



Subcommittee on Pure Water Southern California
and Regional Conveyance

Pure Water Southern California Program Cost Update

Item 3b

November 28, 2023

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Pure Water Southern
California
Program Cost Update

Subject

Pure Water Southern California Program Cost Update

Purpose

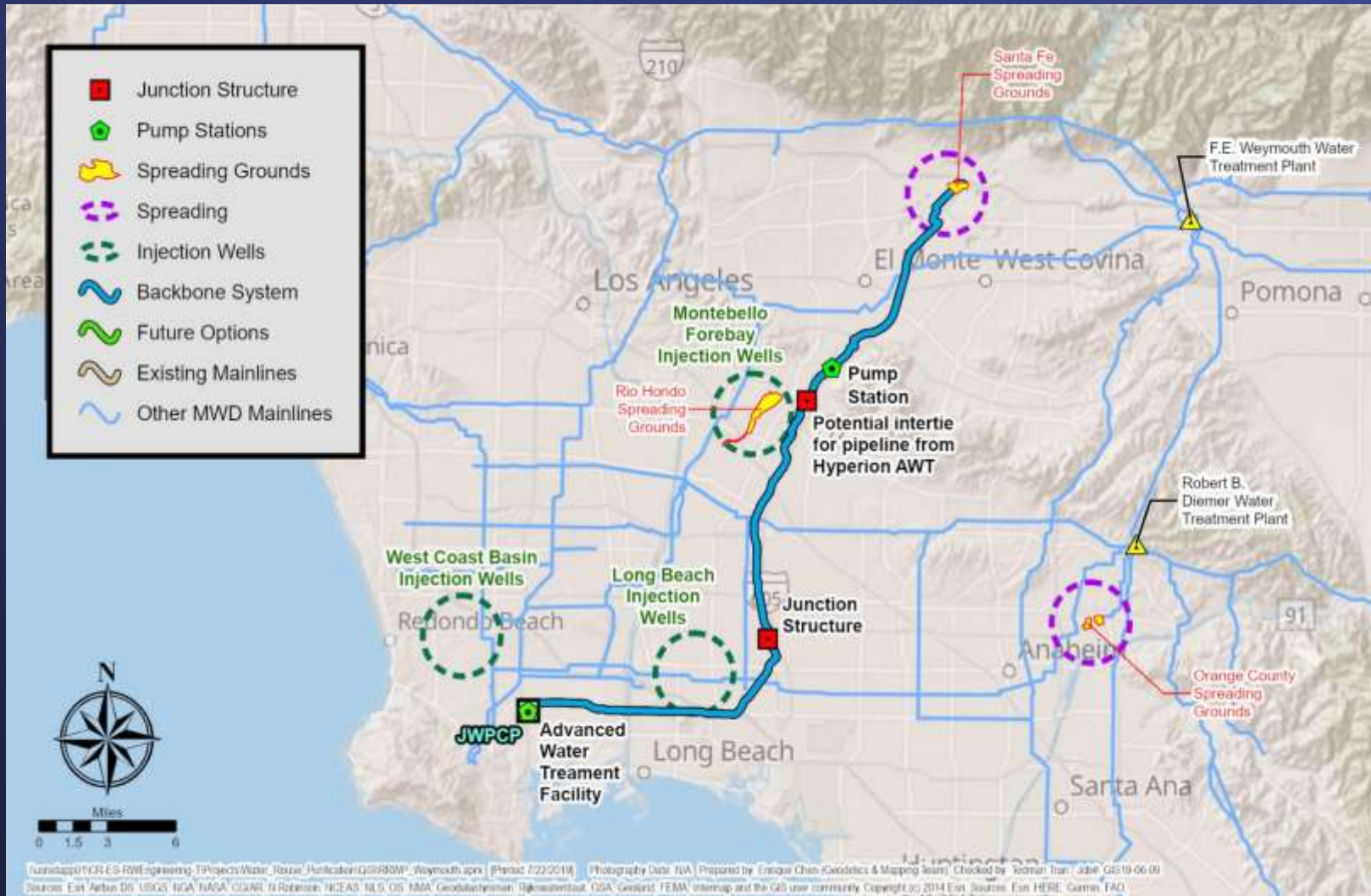
To provide cost estimates for the Pure Water Southern California Program based on current program scope

