, Exp NCWRP, CAWRP, SBWRP, ECAWP; PLWTP CEPT with 432 mgd peak capacity (Alternative 1A)	83	11.5
3a	Diversion to Del Mar, OWD, Exp NCWRP, CAWRP, SBWRP, ECAWP; PLWTP Secondary with 263 mgd peak capacity (Alternative 1D)	83	11.5
3b	Diversion to Del Mar, OWD, Exp NCWRP, CAWRP, SBWRP, ECAWP; PLWTP Secondary with 277 mgd peak capacity (Alternative 1F)	71.5	11.5

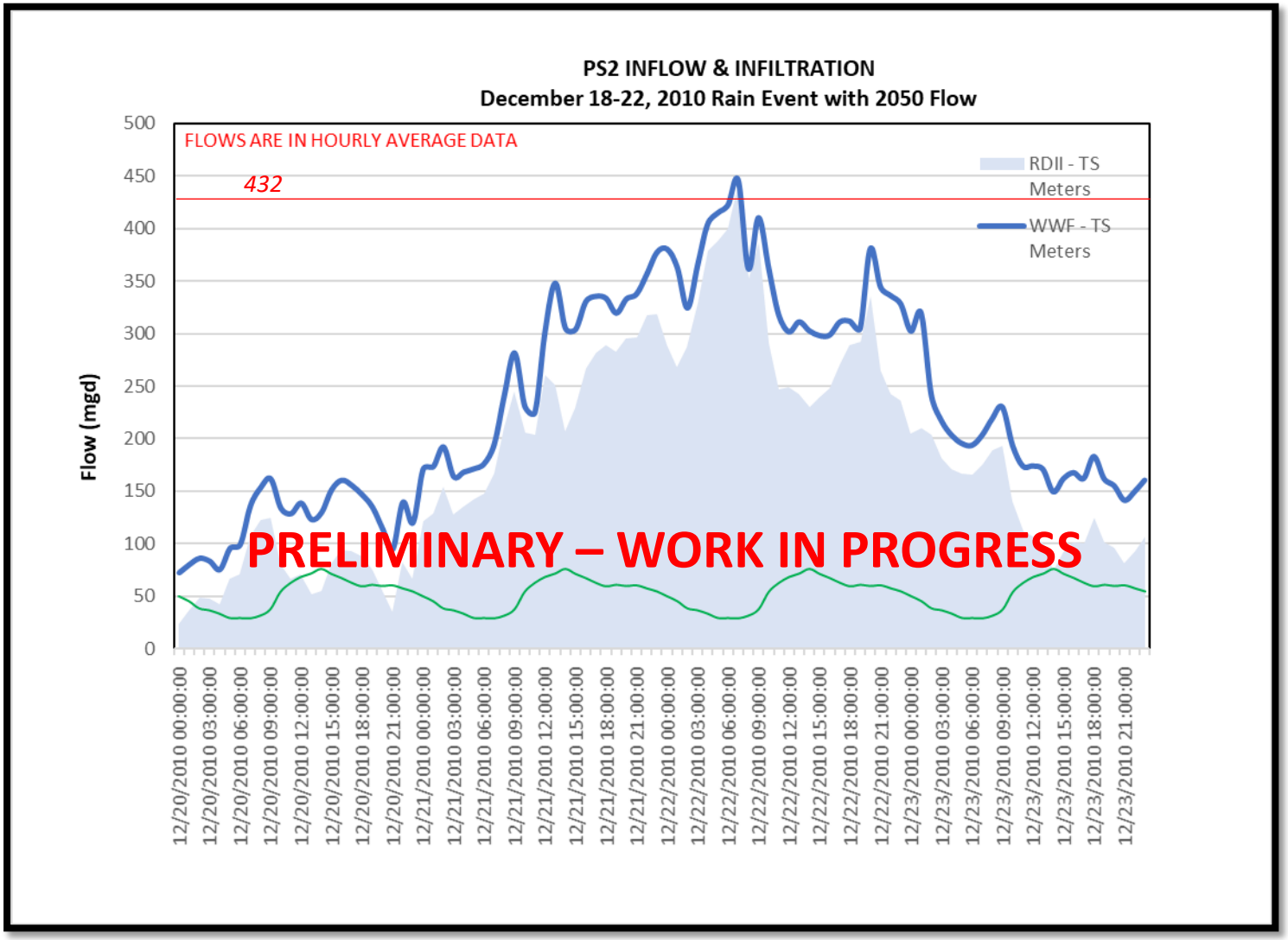
Projected Peak Wet Weather Diurnal Flow With PS1 EQ – Scenario 1

