

# Operation NEXT

## Water Supply Program



**Operation NEXT**

in collaboration with



**Hyperion 2035**

October 2023

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# Operation NEXT Program Update

## Meeting Objectives



1. Provide update on the Operation NEXT Master Plan
2. Illustrate future opportunities for engineering companies

## Operation NEXT Program Phase



Conceptual.

## Key Documents In Progress



1. **Operation NEXT Master Plan**  
*Conducts **validation of analysis** performed and prepared by LADWP*



2. **Program Environmental Impact Report (PEIR)**  
*Developed jointly between LADWP & LASAN*



3. **Water Research Foundation- Program Management Study**  
*Explore the program management practices*

\*Current Life Cycle Phase For Operation NEXT: Conceptual

# Agenda

## 1. Why

- **Water Supply Overview**

## 2. What

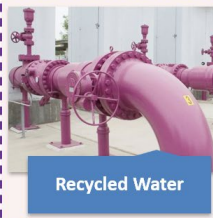
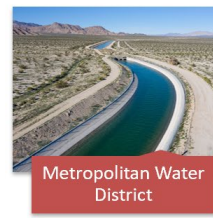
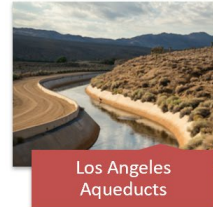
- Strategy: Source & Conveyance/Final Treatment
- Program Goals & Considerations

## 3. How

- Resource & Schedule Management
- Impact to Resources & Social Benefits
- Outreach
- Progress

## 4. Q&A

# Water Supply: Multi-faceted Approach



# Social & Economical Impacts due to Supply Challenges



# Mitigation: Increase Local Supply (*Goals*)

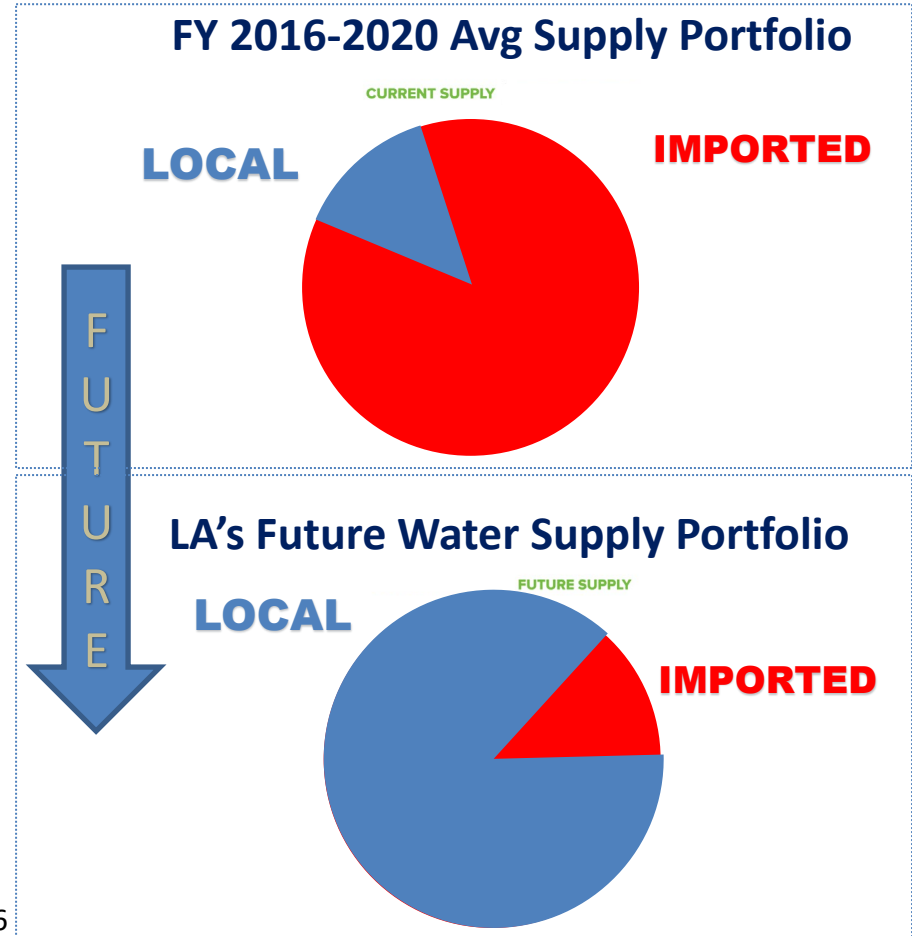
## Supply Driven Program

**OpNEXT** : Mitigation tool to provide the Los Angeles region:

- ✓ Reliability
- ✓ Sustainability
- ✓ Resilience

\*Total amount of water exported from the Eastern Sierra will remain consistent with historical exports.

\*\*Locally sourced water includes all local groundwater, historic and future hardware-based conservation savings, stormwater capture and savings, and all recycled water produced in the City.



# Recycled Water Background



## ✓ Non-Potable Reuse

- 1979 – Start of Recycled Water Program
- Irrigation and Offset Non Potable Demands



## ✓ Indirect Potable Reuse

- 2021 – Start of IPR Program
- Groundwater Recharge



## ✓ Direct Potable Reuse

- 2023 – Regulations Finalized
- Operation NEXT

## WHY RECYCLED WATER?

Increases local supplies while decreasing pollution

High-quality water

Cost and energy requirements lower than desalination

City of LA will better utilize existing water rights

Utilize local groundwater basins

Reduced ocean pollution compared to desalination

Water is treated and reused in cycles, mirroring nature; other sources are single use

Leverages existing Hyperion treatment

**& MORE**

# Agenda

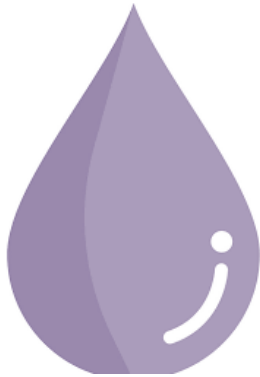
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# What: Source + Conveyance/Final Treatment

