Project 7 Water Authority

Regional Water Supply Resiliency Program

Planning Update

Spring 2023

Meeting Purpose

- Background & History *(as needed)*
- Resiliency Program Status
- Project Definition
  - Design Assumptions
  - Cost Estimates
- Questions & Answers

WHO WE ARE: *A unique cooperative effort among seven water entities to provide high-quality potable water to the municipalities and rural areas of the Uncompahgre River Valley.*

Project 7 Water Authority

The six entities that represent Project 7 Water Authority (P7WA) are:

- City of Montrose
- City of Delta
- Town of Olathe
- Tri-County Water Conservancy District
- Chipeta Water District
- Menoken Water District

OUR HISTORY: *Formed in response to regional water shortages and infrastructure challenges.*

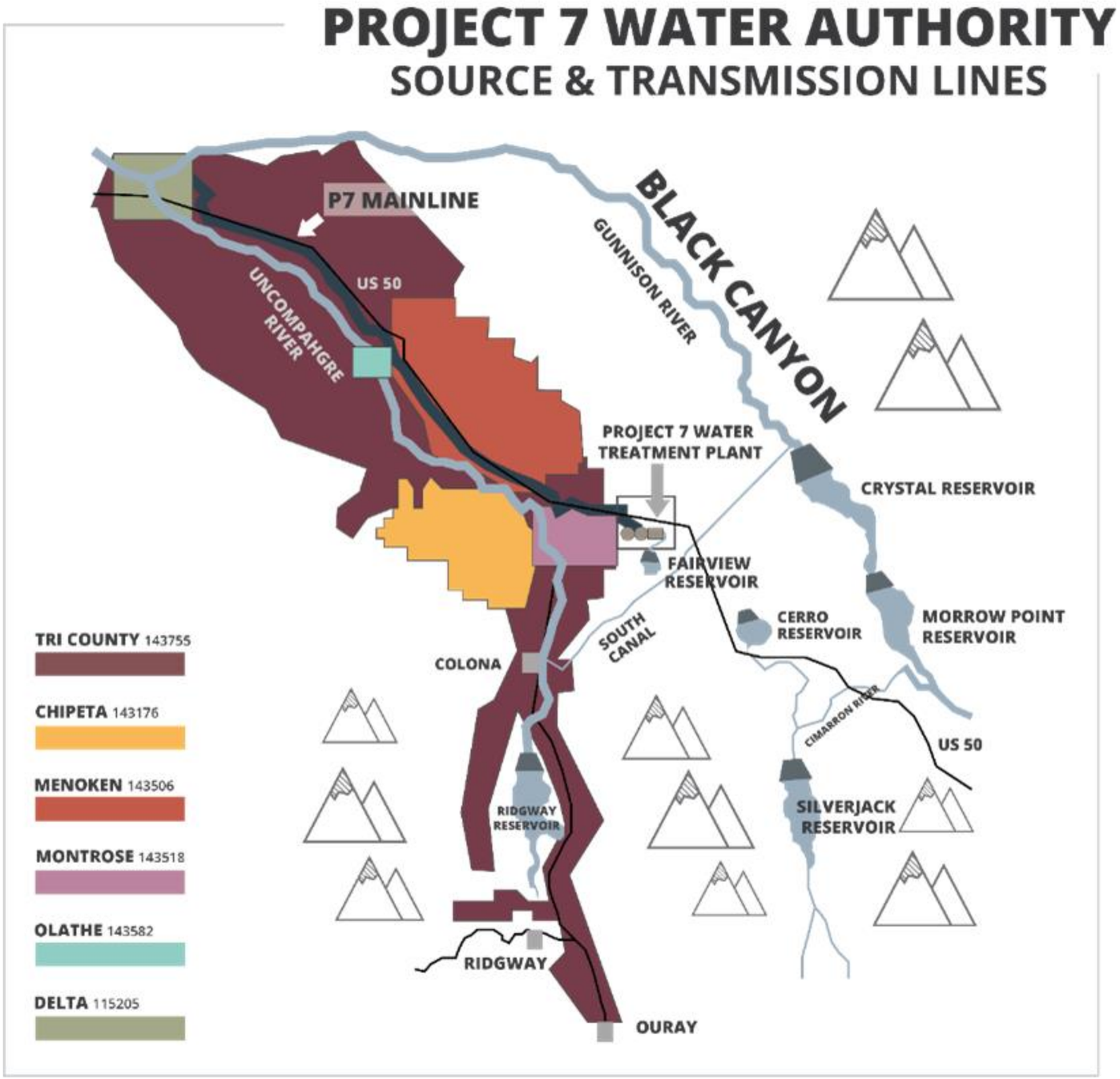
Project 7 Water Authority

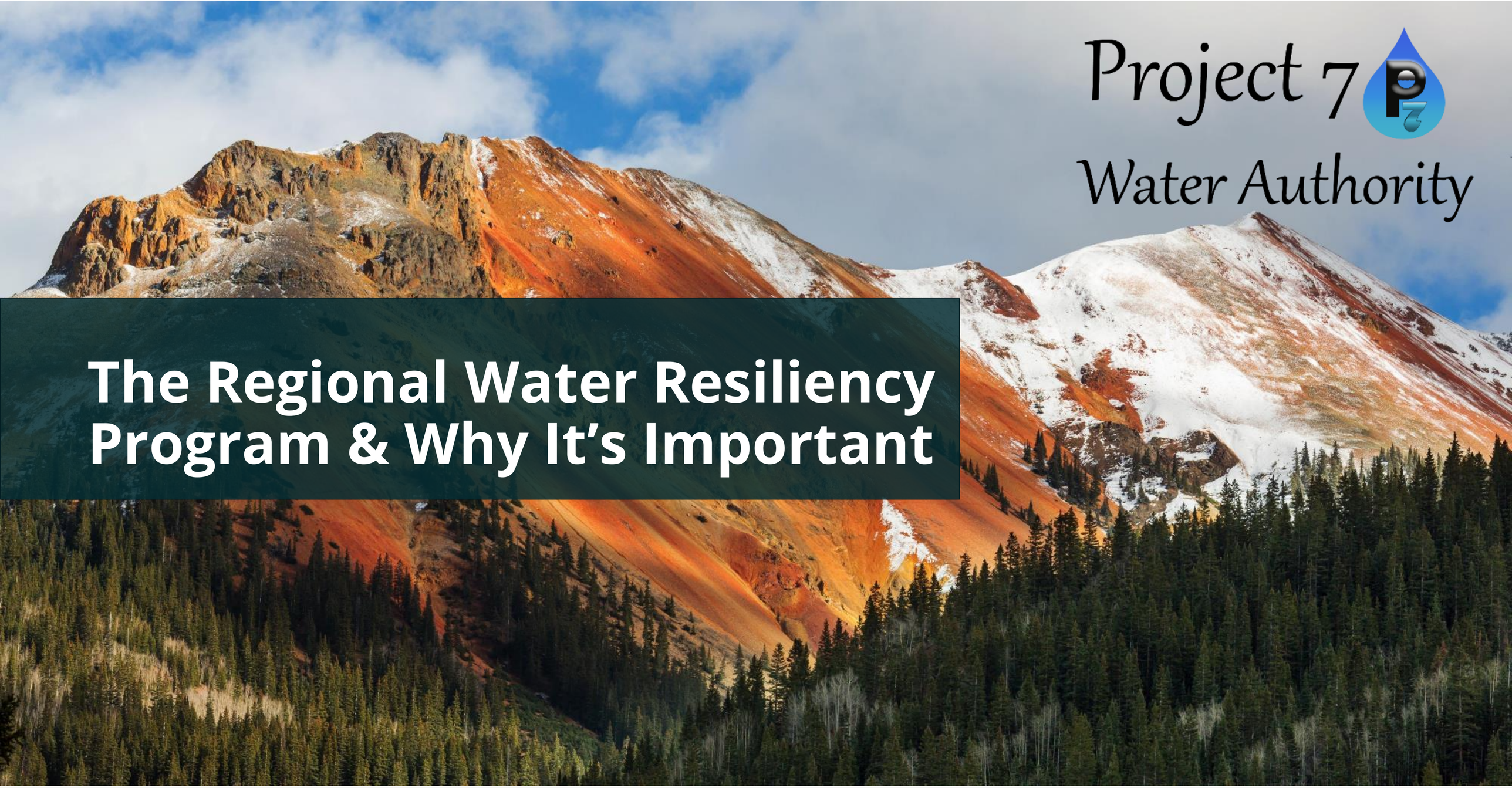
40-Years of Cooperation:

- **1909:** Gunnison Tunnel begins delivery of irrigation and raw drinking water supplies
- **1973:** Regional water shortages as a result of undersized and outdated treatment facilities
- **1977:** Project 7 established as a governmental entity
- **1980:** Regional water system goes online to treat and distribute drinking water
- **1995:** Significant treatment and storage improvements
- **2000's:** Resiliency planning for direct access to Ridgway Reservoir water rights
- **2019:** Regional Water Supply Program initiated

Member entities contract with Project 7 for <u>water treatment services</u> instead of operating their own water treatment plants.