Scenario 1 – Without Pure Water; PLWTP Secondary at 432 mgd Peak Capacity



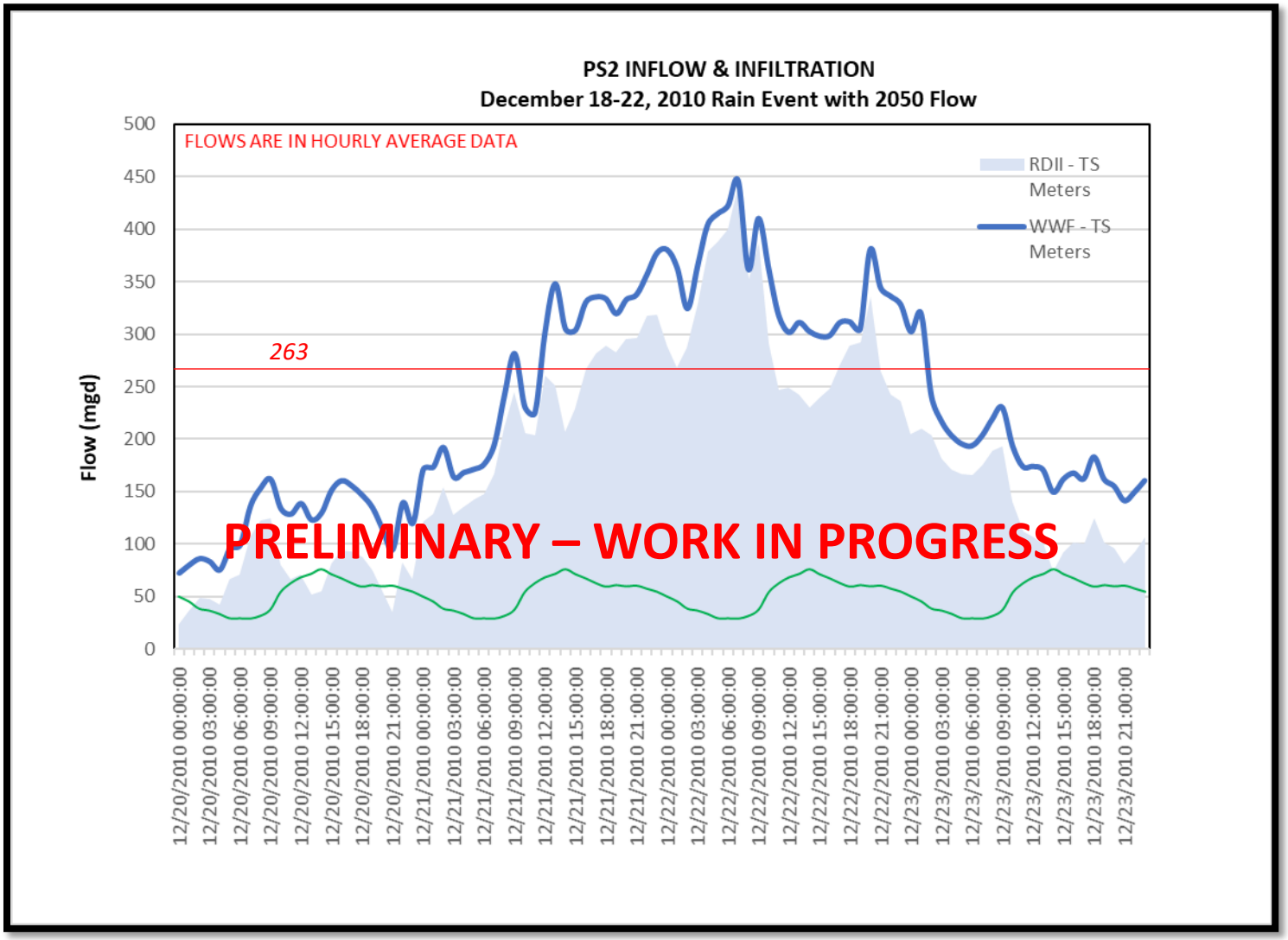
Projected Peak Wet Weather Diurnal Flow With PS1 EQ – Scenario 2