PWSC Program Cost Update

Agenda

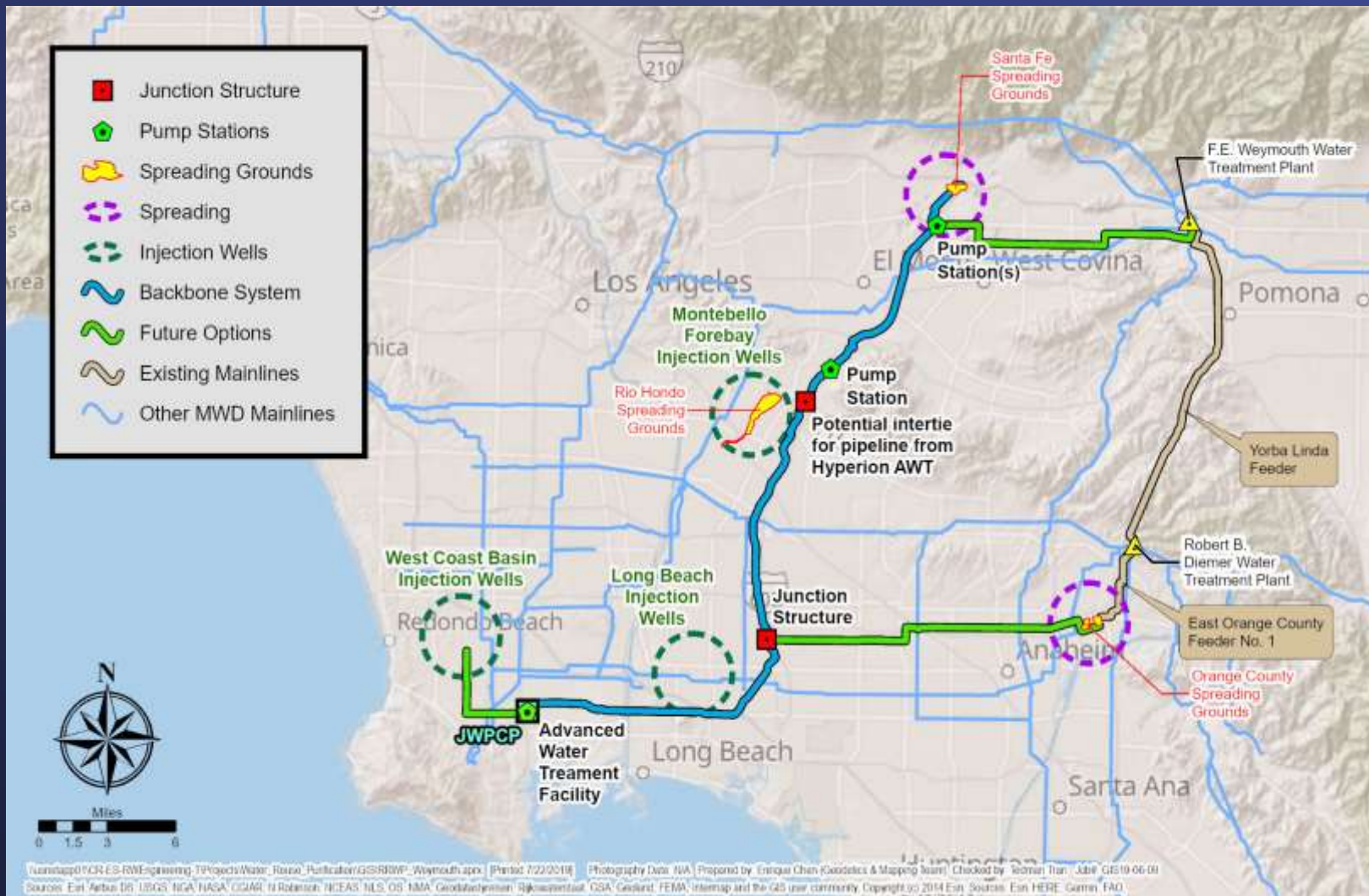
- Program Overview
- 2018 RRWP Cost Estimate
- Updated PWSC Facilities
- 2023 PWSC Cost Estimate
- Potential Funding Sources
- Phase 2 PWSC
- Next Steps

RRWP – Key Phase 1 Program Components (2018)