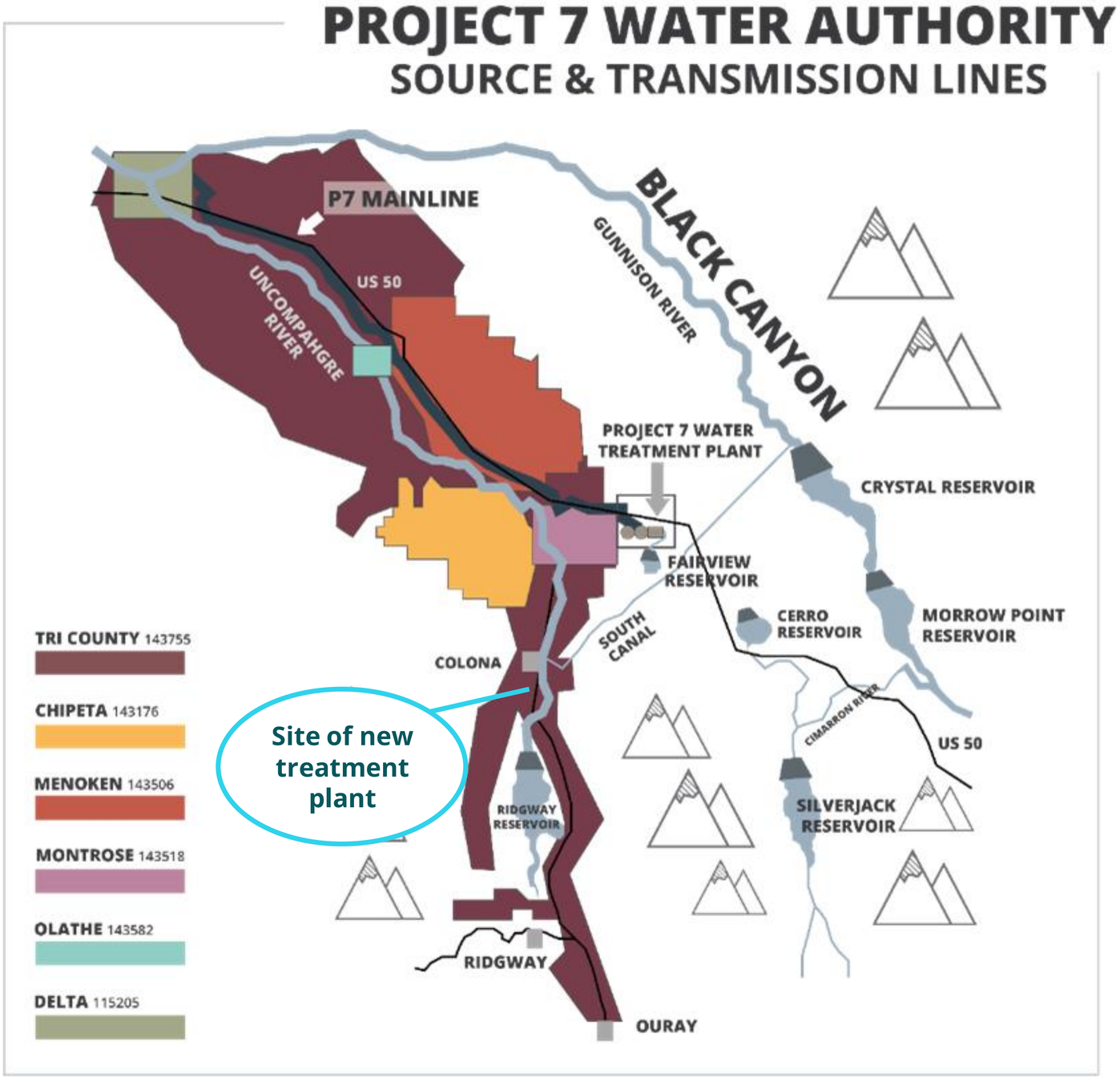
This allows each member to share costs, benefit from economies of scale and enjoy region-wide water security, all while retaining ownership of their water rights.





The Regional Water Resiliency Program & Why It's Important

Adding a second treatment facility and water source to our existing single source system will reduce risk to our regional drinking water supply from wildfire, drought and infrastructure failure.



Management Team

The Resiliency Program is Led by Project 7 Water Authority.

Project 7 has built a Program Management Team comprised of Engineers, Scientists, Planners and Financial Advisors.

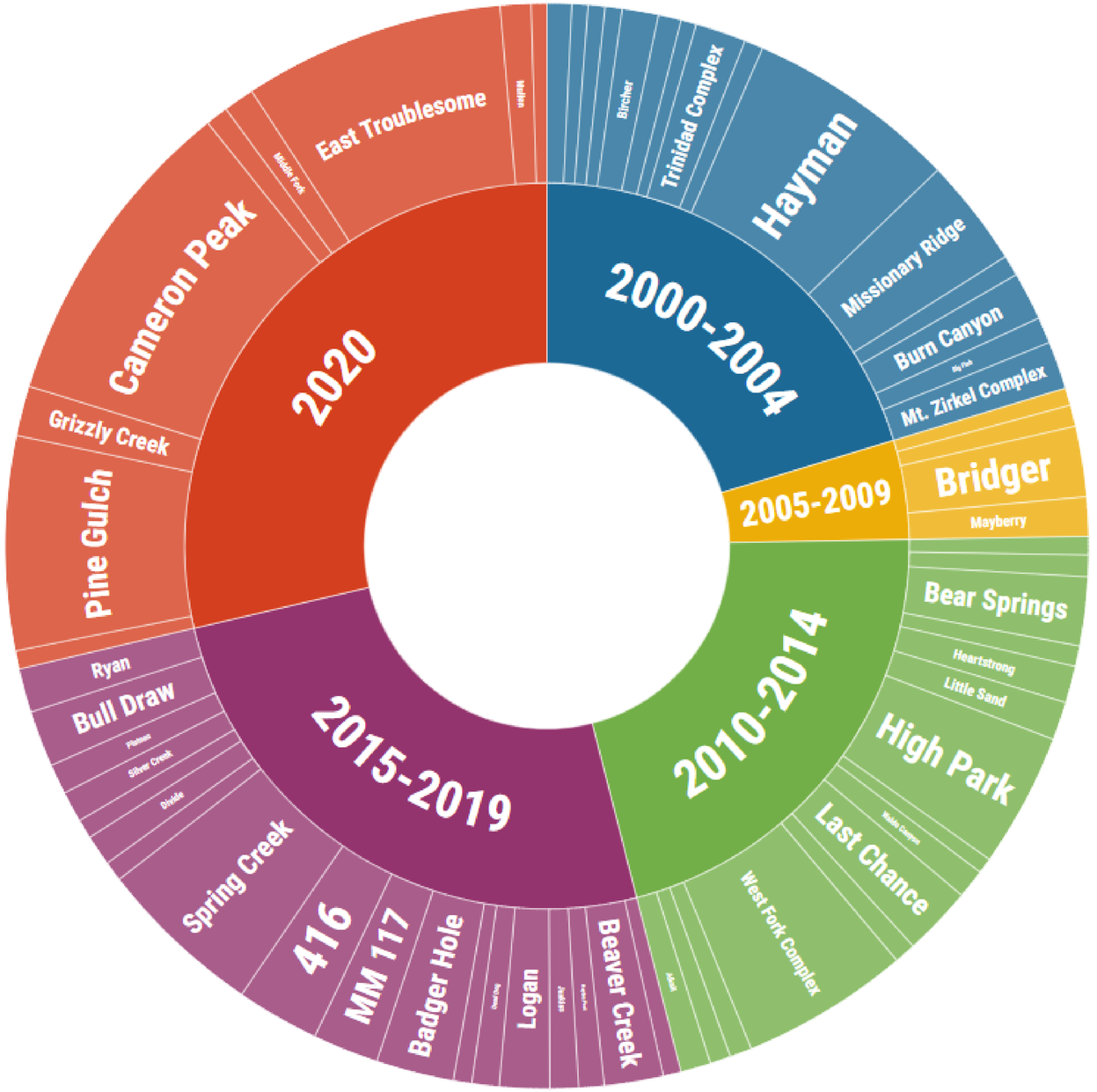
Program Values

The P7WA Water Supply Resiliency Program will:

Mitigate the risk of being dependent on a single drinking water source and treatment facility

MAJOR RISK FACTORS:

A wildfire, pipeline, tunnel failure, or treatment plant outage could impact drinking water that over 50,000 people depend on.



Source: Rocky Mountain Area Coordination Center
Acreage totals for 2020 fires are current as of Oct. 19. This chart includes the more than 20,000 acres that the Mullen Fire , which started in Wyoming, has burned so far in Colorado.