Scenario 2 – With Pure Water; PLWTP CEPT at 432 mgd Peak Capacity



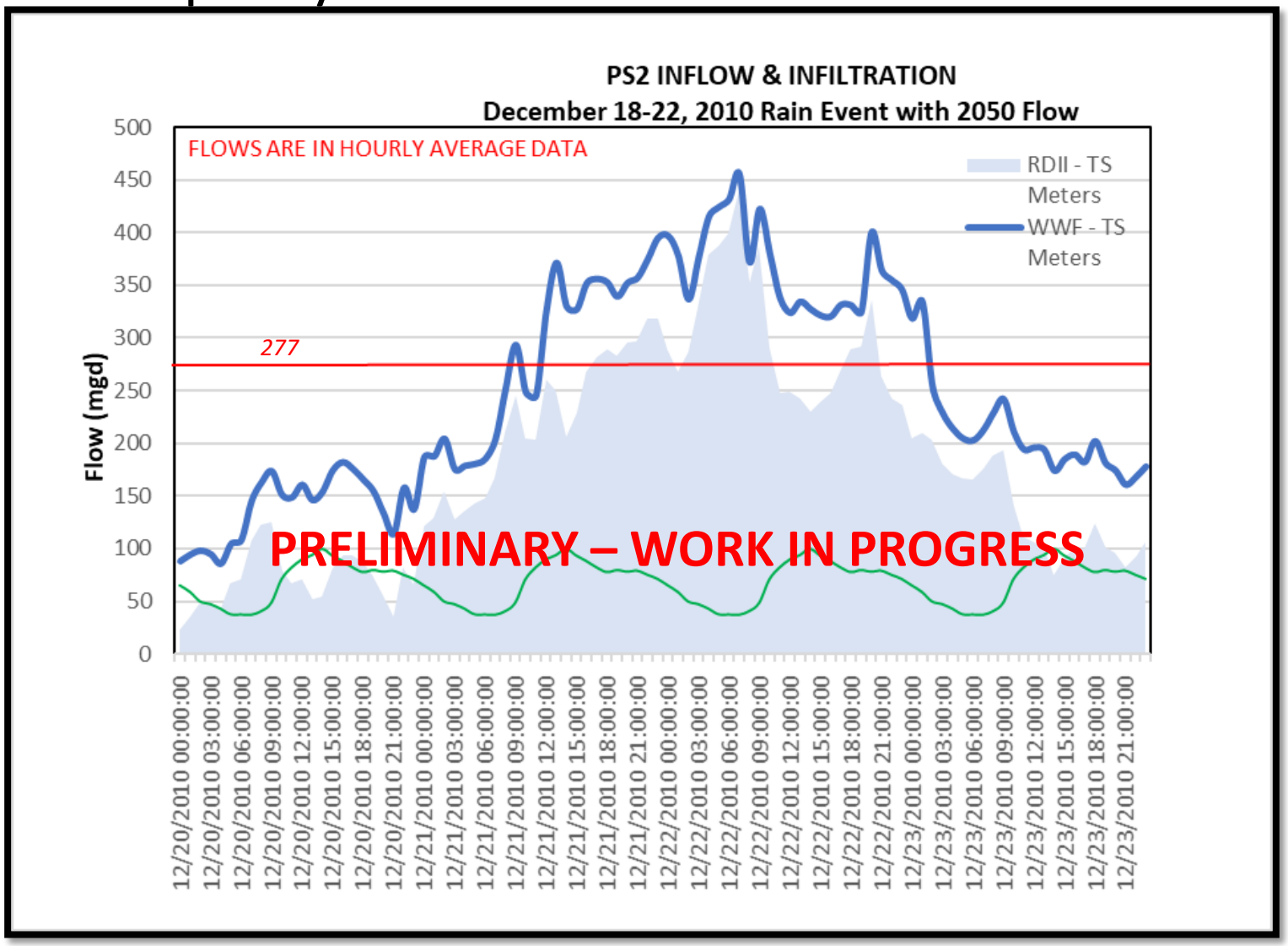
Projected Peak Wet Weather Diurnal Flow With PS1 EQ – Scenario 3a

