

The Metropolitan Water District of Southern California

Agenda

The mission of the Metropolitan Water District of Southern California is to provide its service area with adequate and reliable supplies of high-quality water to meet present and future needs in an environmentally and economically responsible way.

PWSCRC Committee

M. Camacho, Chair
J. Morris, Vice Chair
D. Alvarez
A. Chacon
A. Fellow
L. Fong-Sakai
R. Lefevre
M. Luna
J. McMillan
G. Peterson
K. Seckel
T. Smith

Subcommittee on Pure Water Southern California and Regional Conveyance - Final

Meeting with Board of Directors *

September 26, 2023

8:30 a.m.

Agendas, live streaming, meeting schedules, and other board materials are available here: <https://mwdh2o.legistar.com/Calendar.aspx>. A listen-only phone line is available at 1-877-853-5257; enter meeting ID: 891 1613 4145. Members of the public may present their comments to the Board on matters within their jurisdiction as listed on the agenda via in-person or teleconference. To participate via teleconference 1-833-548-0276 and enter meeting ID: 815 2066 4276 or click <https://us06web.zoom.us/j/81520664276pwd=a1RTQWh6V3h3ckFhNmdsUWpKR1c2Zz09>.

**Tuesday, September 26,
2023**

**08:30 a.m. PWSCRC
10:30 a.m. Sp BOD
12:30 p.m. Break
01:00 p.m. EXEC
02:30 p.m. LTRPPBM**

MWD Headquarters Building • 700 N. Alameda Street • Los Angeles, CA 90012

Teleconference Locations:

Covina Irrigating Company • 146 E. College Street • Covina, CA 91723

Cedars Sinai Medical Center • 8700 Beverly Blvd • Los Angeles, CA 90048

3008 W. 82nd Place • Inglewood, CA 90305

* The Metropolitan Water District's meeting of this Committee is noticed as a joint committee meeting with the Board of Directors for the purpose of compliance with the Brown Act. Members of the Board who are not assigned to this Committee may participate as members of the Board, whether or not a quorum of the Board is present. In order to preserve the function of the committee as advisory to the Board, members of the Board who are not assigned to this Committee will not vote on matters before this Committee.

- 1. Opportunity for members of the public to address the committee on matters within the committee's jurisdiction (As required by Gov. Code Section 54954.3(a))**

**** CONSENT CALENDAR ITEMS -- ACTION ****

- 2. CONSENT CALENDAR OTHER ITEMS - ACTION**

- A. Approval of the Minutes of the Subcommittee on Pure Water Southern California and Regional Conveyance Meeting for June 27, 2023 (Copies have been submitted to each Director, Any additions, corrections, or omissions) [21-2649](#)

Attachments: [09262023 PWSCRC 2A \(06272023\) Minutes](#)

**** END OF CONSENT CALENDAR ITEMS****

3. SUBCOMMITTEE ITEMS

- a. Drought Mitigation Actions Update [21-2650](#)

Attachments: [09262023 PWSCRC 3a Presentation - Revised](#)

- b. Pure Water Southern California Quarterly Update [21-2652](#)

Attachments: [09262023 PWSCRC 3b Presentation](#)

- c. Assessment of Reuse Alternatives for Pure Water Southern California [21-2653](#)

Attachments: [09262023 PWSCRC 3c Presentation](#)

- d. Discussion of California Environmental Quality Act Process for Pure Water Southern California and Regional East/West Conveyance [21-2686](#)

Attachments: [09262023 PWSCRC 3d Presentation - Revised](#)

4. FOLLOW-UP ITEMS

NONE

5. FUTURE AGENDA ITEMS

6. ADJOURNMENT

NOTE: This committee reviews items and makes a recommendation for final action to the full Board of Directors. Final action will be taken by the Board of Directors. Committee agendas may be obtained on Metropolitan's Web site <https://mwdh2o.legistar.com/Calendar.aspx>. This committee will not take any final action that is binding on the Board, even when a quorum of the Board is present.

Writings relating to open session agenda items distributed to Directors less than 72 hours prior to a regular meeting are available for public inspection at Metropolitan's Headquarters Building and on Metropolitan's Web site <https://mwdh2o.legistar.com/Calendar.aspx>.

Requests for a disability-related modification or accommodation, including auxiliary aids or services, in order to attend or participate in a meeting should be made to the Board Executive Secretary in advance of the meeting to ensure availability of the requested service or accommodation.

THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

MINUTES

**SUBCOMMITTEE ON PURE WATER SOUTHERN CALIFORNIA AND REGIONAL
CONVEYANCE**

June 27, 2023

Chair Camacho called the meeting to order at 3:45 p.m.

Members present: Directors Alvarez, Camacho, Fong-Sakai, McMillan, Peterson, Seckel (entered after roll call), Smith.

Members absent: Directors Chacon, Fellow, Lefevre, Luna, and Morris.

Other Board members present: Directors Erdman, Garza, Goldberg, Kurtz, McCoy, Miller (teleconference posted location), Ortega (teleconference posted location), and Quinn.

Committee staff present: Bednarski, Collins, Hagekhalil, Martinez, Schlotterbeck, and Upadhyay

**1. OPPORTUNITY FOR MEMBERS OF THE PUBLIC TO ADDRESS THE COMMITTEE
ON MATTERS WITHIN THE COMMITTEE'S JURISDICTION**

Justin Breck – Law Fellow at Los Angeles Waterkeeper – In support of Pure Water Southern California (PWSC)

Mark Gold – Director, Water Scarcity Solutions for Natural Resources Defense Council – In support of PWSC partnering with LACSD for an integrated regional treatment system.

CONSENT CALENDAR ITEMS ACTION-

2. CONSENT CALENDAR OTHER ITEMS ACTION

- a. Approval of the Minutes of the Subcommittee on Pure Water Southern California and Regional Conveyance for March 28, 2023.

Director Peterson made a motion, seconded by Director Fong-Sakai, to approve the consent calendar consisting of item 2a.

The vote was:

Ayes: Directors Alvarez, Camacho, Fong-Sakai, McMillan, Peterson, and Smith

Noes: None

Abstentions: None

Absent: Directors Chacon, Fellow, Lefevre, Luna, Morris, and Seckel

The motion for Item 2a failed due to lack of quorum by a vote of 6 ayes, 0 noes, 0 abstentions, and 6 absent.

**** END OF CONSENT CALENDAR ITEMS ****

3. SUBCOMMITTEE ITEMS

- a. Subject: Pure Water Southern California Quarterly Update
Presented by: Bruce Chalmers, Program Manager, Engineering Services Group

Mr. Chalmers reported on the following:

- Receiving \$80M program funding for commencement of authorized work.
- Coordination of power supply with SCE.
- Confirming pipeline alignment with cities and agencies.
- Tertiary MBR testing is complete and summary report is being finalized.
- Draft DPR regulations expected this summer.
- Update on ongoing public outreach activities.
- Operation NEXT update.

The following Directors provided comments or asked questions.

1. Smith
2. McMillan
3. Garza
4. Miller
5. Ortega
6. Alvarez
7. Peterson
8. Camacho

Staff responded to the Directors' questions and comments.

- b. Subject: Update on Nitrogen Management Studies for Pure Water Southern California - Presenters Robert Ferrante and Ray Tremblay from Los Angeles County Sanitation Districts
Presented by: Ray Tremblay, Los Angeles County Sanitation Districts

Mr. Tremblay reported on the following:

- Nitrogen management for side stream centrate treatment for nitrogen reduction.
- Pilot scale studies of various treatment approaches such as secondary, tertiary, and a hybrid option.
- The process flow of nitrogen removal with two retrofitted reactors.

- Objectives for optimal nitrogen removal: Wet Weather compliance, Operational Complexity, Technology Maturity, Cost, Environmental Impact, and flexibility.

c. Subject: Drought Mitigation Actions Quarterly Update
 Presented by: Winston Chai, Unit Manager, Engineering Services Group

Mr. Chai reported on the following:

- Schedule of staff workshops to report findings & recommend action portfolios to the Board.
- Goals & Objectives for further development of the East-West Conveyance system.
- Considering treated and raw water conveyance lines and facilities.
- Schedule of collaborative process between MWD and other agencies such as Calleguas, LADWP, and Las Virgenes.
- Summary of both raw and treated water demand and supply points and screened alternatives.
- Surface storage options study to develop an inventory of potential surface storage options for further consideration and proposed evaluation criteria.
- The study areas consist of 70 sites for West San Joaquin Valley and 298 for Southern California resulting in a mix of no go, low potential, medium potential, and high potential.

Legal staff announced that the vote on approval of the minutes item 2a had to be retaken due to a lack of quorum.

Director Peterson made a motion, seconded by Director Fong-Sakai, to approve the consent calendar consisting of item 2a.

The vote was:

Ayes: Directors Alvarez, Camacho, Fong-Sakai, McMillan, Peterson, Seckel, and Smith
 Noes: None
 Abstentions: None
 Absent: Directors Chacon, Fellow, Lefevre, Luna, and Morris

The motion for Item 2a passed by a vote of 7 ayes, 0 noes, 0 abstentions, and 5 absent.

4. FOLLOW-UP ITEMS

None

5. FUTURE AGENDA ITEMS

None

The next meeting will be September 26, 2023.

Meeting adjourned at 5:32 p.m.

Michael Camacho
Chair



Subcommittee on Pure Water Southern California and
Regional Conveyance

Drought Mitigation Actions Portfolio Development Update

Item 3a

September 26, 2023

Presentation Outline

- Metropolitan's Commitments to Ensure Equitable Access to Supply and Storage Assets
- Measures to Meet the Commitments
- Development of Drought Mitigation Actions Portfolio
- Regional Conveyance Improvements Study Update
- Proposed Next Steps

Metropolitan's Commitments

- Ensure equitable access to supply and storage assets
- Specifically, pursue balanced solutions to improve the SWPDAs' drought resilience
 - Building infrastructure
 - Increasing local supply availability
 - Expanding partnerships
 - Advancing water use efficiency

Call to Action

Metropolitan commits to ensuring equitable access to supply and storage assets by building infrastructure, increasing local supply availability, expanding partnerships, and advancing water use efficiency.

Metropolitan's Board of Directors, therefore, affirms a Call to Action and directs the General Manager, in collaboration with the member agencies, to:

- Drive a decision towards a portfolio of specific projects and programs to address the problem statement noted above. The selected portfolio must include infrastructure improvements to deliver available water supplies to the SWP-dependent areas. The portfolio must also be balanced through new storage and supply programs and local supply development and management.
- Bring the recommended portfolio and associated implementation plans forward for Board approval in February 2023. Board approval should include modifying the CIP to include the new projects.
- Reprioritize CIP projects, spending plans, and Board approvals as needed to expedite work on critical and time-sensitive elements to address the supply and infrastructure inequity.
- Utilize alternative project delivery methods such as design-build, progressive design-build, or the construction manager/general contractor to counteract the negative impacts of severe and ongoing drought and the continuing impacts of climate change.²⁴
- Provide quarterly reports to the Board on the status of the drought emergency projects.

Further, the Board directs the General Manager to take on these actions through a One Water approach, with robust Board oversight through the implementation phase of the IRP. Four elements of action include:

1. Upgrade water infrastructure to ensure equitable access to supply and storage assets.
2. Increase long-term water savings through water use efficiency and the transforming of non-functional turfgrass into a more appropriate Southern California landscape.
3. Advance development of local supplies for recycled water, groundwater recovery, stormwater capture, and desalination.