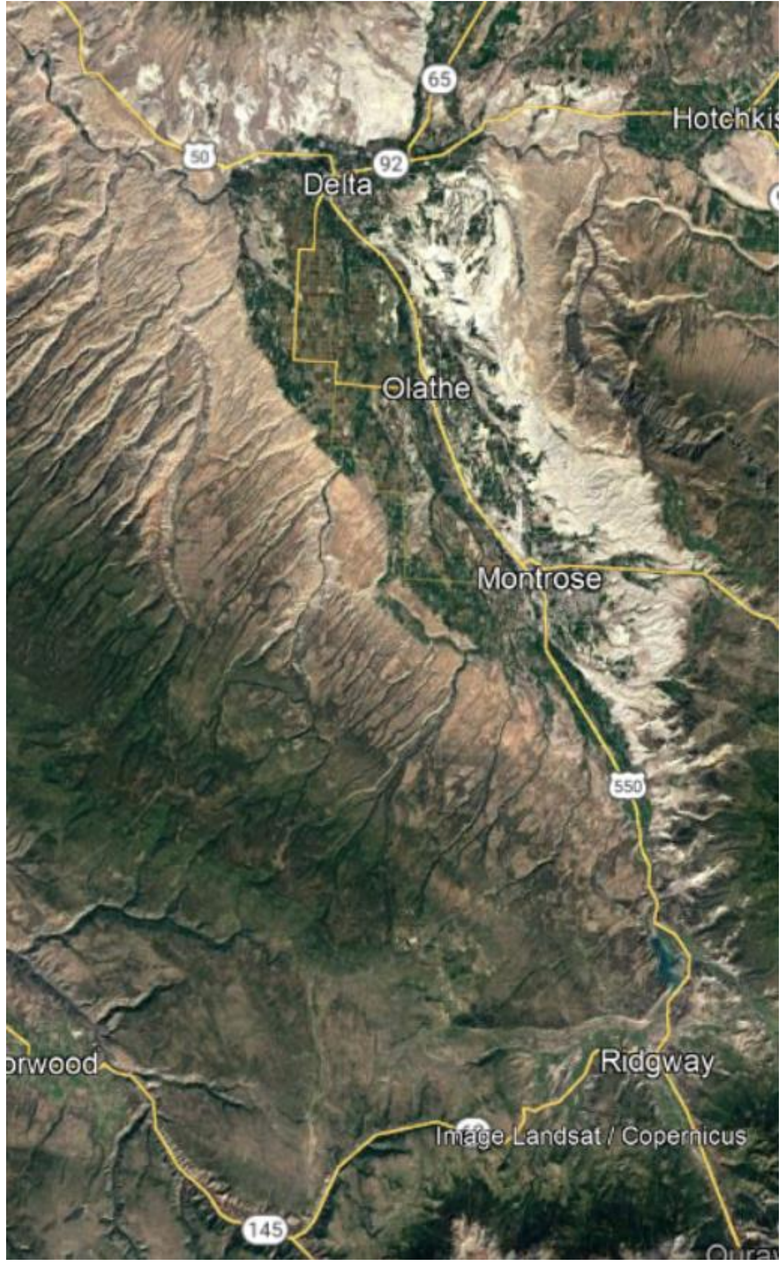
The Colorado Sun

PROJECT NEED:

Mitigate the risk of being dependent on a single drinking water source and treatment facility

MAJOR RISK FACTORS:

A wildfire, pipeline, tunnel failure, or treatment plant outage could impact drinking water that over 50,000 people depend on.



- *50,000+ individuals served safe drinking water by Project 7 Water Authority*
- *2 Cities, 1 Town, 3 Districts*
- *Only one water treatment plant and only one drinking water transmission line running the length of the valley.*

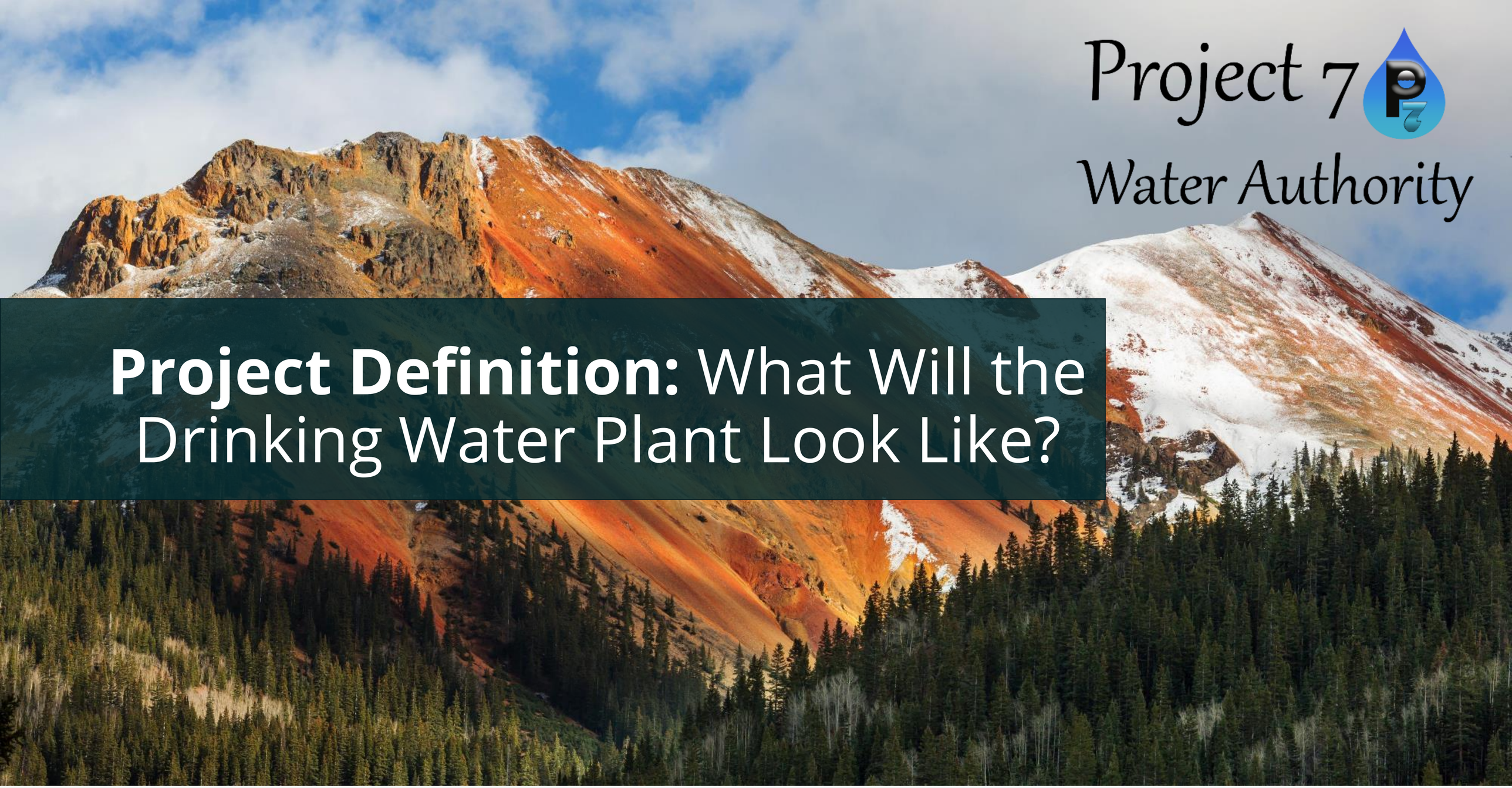
Key Program Benefits:

Investing in the Future: Realize Project 7's founding vision of a resilient and reliable water supply for more than 50,000 people in the Uncompahgre River Valley.

Dependability: Reduce the need to pump water around the valley, which lowers operations/maintenance costs, reduces energy use and benefits the environment.

System Strength: Develop a new treatment facility and water source to reduce the risk of a single source system from wildfire or drought in the Gunnison watershed, or a failure in the Gunnison Tunnel.

Direct Access: Provide member entities with direct access to their existing water rights in Ridgway Reservoir, currently accessed through trades and exchanges.



Project Definition: What Will the Drinking Water Plant Look Like?

Elements of the Resiliency Program:

- ***A new raw water transmission line*** *installed between Ridgway Reservoir and the new facility (approximately 5.5 miles of 24" pipe)*

- ***A new drinking water transmission line*** *from the WTP site to serve all members via an adequately sized tie in point within Tri-County WCD (approximately 5.5 miles of 24" pipe)*

- ***A new water treatment facility*** *located at: 35679 US-550, Montrose, Colorado 81403*

  - *Approximately **6 million gallons per day** (6MGD) of surface water treatment (filtration) and softening*

  - *Hydroelectric generation from raw water line*

In spring 2022, the U.S. Bureau of Reclamation awarded $612,059 to Project 7 from the Desalination and Water Purification Research Program to test different technologies for the new treatment facility.