Scenario 3a – With Pure Water; PLWTP with Secondary at 263 mgd Peak Capacity



Projected Peak Wet Weather Diurnal Flow With PS1 EQ – Scenario 3b

Scenario 3b – With Pure Water; PLWTP with Secondary at 277 mgd Peak Capacity



Metro System Upgrades for Peak Wet Weather

High Level Cost Est PRELIMINARY – WORK IN PROGRESS

Scenario	Ballpark Cost Estimate (nearest Million)				
	PS1 EQ Upgrades	PS2 EQ Upgrades	Total	-50%	+100%
1 Without Pure; PLWTP at 432 mgd 2nd capacity	$441 (9 MGal)	$2,149 (49 MGal)(a)	$2,590	$1,295	$5,180
2 With Pure; PLWTP at 432 mgd CEPT capacity	$441 (9 MGal)	$0(b) (1 MGal)	$441	$221	$882
3a With Pure; PLWTP at 263 mgd 2nd capacity	$441 (9 MGal)	$5,112 (114 Mgal)(c)	$5,553	$2,777	$11,106
3b With Pure; PLWTP at 277 mgd 2nd capacity	$441 (9 MGal)	$5,543 (124 Mgal)(d)	$5,984	$2,992	$11,968

(a) No Pure Water Dry Weather EQ Tank; 16.5 ft diameter Tunnel EQ assumed
(b) Pure Water EQ for Dry Weather Flow used to equalize Peak Wet Weather Flows
(c) Reduced by 12 Mgal due to availability of Pure Water Dry Weather EQ; 16.5 ft diameter Tunnel EQ assumed
(d) Reduced by 9 Mgal due to availability of Pure Water Dry Weather EQ; 16.5 ft diameter Tunnel EQ assumed

Cost Comparison

Comparison of Metro System Upgrades
High Level Cost Est – Phase 2 Pure Water at 53 mgd Production

PRELIMINARY – WORK IN PROGRESS

Scenario	Ballpark Cost Estimate (nearest $Million)			
	Treatment/Conveyance	PS1/PS2 EQ Upgrades	Total	Difference Relative to Scenario 1
1 Without Pure; PLWTP at 432 mgd 2nd capacity	$1,845[(a)]	$2,590	$4,435	$0
2 With Pure; PLWTP at 432 mgd CEPT capacity	$1,963[(b)]	$441	$2,404	-$2,031
3a With Pure; PLWTP at 263 mgd 2nd capacity	$2,749[(c)]	$5,553	$8,302	+$3,867

(a) PLWTP converted to secondary

(b) Based on Alternative 1A wastewater-related cost; PLWTP with CEPT. Includes Phase 1 wastewater cost of $579M

(c) Based on Alternative 1D wastewater-related cost; PLWTP with secondary. Includes Phase 1 wastewater cost of $579M

Comparison of Metro System Upgrades
High Level Cost Est – Phase 2 Pure Water at 41.5 mgd Production

PRELIMINARY – WORK IN PROGRESS

Scenario	Ballpark Cost Estimate (nearest $Million)			
	Treatment/ Conveyance	PS1/PS2 EQ Upgrades	Total	Difference Relative to Scenario 1
1 Without Pure; PLWTP at 432 mgd 2nd capacity	$1,845(a)	$2,590	$4,435	$0
2 With Pure; PLWTP at 432 mgd CEPT capacity	$1,797(b)	$441	$2,238	-$2,197
3b With Pure; PLWTP at 277 mgd 2nd capacity	$2,693(c)	$5,984	$8,677	+$4,242

