



REPLENISH
— *Big Bear* —

September 25, 2023

STATUS UPDATE



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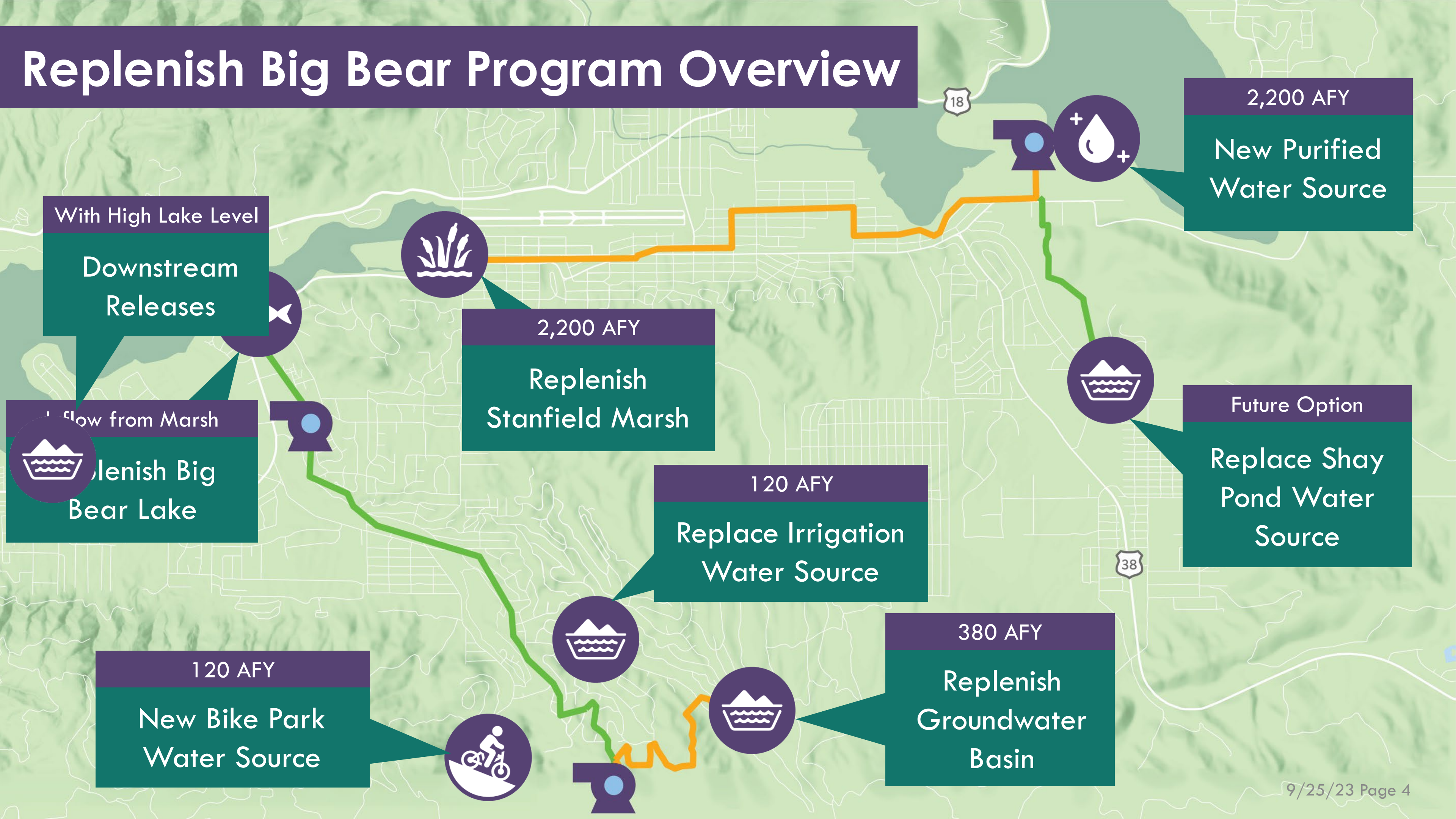
- **Benefit Resources**
- **Program Schedule**
- **Pilot Study**
- **Environmental Documentation**
- **Regulatory Timeline**
- **Grant Funding**
- **Funding & Rate Collection**