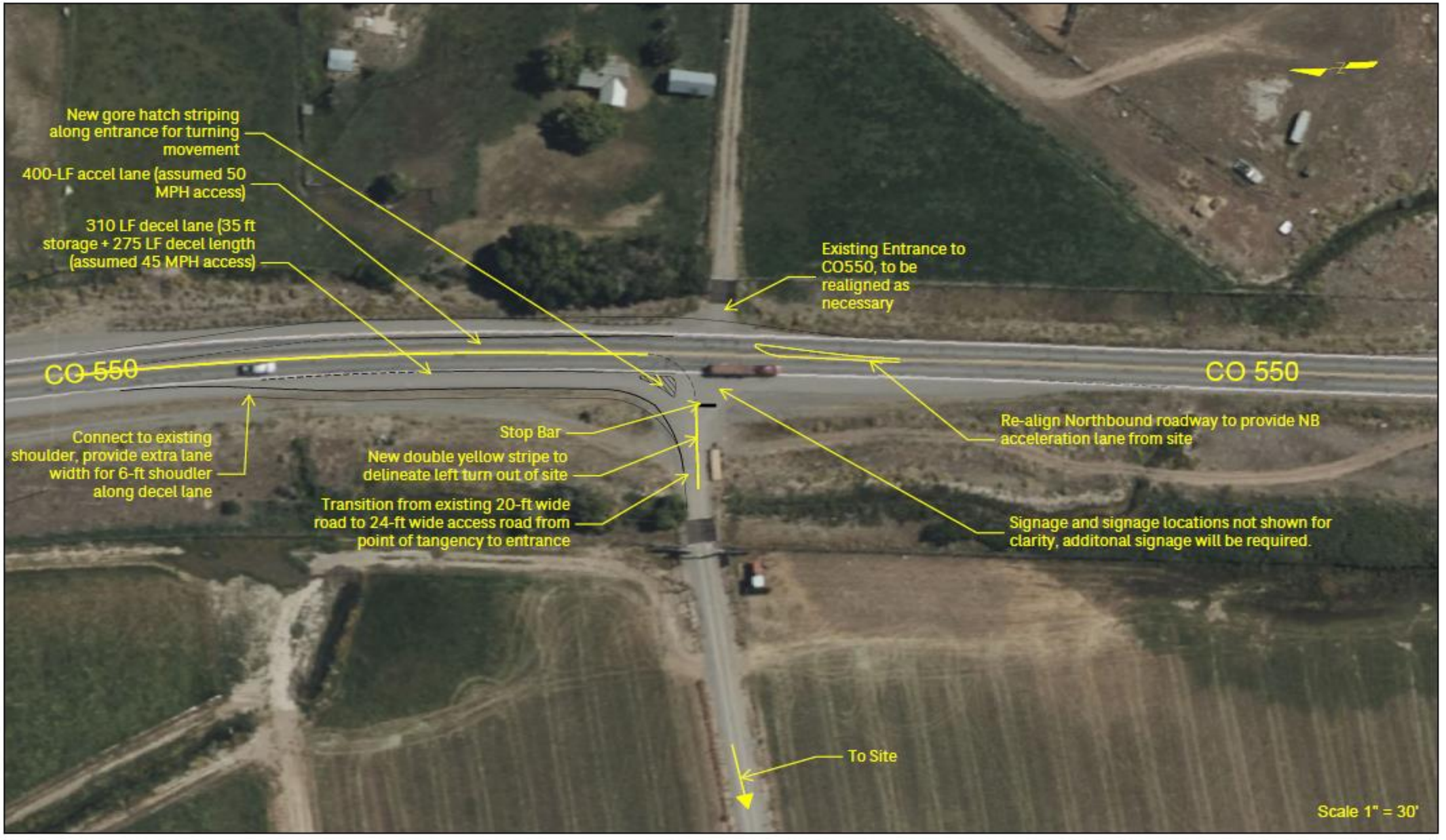
The Proposed Location:

- *50 Acre site*
- *Proposed building site located off the HWY-550 corridor but with dedicated access*
- *Fractured sandstone at back of property allows a firm foundation and is excavatable*
- *Topography offers the ability to reduce costs associated with pumping*

The Ridgway WTP would be set back from HWY 550 to protect the area's scenic and agricultural character.

The project team is currently evaluating design concepts to optimize the site layout – both to reduce construction costs and to protect the scenic skyline as seen from US-550

One option is to build the new WTP into the side of a sandstone bench, which would require only a single level of visible construction at the top. We are currently evaluating whether a drinking water storage tank is necessary for the WTP.

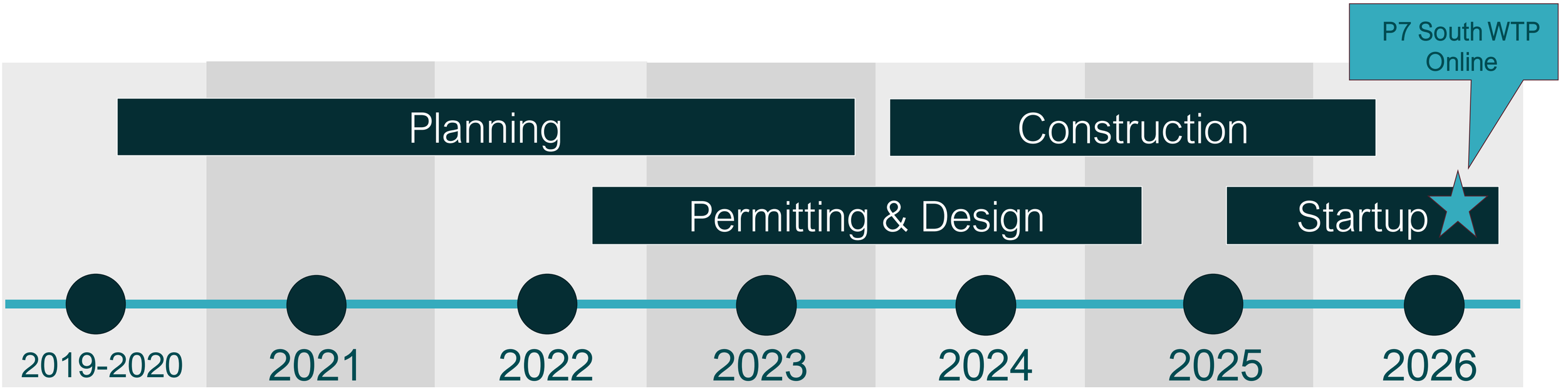


CDM Smith	P7 WATER TREATMENT PLANT	06/21/2023	SITE ENTRANCE EXHIBIT

Project 7 Water Authority

Program Status & Cost Estimates

The Regional Water Supply Program is expected to produce water for the Uncompahgre Valley by 2026.



The new water treatment plant will be designed so additional capacity can be added in the future.

Current Status

- Entered design/build phase with procurement and selection of:
  - Joint Venture: CDM Smith (designer) and McCarthy (builder)
- Completed evaluation of three treatment alternatives
  1. Pellet Softening Reactors/Ultrafiltration
  2. Ultrafiltration/Low Recovery Nanofiltration/River Discharge
  3. Ultrafiltration/High Recovery Nanofiltration/Injection Well
- Project 7 selected Pellet Softening Reactors with Ultrafiltration
- Refining conceptual cost estimates and potential cost saving items

→Determine base project to take into Basis of Design Report phase

Alternatives Analysis: Cost Estimation

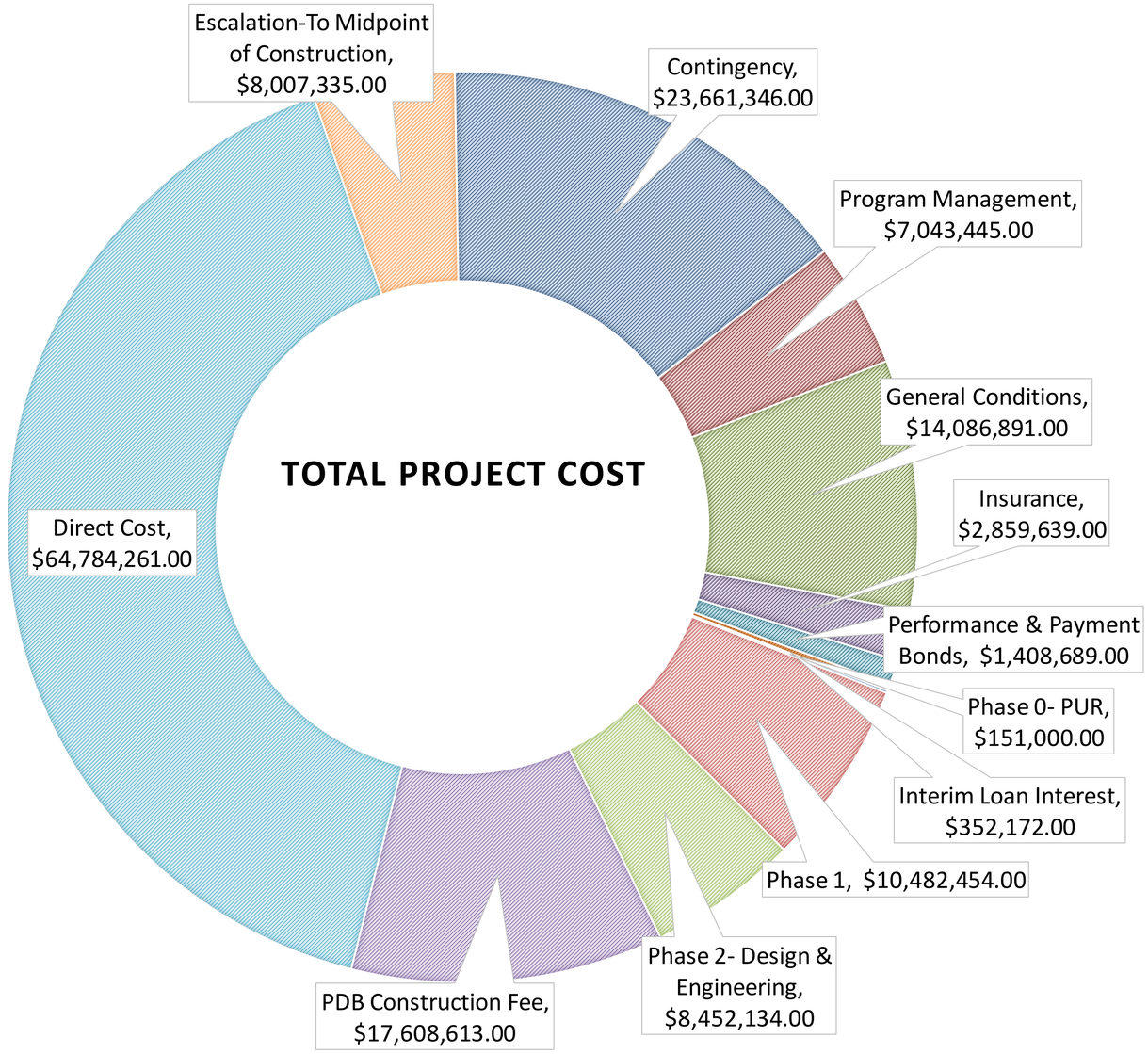
- Alternative 1: Pellet Softening Reactor - $159.5M
- Alternative 2: Low Recovery Membrane Softening - $153.3M
- Alternative 3: High Recovery Membrane Softening - $177.6M