(a) PLWTP converted to secondary

(b) Based on Alternative 1E wastewater-related cost; PLWTP with CEPT. Includes Phase 1 wastewater cost of $579M

(c) Based on Alternative 1F wastewater-related cost; PLWTP with secondary. Includes Phase 1 wastewater cost of $579M

Discussion

ATTACHMENT 12

METROTAC

WORK PLAN

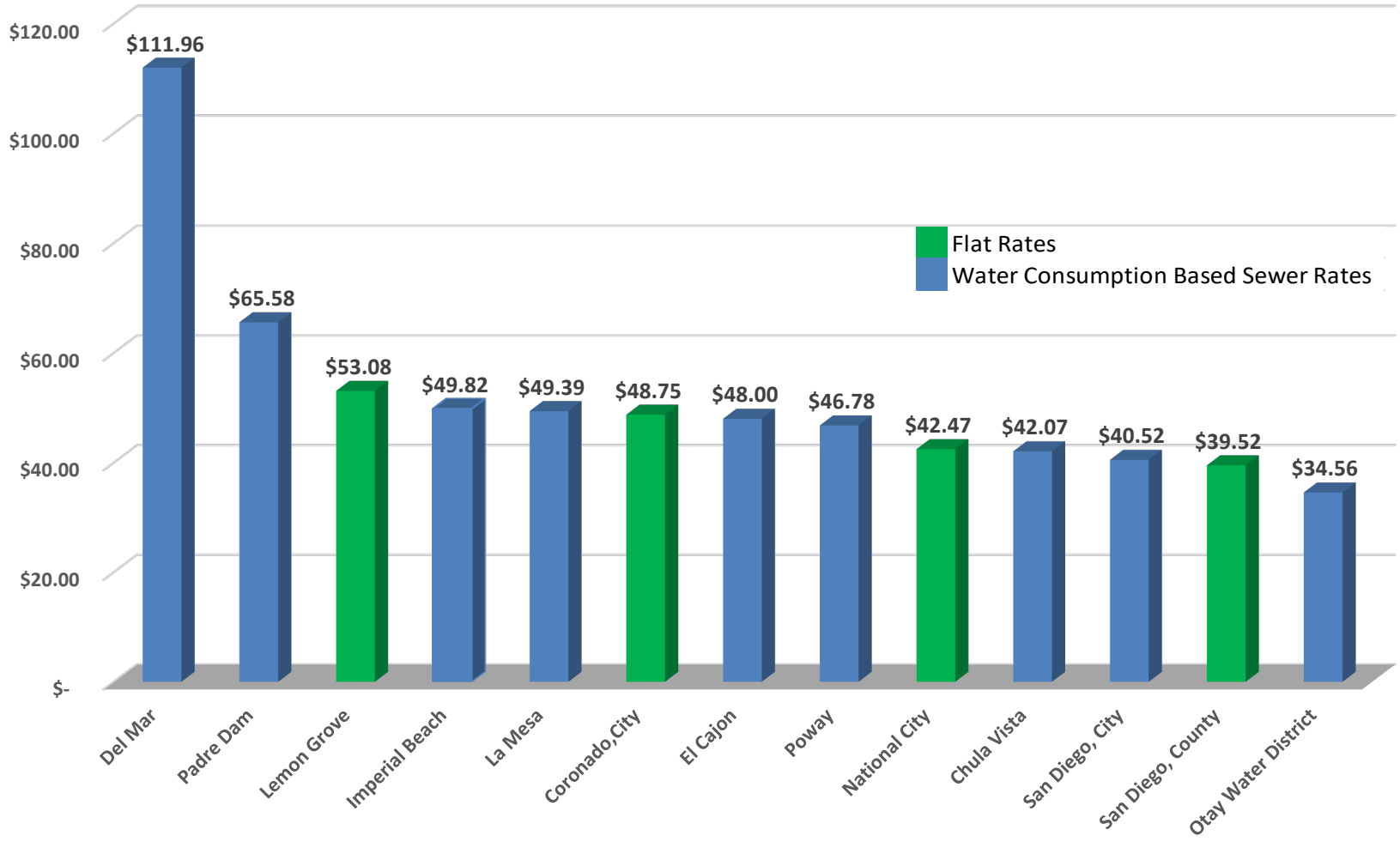
Metro TAC & JPA Work Plan
Active & Pending Items
January 2021
Updated Items in Red Italics