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Benefit Resources

Replenish Big Bear Program Overview



2,200 AFY

New Purified Water Source

With High Lake Level

Downstream Releases

2,200 AFY

Replenish Stanfield Marsh

Flow from Marsh

Replenish Big Bear Lake

Future Option

Replace Shay Pond Water Source

120 AFY

Replace Irrigation Water Source

120 AFY

New Bike Park Water Source

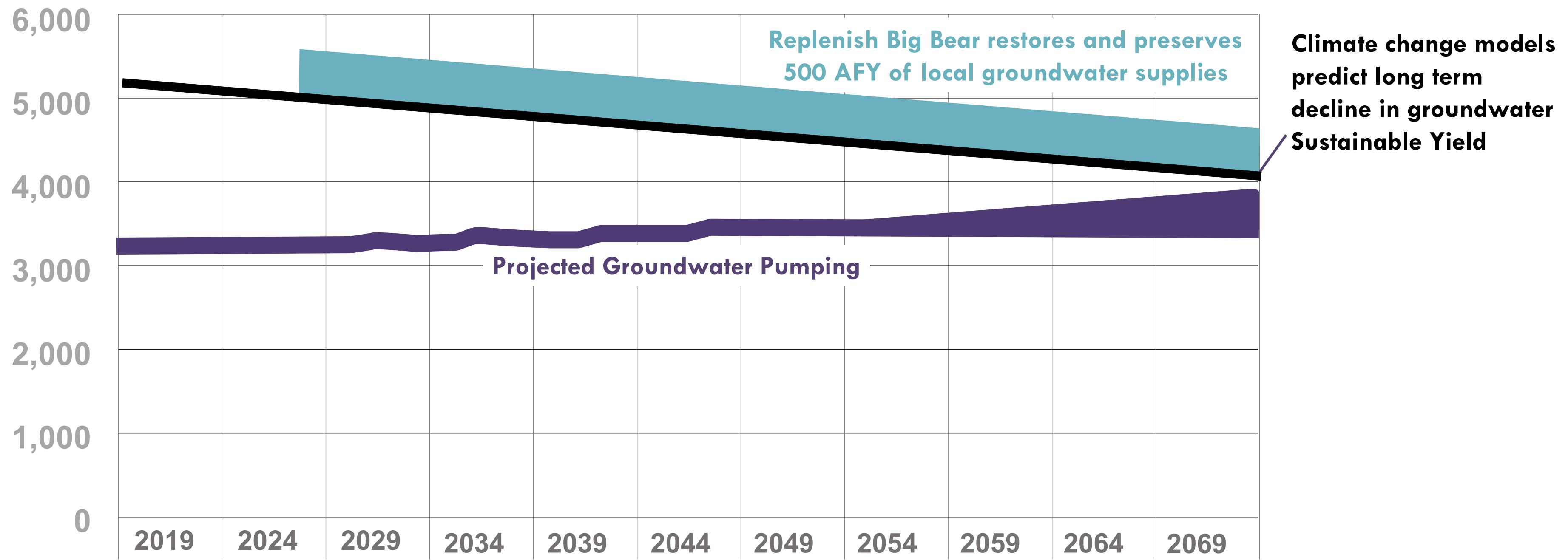
380 AFY

Replenish Groundwater Basin

New Water Source Enhances Groundwater Sustainability



- Projected Sustainable Yield
- Sustainable Yield with Project

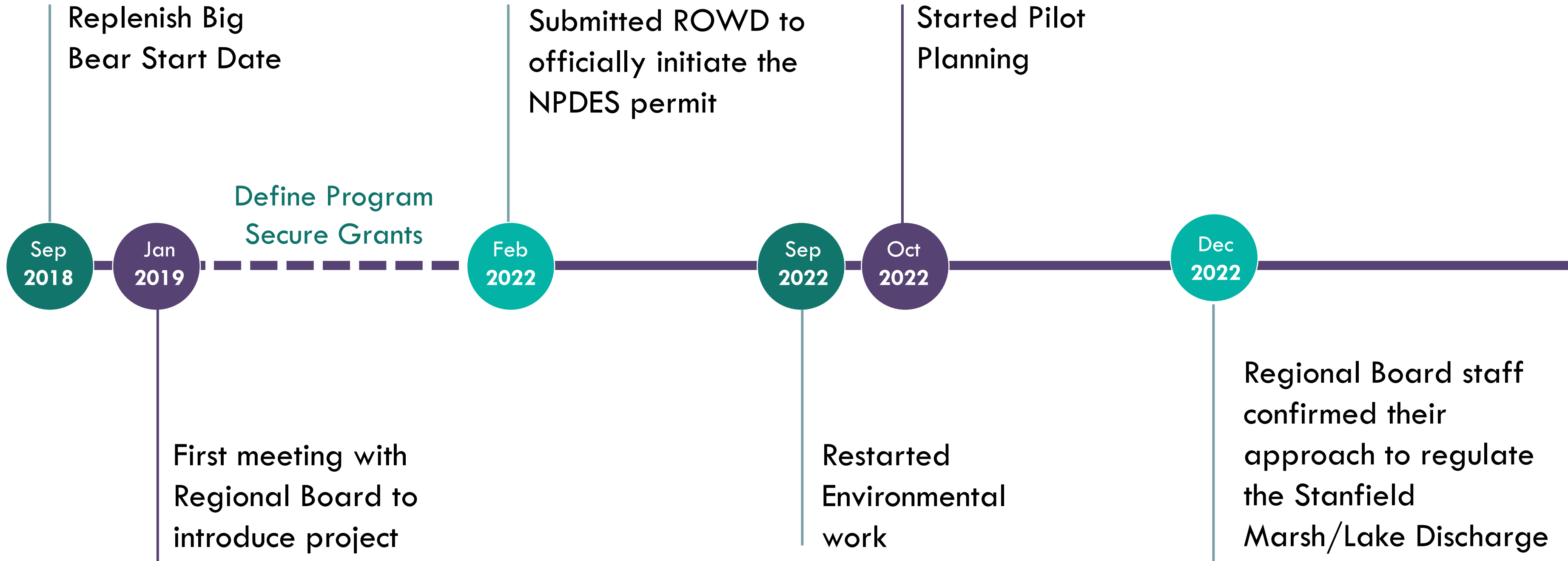




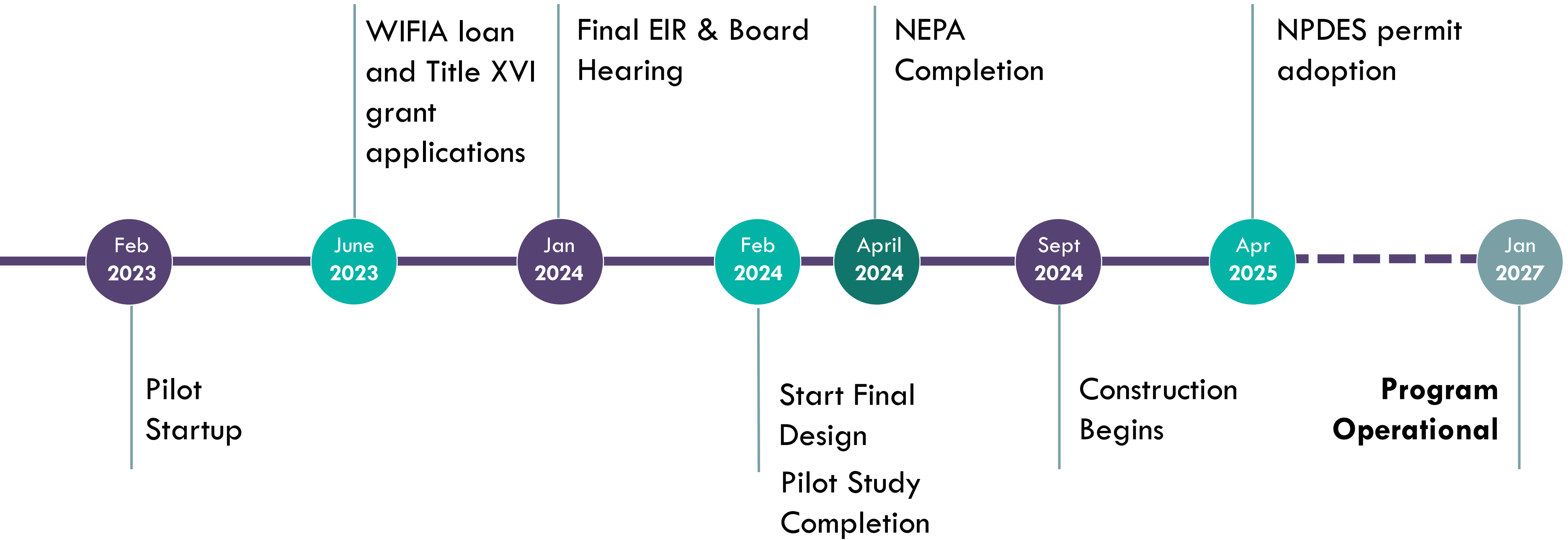
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Program Schedule

Program Milestones



Program Milestones





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Pilot Study

Pilot Plan - Goals



Demonstrate process performance for site-specific wastewater conditions to regulatory agencies



Confirm the proposed treatment process as a viable design approach to meet the target treatment levels