## Source

Hyperion 2035



## Conveyance & Final Treatment

Operation NEXT

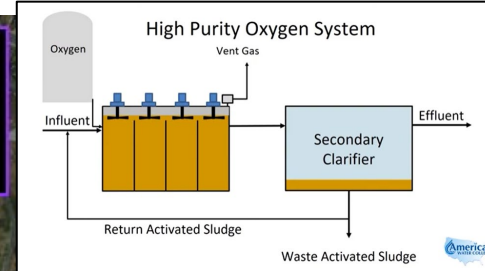
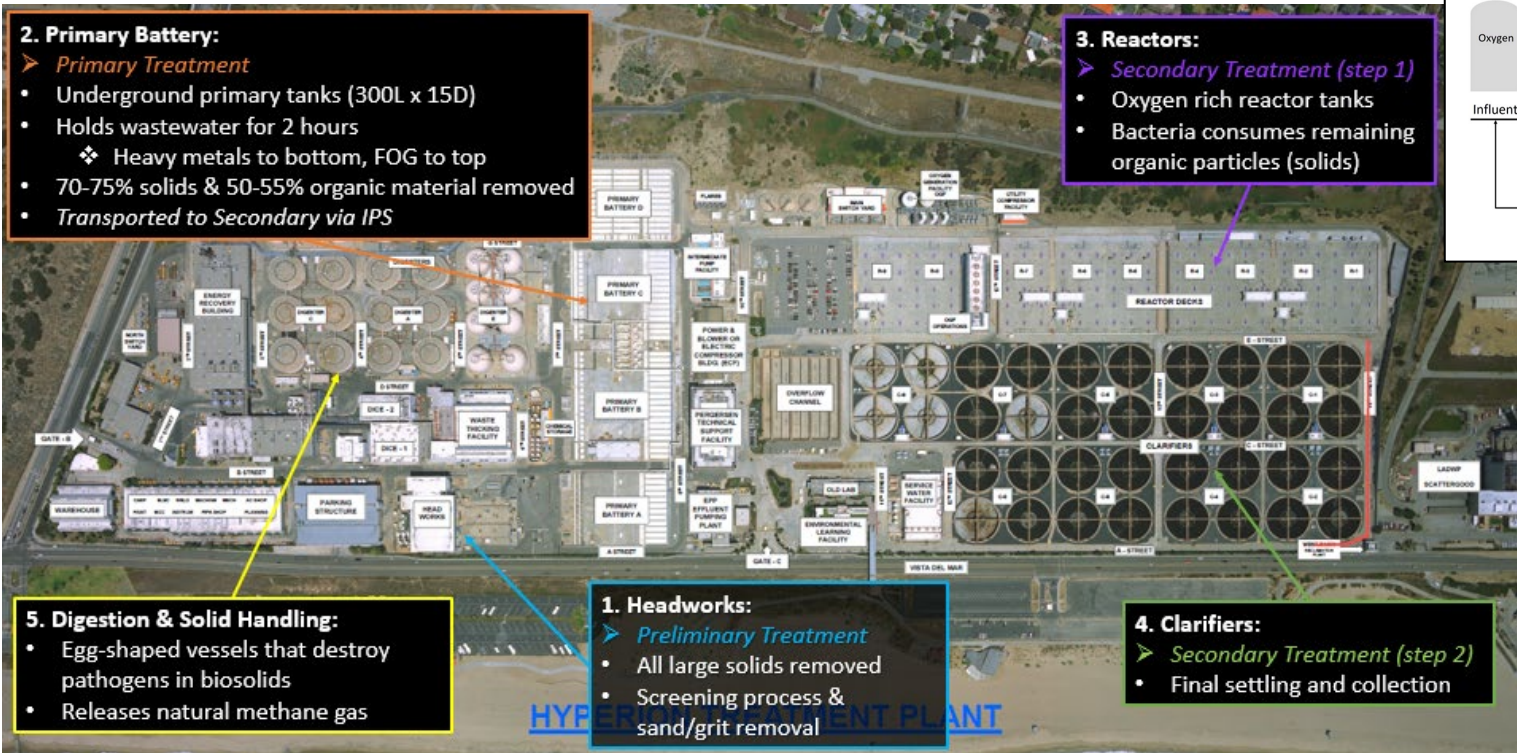


# Source: Hyperion 2035



Hyperion Treatment Train (*Secondary Treatment* → *Ocean Discharge*)

Hyperion  
 Off-site



## Hyperion 2035 Program Goals

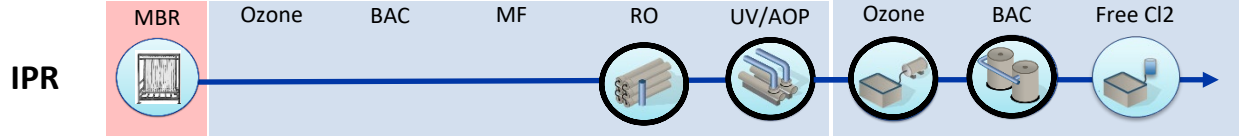
- Produce recycled water for potable reuse
- Modernize other plant processes at HWRP
- Reduce effluent discharges into Santa Monica Bay

# Operation NEXT – Treatment Strategy



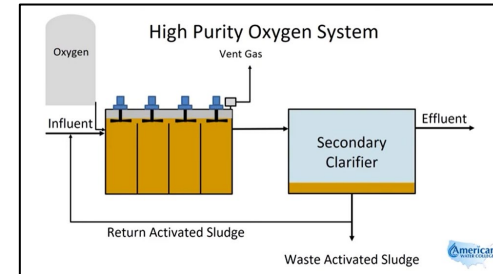
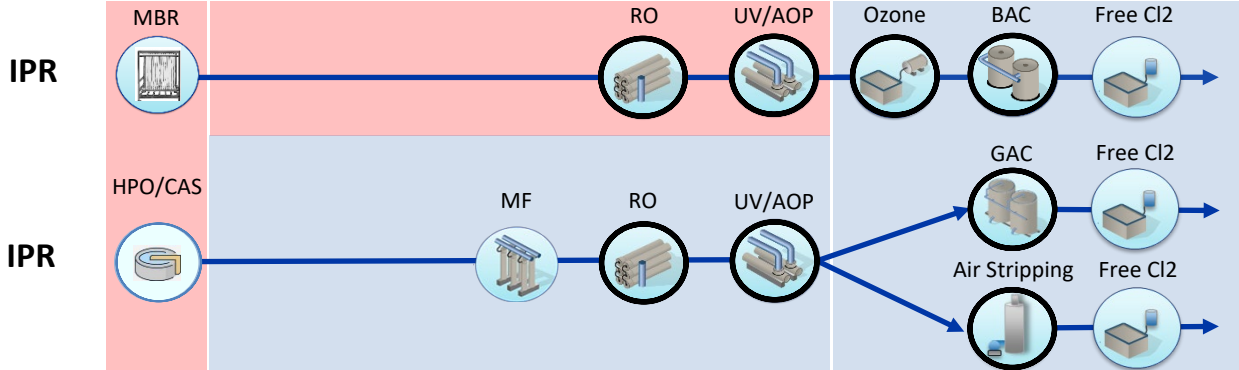
## Proposed IPR Treatment Train (AWPF Off-site)