Active Items	Description	Member(s)
SB 332 Working Group	SB 332 (Hertzberg/Weiner) relates to wastewater treatment for recycled water and agencies with ocean outfalls. It requires the entity that owns the wastewater treatment facility that discharges through an ocean outfall and affiliated water suppliers (it defines water not wastewater suppliers) to reduce the facilities annual flow as compared to the average annual dry weather wastewater discharge baseline volume as prescribed by at least 50% on or before January 1, 2030 and by at least 95% on or before January 1, 2040. The working group was formed to track the process of this legislation.	*Yazmin Arellano* *Beth Gentry* *Hamed Hashemian*
Muni Transportation Rate Study Working Group	6/19: Working Group has presented an alternative plan which the City is reviewing.	Roberto Yano Yazmin Arellano Dan Brogadir Carmen Kasner Mark Niemiec Dexter Wilson SD staff
Point Loma Permit Ad Hoc	Metro Commission/JPA Ad Hoc established 9/17. GOAL: Create regional water reuse plan so that both a new, local, diversified water supply is created AND maximum offload at Point Loma is achieved to support legislation for permanent acceptance of Point Loma as a smaller advanced primary plant. Minimize ultimate Point Loma treatment costs and most effectively spend ratepayer dollars through successful coordination between water and wastewater agencies. *1/21 This group continues to meet as needed.*	Jerry Jones Jim Peasley Ed Spriggs Bill Baber Jill Galvez Metro TAC staff & JPA consultants
Phase II Pure Water Facilities Working Group	Created to work with SD staff & consultants on determining Phase II facilities and costs. *1/21: Alternatives have been narrowed to two.*	Roberto Yano Scott Tulloch Dexter Wilson SD staff & consultants
Phase I Financial Implementation Working Group	This working group was formed to continue to work on Section 2.9.1 and other financial implementations issues in Exhibit F associated with the Amended Restated Agreement. *1/21: Group will start meeting once the ARA is fully signed (January 2021) on a regular basis with a goal to complete all tasks by 1/22.*	Roberto Yano Karyn Keese Dexter Wilson SD staff & consultants
Phase II Disposal Agreement Working Group	This group was created to negotiate the 2nd Amended Restated Agreement ARA2) which will incorporate the completed financial and other items from the first ARA. *1/21: Working Group is meeting with SD staff to set up framework for ARA2 process.*	Roberto Yano Eric Minicilli Karyn Keese Scott Tulloch Dexter Wilson SD staff & consultants
Industrial Wastewater Control Committee	Formed to work with San Diego on new standards for industrial waste discharge and cost allocation of same. 1*/21: SD is trying to formalize a pretreatment rate case and has hired a consultant. Monthly updates are presented at TAC.*	**Beth Gentry** Interested JPA members Dexter Wilson SD Staff & Consultants

Metro TAC & JPA Work Plan
Active & Pending Items
January 2021
Updated Items in Red Italics

Active Items	Description	Member(s)
JPA Website Update Working Group	The JPA Website, especially the New Director Manual, has not been updated for several years. *1/21: Working group has started revisions and is looking for technical members to assist.*	Roberto Yano Karyn Keese Lori Peoples
Exhibit E Audit	*1/21: FY2019 Exhibit E audit is in fieldwork stage. JPA team reviewing SD responses to sample questions.*	Karen Jassoy Karyn Keese Dexter Wilson
IRWMP	JPA Members should monitor funding opportunities at: http://www.sdirwmp.org *1/21: Beth Gentry continues to give monthly TAC updates. Details can be found in minutes of each meeting.*	Yazmin Arellano Beth Gentry
Changes in wastewater/water legislation	BBK, Metro TAC and the Board should monitor and report on proposed and new legislation or changes in existing legislation that impact wastewater conveyance, treatment, and disposal, including recycled water issues	BBK JPA members as appropriate