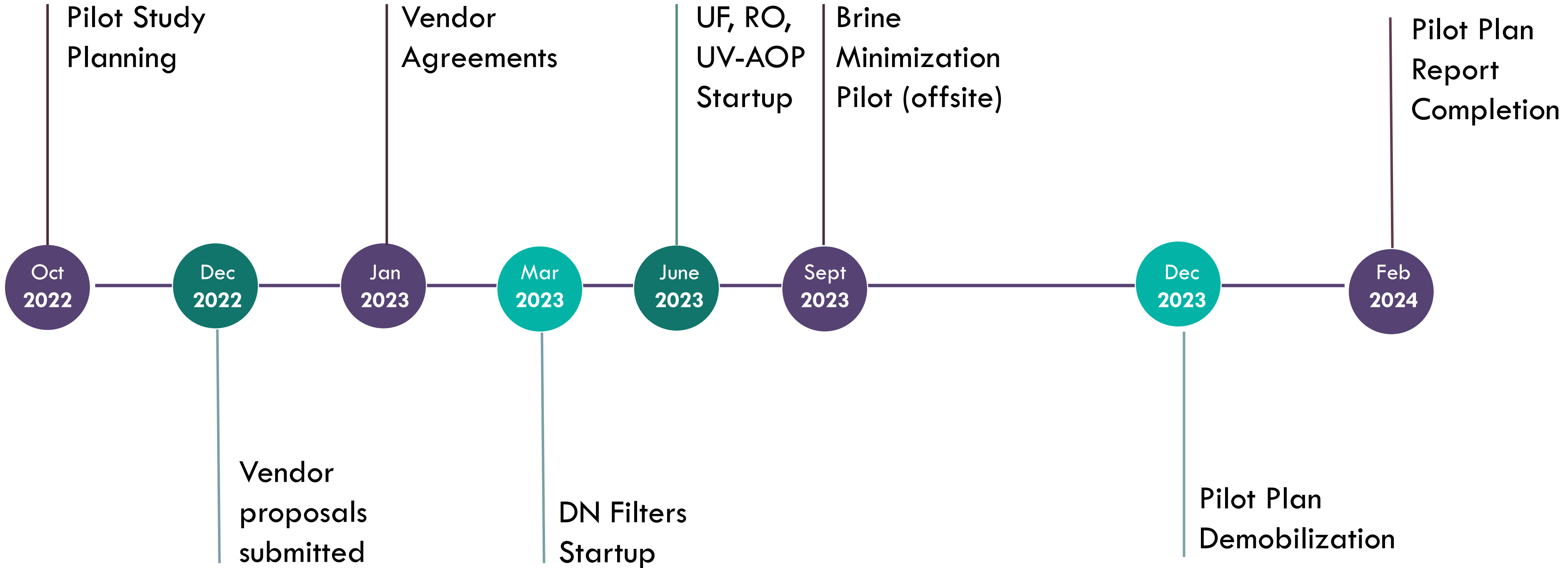


Quantify total system recovery for product water

Pilot Plan Timeline



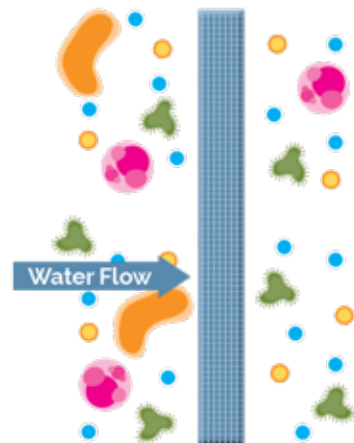
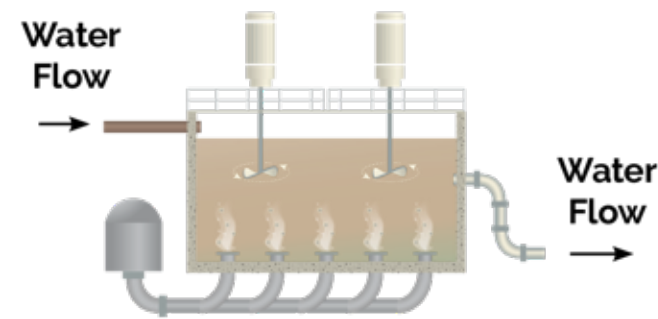
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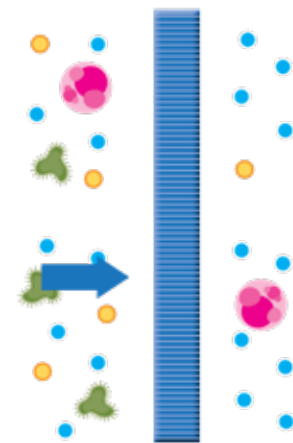
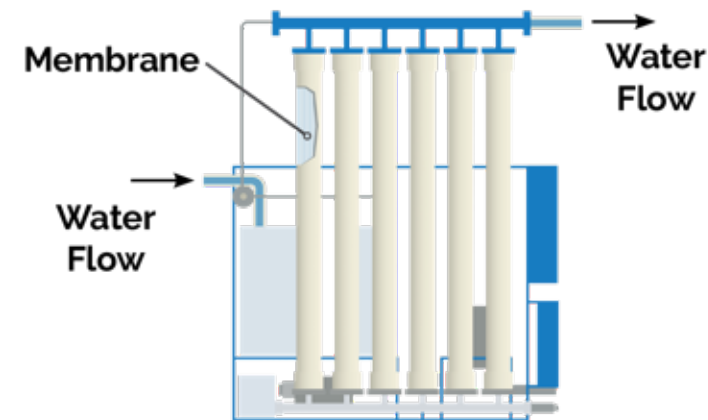
Advanced Purification Facility

The existing BBARWA Wastewater Treatment Plant (WWTP) will be supplemented with a full advanced treatment facility with a capacity of 2.2 MGD, capable of producing up to 2,200 AFY. Multiple treatment processes will use the best available technology to produce purified water that meets or exceeds all State and Federal water quality standards to protect public health and the environment.

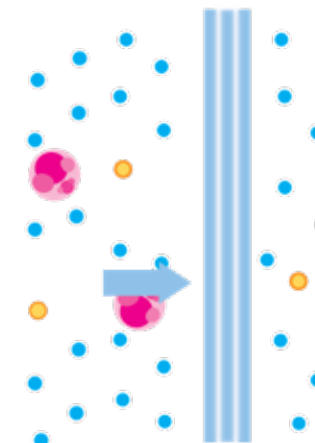
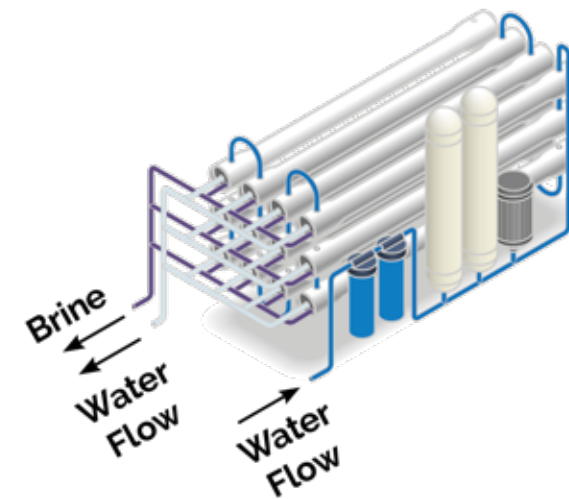
Nutrient Removal



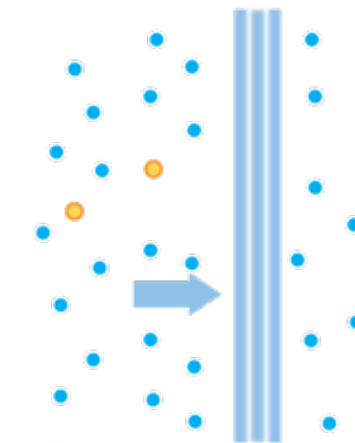
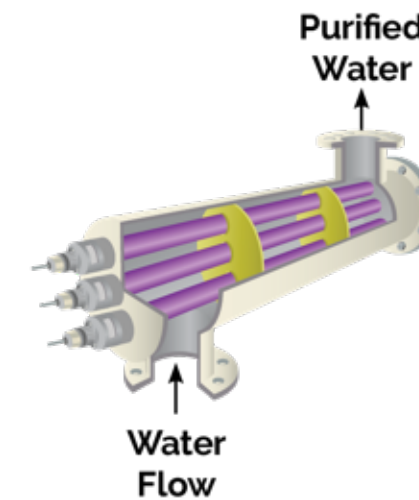
Ultra Filtration



Reverse Osmosis (RO)

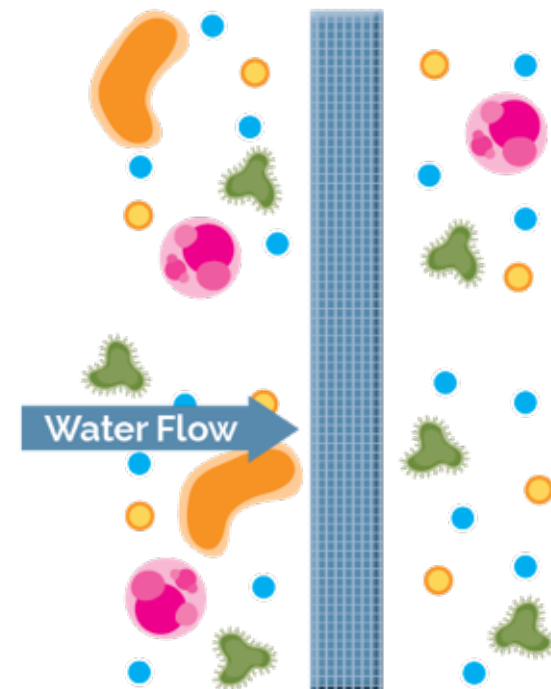
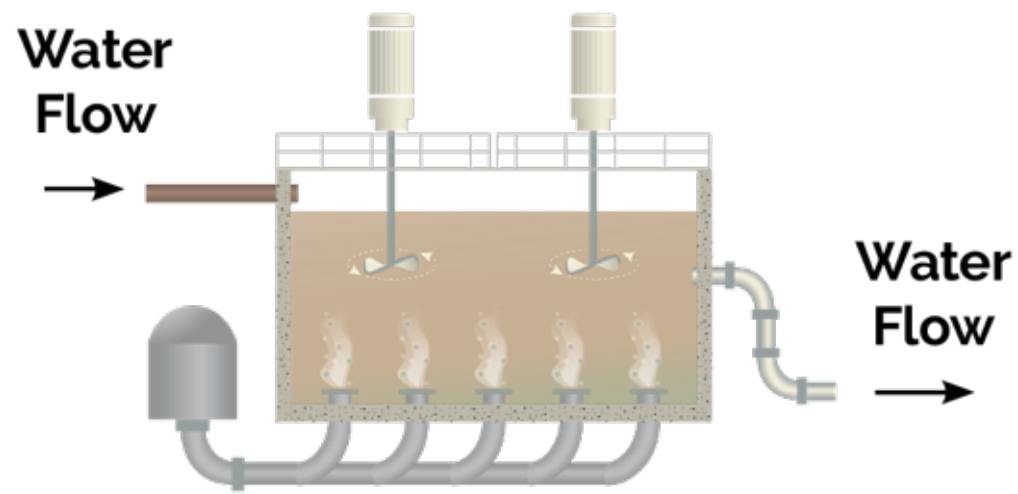