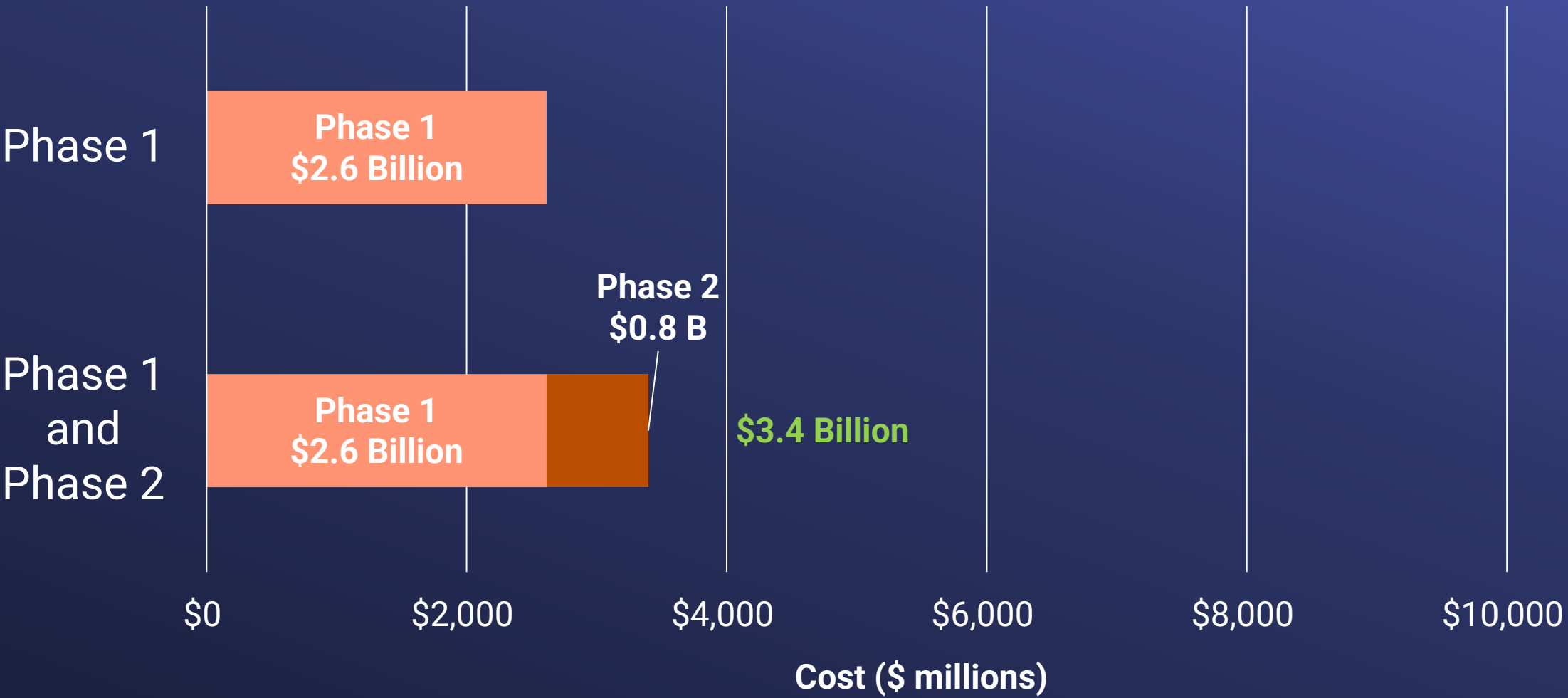
- Initial 100 mgd treatment capacity
- IPR through replenishment and industry uses
- Advanced treatment at LACSD's JWPCP
- 38 miles of backbone pipeline to Santa Fe Spreading Grounds

RRWP – Key Phase 2 Program Components (2018)