Sewer Rate Comparison for Metro Participating Agencies
Single Family Monthly Rates Based on 7 HCF of Water Usage
Effective January 1, 2021 for FY 2021



Metro TAC
Participating Agencies
Selection Panel Rotation

Agency	Representative	Selection Panel	Date Assigned
County of San Diego	Dan Brogadir	As-Needed Condition Assessment Contract	3/24/2015
Chula Vista	Roberto Yano	Out on Leave	6/10/15
La Mesa	Greg Humora	North City to San Vicente Advanced Water Purification Conveyance System	6/10/15
Poway	Mike Obermiller	Real Property Appraisal, Acquisition, and Relocation Assistance for the Public Utilities Department	11/30/15
El Cajon	Dennis Davies	PURE WATER RFP for Engineering Design Services	12/22/15
Lemon Grove	Mike James	PURE WATER RFP Engineering services to design the North City Water reclamation Plant and Influence conveyance project	03/16/15
National City	Kuna Muthusamy	Passes	04/04/2016
Coronado	Ed Walton	As-Needed Environmental Services - 2 Contracts	04/04/2016
Otay Water District	Bob Kennedy	As Needed Engineering Services Contract 1 & 2	04/11/2016
Del Mar	Eric Minicilli	Pure Water North City Public Art Project	08/05/2016
Padre Dam	Al Lau	Biosolids/Cogeneration Facility solicitation for Pure Water	08/24/2016
County of San Diego	Dan Brogadir	Pure Water North City Public Art Project	08/10/2016
Chula Vista	Roberto Yano	Design Metropolitan Biosolids Center (MBC) Improvements Pure Water Program	9/10/2016
La Mesa	Greg Humora	Design of Metropolitan Biosolids Center (MBC) Improvements	9/22/16
Poway	Mike Obermiller	Electrodialysis Reversal (EDR) System Maintenance	12/7/16
El Cajon	Dennis Davies	As-Needed Construction Management Services for Pure Water	3/13/17
Lemon Grove	Mike James	Morena Pipeline, Morena Pump Station, Pure Water Pipeline and Dechlorination Facility, and the Subaqueous Pipeline	8/7/17
National City	Vacant	North City and Miramar Energy Project Landfill Gas and Generation- Pass	1/31/2018
Coronado	Ed Walton	North City and Miramar Energy Project Landfill Gas and Generation	1/31/2018
Otay Water District	Bob Kennedy	As Needed Engineering Services - Contracts 3 and 4 (H187008 & H187009)	2/16/2018
Del Mar	Joe Bride	Request for Proposal Owner Controlled Insurance Program (OCIP) Pure Water – 1st email sent on 5/23/18 & 2nd email sent on 5/29/18	5/23/18
Padre Dam	Al Lau	Request for Proposal Owner Controlled Insurance Program (OCIP) Pure	5/31/18

		Water (Mark Niemiec will participate)	
County of San Diego	Dan Brogadir	Request for Owner Controlled Insurance Program Interview (Pure Water)	2/25/19
Chula Vista	Frank Rivera Beth Gentry	Request for Owner Controlled Insurance Program Interview (Pure Water)	2/26/19
Imperial Beach	Eric Minicilli	RSP Metro Metering	4/22/2020
La Mesa	Hamed Hashemian		
Poway	Eric Heidemann Troy DePriest		
El Cajon	Dennis Davies Yazmin Arellano		
Lemon Grove	Mike James		
National City	Roberto Yano		
Coronado	Ed Walton		
Otay Water District	Bob Kennedy		
Del Mar	Joe Bride		
Padre Dam	Mark Niemiec Sen Seval		
County of San Diego	Dan Brogadir		
Chula Vista	Frank Rivera		
Imperial Beach	Eric Minicilli		
La Mesa	Hamed Hashemian		
Poway	Eric Heidemann Troy DePriest		
El Cajon	Dennis Davies Yazmin Arellano		
Lemon Grove	Mike James		
National City	Roberto Yano		
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