## Downstream/Off-site DPR



## Alternate Treatment Trains (AWPF On/Off-site)

## Downstream/Off-site DPR



# Conveyance & Final Treatment: Operation NEXT

## Objective:

Maximize supply from the Hyperion Water Reclamation Plant for **beneficial reuse** for the City of Los Angeles.

### Estimated Supply (Pending Validation):

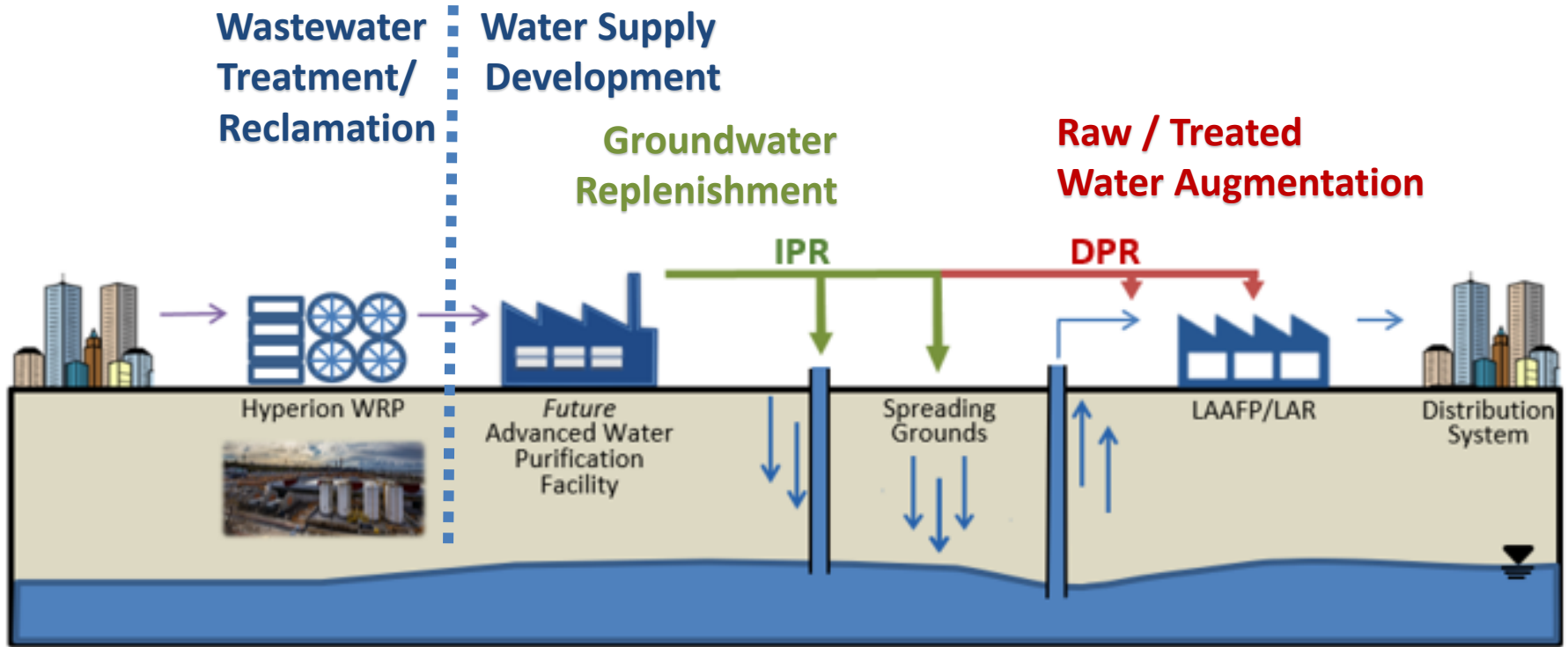
- ~ 217 MGD - ~230 MGD
- ~243k AFY – 258k AFY