UV Disinfection & Advanced Oxidation Process



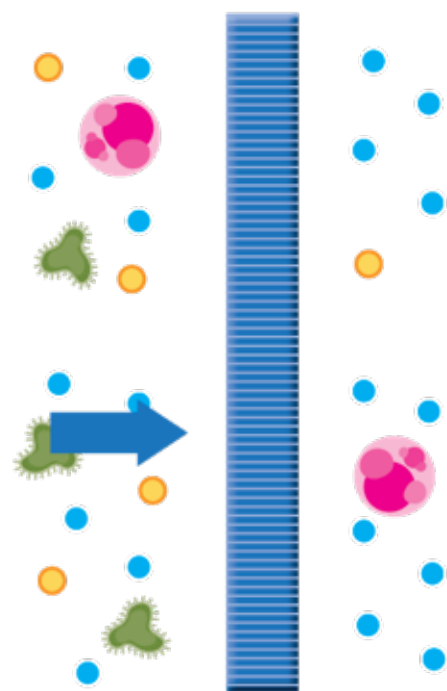
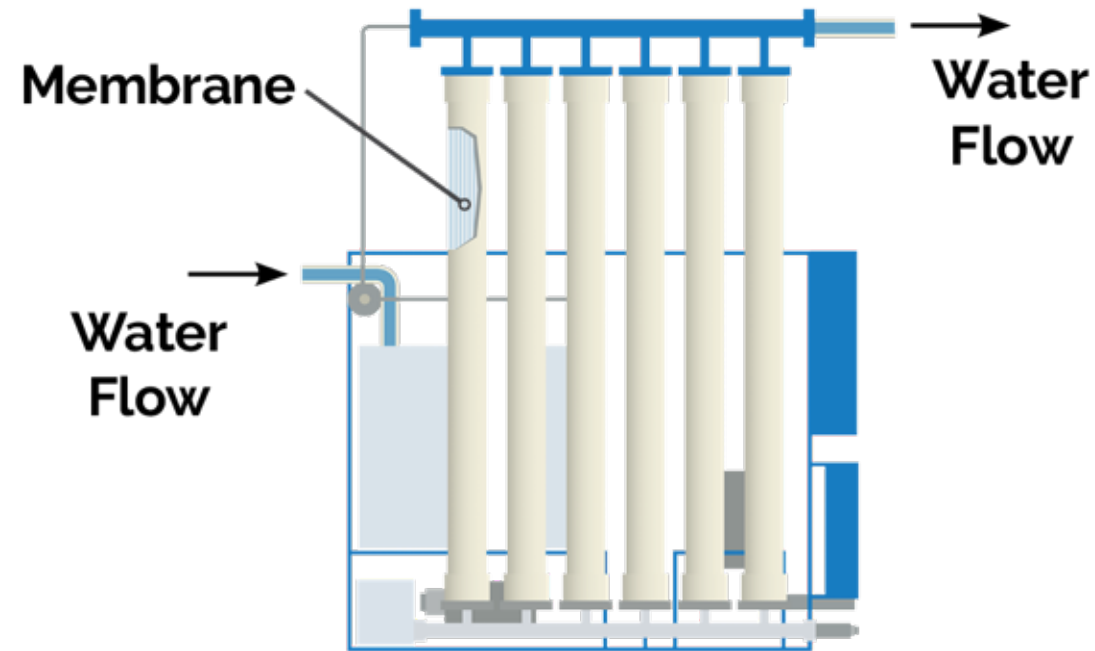
Nutrient Removal

Specialized biological, chemical and physical treatment processes remove most of the organics, nitrogen, and phosphorous from the water.

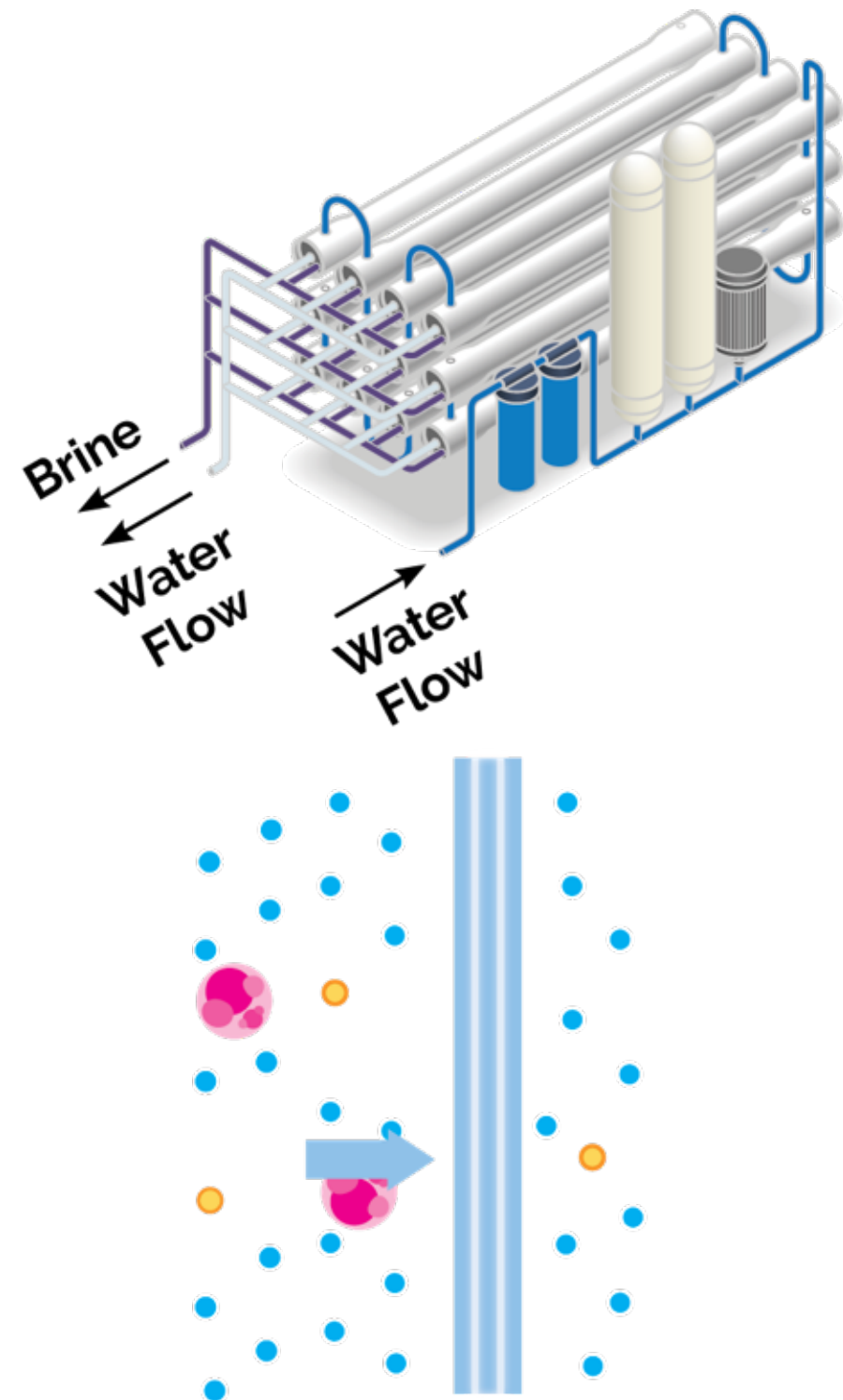


Ultra Filtration

An ultra filtration process uses permeable membranes to remove suspended solids and bacteria from the treated water as it passes through the filter.