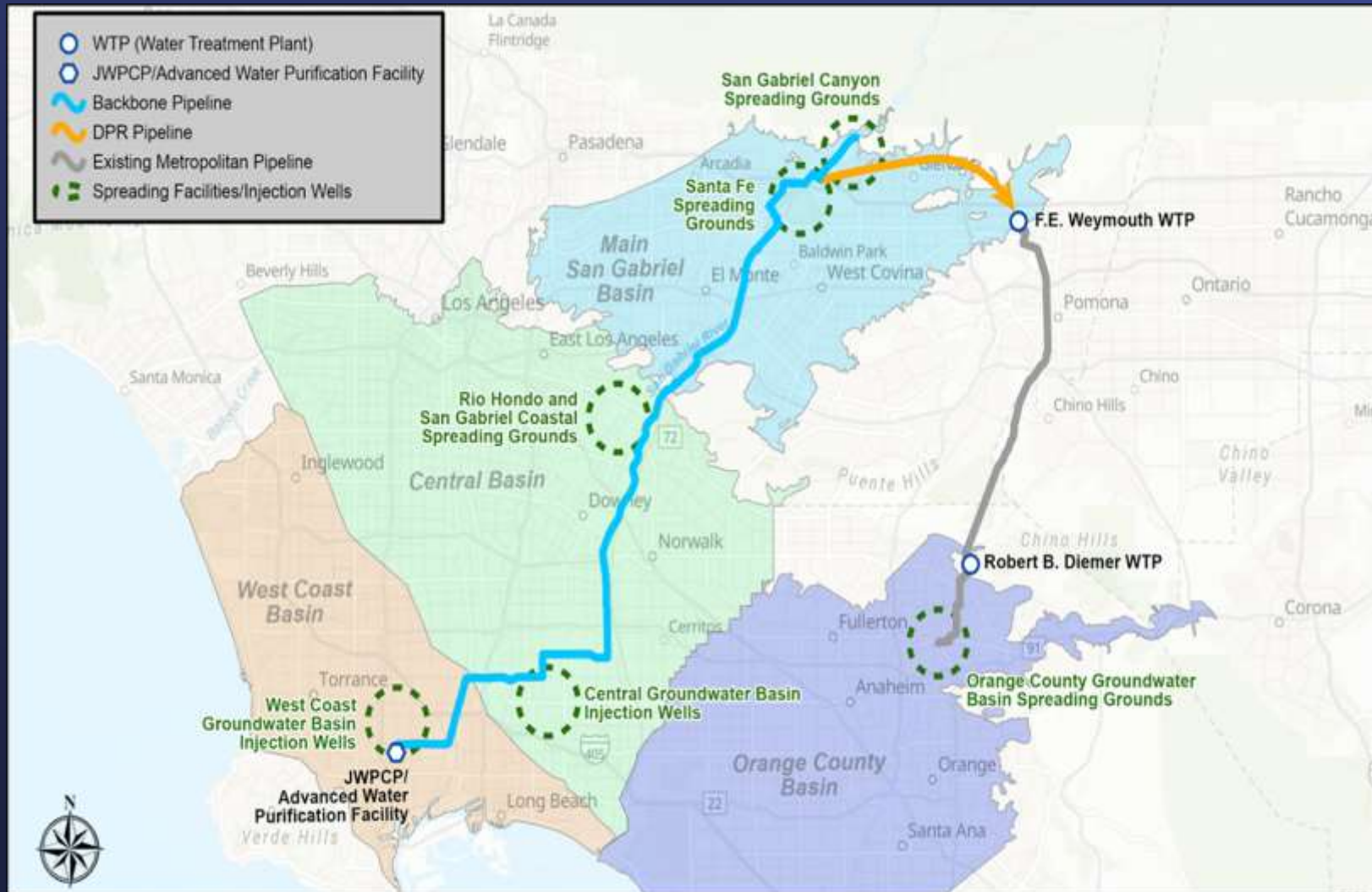


- Add an additional 50 mgd of treatment capacity
- Continue IPR through expanded replenishment and industry uses
- Pipeline to West Coast Basin
- Pipeline to Orange County Basins

2018 Cost of RRWP was \$3.4 billion



PWSC – Key Program Components (2023)



- Phase 1: 115 mgd of treatment capacity
- 90 mgd of IPR through replenishment and industry uses
- 25 mgd of DPR through raw water augmentation
- 42 miles of backbone pipeline to Canyon Spreading Grounds
- Repurpose existing Azusa Pipeline to convey water to Weymouth Plant for DPR

Key Changes to Project Scope/Configuration Since 2018

Description	2018 Program	2023 Program: Additions from 2018
Capacity Phase 1	100 mgd	115 mgd
Treatment processes	MBR/RO/UV	MBR/RO/UV
Conveyance pipeline diameter	7-foot	7 & 9-foot (includes Operation NEXT)
Pipeline to Orange County	Yes	No
LACSD Facilities	Warren Facility Modifications: (Influent PS/Screening facilities)	Expanded Warren Facility modifications: (Treat centrate, HPOLE, Abandon oil wells)
Additional Facilities	Operations building, Public outreach facilities, Laboratory, Warehouse, Fueling facility, SCE substation	New off-site SCE facilities, workforce training center, solar, tour facilities, EV charging
Recharge Facilities	Injection wells Existing LACFCD recharge basins	New dedicated recharge basin
DPR Facilities	No	Repurposed Azusa pipeline/PS, 25 mgd DPR processes at Weymouth
Property/Community Benefits	No	Yes

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PWSC 2023 Cost Estimate

CPI (U) Los Angeles,
Long Beach, Anaheim

18-Jan	23-Aug
261.235	324.05

Approx. 24% increase

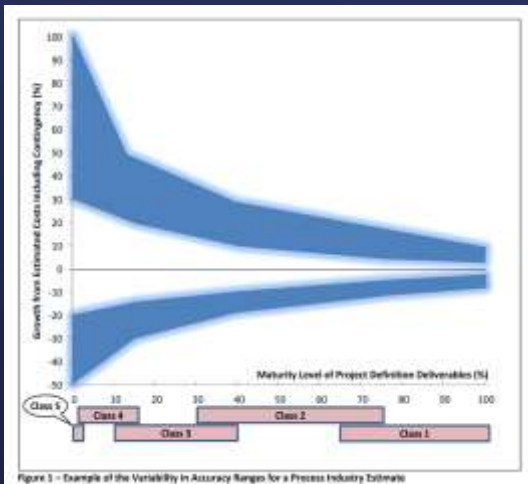
Multiple Factors Impact the 2023 Costs

- Updated costs are impacted by:
 - Current scope of facilities
 - Inflation/supply chain issues
 - Property and ROW considerations
 - Mitigation features & community benefits
 - Program partner facilities
 - Build America/Buy America Act guidelines
- Developed initial estimate of partner contributions
- Identified and estimated potential grants
- Included upsized pipe for Operation NEXT