### City Demand:

- ~446 MGD
- ~500k AFY

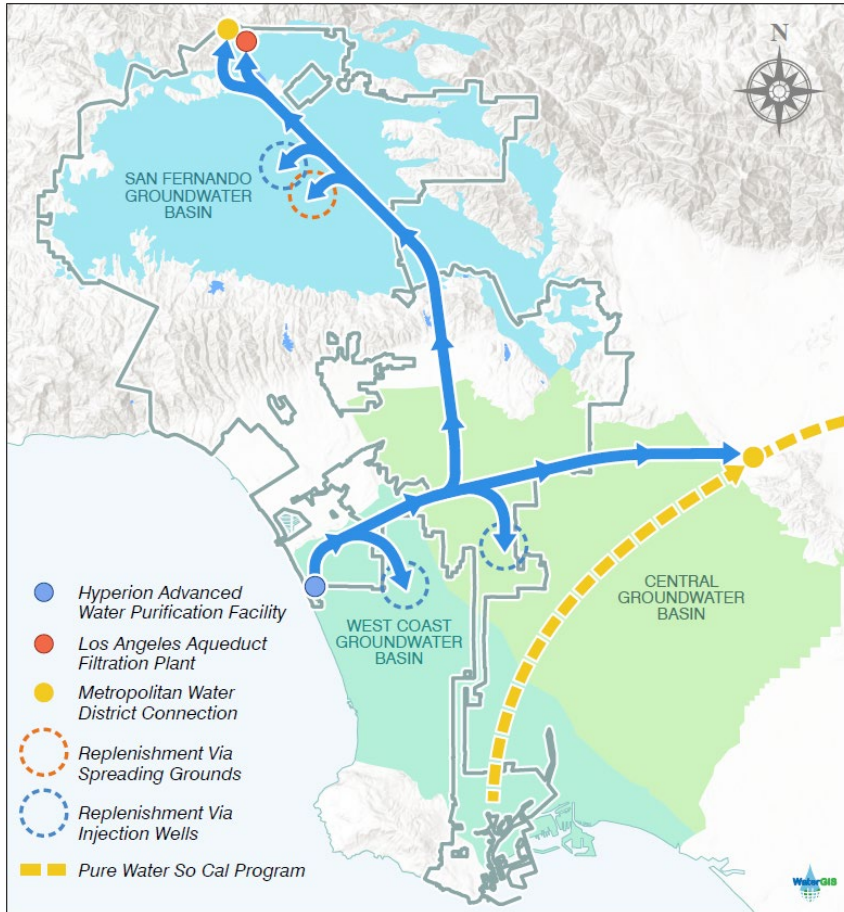


# Operation NEXT – Supply Strategy

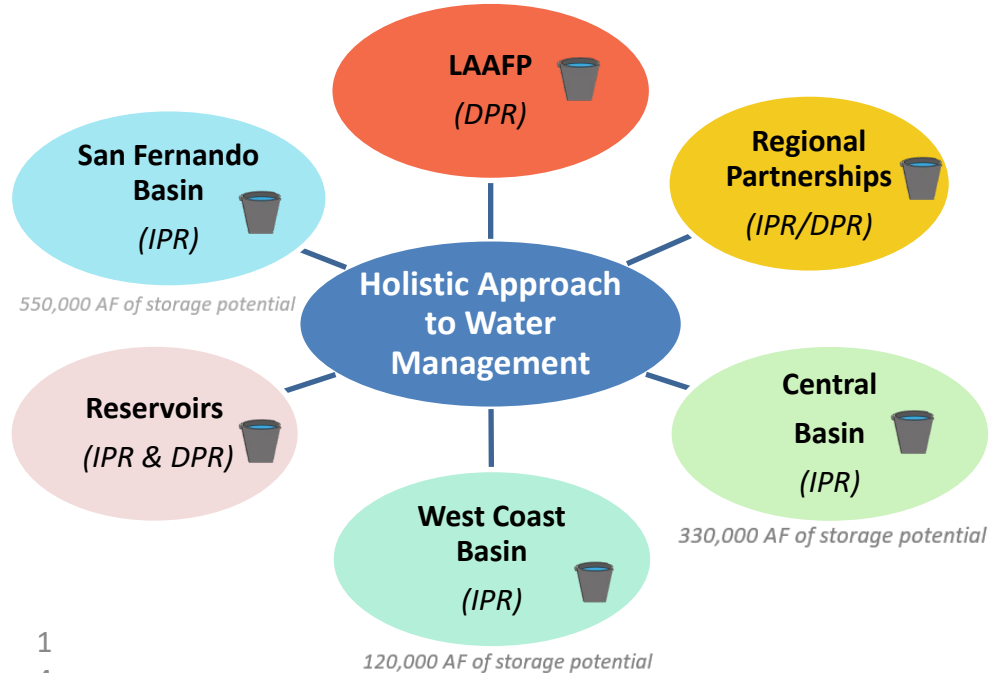


Proposed **OpNEXT** Hybrid Applications

# Operation NEXT – Supply Management

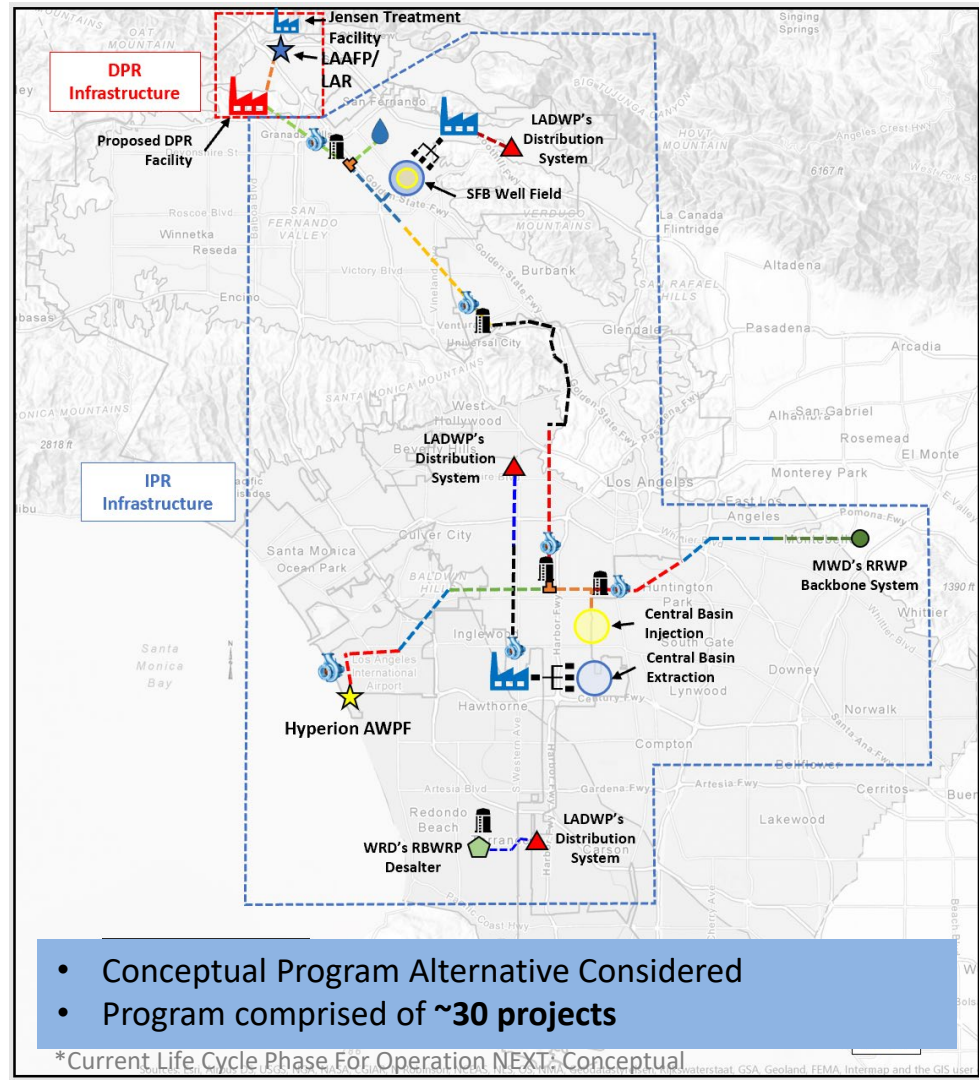


- ✓ Los Angeles Aqueduct Filtration Plant (LADWP)
  - ✓ Origin of most of supply for LA
- ✓ Hyperion Water Reclamation Plant (LASAN)
  - ✓ Future Advanced Water Purification Facilities



# Proposed Infrastructure

1. **AWPF at Hyperion (LASAN Program)**
2. **Pump Stations**
  - 4 to 5 facilities
3. **Storage**
  - 4 to 5 storage forebays for pumping infrastructure
4. **Trunklines**
  - 62 miles ranging from 54"-108"
5. **Well Fields**
  - 1 to 2 well fields in CB; 15-45 cfs production each
  - 1 well field in SFB; ~28 cfs production
6. **Treatment Facilities**
  - 2 to 3 facilities associated with new well fields & DPR Treatment
7. **System Improvements**



# Operation NEXT Road Map: Master Plan (MP)

- Validate Program Strategy & Long-Term Plan
- MP is being develop in association w/ third-party independent subject matter expert team.

14 Subtasks	
1. Task Management Administration	8. Potential <b>Construction Conflict Identification</b>
2. Operation NEXT Master Plan	9. Resiliency Benefits
3. Master Plan Webpage	<b>10. Environmental Justice Benefits and Equity</b>
4. Validation of Strategy	11. Program Alternatives
5. Partnership Opportunities/Risk	12. Construction/Phasing Evaluation
6. Validation of Cost Estimate, Resources, and Assumptions	<b>13. Stakeholder Engagement</b>
<b>7. Economic Impact &amp; Benefits</b>	14. Potable Reuse Evaluation



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4. **Q&A**

# Program Goals

2021

## Short-Term

- Budget & Schedule Mgmt – Baselineing
- Organizational Readiness
- Regional Collaboration
- **Master Plan** ✓

## Mid-Term

- Build Capacity, PgMP & Planning – RFPs
- **Alternate Delivery Ordinance**
- **Programmatic EIR (2024)**
- Institutional Agreements (MOA/NOCs)