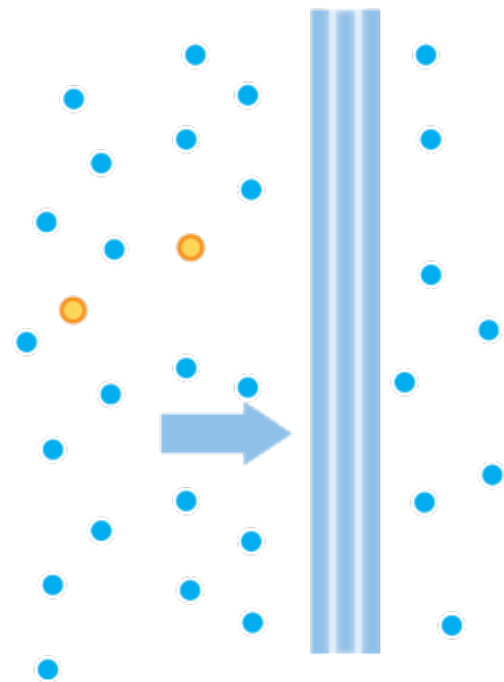
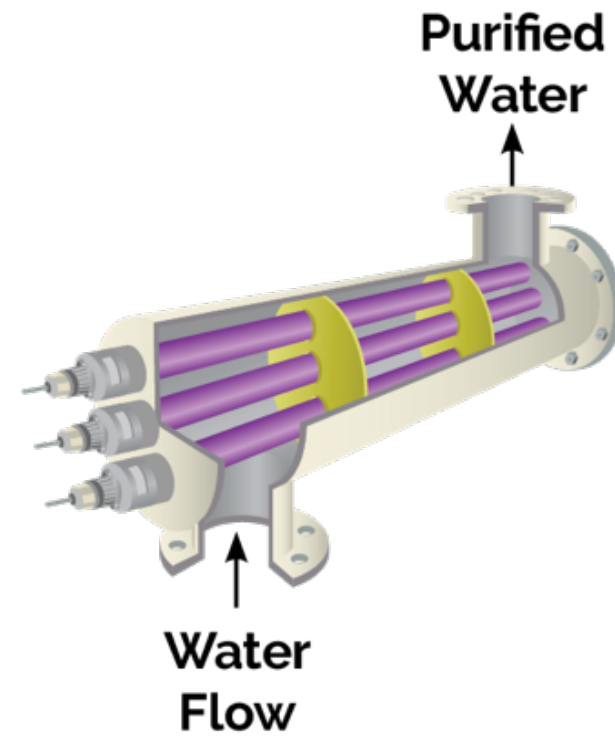
Reverse Osmosis (RO)



Water is forced under high pressure through reverse osmosis membranes to remove impurities, including salts, bacteria, viruses, pharmaceuticals, and personal care products.



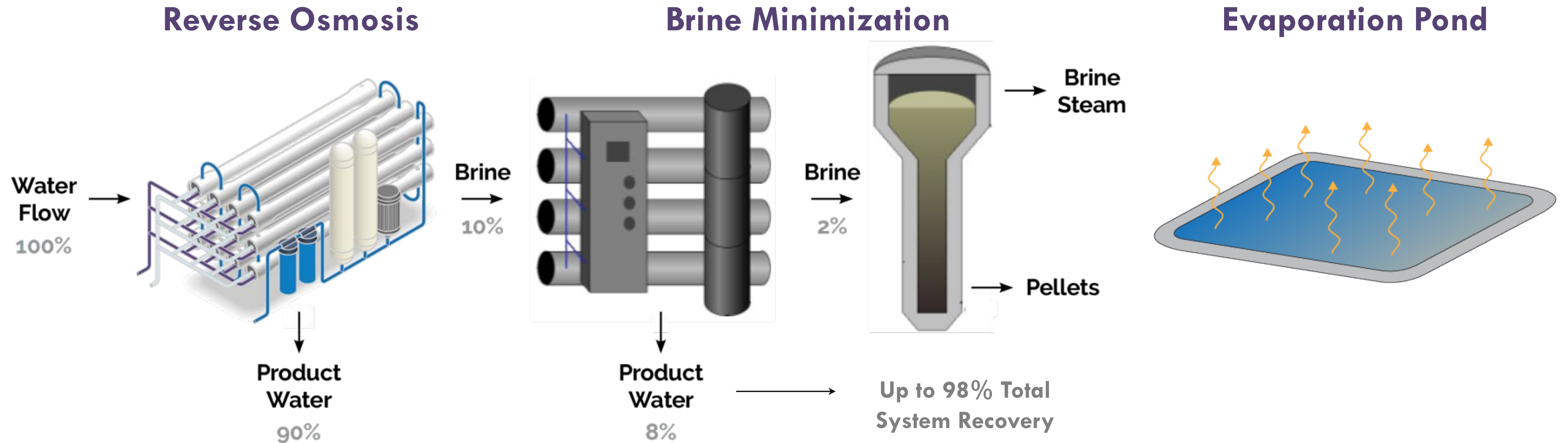
UV Disinfection & Advanced Oxidation



High-intensity UV light is combined with an oxidant to create oxidizing radicals that attack and decompose contaminants in the water so they are no longer harmful. At the same time, the UV light disinfects the water.