Table 13: Capital Cost Comparison

Item		Alternative 1	Alternative 2	Alternative 3
Direct Construction Costs				
Building		$4,509,895	$4,509,895	$4,509,895
Chemicals		$3,642,384	$2,927,152	$2,927,152
PSR		$11,612,781	N/A	N/A
UF		$6,771,523	$7,038,079	$7,304,636
NF		N/A	$9,016,556	$9,314,570
Storage Tank		$3,200,713	$3,200,713	$3,200,713
Residuals		$3,343,882	$3,675,007	$13,723,386
Raw Water Pipeline		$14,659,513	$14,659,513	$14,659,513
Finished Water Pipeline		$17,043,570	$17,043,570	$17,043,570
Total Direct Costs		*$64,784,261*	*$62,070,485*	*$72,683,435*
Indirect Construction Costs				
General Conditions		$14,086,891	$13,496,799	$15,804,512
Contingencies	30%	$23,661,346	$22,670,185	$26,546,384
Escalation (to midpoint of construction)	12.4%	$8,007,335	$7,671,912	$8,983,673
Insurance	2.03%	$2,859,639	$2,739,912	$3,208,316
Bonds	1%	$1,408,689	$1,349,680	$1,580,451
Fee	12.5%	$17,608,613	$16,870,999	$19,755,640
Design & Engineering (Phase 2)	6%	$8,452,134	$8,098,079	$9,482,707
Prelim Construction Estimate		*$140,868,908*	*$134,967,989*	*$158,045,117*
Other Project Costs				
Phase 0 & 1		$11,237,775	$11,237,775	$11,237,775
Interim Loan Interest	0.25%	$352,172	$337,420	$395,113
City Admin Fees		TBD	TBD	TBD
Program Management	5%	$7,043,445	$6,748,399	$7,902,256
Owner Contingency		TBD	TBD	TBD
Other Project Costs		*$18,633,393*	*$18,323,594*	*$19,535,144*
Total Program Cost		***$159,502,300***	***$153,291,583***	***$177,580,261***

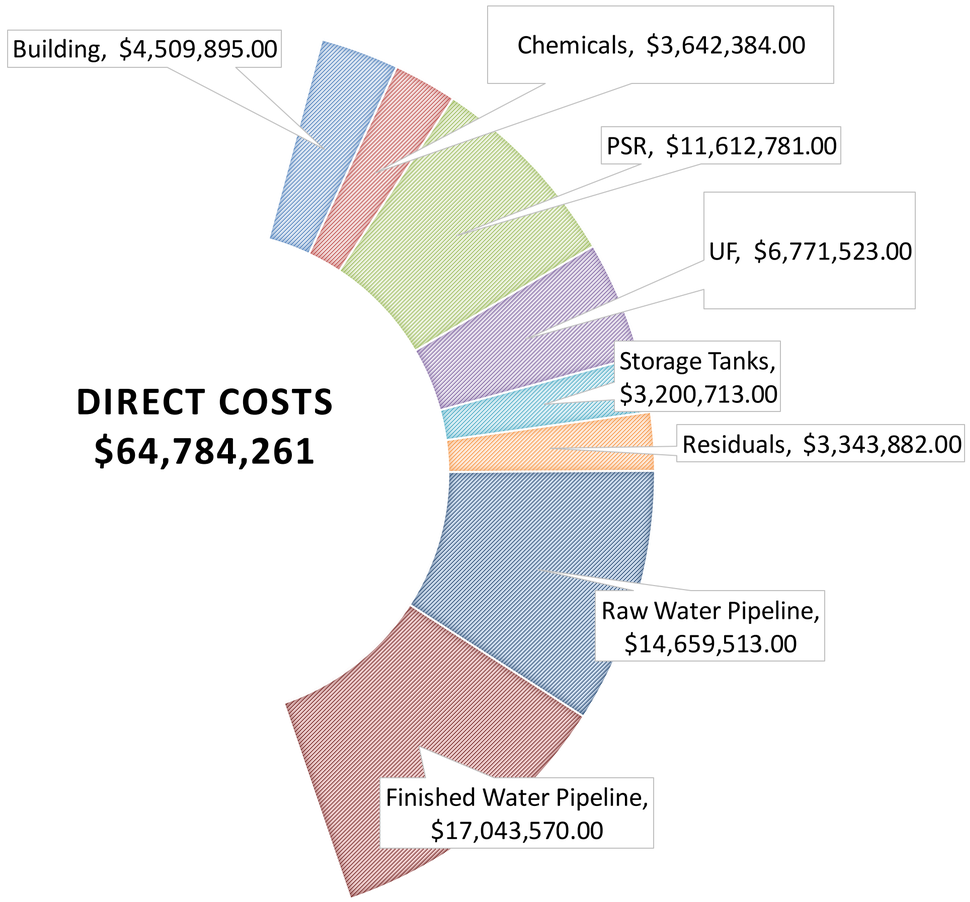
Total Program Cost Estimate by Category

Category	Cost	
Phase 0- PUR	$	151,000.00
Phase 1	$	10,482,454.00
Phase 2- Design & Engineering	$	8,452,134.00
PDB Construction Fee	$	17,608,613.00
Direct Cost	$	64,784,261.00
Escalation-To Midpoint of Construction	$	8,007,335.00
Contingency	$	23,661,346.00
Program Management	$	7,043,445.00
General Conditions	$	14,086,891.00
Insurance	$	2,859,639.00
Performance & Payment Bonds	$	1,408,689.00
Interim Loan Interest	$	352,172.00
Total Cost	$	158,897,979.00