## Long-Term

- Deliver Projects
- Regional Integration
- Water Security

20XX

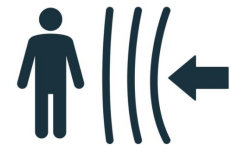


SUSTAINABILITY



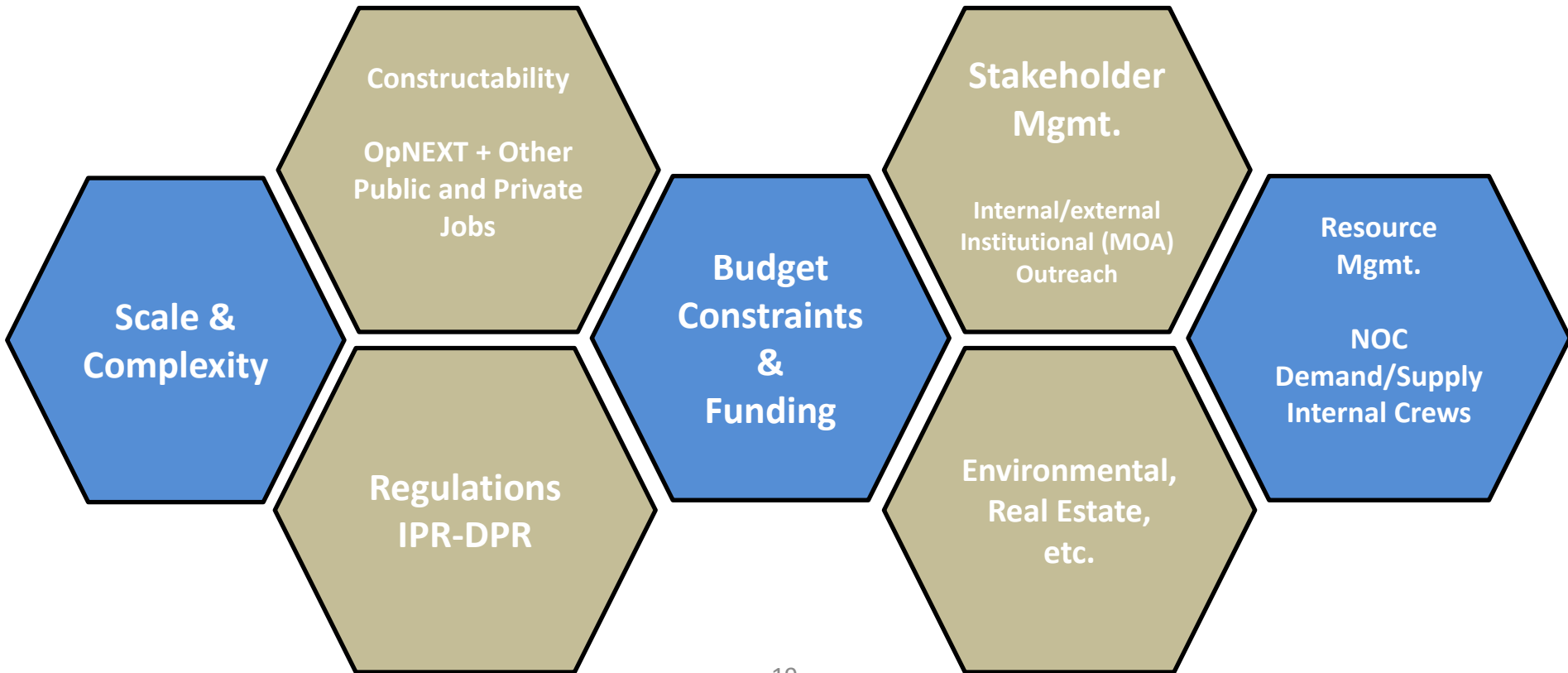
RELIABILITY

Program Goals



RESILIENCE

# OpNEXT Program Considerations