Utilization of Appropriate Estimating Assumptions

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Cost Estimate Assumptions

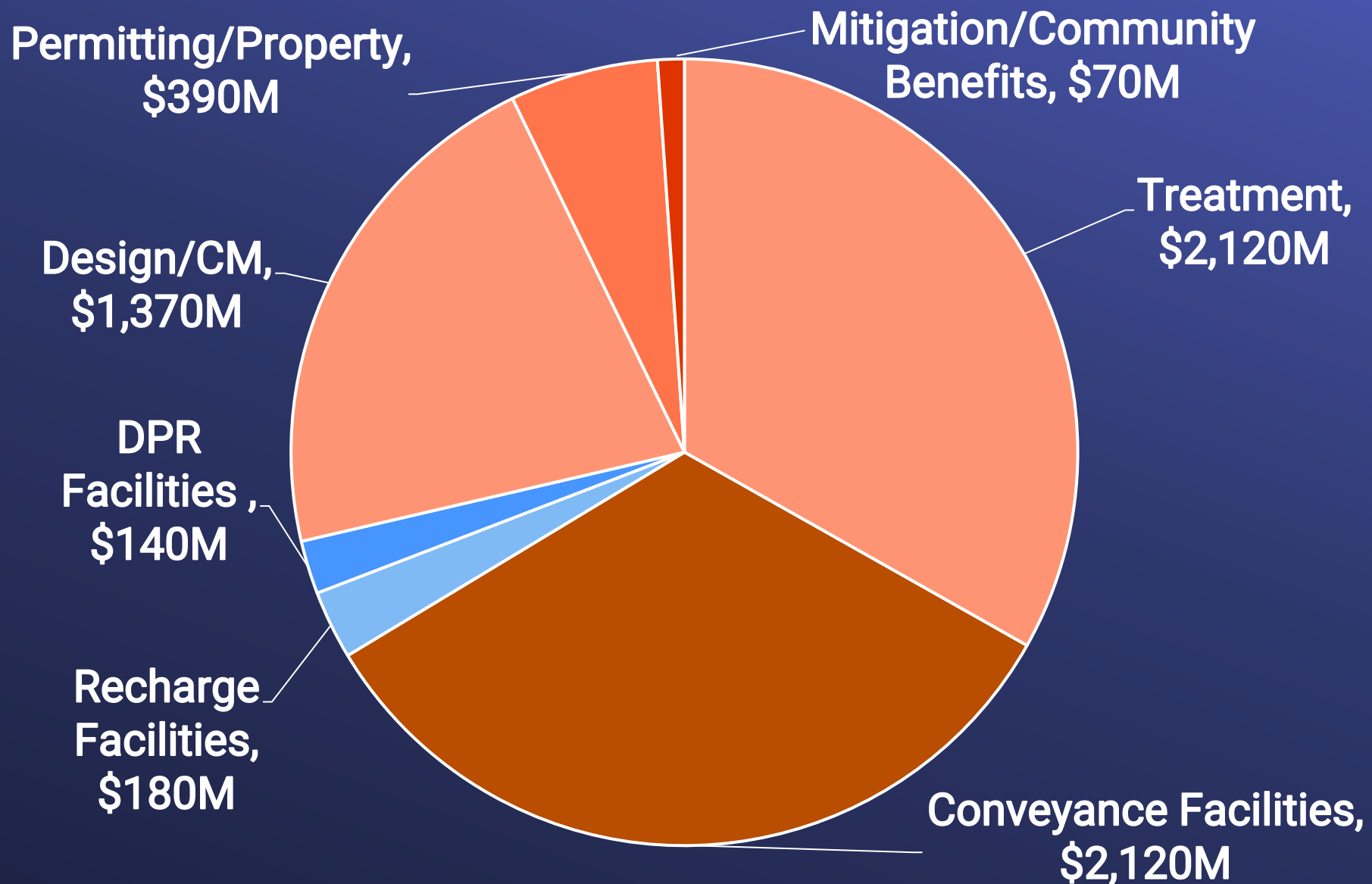


The AACE Cost Estimating Classification System can be lowered as the Program is better defined

- Costs estimated by significant categories
 - (Improvements to LACSD's Warren Facility, AWT, Conveyance, Recharge Facilities, O&M)
- Program Soft Costs:
 - Program Management – 5%
 - Design/Const. Mngt./other – 25%
- Program Contingency – 35%
- Cost estimates include elements of Class 4 and Class 5
- Accuracy of this cost estimate can range from about -20% (low) to +40% (high)

PWSC Facility Costs (Phase 1)