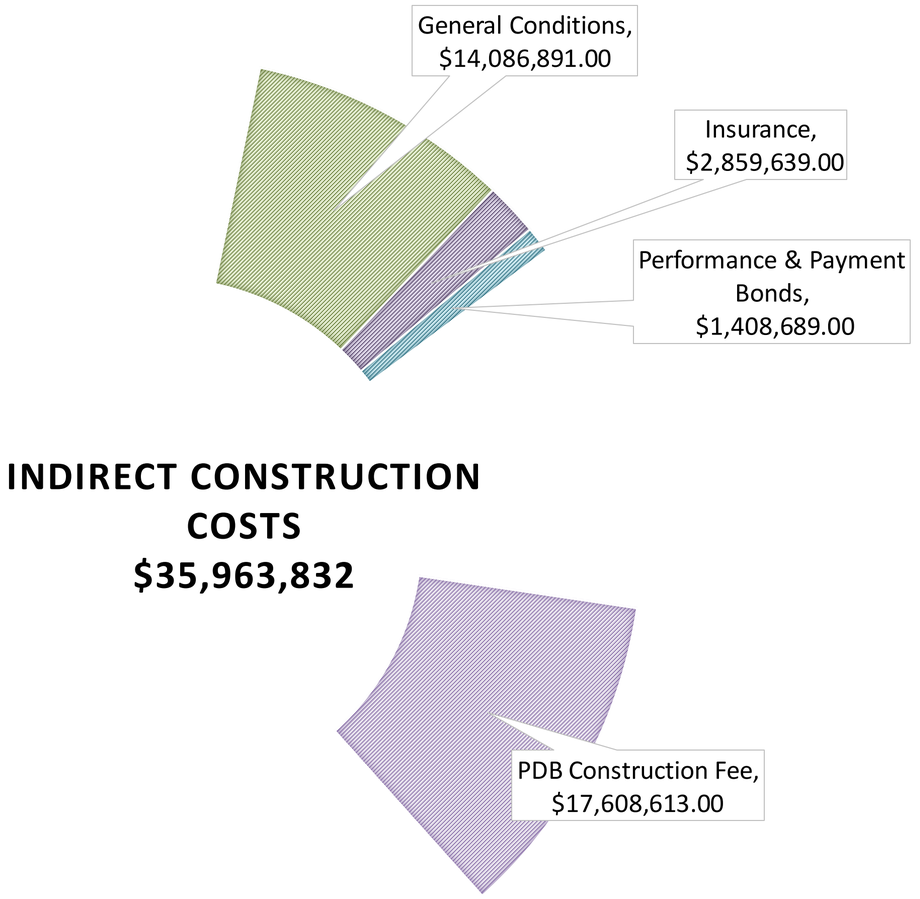
Direct Costs

Category	Cost	
Building	$	4,509,895.00
Chemicals	$	3,642,384.00
Rapid Mix (currently not required)	N/A	
Flocculation/ Sedimentation (currently not required)	N/A	
PSR	$	11,612,781.00
UF	$	6,771,523.00
UV (currently not required)	N/A	
Ozone (currently not required)	N/A	
PFAS (currently not required)	N/A	
Storage Tanks	$	3,200,713.00
Residuals	$	3,343,882.00
Raw Water Pipeline	$	14,659,513.00
Finished Water Pipeline	$	17,043,570.00
Total Cost	$	64,784,261.00



Indirect Construction Costs

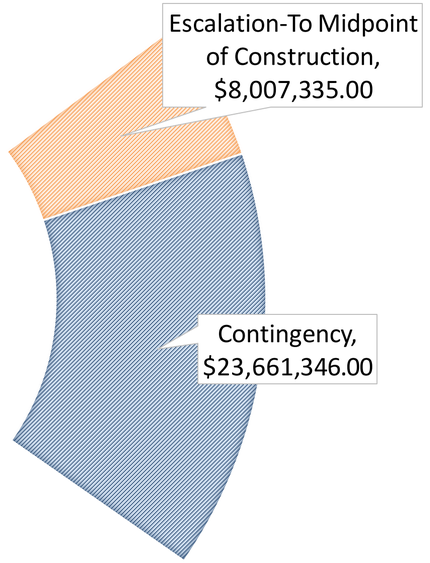
Category	Cost	
PDB Construction Fee	$	17,608,613.00
General Conditions	$	14,086,891.00
Insurance	$	2,859,639.00
Performance & Payment Bonds	$	1,408,689.00
Total Cost	$	35,963,832.00



Contingencies and Escalation

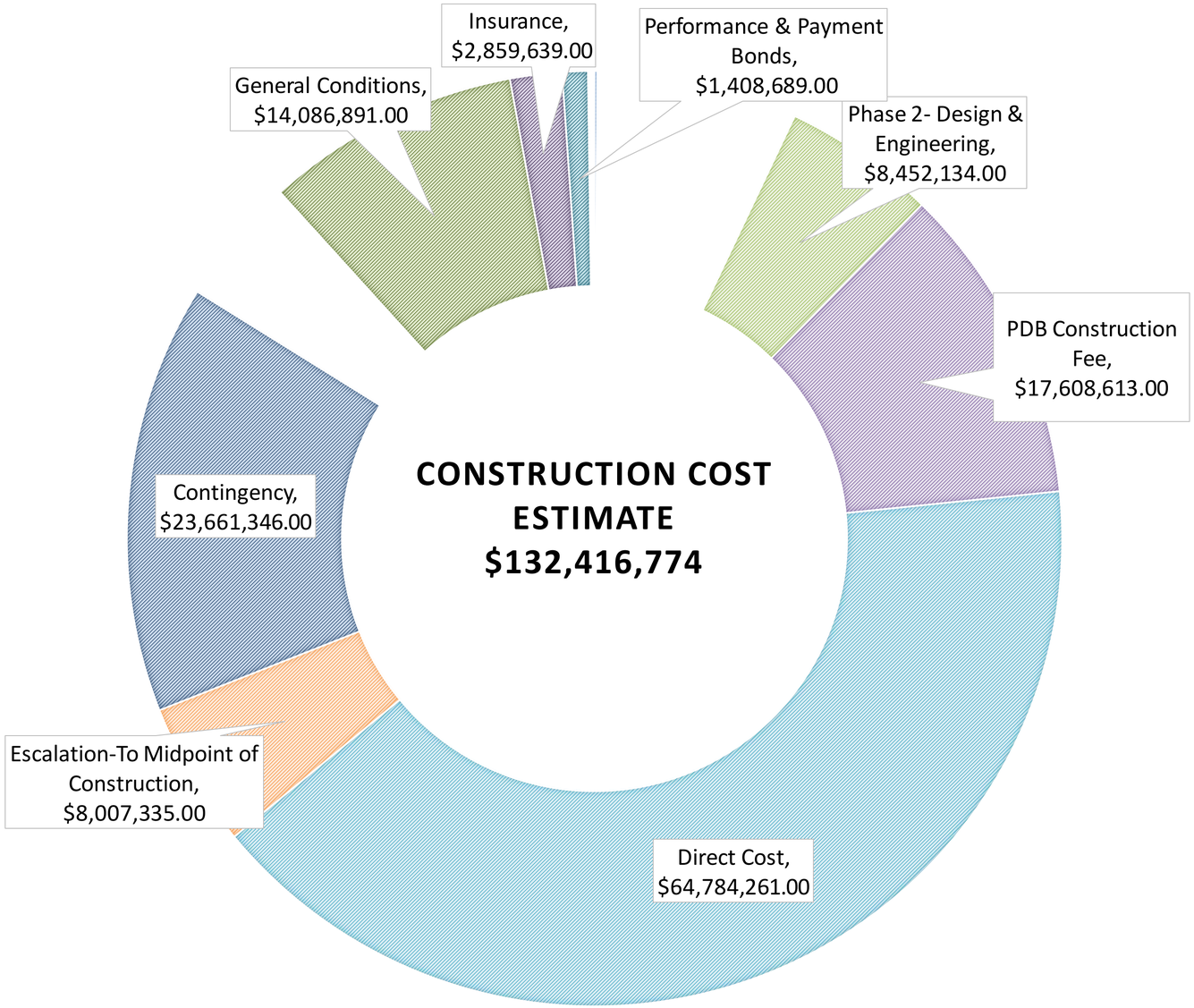
Category	Cost	
Contingency	$	23,661,346.00
Escalation to Midpoint of Construction	$	8,007,335.00
Total Cost	$	31,668,681.00

CONTINGENCY & ESCALATION
$31,668,681



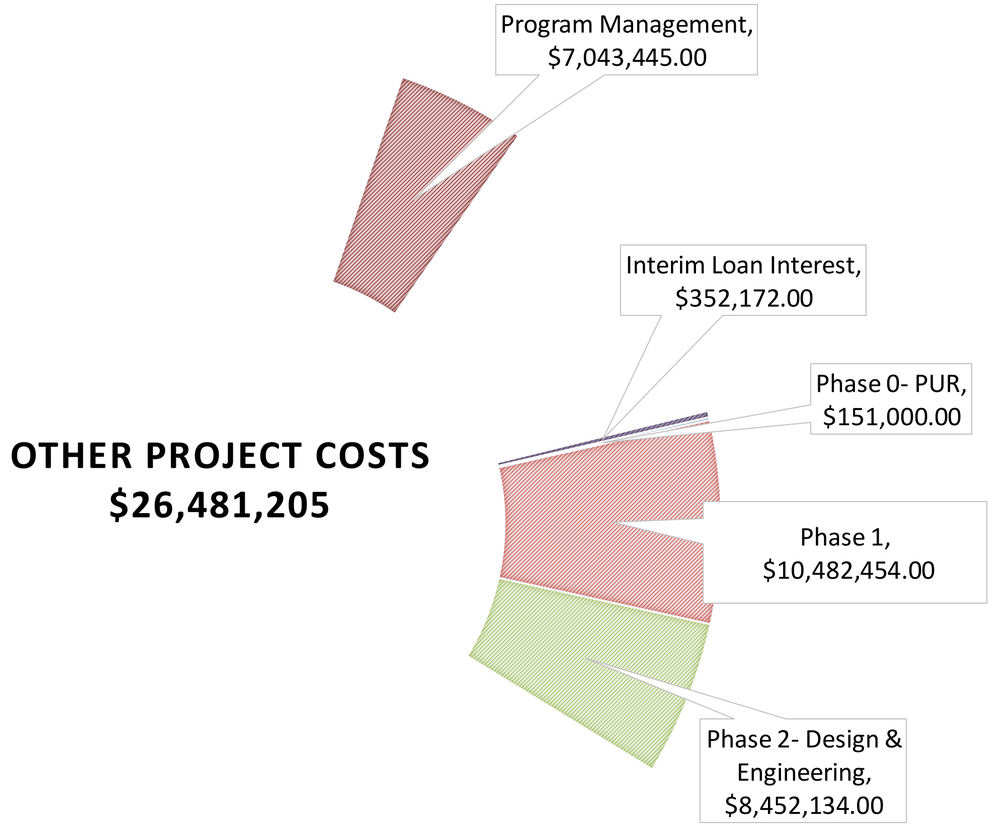
Construction Cost Estimate

Category	Cost	
PDB Construction Fee	$	17,608,613.00
Direct Cost	$	64,784,261.00
Escalation-To Midpoint of Construction	$	8,007,335.00
Contingency	$	23,661,346.00
General Conditions	$	14,086,891.00
Insurance	$	2,859,639.00
Performance & Payment Bonds	$	1,408,689.00
Total Cost	$	132,416,774.00