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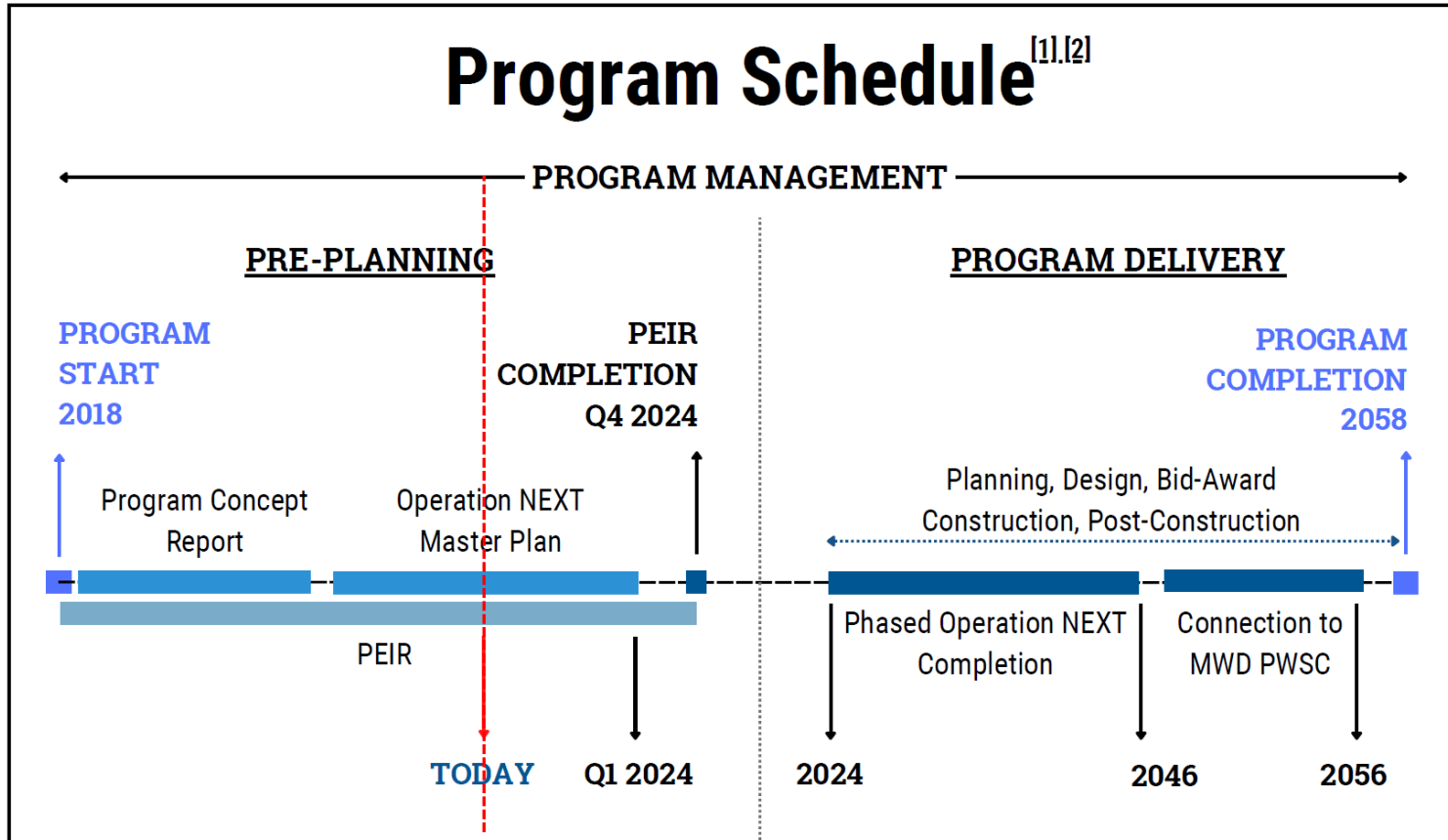
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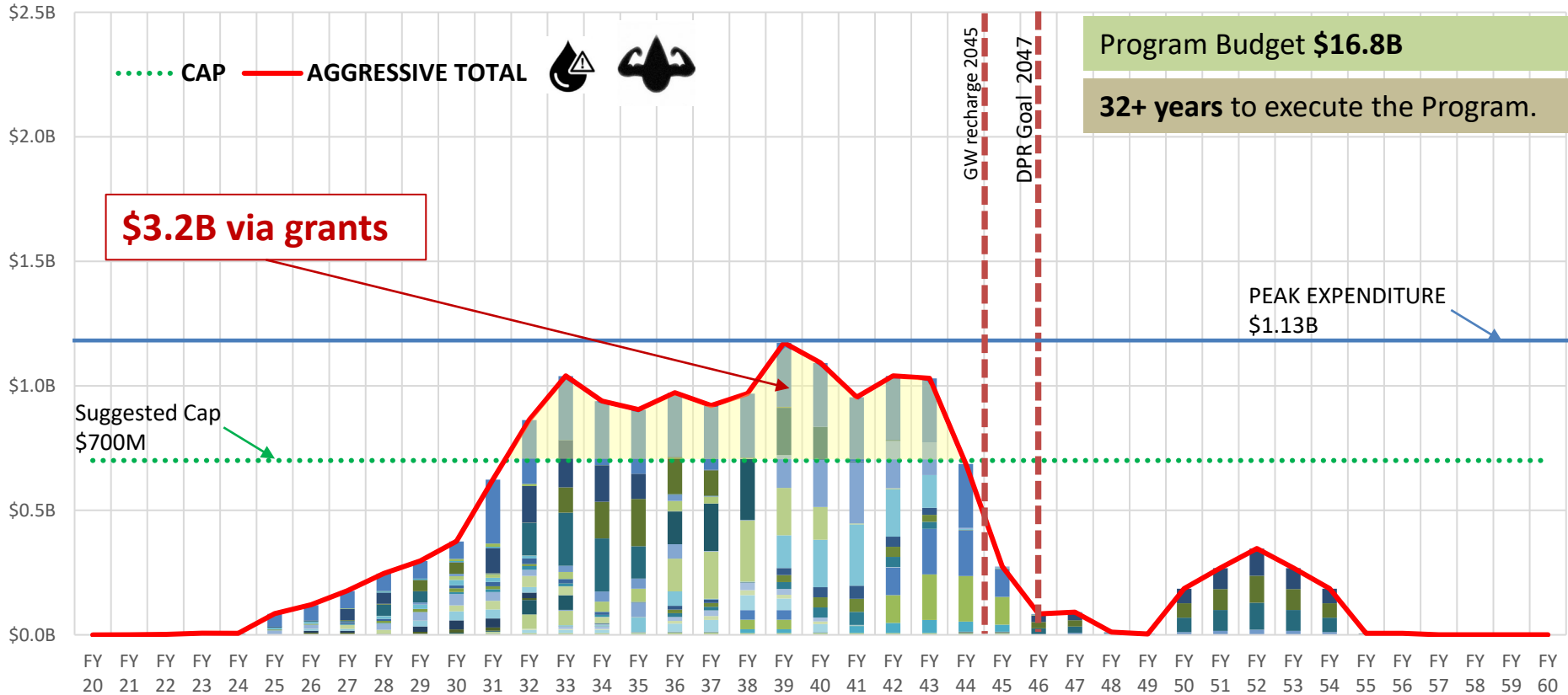
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# Program Schedule – Aggressive