Measures to Meet the Commitments

- A portfolio of specific projects and programs
 - Must include infrastructure improvements
 - Portfolio must also be balanced through new storage and supply programs and local supply development and management
- Four elements of action
 1. Upgrade water infrastructure to ensure equitable access to supply and storage
 2. Increase long-term water savings
 3. Advance development of local supplies for recycled water, groundwater recovery, stormwater capture, and desalination
 4. Align imported supply planning and actions for the full potential impacts of climate change
- Integration with CAMP4W process
 - Develop a solution to achieve equitable access for SWPDA agencies (Element 1)
 - Inform CAMP4W process with conservation, recycling, supply, & storage analysis and options (Elements 2, 3 & 4)

Integration of Drought Mitigation Actions with CAMP4W process

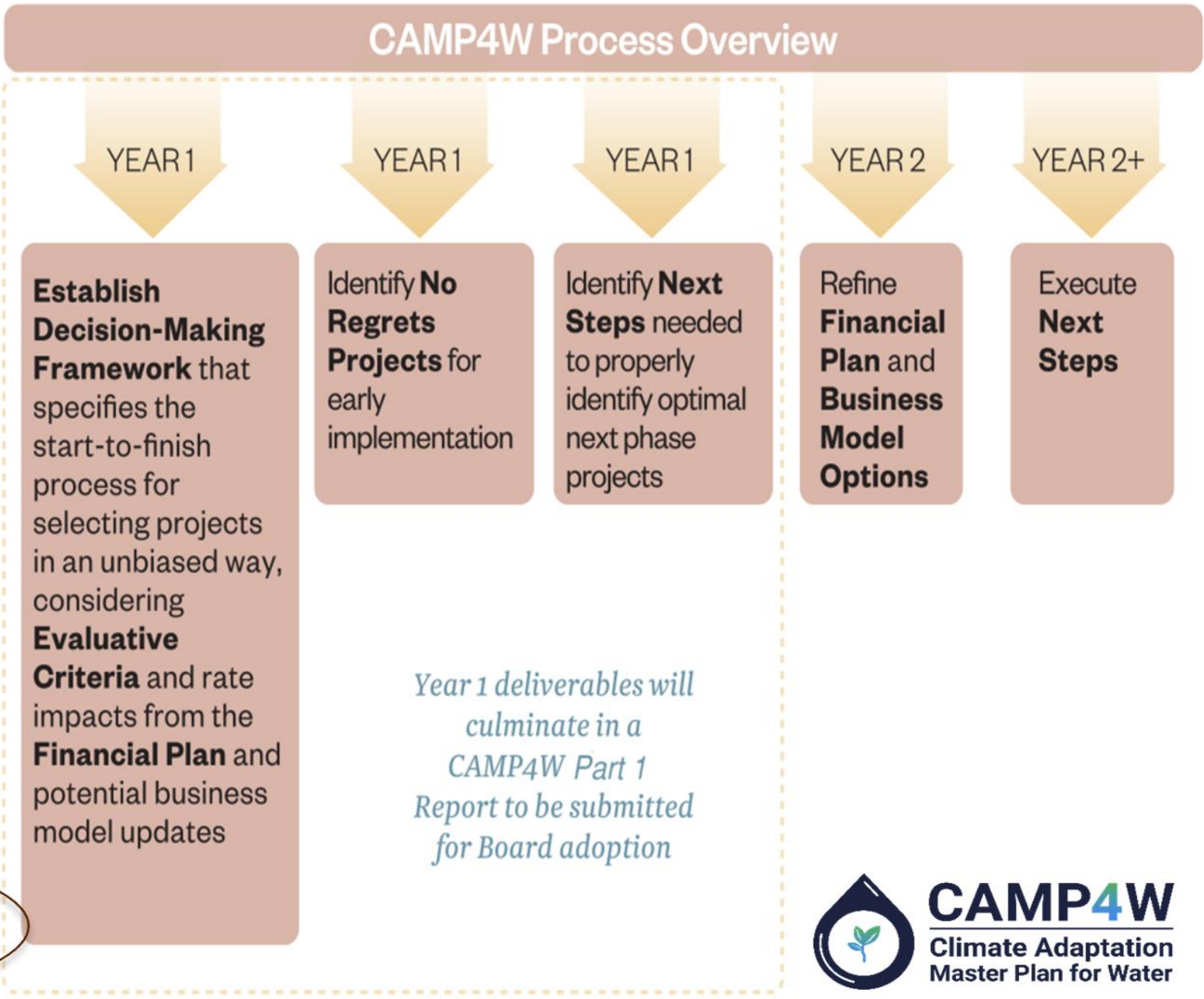
CAMP4W Themes compile Board's and Member Agency's goals for the program

Evaluative Criteria will score and rank projects using Themes as guideposts

Financial Plan will evaluate the impact of risks and investments on rates.

Business Model options will consider Metropolitan's evolving role for the region

Metropolitan Projects, Member Agency Projects, and results from **Technical Studies** will identify projects being considered



Development of Drought Mitigation Actions Portfolio

Equitable
Access

Drought Mitigation
Actions

Inform
CAMP

Regional Conveyance
Improvements

Eastern SWP
Dependent Areas

Western SWP
Dependent Areas

Immediate
Implementation

Further
Development

Regional Supply and
Storage Projects

Recycled Water

Storage

Groundwater

Desalination

Other Projects

Regional Conveyance Improvements for Immediate Implementation

Project	Capacity	Estimated Cost	Planned Board Action	Anticipated Completion	Status
Wadsworth Bypass	Up to 120 cfs 87 TAF	\$23 M	N/A	2025	In construction
Inland Feeder-Rialto Pipeline Intertie		\$20 M	N/A	2025	In construction
Badlands Tunnel Surge Tank		\$25 M	Oct 2023	2025	In advertisement
Foothill Pump Station Intertie		\$26 M	Fall 2024	2026/2027	In final design (two- stage construction)
Sepulveda Feeder Pumping Project -Phase 1	Up to 60 cfs* 42 TAF	\$120 M	Fall 2024	2026	Design-build contract awarded
Shift of Burbank B-5 Supply to B-5A	Up to 7 cfs 5 TAF	\$7 M	Mid 2024	2026	Feasibility study completed
TVMWD Miramar Pumpback Upgrade	Up to 30 cfs 21 TAF	\$5M	TBD	TBD	Feasibility study

*Capacity includes 30 cfs pump station capacity and 30 cfs water savings that would otherwise be delivered into the common pool to maintain water quality

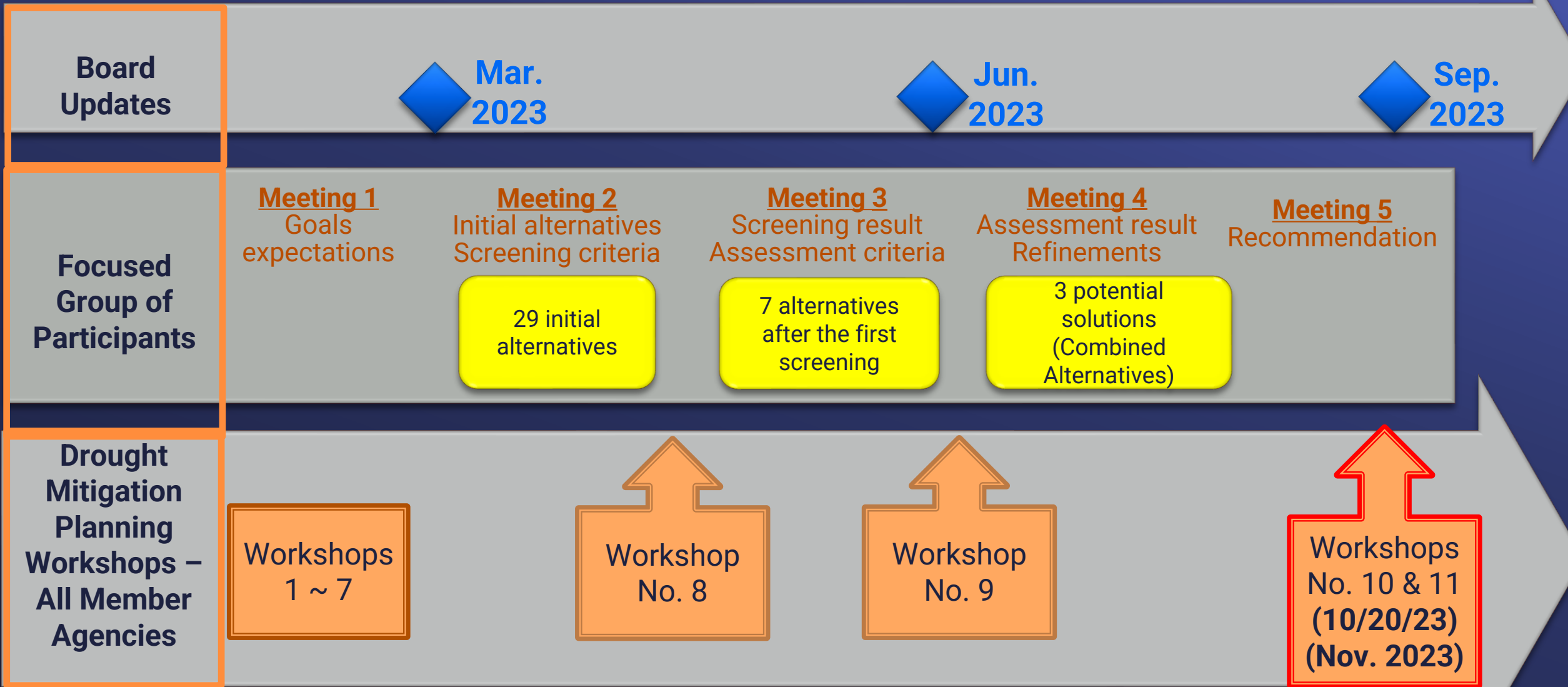
Regional Conveyance Improvements for Further Development

Goals & Objectives

- Develop feasible Regional Conveyance Improvement alternatives
- Improve access to supplies and storage for delivery to the West Side SWP Dependent Area
 - Consider treated water and raw water conveyance systems and facilities
 - Integrate with new and potential water supplies (i.e., Pure Water Southern California and other regional recycled-water programs)
- Provide regional benefits to improve reliability and resilience

Collaborative Process to Develop Solutions

More than 20 multi-agency workshops/meetings





Regional Conveyance Improvements Study 7 Screened Alternatives

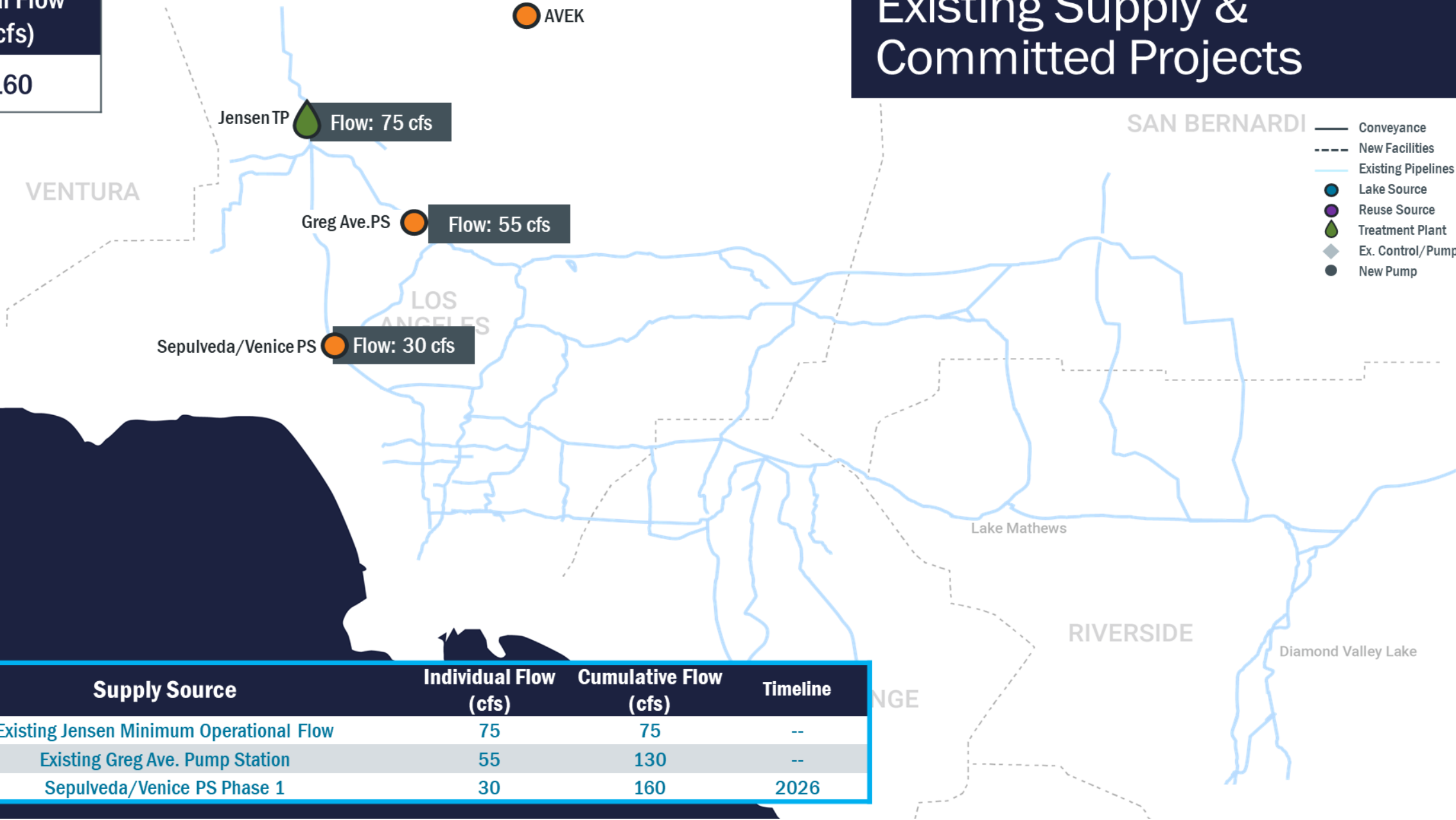


Solutions Development

- Determine the capacity of new conveyance infrastructure by
 - Considering existing system limitations
 - Incorporating potential new supply sources
 - Meeting the recent high-demand period (2021) of SWPDA agencies
- Combine individual alternatives to achieve targeted capacity
- Apply selection criteria:
 - Equity
 - Timely
 - Regional benefits
 - Cost-effectiveness/affordability
- Three solutions selected for consideration:
 - Raw water solution
 - Treated water solution
 - Hybrid solution