Other Project Costs

Category	Cost	
Phase 0- PUR	$	151,000.00
Phase 1	$	10,482,454.00
Phase 2- Design & Engineering	$	8,452,134.00
Program Management	$	7,043,445.00
Interim Loan Interest	$	352,172.00
Total Cost	$	26,481,205.00



Total Program Cost Estimate by Category

Category	Cost	
Phase 0- PUR	$	151,000.00
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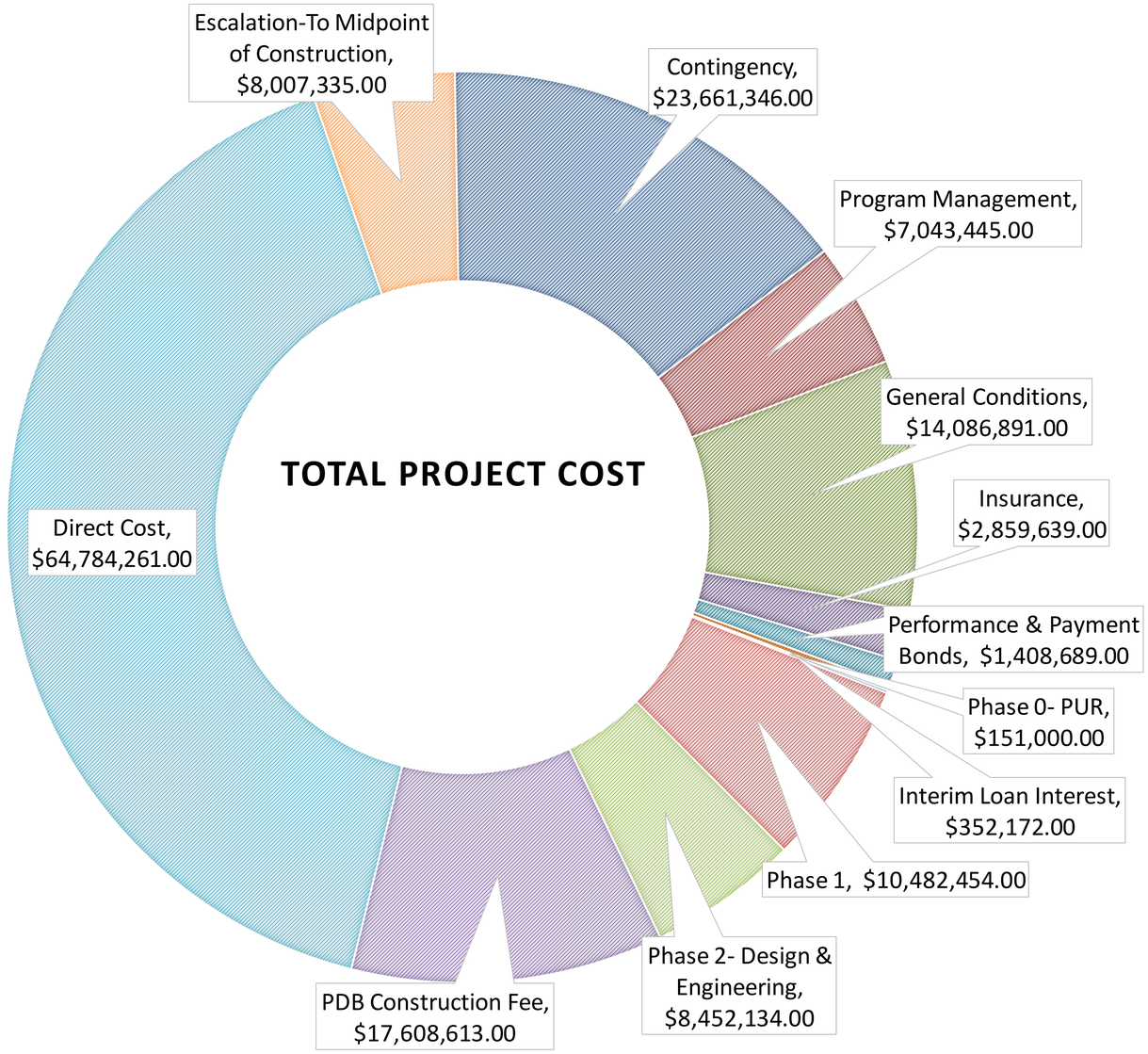
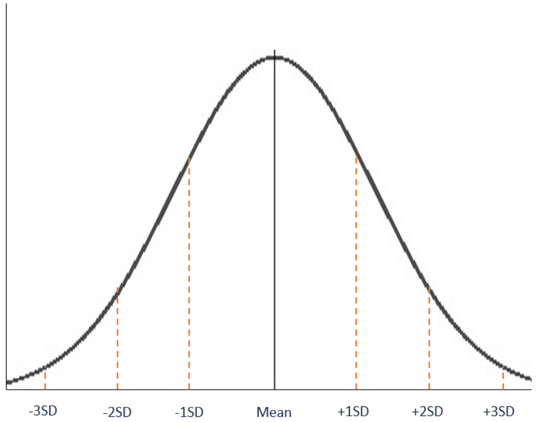
Total Cost	$	158,897,979.00



Contingencies



Ability to push left by choices

Some choices, some uncertainty

Unidentified Scope (aesthetics, options, preferences)

+

Unknown Designs (structural systems, building footprint)

+

Uncertainty (future market, site conditions, etc.)

=

Contingency

Making sure enough funding is available to cover uncertainty

Leveraging the Increased Project Cost Estimates

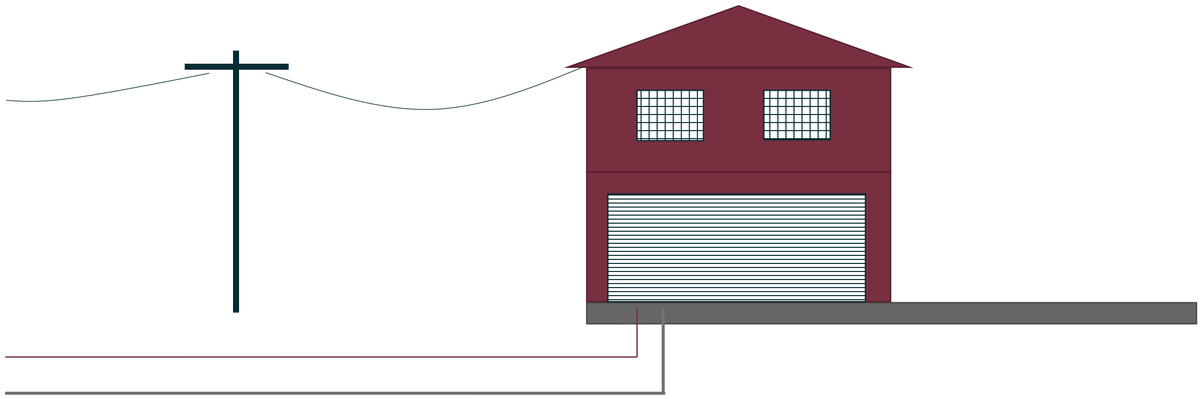
- Increases documented funding need for project
- Requesting higher loan amount
- Grants shows larger need

Cost Estimation:
Next Steps

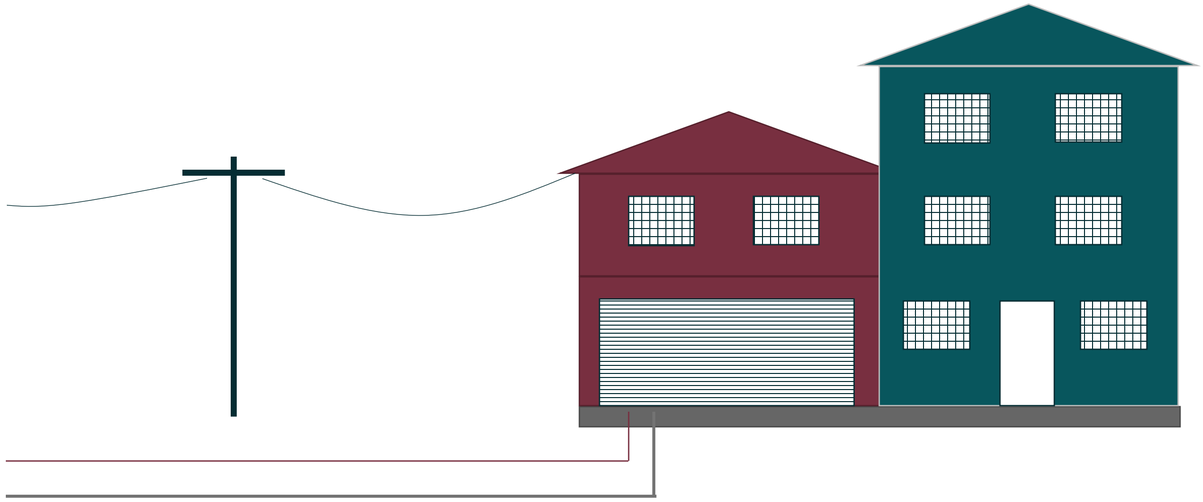
- Begin detailed design on Alternative 1 – through 30%
- Bend the cost curve “to the left” in each decision
- Build a strong foundation for the future