# Program Budget – Aggressive



Program Budget **\$16.8B**  
**32+ years** to execute the Program.

**\$3.2B via grants**

Suggested Cap  
**\$700M**

PEAK EXPENDITURE  
**\$1.13B**

GW recharge 2045

DPR Goal 2047

\*Current Life Cycle Phase For Operation NEXT: Conceptual Impacts based on "Aggressive Scenario" - Class V conceptual estimate

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# Impacts to Resources

## Estimated Water System Impacts (Compared to Historical)

Construction Support	FY Impacts
Int Construction (CE20)	2 x
Const. Contracts (CE30)	3 x
City Services (CE39)	9 x
Engineering Support	FY Impacts
Labor (CE10)	2 x
Prof. Services (CE37)	5 x

Labor Relations/Union Agreements required

Benefits



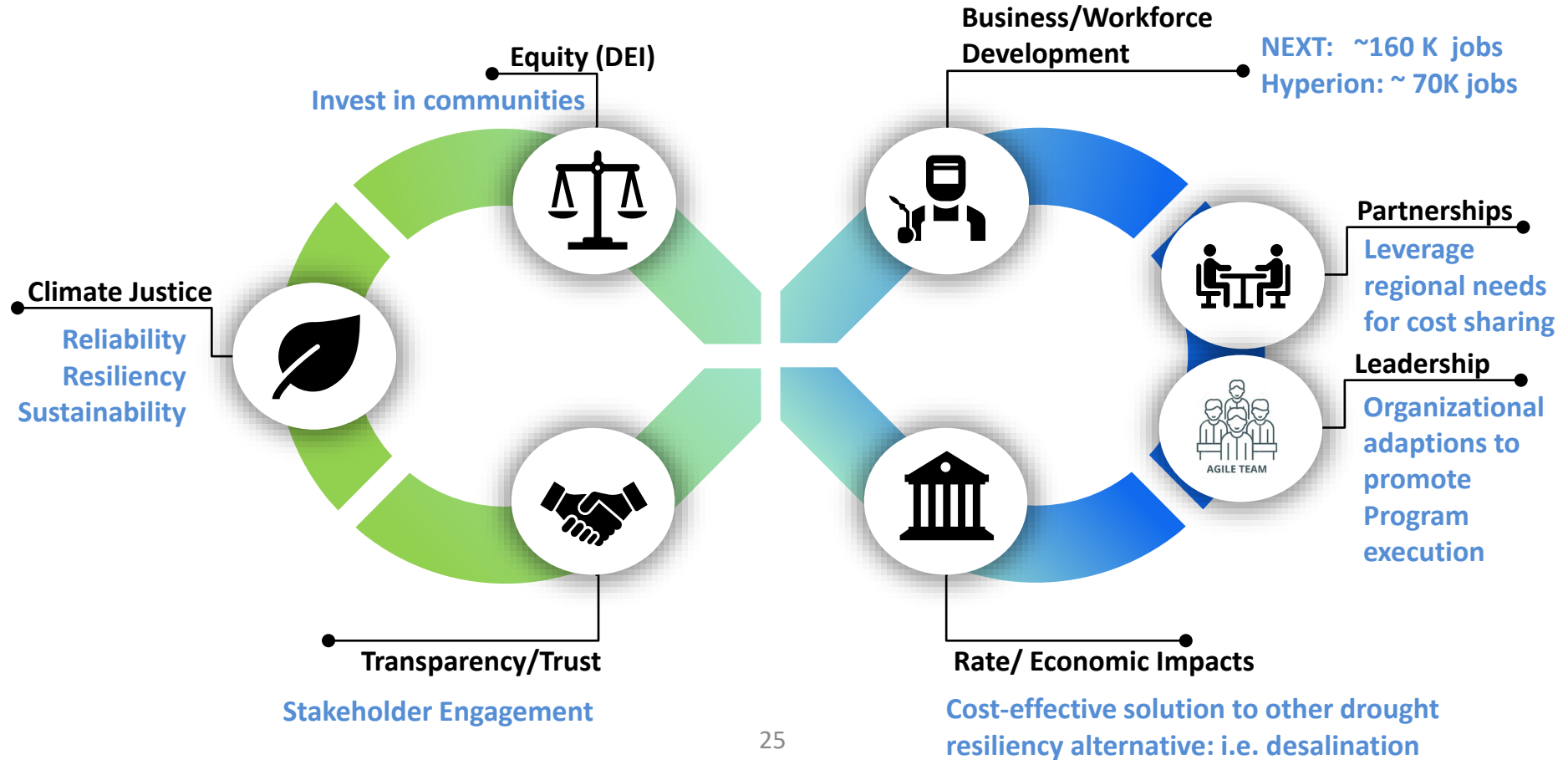
	Direct Impact	Direct & Indirect Impact
Labor/Construction Jobs	±28k	±75k