Existing Supply & Committed Projects

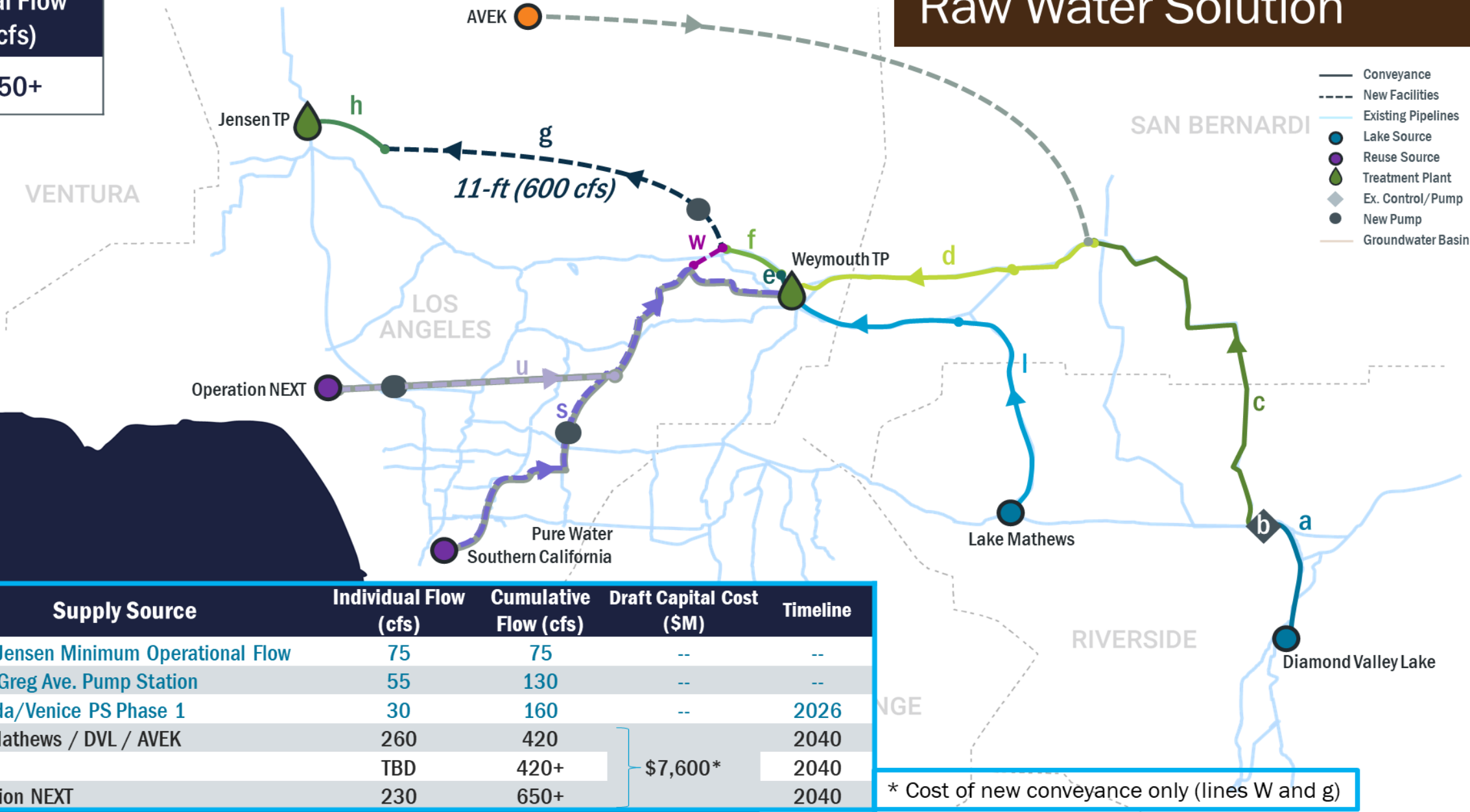
Total Flow (cfs)
160



Supply Source	Individual Flow (cfs)	Cumulative Flow (cfs)	Timeline
Existing Jensen Minimum Operational Flow	75	75	--
Existing Greg Ave. Pump Station	55	130	--
Sepulveda/Venice PS Phase 1	30	160	2026

Raw Water Solution

Total Flow (cfs)
650+

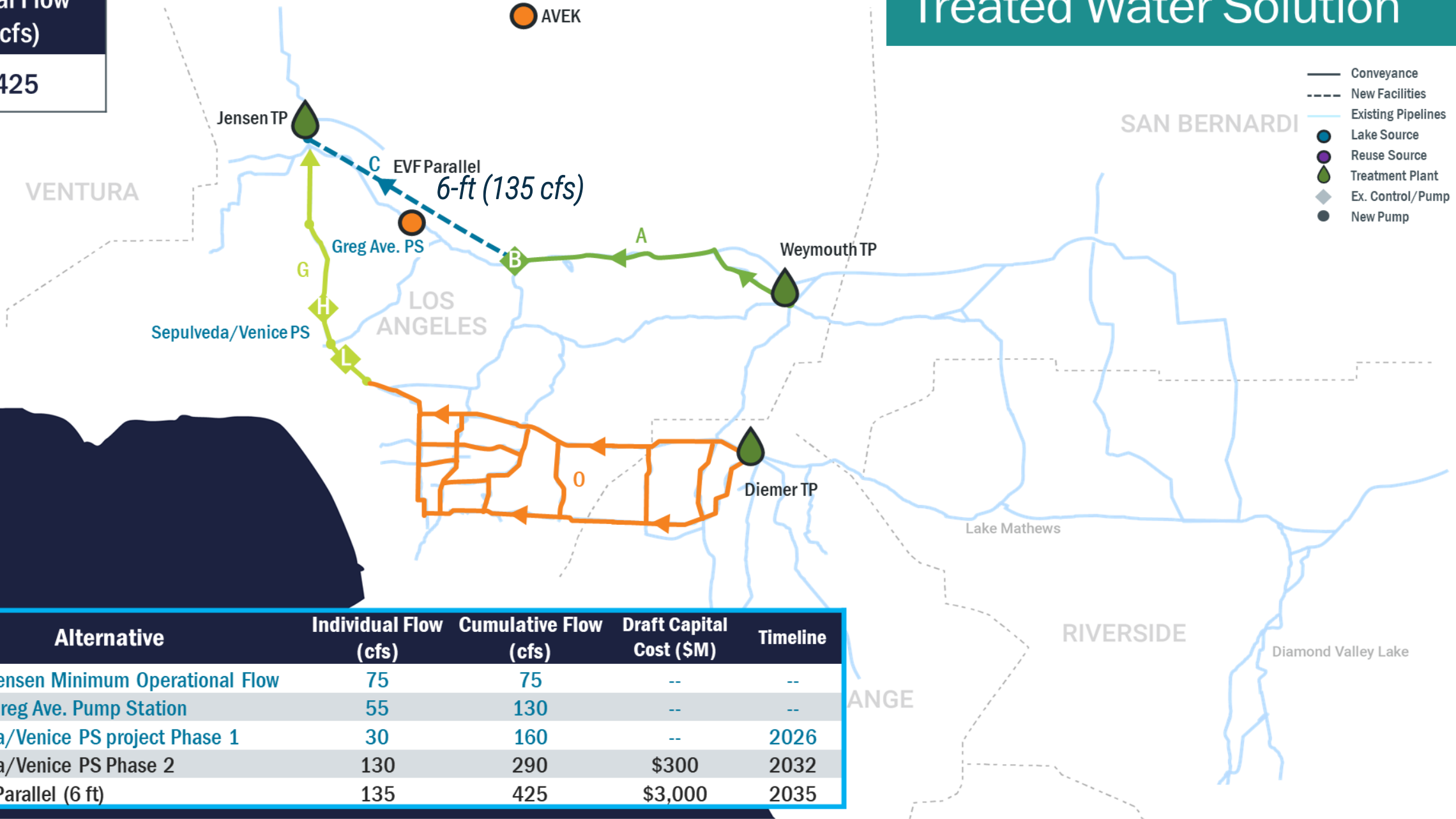


Supply Source	Individual Flow (cfs)	Cumulative Flow (cfs)	Draft Capital Cost (\$M)	Timeline
Existing Jensen Minimum Operational Flow	75	75	--	--
Existing Greg Ave. Pump Station	55	130	--	--
Sepulveda/Venice PS Phase 1	30	160	--	2026
Lake Mathews / DVL / AVEK	260	420	\$7,600*	2040
PWSC	TBD	420+		2040
Operation NEXT	230	650+		2040

* Cost of new conveyance only (lines W and g)

Treated Water Solution

Total Flow (cfs)
425

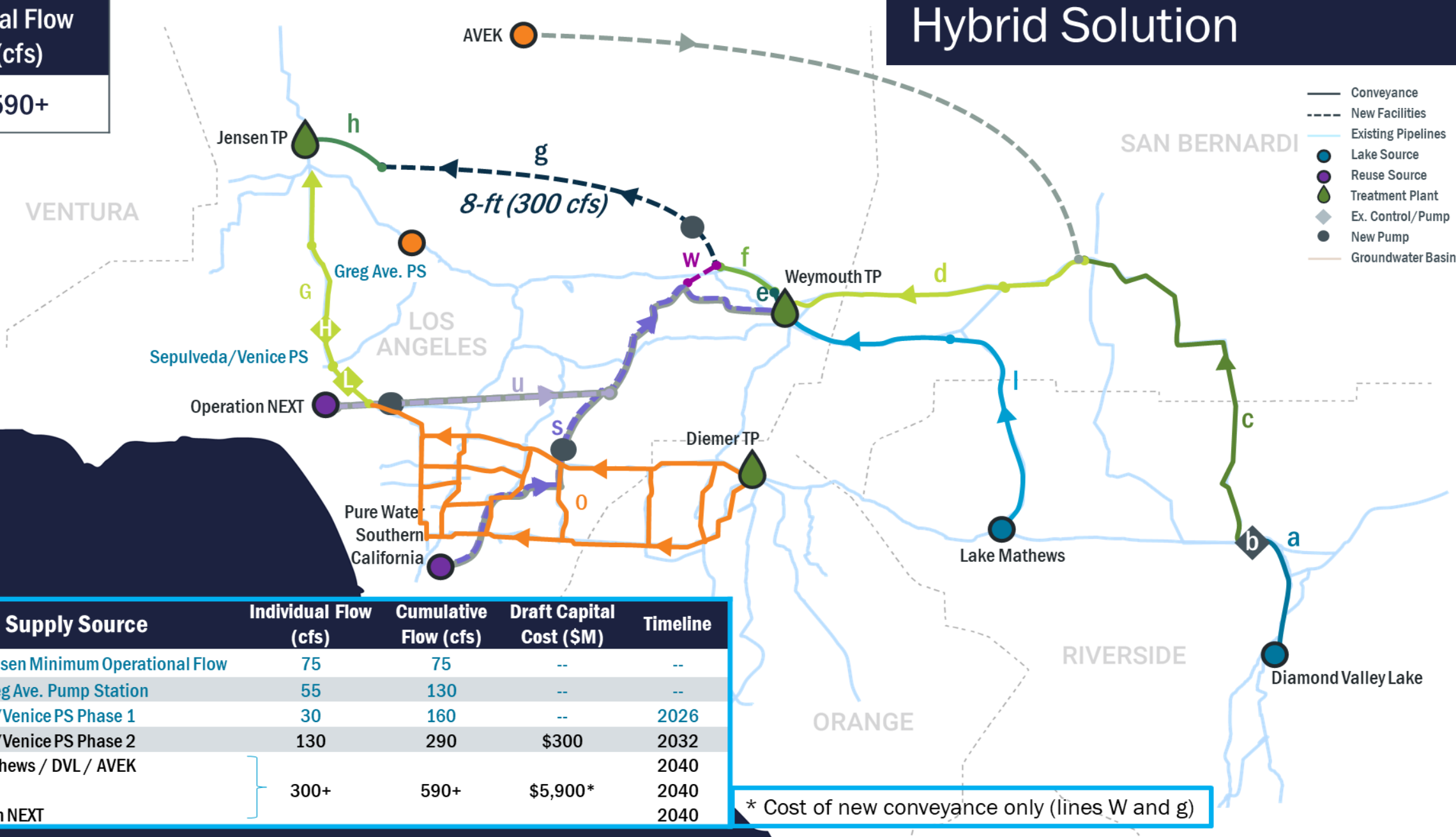


Alternative	Individual Flow (cfs)	Cumulative Flow (cfs)	Draft Capital Cost (\$M)	Timeline
Existing Jensen Minimum Operational Flow	75	75	--	--
Existing Greg Ave. Pump Station	55	130	--	--
Sepulveda/Venice PS project Phase 1	30	160	--	2026
Sepulveda/Venice PS Phase 2	130	290	\$300	2032
New EVF Parallel (6 ft)	135	425	\$3,000	2035

Total Flow
(cfs)

590+

Hybrid Solution



Supply Source	Individual Flow (cfs)	Cumulative Flow (cfs)	Draft Capital Cost (\$M)	Timeline
Existing Jensen Minimum Operational Flow	75	75	--	--
Existing Greg Ave. Pump Station	55	130	--	--
Sepulveda/Venice PS Phase 1	30	160	--	2026
Sepulveda/Venice PS Phase 2	130	290	\$300	2032
Lake Mathews / DVL / AVEK	300+	590+	\$5,900*	2040
PWSC				2040
Operation NEXT				2040