Proposed Brine Management Facilities



Brine Reduction and Evaporation

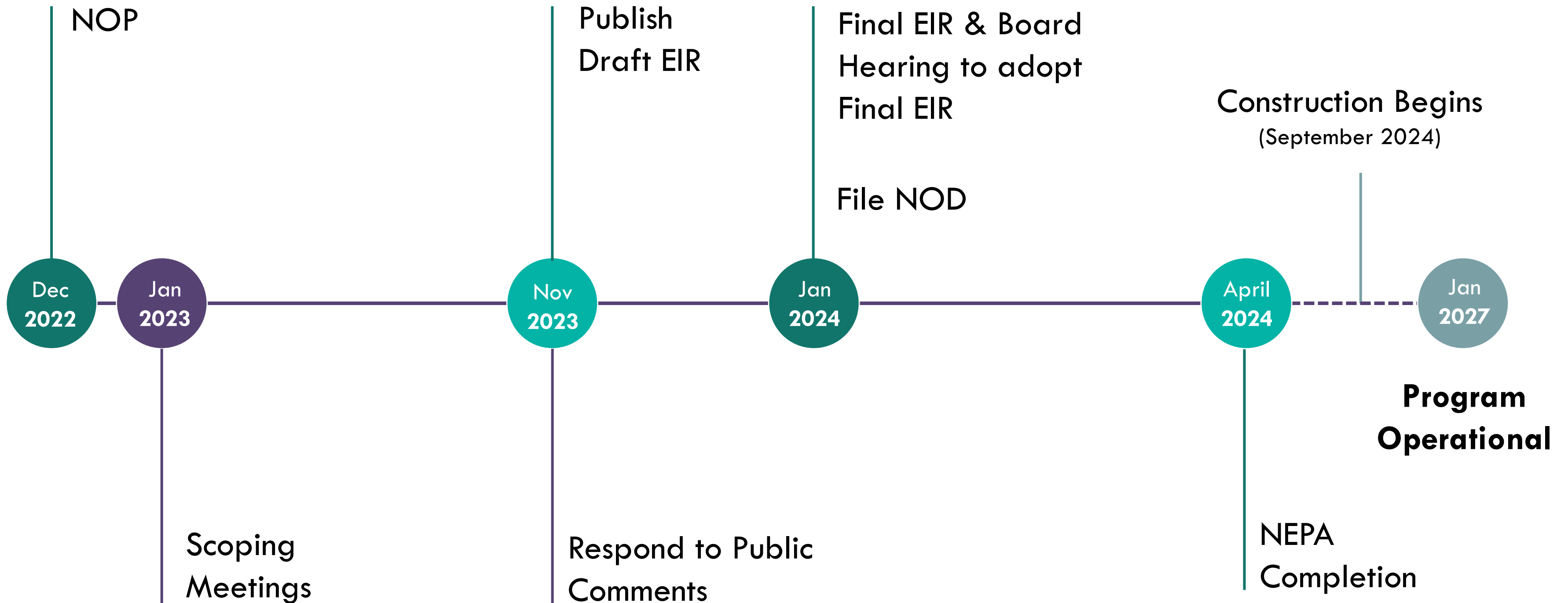
The Reverse Osmosis process produces a liquid brine concentrate that requires disposal. A Desalter system will use an additional RO process to reduce the liquid brine volume and a Pellet Reactor that will produce solid pellets for disposal or reuse. The remaining brine will be evaporated onsite using solar evaporation ponds.



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Environmental Documentation

Environmental Documentation Milestones



Environmental Review Scoping Comments

Water quality impacts in Big Bear Lake and downstream

Reduced flow to Lucerne Valley

Consistency with the 1977 Judgment for Big Bear Lake

Letters of support (three from local residents)

Brine impacts

Energy use and renewable energy sources

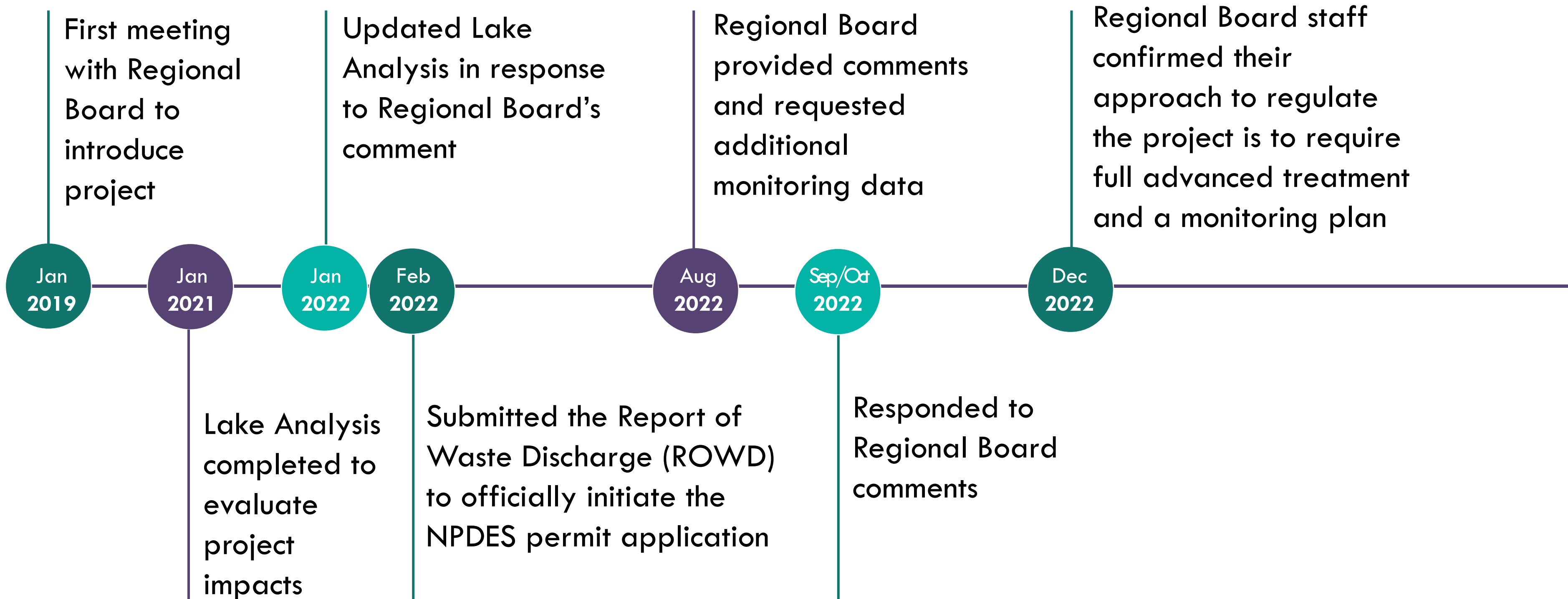
Consultation with Native American Tribes



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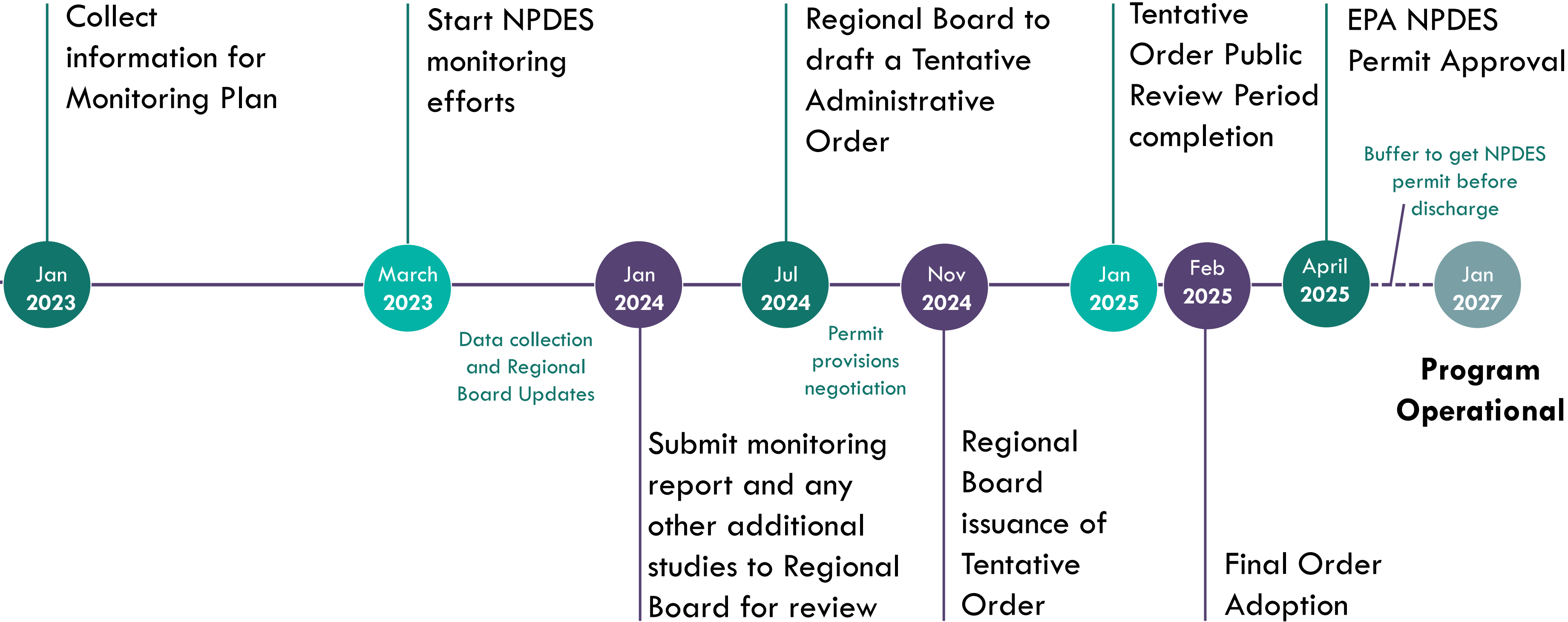
Regulatory Timeline