Costs are in 2023 dollars
and include a 35%
contingency and no
escalation

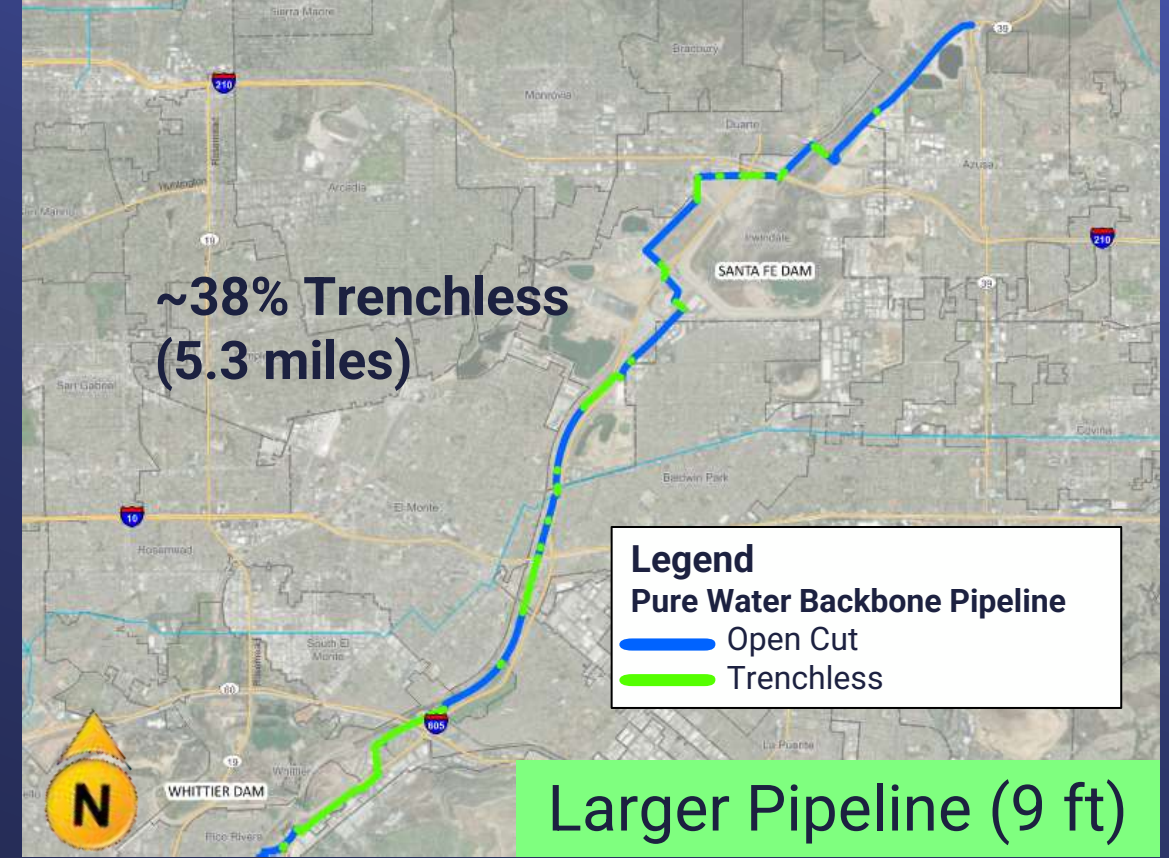


2023
PWSC Facility Costs
(Phase 1)

Description	Cost (\$M) ¹
Treatment Facilities	\$2,120
Conveyance Facilities	\$2,120
Recharge Facilities	\$180
DPR Facilities to Weymouth	\$140
Subtotal	\$4,560
Design/CM	\$1,370
Property/Permitting	\$390
Mitigation Measures/Community Benefits	\$70
Total	\$6,390

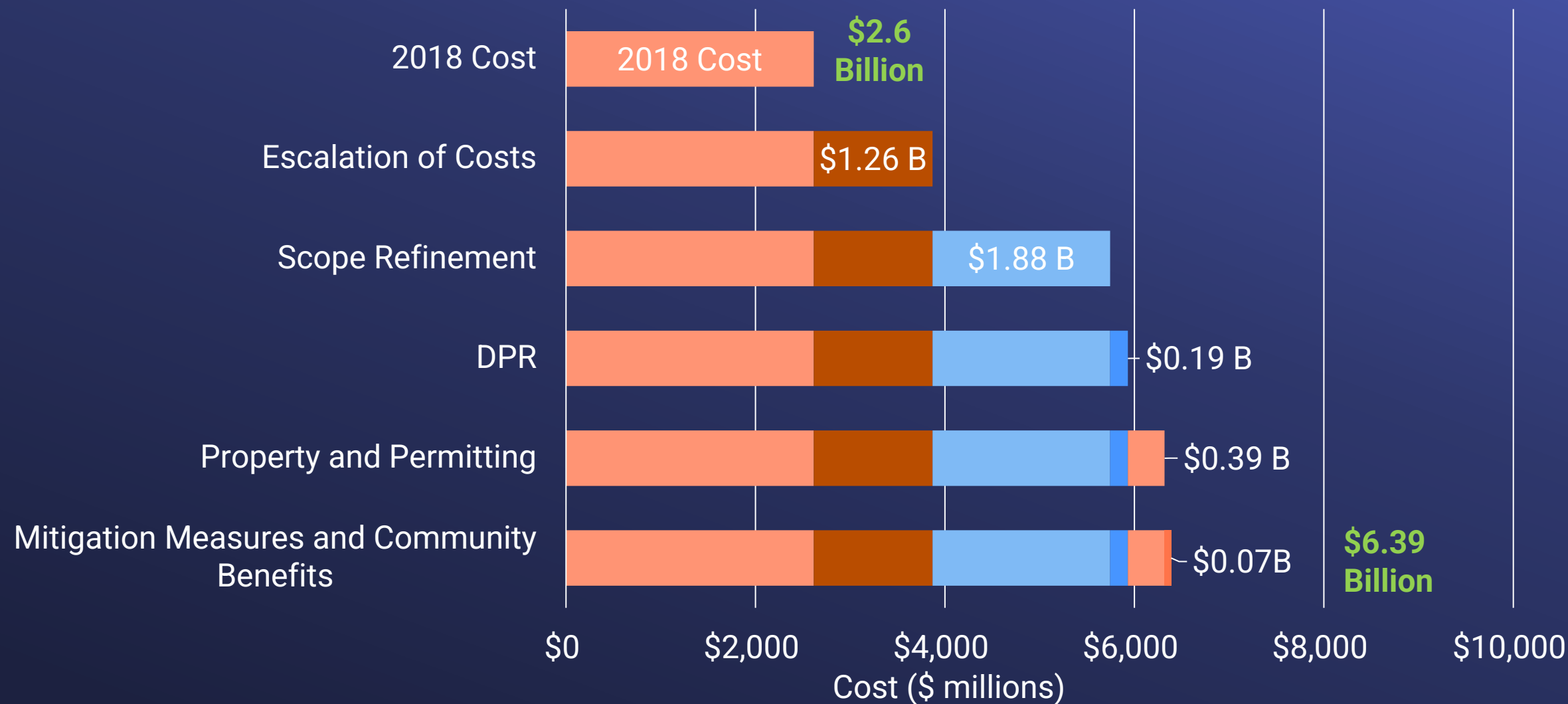
¹ Costs are in 2023 dollars and include a 35% contingency and no escalation