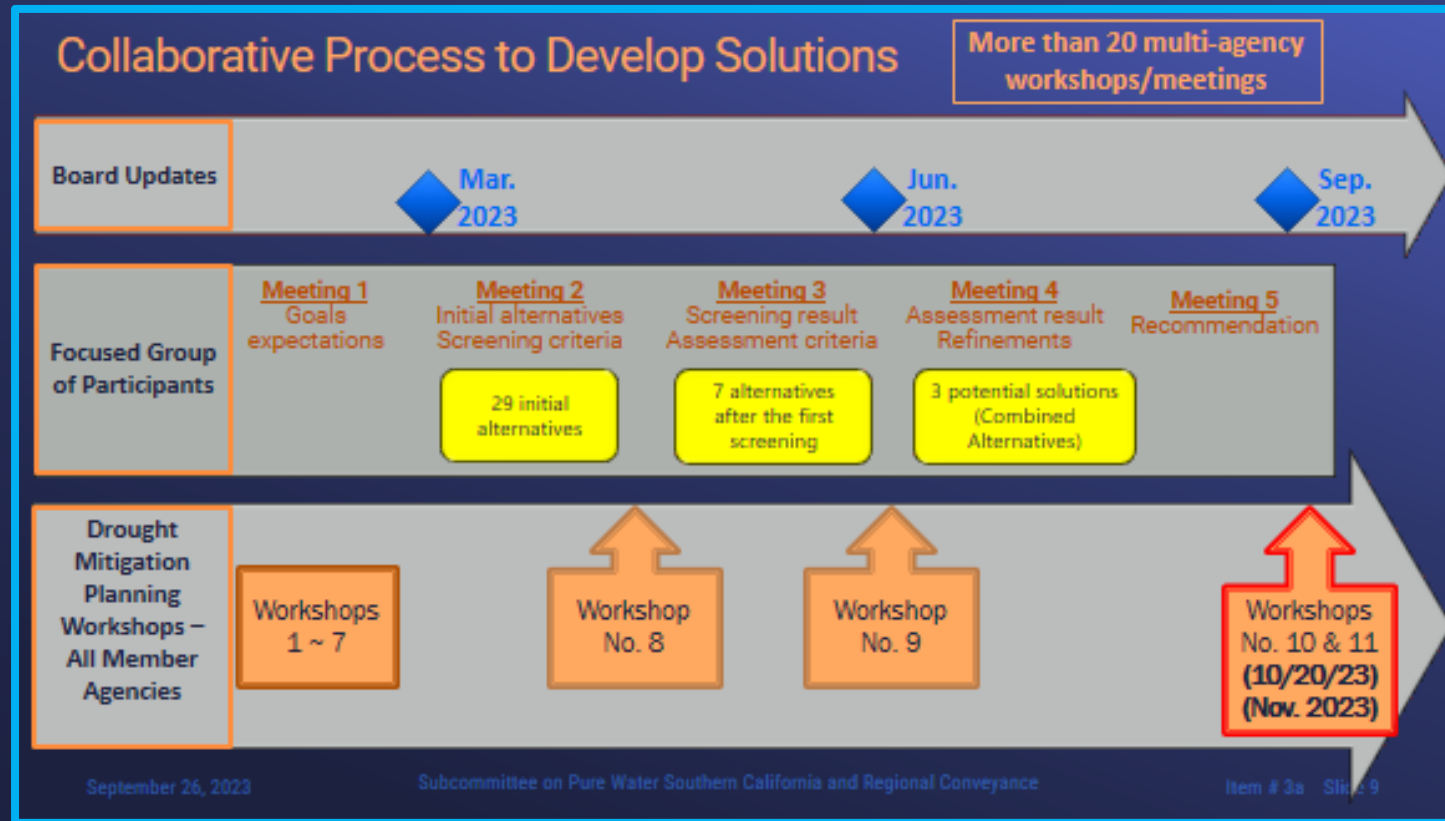
* Cost of new conveyance only (lines W and g)

Benefits of a Hybrid Solution

- Addresses issues identified in the August 2022 Call for Action
- Utilizes existing assets to deliver a timely partial solution to delivering treated water to the SWPDA on the West Side (Sepulveda Pipeline)
- Raw Water Pipeline Benefits:
 - Provides flexibility in moving SWP surplus (bi-directional pipeline)
 - Delivers raw water to member agencies in the north San Gabriel Valley and to the region's groundwater basins
 - From the West Branch
 - From CRA, East Branch, and DVL
 - From recycled water supplies
 - Improves the system's resiliency
 - Improves drought resilience and seismic resilience

Proposed Next Steps

- Provide update at 9/28 Member Agency Managers Meeting
- Collaborate with all member agencies and receive feedback at Oct. workshop
- Report to the Subcommittee in November 2023
- Collaborate with all member agencies and receive feedback at November workshop



Proposed Next Steps (cont.)

- Recommend actions to the Board in the first quarter of 2024
 - Create and fund a new program in the CIP
 - Part of the upcoming FYs 2024/2025-2025/2026 CIP budget process
 - Program will contain all Drought Mitigation Actions
 - Apply a hybrid approach for the Regional Conveyance Improvements
 - Amend current CIP to include treated water components
 - Sepulveda and Venice Pump Stations (160 cfs ultimate capacity)
 - Removing network constraints (Inglewood lateral)
 - Continue developing the raw water components of Regional Conveyance Improvements
 - Determine benefits, feasibility, capacity, alignment, etc.





Subcommittee on Pure Water Southern California
and Regional Conveyance

Pure Water Southern California Quarterly Update

Item 3b

September 26, 2023

Pure Water
Southern California
Outline



- Demonstration Testing
 - Tertiary and Secondary MBR Testing
 - Transitions and Future Testing
 - California Draft DPR Regulations
 - Ongoing Partnerships
- Program Updates
 - Planning & Preliminary Design
 - Larger Backbone Pipeline Alternative
 - Schedule Update
 - Program Outreach
 - Funding Opportunities
 - Next Steps



Demonstration Testing

Pure Water
Southern California
Demonstration
Facility

Tertiary MBR Testing Achievements

- Validated increased pathogen credit through MBR
- Demonstrated a feasible tMBR-based treatment train

Tertiary MBR Testing
2019-2021

*Tertiary MBR treats
Secondary Effluent*



Analytical expertise developed



*Final Draft Report submitted
Regulatory feedback anticipated in 2023*

Pure Water
Southern California
Demonstration
Facility

Secondary MBR Testing Completed

- Demonstrated robustness to meet requirements for groundwater recharge
- Pathogen monitoring and analysis used approved approach to demonstrate enhanced removal
- Report development and data analysis underway

Secondary MBR Testing
2022-2023

*Secondary MBR treats
Primary Effluent*



Maintenance



Monitoring



Testing

Pure Water
Southern California
Demonstration
Facility

Transition to tMBR Optimization and Preparing for DPR

- O&M/testing "ownership" shifted to Metropolitan staff
- Critical maintenance planned with plant shutdown Nov 2023
- Startup in Dec 2023 for tMBR optimization
- Studies ongoing to support future DPR integration

Focus of future testing:
Optimize tMBR Trains
(1) nitrifying/denitrifying
(2) nitrifying-only

Evaluate DPR Treatment
(1) bench-scale testing
(2) pilot- & demo-scale testing



Metropolitan Demo Facility Staff



Critical Maintenance Needs



Testing for DPR

Direct Potable Reuse (DPR) Regulations



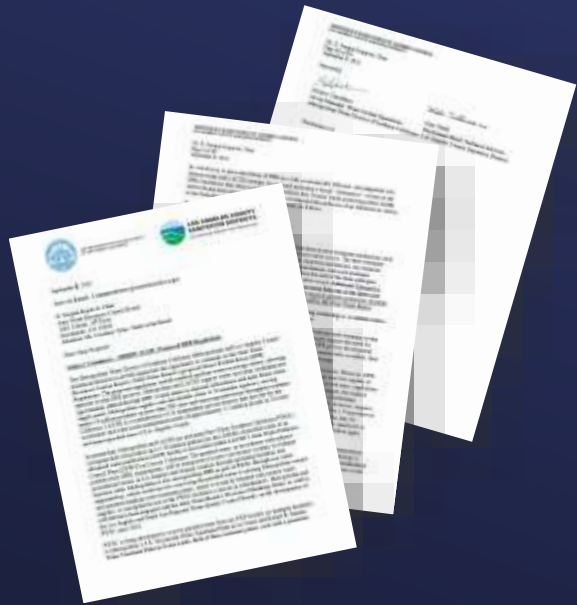
SWRCB Regulatory Activity

- Updated draft DPR criteria released July 21
 - Proposed Regulations and Initial Statement of Reasons
- Workshop held Sept 7
- Submitted joint comment letter with LACSD
- Final regulatory actions anticipated by end of 2023
 - Potential action to adopt at Dec 22 SWRCB meeting
 - Estimated effective date mid-2024



Metropolitan participating in SWRCB public hearing on Proposed DPR Regulations

Direct Potable Reuse (DPR) Regulations



Key Needs in Joint DPR Comment Letter

- **Flexibility** for diverse DPR projects
- Validated **online monitoring** technology
- **Emerging constituents** standardized monitoring **framework** created by a Science Advisory Panel
- **Accommodation** for large regional project **partnerships** in the “Joint Plan”
- **Reasonable and feasible** monitoring and reporting **requirements**

Pure Water
Southern California
Demonstration
Facility

Ongoing Partnerships and Collaboration

- LACSD providing
 - Biological treatment guidance
 - Labor for the upcoming shutdown
 - tMBR optimization test plan development
- SNWA providing key guidance on DPR research
- Panel feedback incorporated into testing/report
- Engaged in Water Research Foundation SoCal Reuse Workshop on Sept 14 for industry knowledge sharing

Continuing to work with
internal and external partners



LACSD technical guidance and training



Presenting during WRF Reuse Workshop



Program Updates

Pure Water
Southern California
Program Updates

Current Planning Activities

- Sequencing & Implementation Schedule
- AWT facility site plan & conceptual facilities plan
- SCE coordination for power requirements
- LACSD nitrogen mgmt strategies/facilities plan
- DPR literature review & bench-scale testing
- Sustainable design/Envision training

Preliminary Design of Initial Pipelines

- Conducting field investigations & preliminary design activities for initial pipeline reaches through the cities of Carson, Long Beach & Lakewood



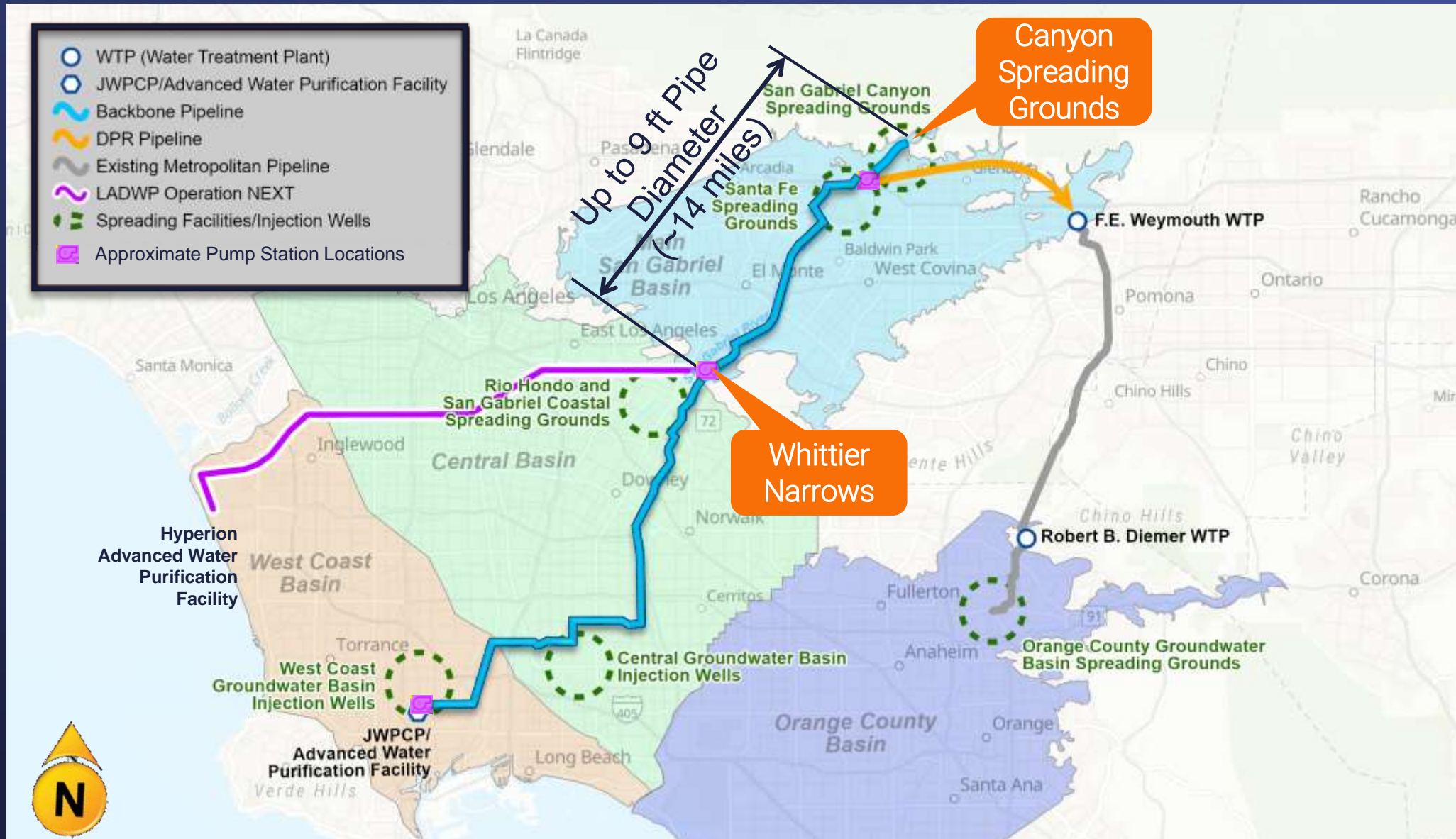
- Coordinating with permitting agencies for pipeline alignment (i.e., Army Corps, Caltrans, Edison, etc.)
- Received approval from Long Beach City Council on pipeline alignment