NPDES Permitting Process Milestones





NPDES Permitting Process Timeline



Note: The Environmental documents must be completed before an NPDES permit can be adopted



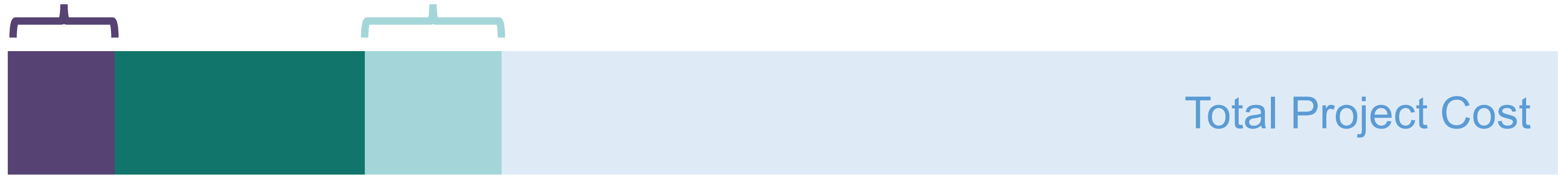
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Grant Funding

Grants

7% State Grants

9% Federal Grants Potential



16% Federal Grants

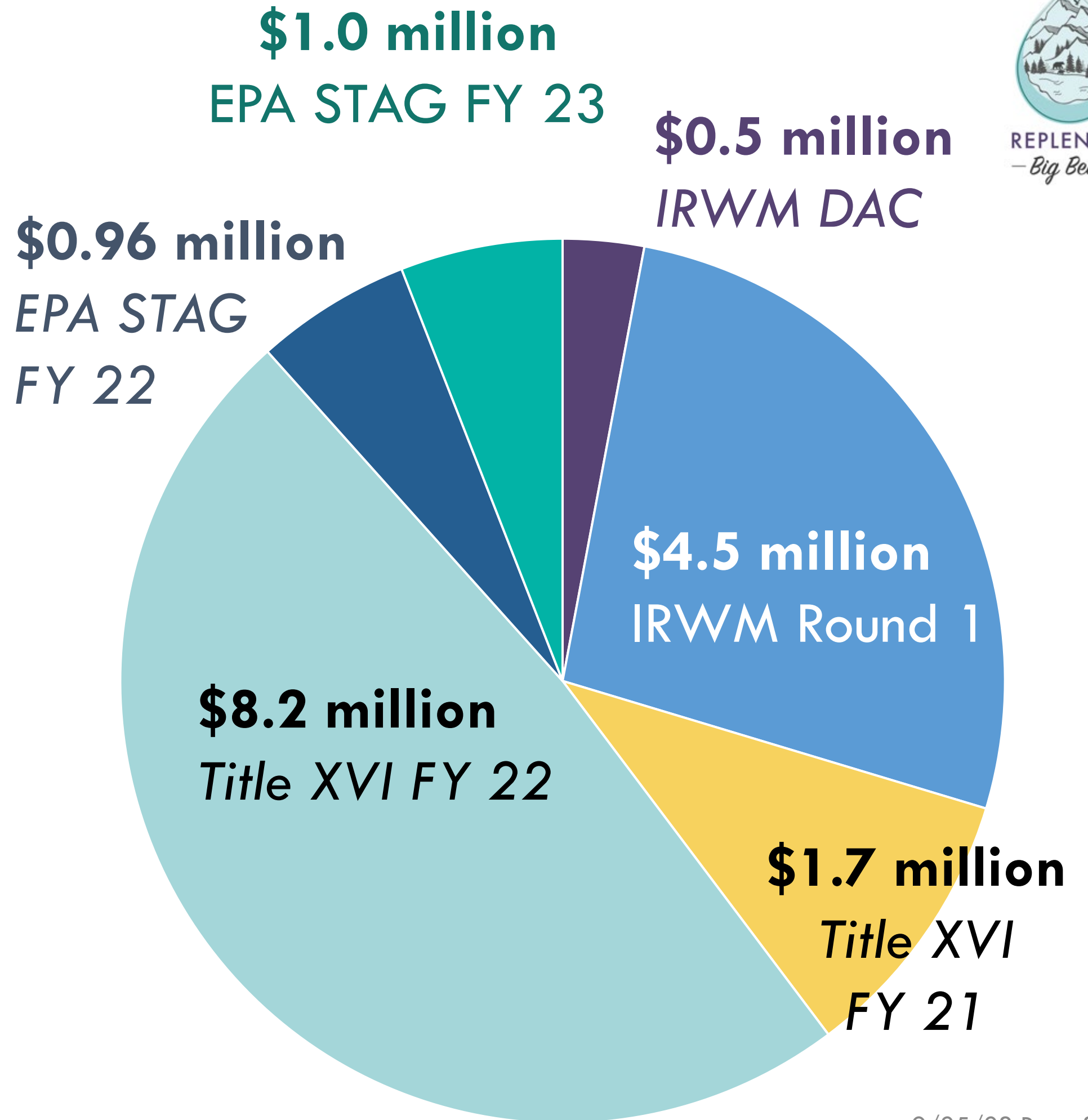
68% Other Financing Sources and State Grants

Federal grants can cover up to 25% of the total project cost

Grants to Date



Replenish Big Bear has been successful on over \$16.9 million in grants!





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Additional Grant Opportunities

- Community Funding Request FY 23 (\$2.5M)
- Title XVI FY 23 (upcoming)
- Actively evaluating additional State grant opportunities
- Investigating the Clean Water State Revolving Fund (CWSRF) loan for loan forgiveness opportunities



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Funding & Rate Collection

RBB Funding

Pre-Construction Costs

- Costs funded by Partner Agencies, debt service, and grants
 - MWD, DWP, CSD and BBARWA
 - DCI, IRWM grants awarded (\$5.1 million)
 - Debt service (\$3.4 million)

Capital Costs

- Grants – in process/expected (\$17.3 million)
- Funded with debt
- Debt service paid by ratepayers

O & M

- Ratepayers
- Could be offset by other revenue from Project Beneficiaries
 - Other revenue from Project Beneficiaries is currently in negotiations

RBB Rates through FY 2028

- RBB construction starts FY 2025 to be completed in FY 2027
 - Updated construction estimate of \$71 M
- RBB funded through long-term debt (primarily low interest loans) and grants
 - Annual debt service assumes interest only through construction
 - Principal and interest at completion of construction (FY 2027)
 - Grants assume current awarded, no additional
- Additional annual O&M expense starting in FY 2027
 - FY 2027 is a partial year (approximately \$1.5 M)
 - FY 2028 is escalated and starts at approximately \$3.5 M
- Annual debt service of approximately \$2.8 M in FY 2027
 - Reflects total annual RBB debt service
- Future Capex included in FY 2028 (approximately \$350,000)
- Other agency contributions not included at this time