\*Current Life Cycle Phase For Operation NEXT: Conceptual

Impacts based on "Aggressive Scenario" - class V conceptual estimate



# Social Benefits



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# Outreach

## On-going Outreach

- All City Council Districts briefed
- Over 120 presentations given since Program inception (Dec 2018)
- **Near Term Outreach: Master Plan**
  - Phase 1: Early Stakeholder Input (February-April 2024)
  - Phase 2: "60%" Draft Master Plan (June-Sept 2024)
  - Phase 3: "90%" Draft Final Master Plan (Dec 2023-Feb 2025)

## Program Webpage

- [www.ladwp.com/OperationNEXT](http://www.ladwp.com/OperationNEXT)



## Doing Business with LADWP

- To learn about bid opportunities with the City of Los Angeles please visit: <https://www.rampla.org/s/>
  - Free to register and they will have access to bids for all City Departments.

### References

- 18-month look-ahead "Supply Line" w/ the anticipated schedule for the next 18 months of contracts
  - [www.ladwp.com/SupplyLine](http://www.ladwp.com/SupplyLine)
- To contact LADWP Supply Chain Services Division please email [purchbids@ladwp.com](mailto:purchbids@ladwp.com) or call the Vendor Liaison Center at (213) 367-2252.
- Reference on how to do business with LA:
  - [www.abala.org/wp-content/uploads/2020/06/How-to-do-business-LADWP.pdf](http://www.abala.org/wp-content/uploads/2020/06/How-to-do-business-LADWP.pdf)

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# Progress

## ■ Existing Studies

- OpNEXT Master Plan: 25%
- Water Research Foundation - One Water Program Management: A Knowledge Base and Guidance Manual: 20%

## ■ Pilots Projects

- Membrane Bioreactor Facility: \$24 M – 95% TBC: Oct. 2024
- 1.5 Advanced Water Purification Facility: \$93M – 90% Completed: July. 2023

## ■ Environmental

- PEIR: 60%

## ■ Existing Service Contracts

- Expert Panel for Water Supply Strategic Planning
- Hyperion Owner's Agent

## ■ Future Contract Opportunities

- Integrated Human Resource Plan (via Expert Panel)
- Program Management RFP (Future-WETS)
- Planning RFQ (Future-WETS)

# One Water Program Management: A Knowledge Base and Guidance Manual

**Project #5196**

## One Water Program Management: A Knowledge Base and Guidance Manual

**Date Started**  
OCT 1, 2022

**Principal Investigator**  
JULIE LABONTE

**Research Manager**  
MS. MAUREEN HODGINS

**Contractor**  
HDR ENGINEERING, INC.

**Related Topics**  
UTILITY MANAGEMENT  
INTEGRATED PLANNING & WATER MANAGEMENT  
REUSE  
INNOVATION  
RESILIENCE

**Research Investment**  
\$318,143

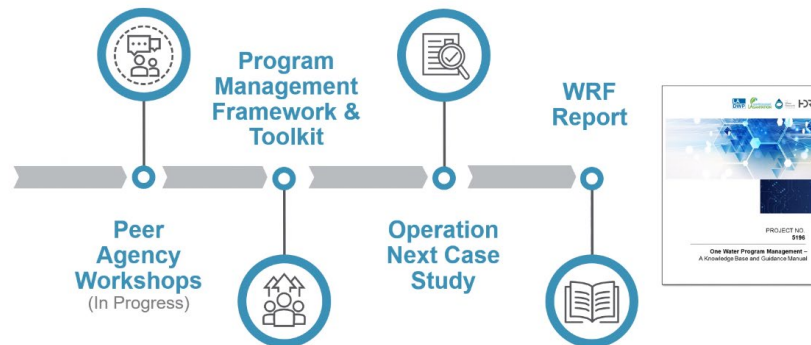
**Completion Year**  
2025

**IN PROGRESS**

## Research Outcomes



## Four Main Next Steps



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# Thank You

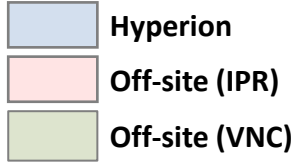


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# Operation NEXT – Treatment Strategy

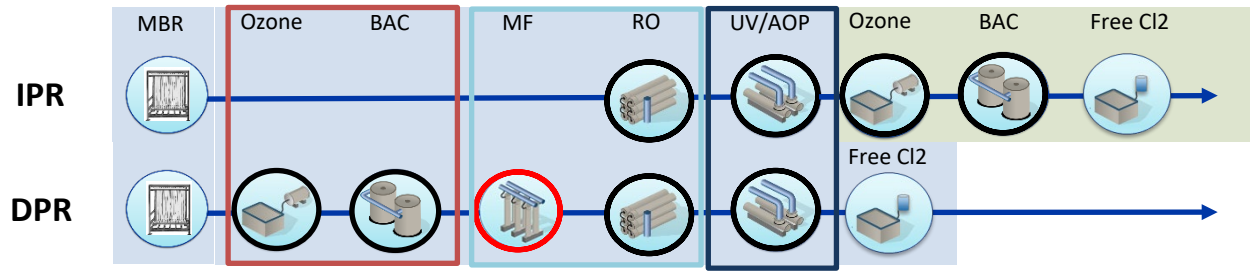


## Hyperion Treatment Trains (Current On-site Secondary)



## Proposed Treatment Trains (AWPF On-site)

## Downstream/Off-site DPR



Meets prescriptive DPR Regulation

### REQUIRED: (DPR)

- 4 Treatment Processes
- 9:1 Blending can replace Ozone/BAC
- 3 Mechanisms chemical physical UV
- 20-14-15 LRV

## Alternate Treatment Trains (AWPF Off-site)

## Downstream/Off-site DPR