Pure Water
Southern
California
Regional
Integration

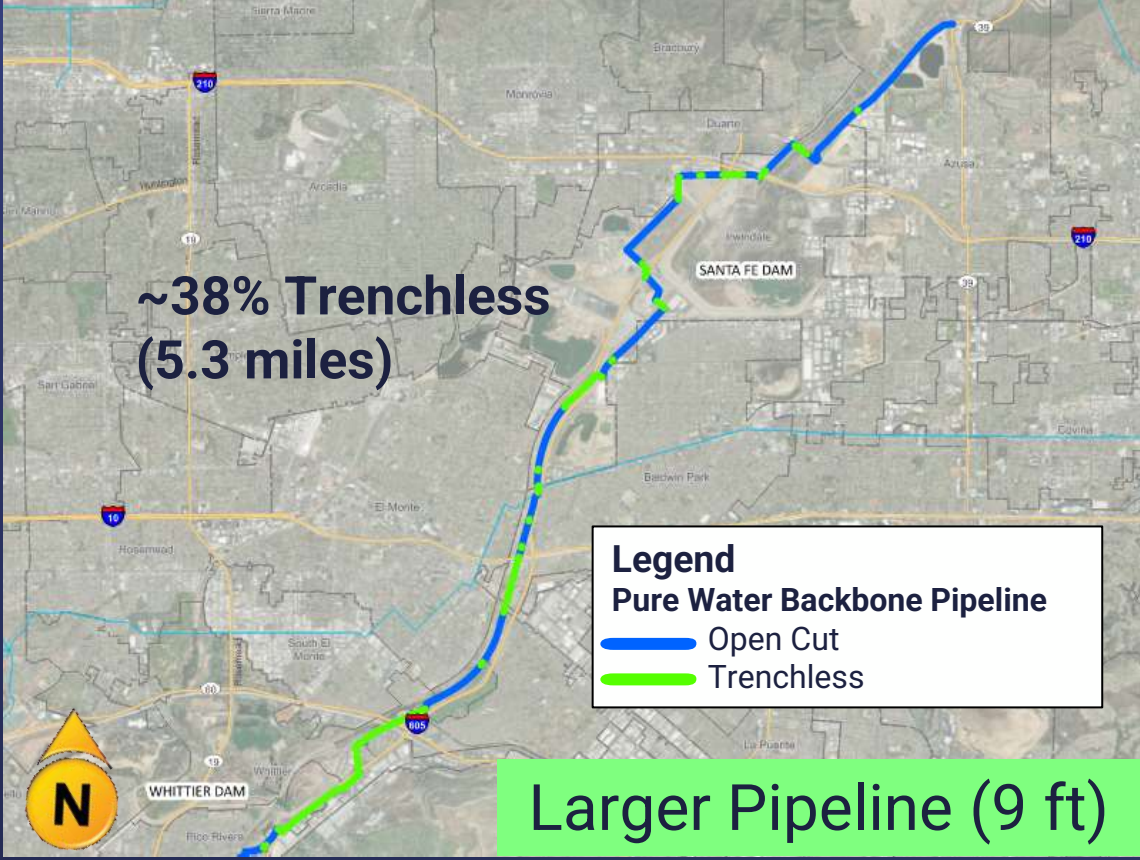
Development of Larger Pipeline Alternative

- Allow for flexibility & potential connection with Operation NEXT
- Analyze upsized backbone piping
 - Up to 9-ft diameter
 - Between Whittier Narrows and Canyon Spreading Grounds (approx. 14 miles)
 - 300 mgd combined conveyance capacity between OpNEXT & PWSC
- Revise technical studies to address potential environmental impacts
- Conduct CEQA project-level analysis

Upsizing Pipeline for Potential Future Flows



Change in Construction Methods for Pipeline Upsizing

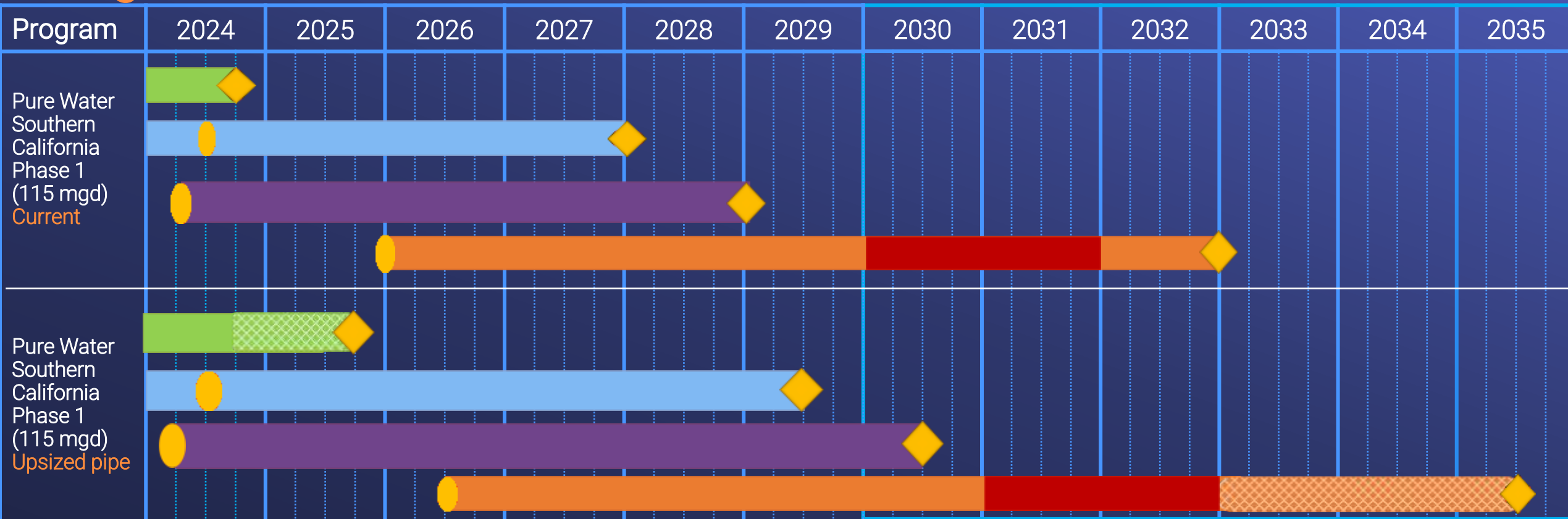


Pure Water
Southern
California
Upsizing
Pipeline for
Potential Future
Flows

Additional CEQA/Planning Work for Upsized Pipeline Alternative

- Revise CEQA documents
- Revise conceptual design
- Additional planning costs (\pm \$3M)
- CEQA schedule extension (9-12 months)

Program Schedule



Environmental Planning Phase



Early Program Activities/Preliminary Design



Final Design



Construction



Board Action



Completion



Initial Water Deliveries

Program Outreach Events

Pure Water
Southern
California
Outreach
Activities



Pure Water Southern California Funding

Outside Funding & Agency Contributions

- \$82M outside funding received to date
- \$8.2M partner contributions received to date
- Upcoming funding opportunities
 - WaterSMART \$5M grant - awaiting confirmation
 - USBR Large Scale Water Recycling Program
 - Proposed 2024 Climate Bond - \$1.8B for recycled water



Pure Water
Southern California
Next Steps

Upcoming Work

- Update environmental documentation
- Continue pipeline preliminary design
- Prepare Conceptual Facilities Plan
- Submit SCE Method of Service application
- Continue community & agency outreach
- Continue work at demonstration plant





Subcommittee on Pure Water Southern California and
Regional Conveyance

Assessment of Reuse Alternatives for Pure Water Southern California

Item 3c

September 26, 2023

Topics Covered Today

- Reuse Alternatives and Approach to Direct Potable Reuse
- Assessment of Groundwater Storage and Recovery to Metropolitan Feeders



Reuse Alternatives for Pure Water Southern California

Questions received:

- *Has Metropolitan considered Treated Water Augmentation, given proposed DPR regulations could now allow for it?*
- *Why do we need to take the PWSC water (from Carson) up to the Water Treatment Plant?*

Response outline:

- California Recycled Water Regulations
- Progressive approach to DPR alternatives
- Considerations of DPR approaches
- Future opportunities to expand DPR approach

SWRCB, DDW

California Recycled Water Regulations

Expansion of planned reuse projects resulting from decades of research and advancement in monitoring, treatment technologies, and compliance.