Operation NEXT Impacts to Pipeline Infrastructure



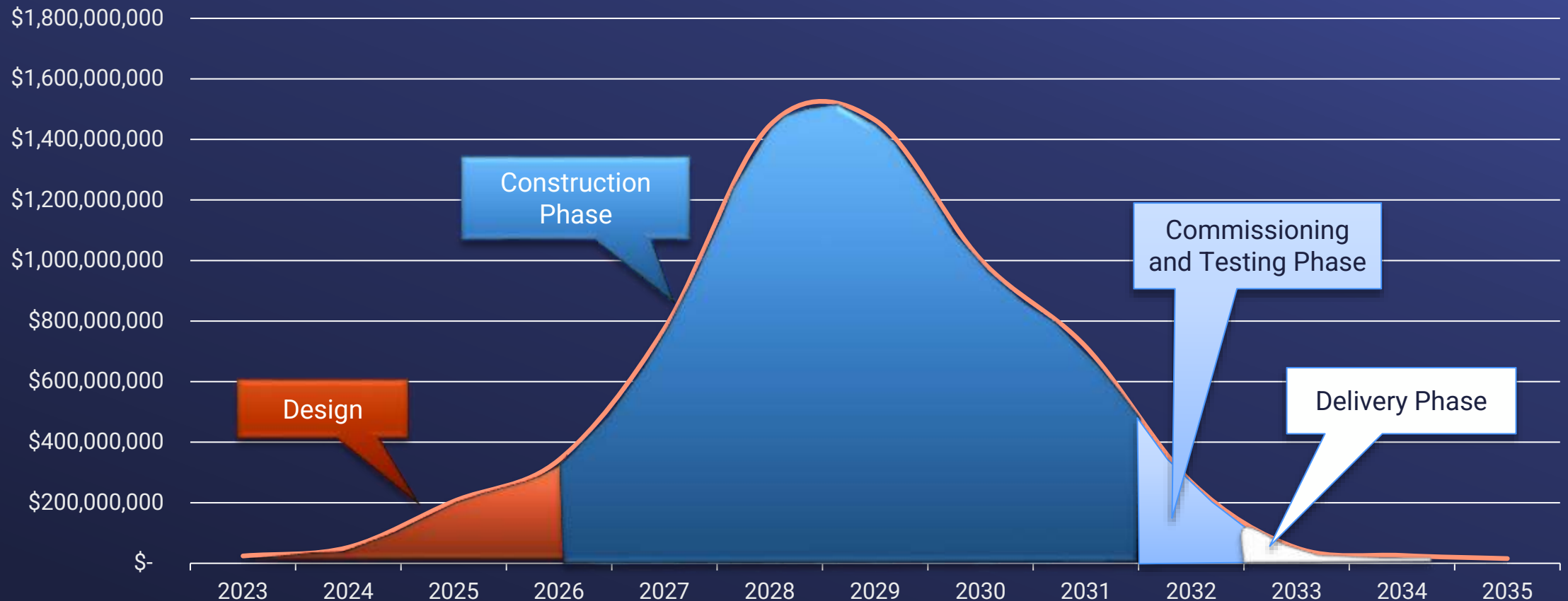
- Construction cost increases:
 - Adds about \$525M to pipeline cost over 14 miles
 - Additional tunneling, increased excavation, larger pipe

2023 Phase 1 Cost Comparison with the 2018 Costs



PWSCC Phase 1 Cash Flow

- Escalated to mid-point of construction
- Escalated at 4.5% per year to 2030
- Phase 1 escalated cost: \$8.6B



O&M Costs are an Important Part of Determining the Unit Cost

2023
PWSC O&M
Costs
(Phase 1)

Facilities	Treatment (\$M) ¹	Conveyance (\$M) ¹
Power, Chemicals, Maintenance and Consumables	115	29
Major Equipment Replacement	12	1
Labor	50	2
Other	6	13
Subtotal	183	45
Total	228	

¹ Costs are in 2023 dollars and include a 15% contingency

Metropolitan's Estimated Share of PWSC Costs

Total Funding by Type	Low Estimates (\$M)	High Estimates (\$M)	Comments
Capital Costs Phase 1	\$6,390	\$6,390	
State/Federal Grants	\$140	\$340	State Funds - \$80M T16 WaterSmart – \$5M Large Scale Water Recycling - TBD
Partner Carried Costs	\$1,660	\$2,490	LACSD – Warren Facility (JWPCP) LADWP – Operation NEXT upsizing Member Agencies – Recharge Facilities
Net Costs	\$4,590	\$3,560	
Out-of-Area Contributions	\$0	\$1,500	SNWA, Arizona DWP/CAP
Metropolitan's share of program costs	\$4,590	\$2,060	