RBB Projected Cash Flow and Borrowing

	<u>FY 2024</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>
Revenues					
Sewer User Fees	\$1,311,375	\$2,441,873	\$3,815,945	\$5,478,729	\$7,521,665
Other	0	0	0	0	0
Total Revenues	1,311,375	2,441,873	3,815,945	5,478,729	7,521,665
Op Expenses	0	0	0	1,448,383	3,504,549
Total Operating Expenses	\$0	\$0	\$0	\$1,448,383	\$3,504,549
Non-operating Income					
Grant Revenue	4,113,578	871,999	8,159,595	8,615,928	0
Total Non-Operating Revenue	\$4,113,578	\$871,999	\$8,159,595	\$8,615,928	\$0
Non-operating Expense					
Debt Service Interest Expense	144,500	1,616,420	1,980,619	2,170,013	2,170,013
Total Non-Operating Expense	\$144,500	\$1,616,420	\$1,980,619	\$2,170,013	\$2,170,013
Capital Expenditures					
Maintenance Capex	0	0	0	0	324,327
Program Management	402,672	395,672	339,087	130,751	0
Funding and Financing	211,457	438,810	84,680	562,741	0
Regulatory	210,960	139,240	43,210	0	0
Water Quality Monitoring	43,622	42,261	121,991	79,731	0
Piloting	109,143	0	0	0	0
Environmental Compliance	50,326	0	0	0	0
Final Design	3,284,254	551,528	0	0	0
Engineering Services During Construction	0	640,894	647,541	195,844	0
Construction Management	0	1,596,224	1,819,684	937,979	0
Construction	0	15,762,373	30,424,866	8,861,761	0
Total Capital Expenditures	\$4,312,434	\$19,567,002	\$33,481,059	\$10,768,807	\$324,327
Net Cash Flow	968,019	-17,869,550	-23,486,138	-292,546	1,522,776
Cumulative Debt Service	2,846,657	21,541,660	46,683,125	49,016,004	



RBB Revenue Requirements

<u>Revenue Requirements</u>					
	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Op Expenses b/f Depreciation	\$0	\$0	\$0	\$1,448,383	\$3,504,549
Maintenance CAPEX	0	0	0	0	324,327
Debt Service	144,500	1,616,420	2,126,643	2,813,992	2,813,992
Less					
Other Revenue	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Revenue Requirements	\$144,500	\$1,616,420	\$2,126,643	\$4,262,375	\$6,642,869
EDUs	25,370	25,415	25,460	25,505	25,550
Rate	5.70	63.60	83.53	167.12	260.00
Reserve Collection	45.99	32.48	66.35	47.69	34.39
Total RBB Rate	\$51.69	\$96.08	\$149.88	\$214.81	\$294.39

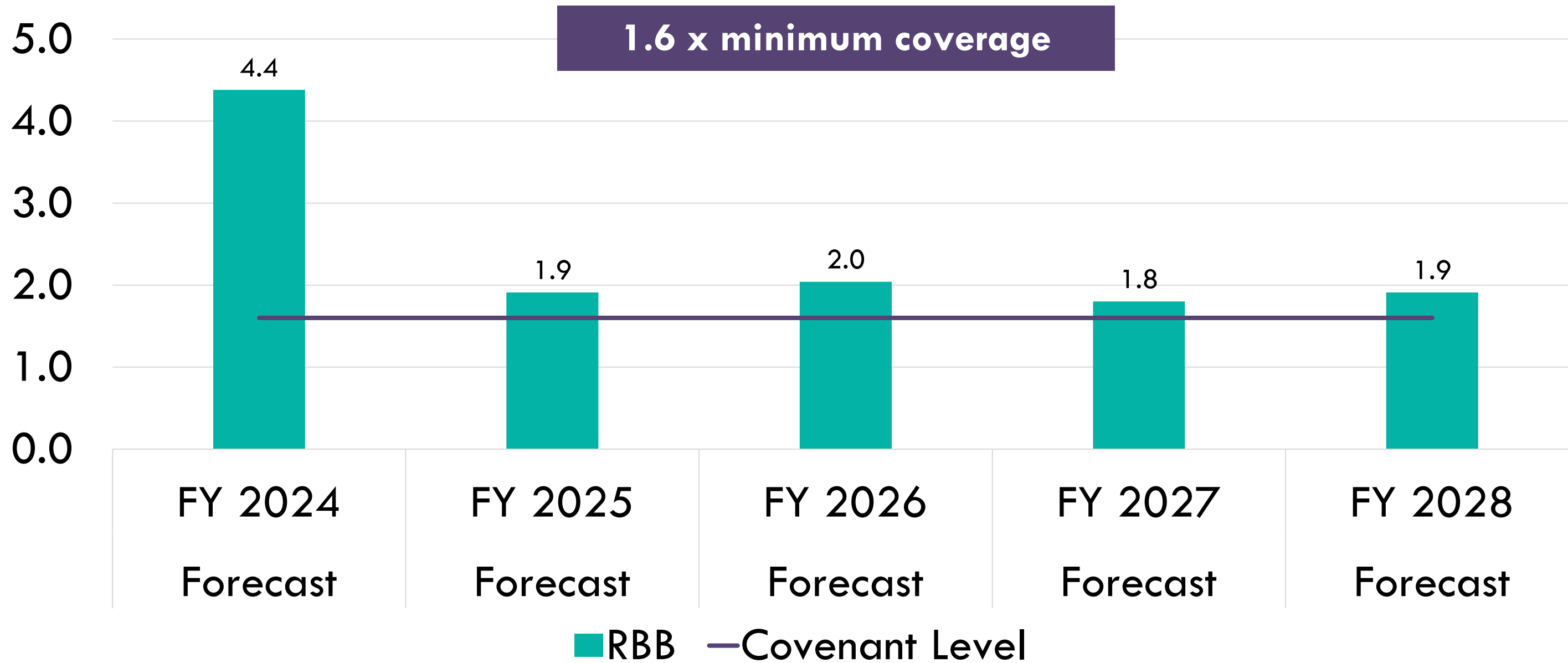
RBB Future Revenue Requirements



- Financial Management Requires Reserves at Startup (FY 2027)
 - Operating
 - Contingency (2 months of operating expense)
 - Emergency (\$500,000)
 - Liquidity (amount needed at July 1 to fund Agency's operations due to timing of revenues)
 - Debt Service (next 12 months debt service)
 - Maintain a 1.6 x debt service coverage
 - Per S&P a 1.6 x debt service coverage is recommended for an acceptable commercial credit rating
 - Capital and Replacement – Can Build Overtime
 - Current portion (next 12 months capex)
 - Future portion (available for future capex)

RBB Debt Service Coverage

(Target Covenant Level 1.6 x for S&P rating)



BBARWA and RBB Combined Rate Adjustment

(Assuming no Other Agency Contributions)



	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
BBARWA Base Rate	\$250.68	\$260.71	\$271.14	\$281.98	\$291.85
RBB Rate	51.69	96.08	149.88	214.81	294.39
Yearly Combined Rate	\$302.37	\$356.79	\$421.02	\$496.80	\$586.22
% Increase	22.5%	18%	18%	18%	18%
Monthly Combined Rate	\$25.20	\$29.73	\$35.09	\$41.40	\$48.85



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Questions?

Acronyms



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Acronym	Definition	Acronym	Definition
AFY	Acre-feet per year	MGD	Million gallons per day
AOP	Advanced oxidation process	MWD	Big Bear Municipal Water District
b/f	Balance forward	NEPA	National Environmental Policy Act
BBARWA	Big Bear Area Regional Wastewater Agency	NOD	Notice of Determination
Board	BBARWA's Governing Board	NOP	Notice of Preparation
CapEx	Capital expenditures	NPDES	National Pollutant Discharge Elimination System
CSD	Big Bear City Community Services District	O&M	Operations and maintenance
DAC	Disadvantaged community	Op	Operations
DCI	Disadvantaged community involvement	RBB	Replenish Big Bear
DN	Denitrate	Regional Board	Santa Ana Regional Water Quality Control Board
DWP	City of Big Bear Lake, Department of Water and Power	ROWD	Report of Waste Discharge
EDU	Equivalent Dwelling Unit	STAG	State and Tribal Assistance Grant
EIR	Environmental Impact Report	Title XVI	Title Sixteen Grant
EPA	Environmental Protection Agency	UF	Ultrafiltration
FY	Fiscal year	UV	Ultraviolet disinfection
IRWM	Integrated Regional Water Management	WIFIA	Water Infrastructure Finance Innovation Act
M	Million		