Non-Potable Reuse

***Irrigation
Industrial Uses***

2000



Indirect Potable Reuse

Groundwater Replenishment

2014



Indirect Potable Reuse

Surface Water Augmentation

2018



Direct Potable Reuse

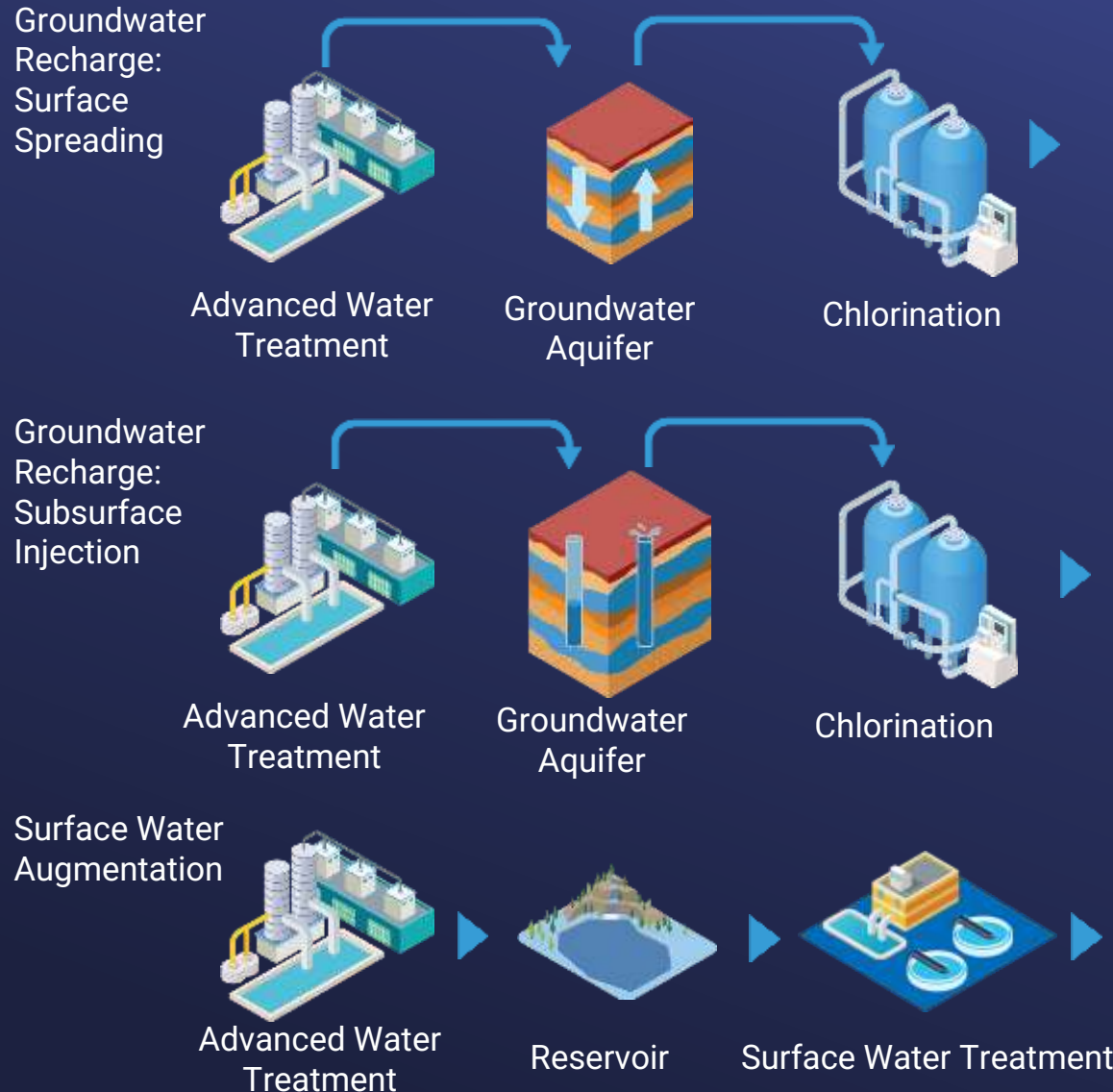
Raw & Treated Water Augmentation

~2023/2024

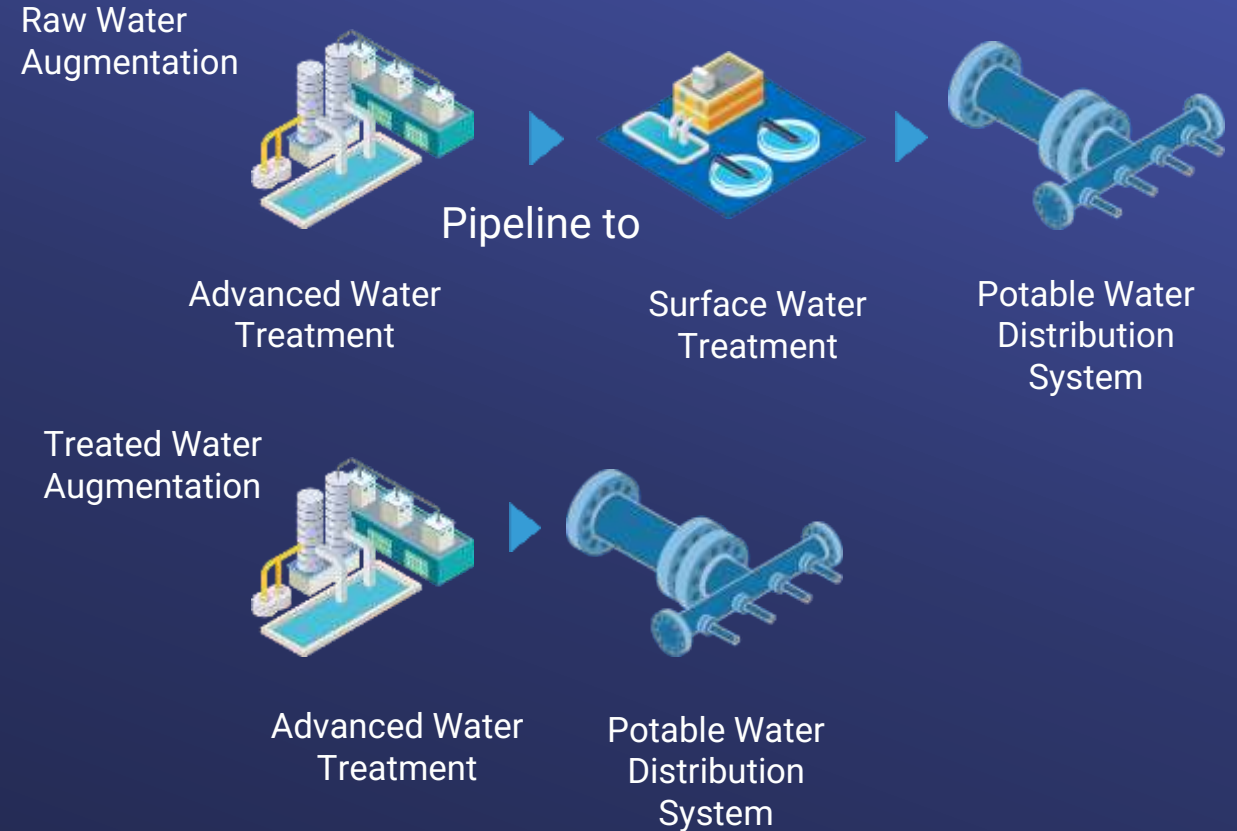
Increasing requirements for public health protection

Progressive Approach to PWSC Reuse Alternatives

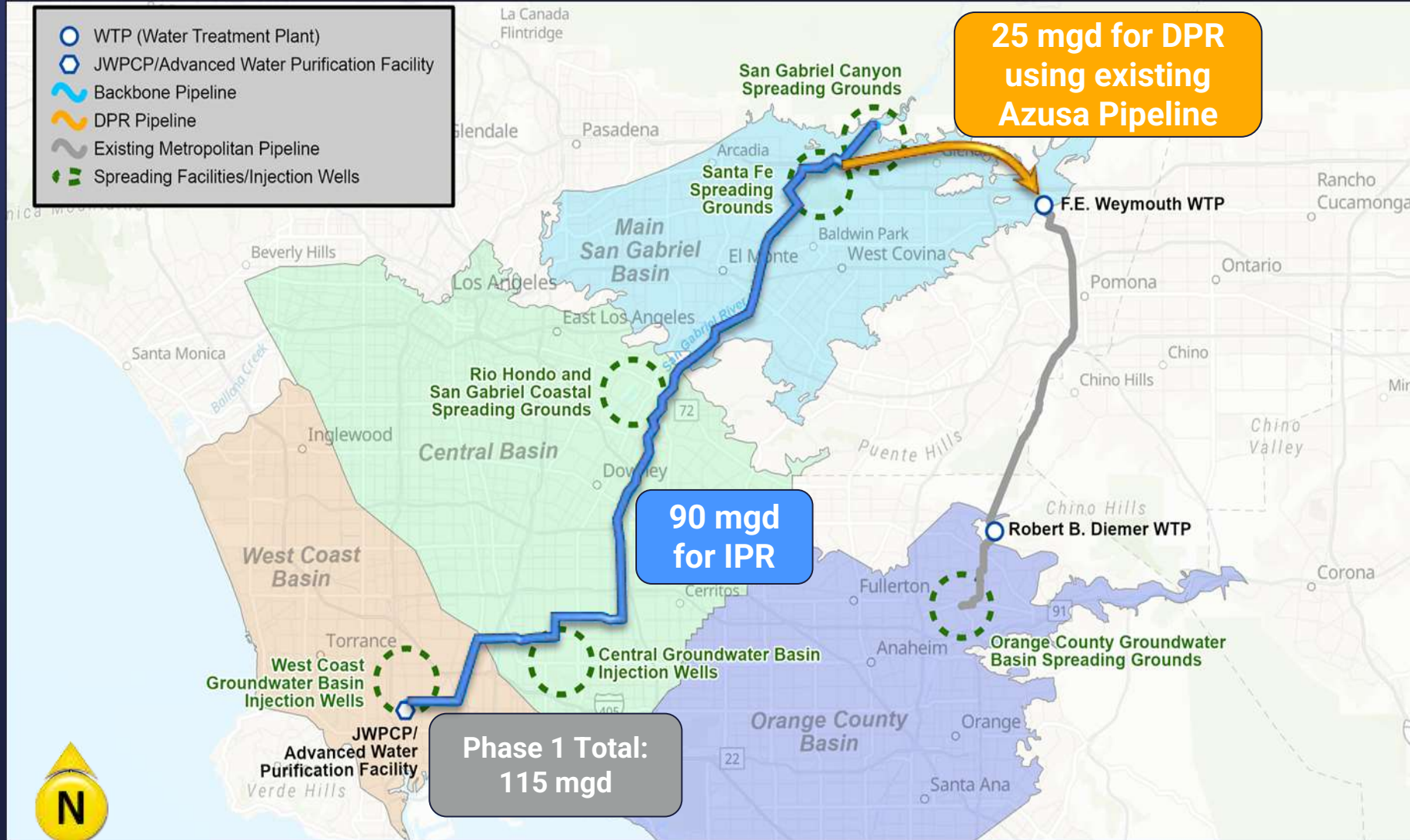
Indirect Potable Reuse



Direct Potable Reuse



PWSC Program Overview – Phase 1 (25 mgd for DPR)



Phase 1 DPR RWA Approach at Weymouth

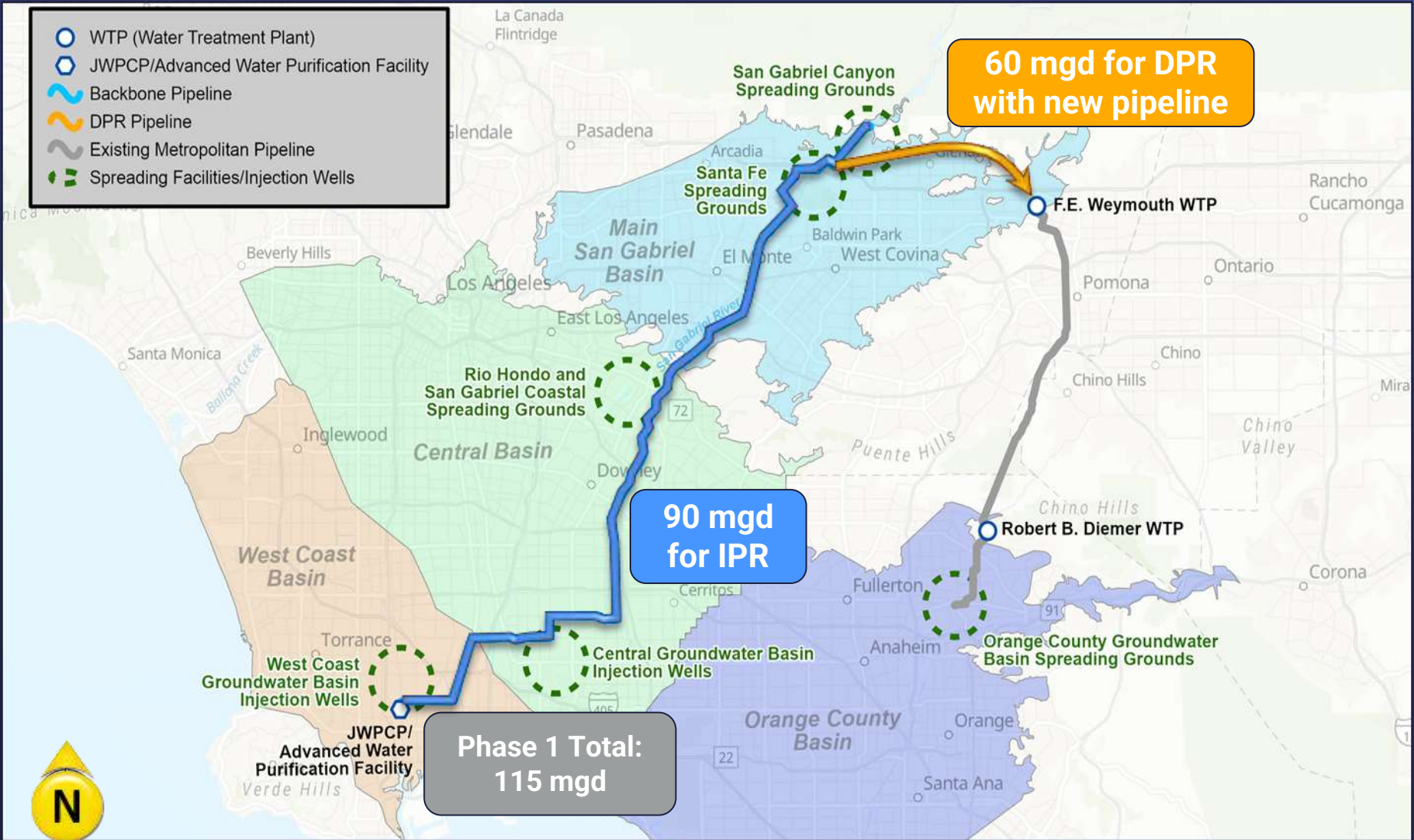
Convey AWT water to Weymouth/Diemer; Blending opportunities with

- CRA
- SWP
- <10% AWT

Additional treatment for regulatory pathogen control requirements

- Chlorine dioxide
- Ultraviolet light

PWSC Program Overview – Phase 2 (60 mgd for DPR)



Phase 2 DPR RWA Approach

New pipeline to Weymouth WTP needed; can also go to Diemer

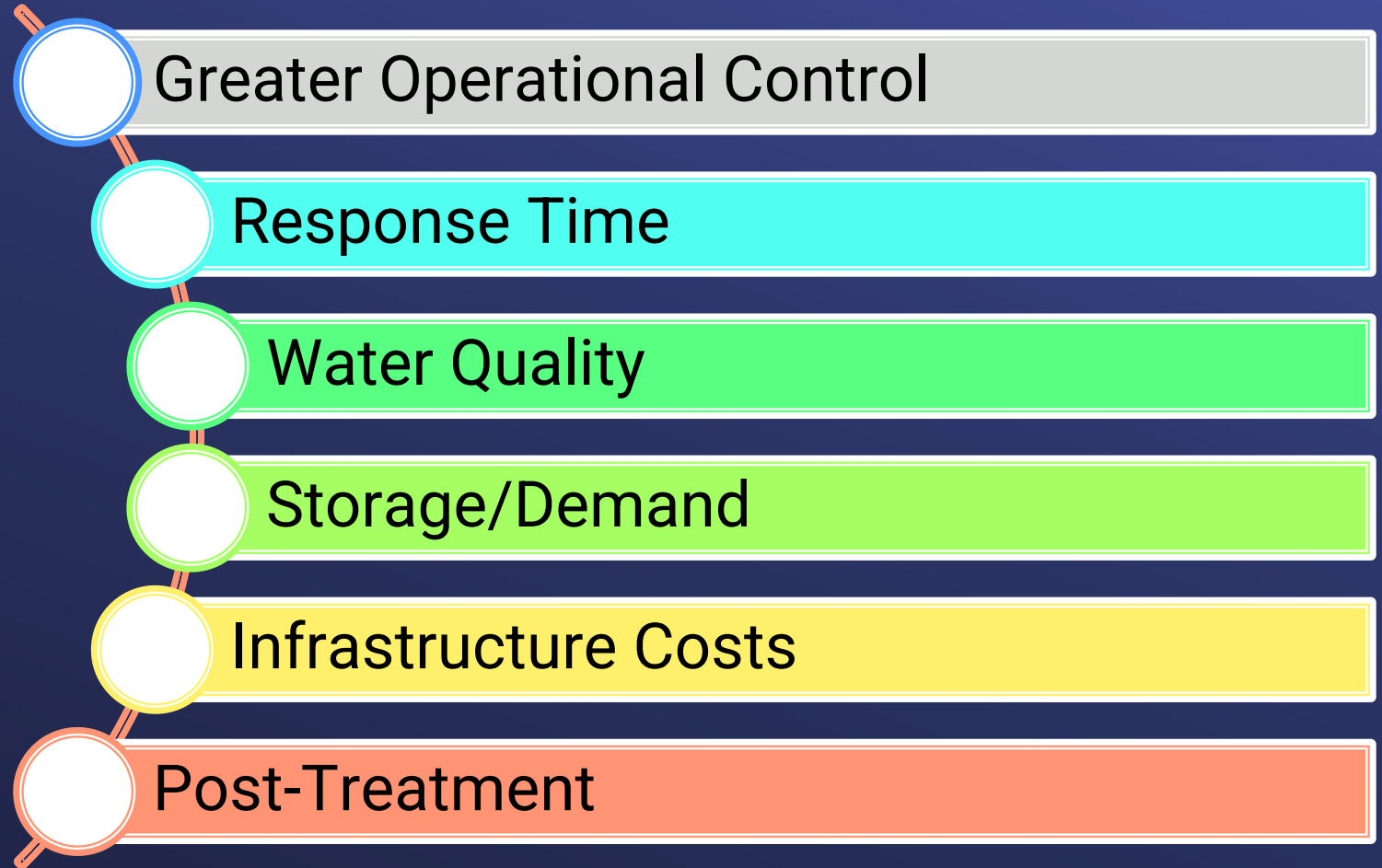
Increase in percent blend of AWT water (would be > 10%)