PWSC Unit Costs

Project and Financial Assumptions

Project Assumptions	
Project Start	2023
First Year Project Operational	2033 (10 years)
Design Capacity	115 MGD
Production Avg Yield	118 TAF/yr
Engineering & PM	25% + 5%
Contingency - Capital	35%
Contingency – O&M	15%

Financial Assumptions	
Escalation Rate	4%
Discount Rate	4%
% PAYGO	0%
Debt Issuance	
Fixed Interest Rate	4.5%
Term	30 years
Cost of Issuance	0.5%
Bond Reserve	0%

Assumptions in tables above were made solely for the purpose of developing initial program cost information and may be modified in the future

PWSC Unit Costs – Phase 1

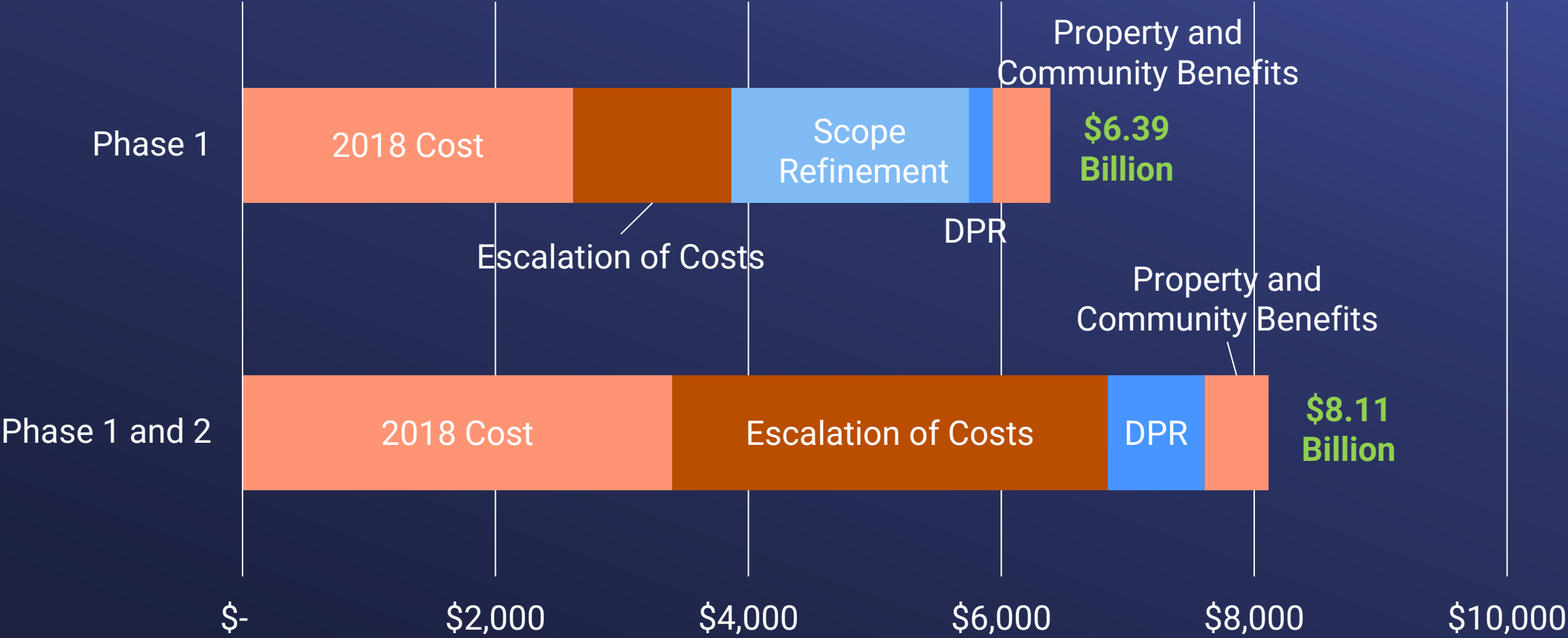
	Low Contribution Estimate	High Contribution Estimate
Unit Cost (\$/AF, 2023 dollars)		
Capital Costs	2,012	1,562
O&M Cost	1,612	1,258
Total Unit Cost	3,624	2,820

- Unit costs are in In 2023 dollars
- Unit costs are for when program is complete and fully operational
- Financing: 4.5%/yr for a period of 30yrs
- Yield: 118 TAF yield (92% online)

If the project could be financed at an average rate of 2.25% interest rates, the unit rates would be reduced to **\$3,126/AF** and **\$2,433/AF**

PWSC Full Build-Out Cost Estimate (150 mgd)

- Estimates in 2023 dollars
- DPR application expanded from 25 mgd to 60 mgd
- Uncertainties with Phase 2 treatment process and location(s)
- Phase 2 potentially expands use of Raw Water Augmentation or initiates Treated Water Augmentation



Next Steps for Program Advancement

- Financial Aspects
 - Refine cost estimate
 - Continue pursuit of federal/state grants
 - Negotiate agreements/contributions with in-region program partners
 - Plan for contributions with SNWA and Arizona Parties
 - Develop alternative cost recovery plans for Board consideration
- Technical Aspects
 - Complete engineering studies
 - Complete CEQA process
 - Continue program development through preliminary designs and program management
- Seek Board authorization of a phased approach to the Program