Triggers additional treatment for regulatory pathogen and chemical control requirements

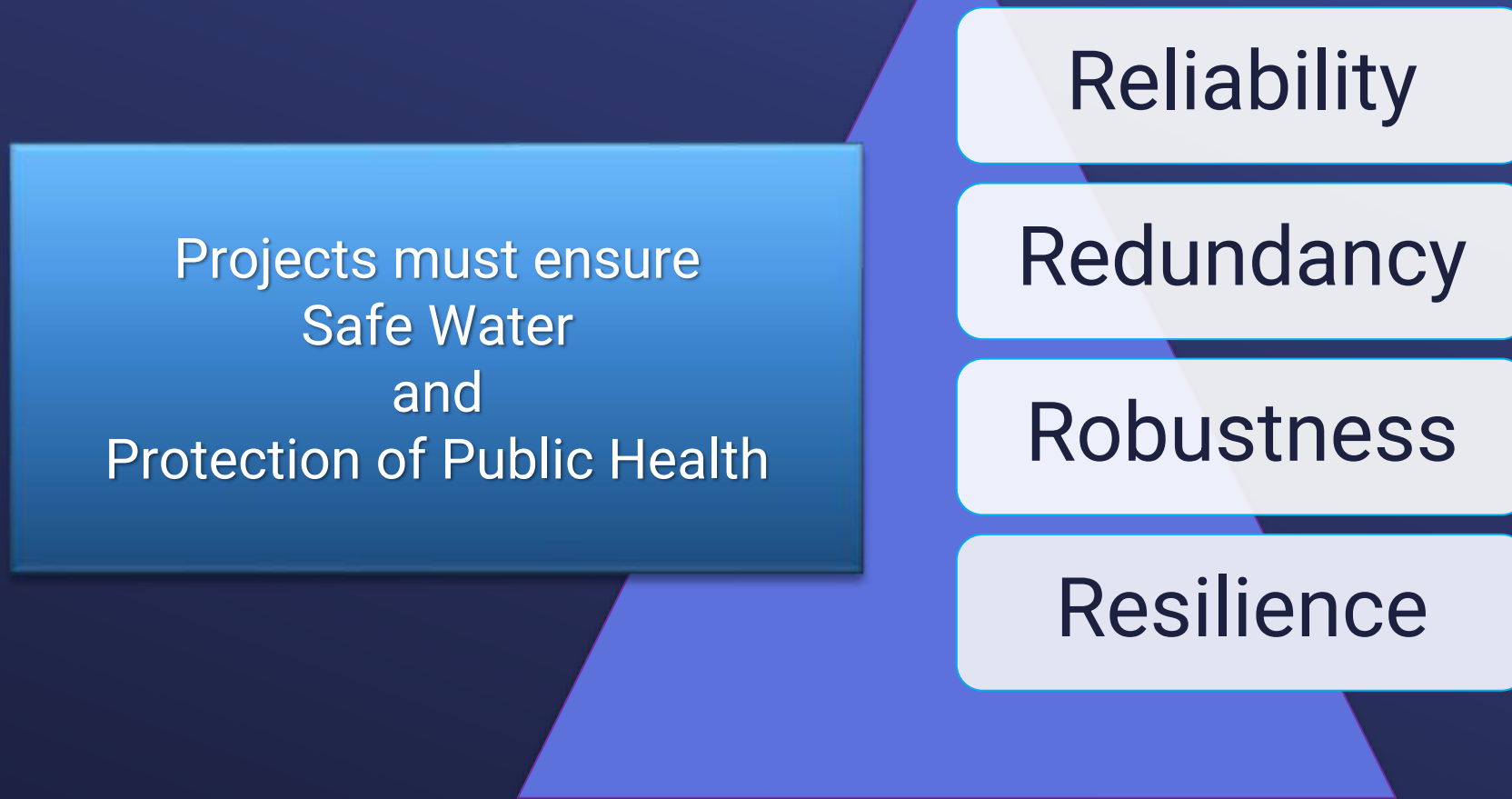
- Process - TBD
- Location - TBD

CA Direct
Potable
Reuse
Regulations

Considerations of Direct Potable Reuse



Regulatory Requirements Balanced with Project Framework for Potable Reuse Approach



Credit: The Four R's, Pecson et al, JAWWA, 2015



Direct Potable Reuse Raw Water Augmentation

RWA – planned introduction of recycled water into a raw water supply immediately upstream of a Surface Water Treatment Plant

Benefits to PWSC pursuing RWA

- Provides Regional Accessibility
 - Leverages existing infrastructure
 - Potential integration with other reuse projects
- Increases Operational Control
 - Allows additional buffer in pipeline
 - Expands response time
 - Blending opportunities
 - Advantages and value of Surface Water Treatment Plant operations
 - Enhances water quality and process performance
 - Balances water quality objectives

Considerations for Treated Water Augmentation

Response Time
(limited)

Hydraulics/
Demands

Storage Needs
(additional)

Risk Contingency

Level of Treatment

Control Logic

Monitoring
(real-time)

Post-Treatment

Next Steps for DPR Development

- Continue to pursue flexible/hybrid RWA approach for Phase 1
- Plan for additional testing and modifications at Demonstration Plant to help inform DPR full-scale operations
- Engage in DPR research/development and monitor/assess lessons learned with reuse sector
 - In consideration for future Treated Water Augmentation opportunities

Reuse Alternatives for Pure Water Southern California

Assessment of Groundwater Storage and Recovery to Metropolitan Feeders

Assessment of Groundwater Storage and Recovery to Metropolitan Feeders

Question received:

- *Could the PWSC program expand the use groundwater basins to eliminate the need for a new pipeline to Weymouth WTP?*

Response outline:

- Current Demands for Pure Water Southern California
- Description of Groundwater Storage and Recovery to Metropolitan Feeder Alternative
- Groundwater Storage and Recovery to Metropolitan Considerations
- Constraints Analysis

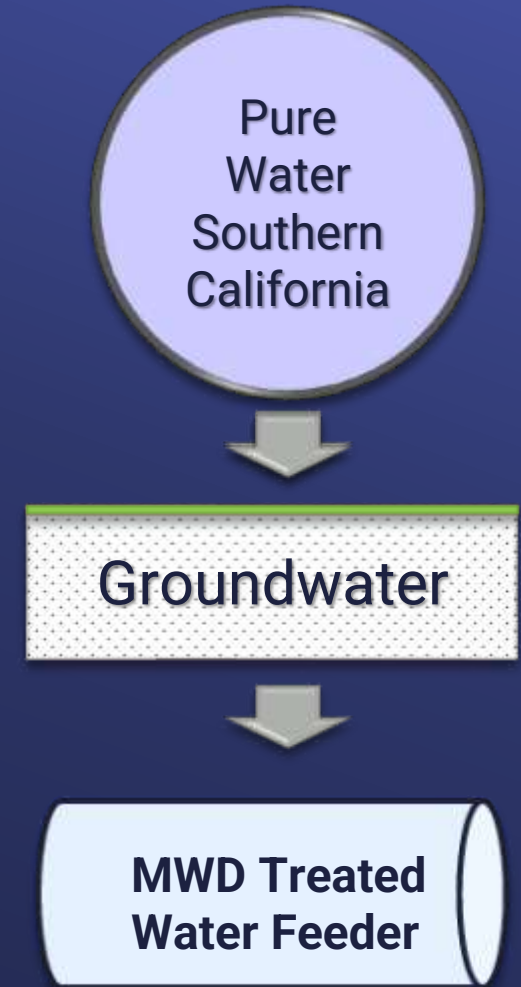
Current Demands for Pure Water Southern California

- Phase 1 (115 mgd)
 - 35 mgd in Central/West Coast Basins
 - 55 mgd in Main SG Basin
 - 25 mgd RWA @ Weymouth and/or Diemer via Azusa Pipeline
- Phase 2 (35 mgd)
 - 35 mgd RWA @ Weymouth and/or Diemer



Description of Groundwater Storage and Recovery to Metropolitan Feeder Alternative

- Current demands for groundwater replenishment are accounted for in Phase 1
- Groundwater storage and recovery to Metropolitan feeders in Phase 2
 - Pure Water delivered for groundwater storage in West Coast, Central, or Main San Gabriel Basins
 - Stored water extracted and conveyed to Metropolitan treated water feeders



Groundwater Storage and Recovery to Metropolitan Considerations

What are the considerations for the groundwater storage and recovery to Metropolitan Feeders alternative?

Demand in Feeders

Recharge & Extraction Capacity

Water Quality

Groundwater Impacts

Potential Groundwater-Metropolitan Feeder Tie-in Locations

Middle Feeder @ San Gabriel River

- Capacity: 161.5 mgd
- Median Demand: 42 mgd

Lower Feeder @ San Gabriel River

- Capacity: 161.5 mgd
- Median Demand: 77 mgd

Second Lower Feeder @ Alameda St.

- Capacity: 87 mgd
- Median Demand: 30 mgd



Constraints Analysis

Demand Assessment

- Limited downstream demand in Metropolitan feeders, especially during low demand periods
- Limited need for additional recharge. Would potentially need to leave in storage until dry year

Recharge & Extraction Capacity

- Limited additional recharge capacity
- Basins are currently near or above upper operating range
- Additional injection/extraction wells are required

Groundwater Impacts

- New injection and extraction wells could impact travel time estimates
- Local agency ownership and operation of new wells
- Potential water rights issues

Water Quality

- Several constituents in groundwater exceed ambient quality in Metropolitan feeders, which would require treatment

Next Steps



- Continue to pursue flexible/hybrid RWA for Phase 1
- Evaluate groundwater storage and recovery to Metropolitan feeders prior to making a future decision on approach to DPR in Phase 2





Subcommittee on Pure Water Southern California
and Regional Conveyance

Pure Water Southern California & Regional East/West Conveyance CEQA Updates

Item 3d

September 26, 2023

Pure Water
Southern
California
CEQA
Analysis

Common Types of Environmental Documents

- Categorical Exemption
- Negative Declaration/Mitigated Negative Declaration
- Environmental Impact Report
 - Project-level EIR
 - Program-level EIR
 - Hybrid approach – used for Pure Water

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California
CEQA
Analysis

Program- vs. Project-Level EIR

- Program EIR
 - Broader focus on a group of related activities or actions
 - Detailed project description with conservative assumptions where data is unknown
 - General or policy-oriented analysis and discussion of impacts, alternatives, and mitigation measures
 - Additional CEQA studies and documentation required prior to construction

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CEQA
Analysis

Program- vs. Project-Level EIR

- Project EIR
 - Narrower focus on a particular project or proposed action
 - Detailed project description for all project components
 - In-depth analysis and discussion of impacts, alternatives, and mitigation measures
 - Ability to construct after EIR certification

Pure Water
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California
EIR
Analysis

Hybrid Program/Project EIR for PWSC

- Project-Level Analysis conducted on following components
 - Backbone pipeline (including upsized pipe)
 - Advanced Water Purification facilities
 - purification processes, pump station, and DPR treatment processes if located at AWP in Carson

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California
EIR
Analysis

Hybrid Program/Project EIR for PWSC

- Program-Level Analysis: Phase 1 Facilities
 - Backbone Pipeline pump stations
 - Azusa pipeline for Phase 1 DPR
 - DPR treatment processes at Weymouth or satellite site
 - Recharge facilities (injection wells and basins)
 - Off-site facilities associated with power supply
 - Member Agency service connections
- Program-Level Analysis: Phase 2 Facilities
 - DPR treatment processes at Weymouth or satellite site
 - DPR pipeline from Santa Fe SG to Weymouth
 - Pump stations along DPR pipeline

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California
Upsized
Pipe

CEQA Approach for Pure Water Backbone Pipeline

- Original Approach
 - Project-level CEQA analysis for 7-foot pipeline from Carson to SGVMWD Canyon Spreading Grounds
 - Approximately 42 miles of pipeline & tunnels
- Revised Approach
 - Project-level CEQA analysis for 7-foot pipeline from Carson to SGVMWD Canyon Spreading Grounds
 - Approximately 42 miles of pipeline & tunnels
 - Project-level CEQA analysis for 9-foot pipeline from Whittier Narrows PS to SGVMWD Canyon Spreading Grounds
 - Approximately 14 miles of pipeline & tunnels

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California
Upsized
Pipe

Additional EIR Analyses to Address Upsized Pipe

- Develop revised engineering data
 - Construction & operational information
- Revise and update technical studies including new modeling, fieldwork and impact assessments
 - Primarily with respect to air quality, GHG, biological resources and cumulative impacts
- Add 9-foot pipe as one alternative to the proposed 7-foot pipe

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Upsized
Pipe

Impacts of Revised Approach

- Provides more efficient approach to conducting CEQA review since project team already is assembled
- Provides flexibility to begin design/construction on either alternative without immediate need for additional CEQA documentation
- Extends timeframe to complete CEQA by 9-12 months
- Incurs approximately \$3M in additional engineering and CEQA planning costs
- Anticipates Board concurrence as to which alternative is ultimately designed/built

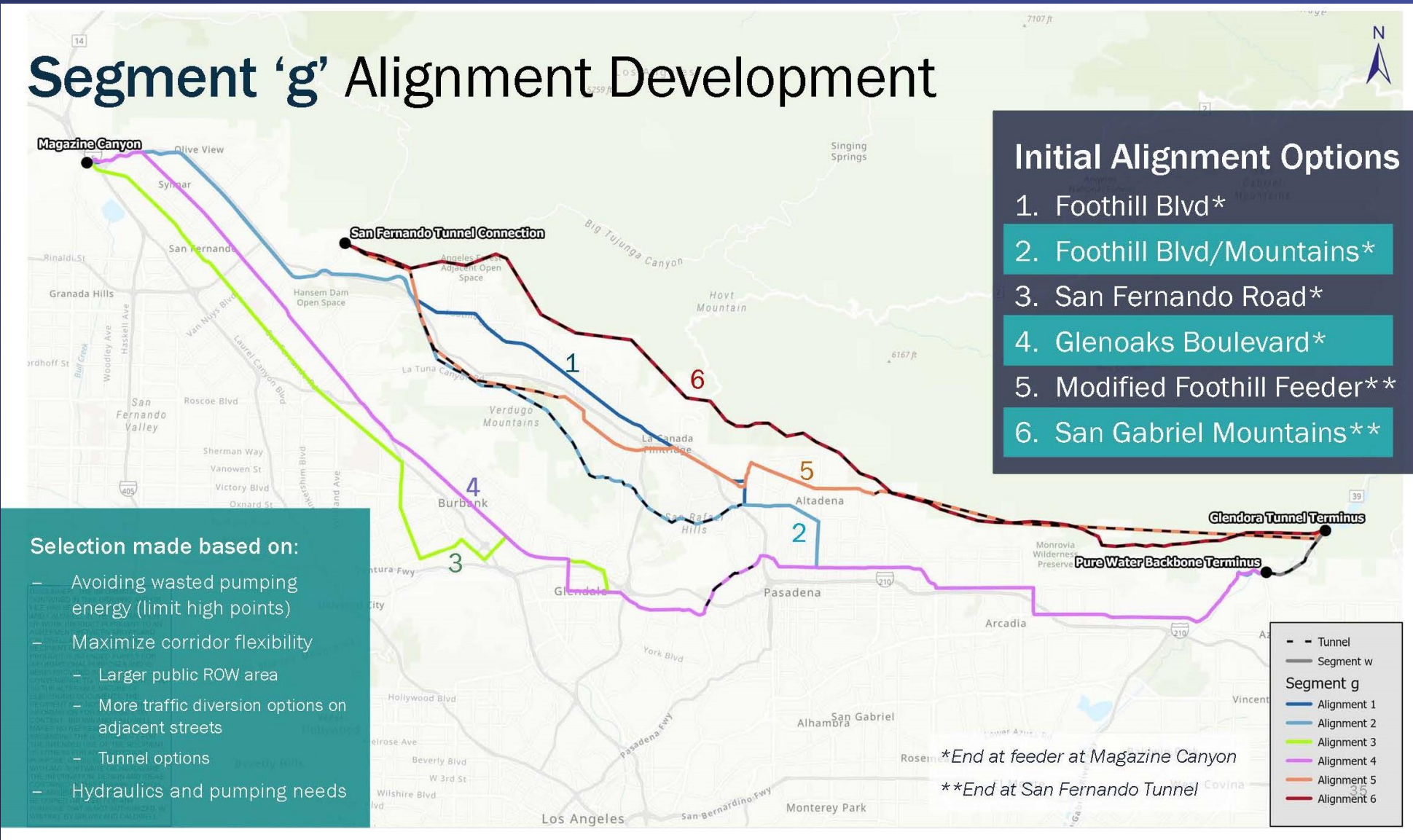
Pure Water Southern California and Regional East/West Conveyance CEQA Planning Considerations

Potential Raw Water Conveyance Connectivity



Potential Alignments for Regional East/West Conveyance Pipeline

Segment 'g' Alignment Development



- ### Initial Alignment Options
1. Foothill Blvd*
 2. Foothill Blvd/Mountains*
 3. San Fernando Road*
 4. Glenoaks Boulevard*
 5. Modified Foothill Feeder**
 6. San Gabriel Mountains**

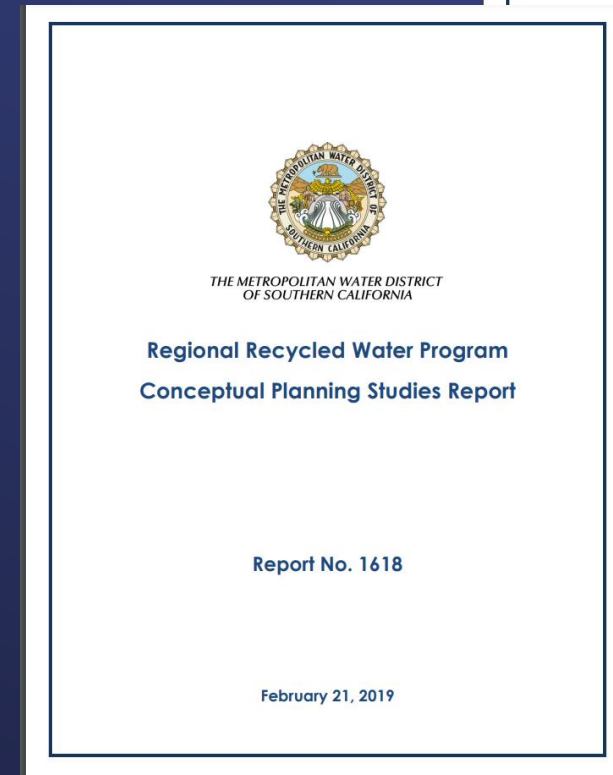
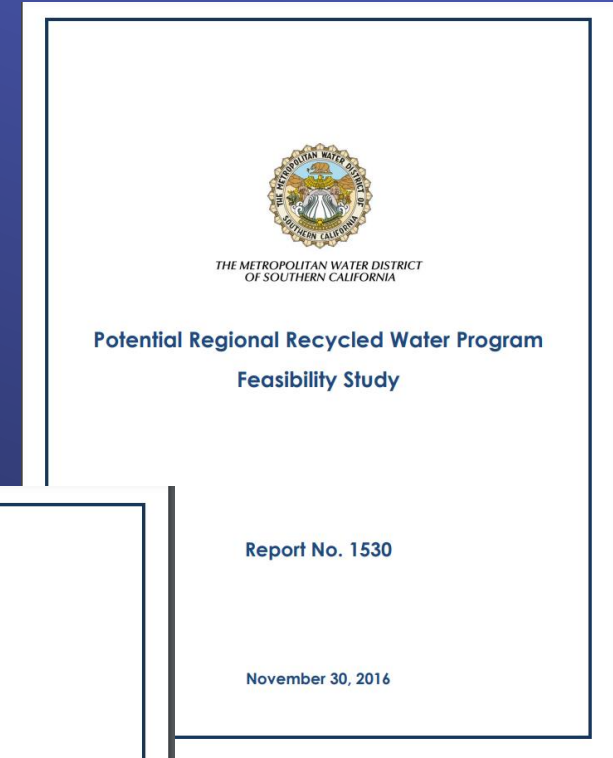
- ### Selection made based on:
- Avoiding wasted pumping energy (limit high points)
 - Maximize corridor flexibility
 - Larger public ROW area
 - More traffic diversion options on adjacent streets
 - Tunnel options
 - Hydraulics and pumping needs

*End at feeder at Magazine Canyon
 **End at San Fernando Tunnel

- - -	Tunnel
—	Segment w
Segment g	
— (blue)	Alignment 1
— (light blue)	Alignment 2
— (green)	Alignment 3
— (purple)	Alignment 4
— (orange)	Alignment 5
— (red)	Alignment 6

Pure Water Integration with E/W Conveyance

- Pure Water
 - Conceptual Engineering/CEQA process
 - In progress
 - Utilizing O&M funds
 - Preliminary Design
 - In progress
 - Utilizing \$80M in State funds
- Regional East/West Conveyance
 - Feasibility studies
 - In progress
 - Utilizing O&M funds
 - Conceptual Engineering studies required
 - Forms basis of future CEQA process



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California
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Conveyance

Regional East/West Conveyance Conceptual Engineering

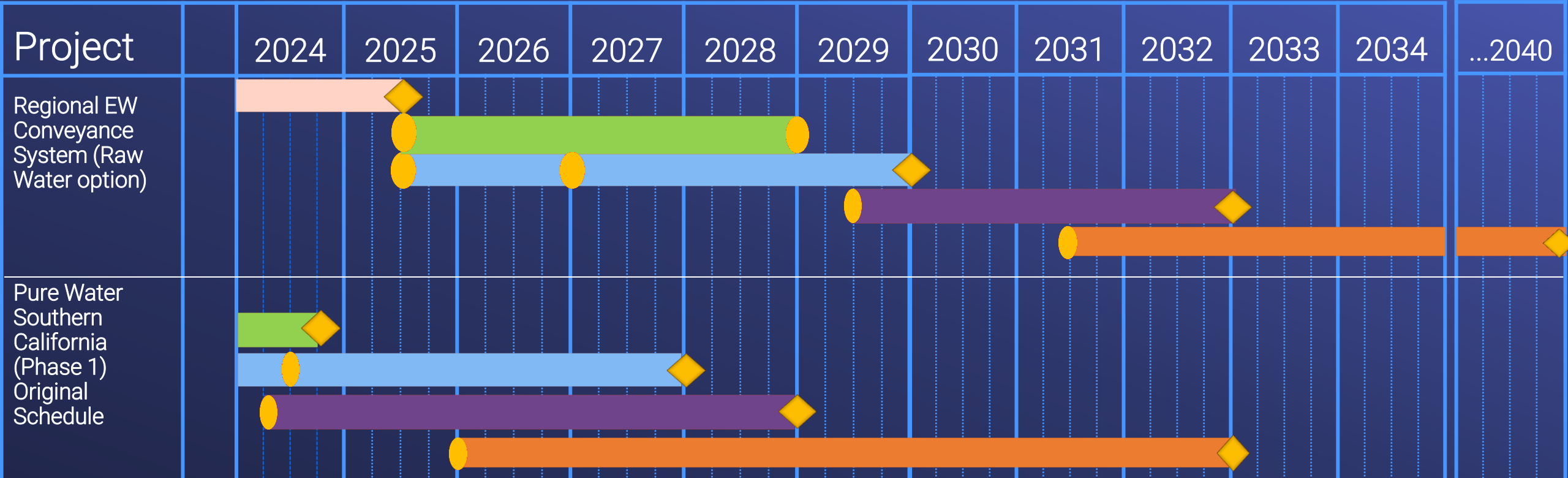
- Conduct Initial Conceptual Engineering studies:
 - Preliminary geotechnical investigation to refine the alignment's tunnel components
 - Hydraulic analysis to define profiles and finalize pipe size and capacities
 - Study to size the pump stations
 - Detailed surveys for on-site utilities
 - Initial consultations with Federal, State, and local agencies to identify permitting requirements
- Prepare Conceptual Engineering Report
- Anticipated timeline: ± 18 months

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Regional East/West Conveyance EIR Process

- Prepare Project Description
 - Information from Engineering Analyses
 - Issue Notice of Preparation
 - Initiate Tribal Cultural Resources consultations
- Conduct Technical Studies
 - Biology, Air Quality, GHG, Hazardous Materials, Geology and Soils, Cultural Resources, Transportation, Noise
- Prepare EIR
 - Project objectives, alternatives and cumulative impacts
 - Analyze construction and operational impacts
 - Public review and comments
 - Final EIR, MMRP, SOC and Findings
- Anticipated timeline: ± 42 months

Program Schedule EW Conveyance & PWSC (Current)



- Conceptual Design Phase
- Environmental Planning Phase
- Early Program Activities/Preliminary Design
- Final Design
- Construction
- Board Action
- Completion

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Conveyance

Next Steps

- Keep Pure Water and Regional East/West Conveyance CEQA/Planning efforts on separate tracks
 - Each program has its own independent utility, and justification of one program does not rely on the other program
 - Similar approach was taken with DVL and Inland Feeder
- Complete Pure Water CEQA/Planning work as previously described
- Consider commencing detailed conceptual engineering followed by CEQA/planning efforts for Regional East/West Conveyance