Setting P7WA up for future flexibility

Today - Foundation



Tomorrow - Buildout



Project 7 Water Authority

Rate Study & Funding Strategy

THE PROJECT 7 RESILIENCY PROGRAM

Spring 2023: Governing Body Updates

PEER RATE STUDY

2021 Rate Study (Updated to 2023 for 16% Inflation)

- **P7WA Entities Combined:** 32nd Percentile currently
  (based on estimated average retail rates)

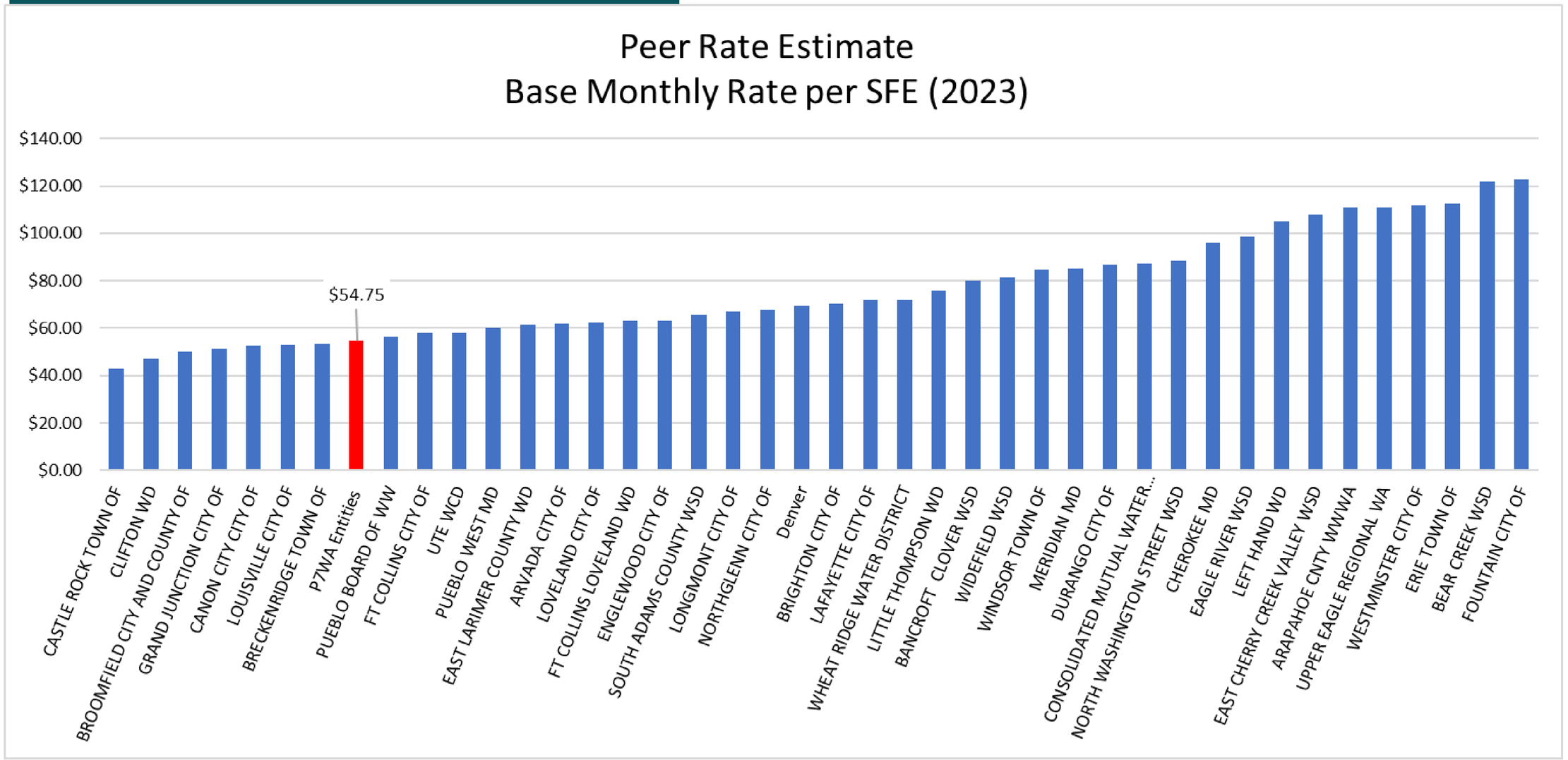
Projected Standing 2028 – Peer Systems Updated

Assumed annual inflationary increase of 4% on all retail water rates. Projected retail rate with wholesale water purchases from P7 increased to $4.20/kGal. No grant funding/principal forgiveness.

- **P7WA Entities Combined:** Projected 70th percentile currently
  (based on estimated average retail rates)

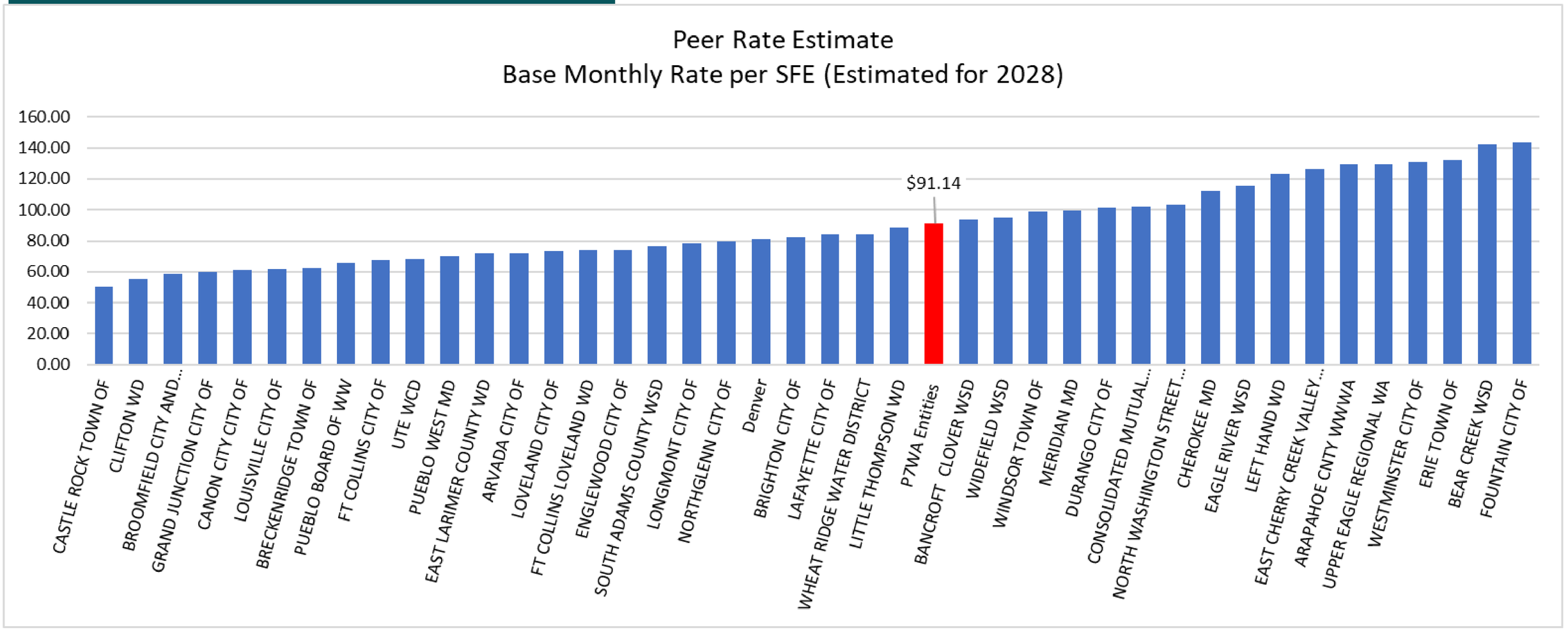
Peer System Rate Comparison: 2023 + inflation

P7WA entity rate shown below is estimated based on projected retail water rate, not Project 7 wholesale rate.



Peer System Rate Comparison: 2028 worst-case projection

P7WA entity rate shown below is estimated based on projected retail water rate, not Project 7 wholesale rate.



Project Cost Scenarios

Scenario 1

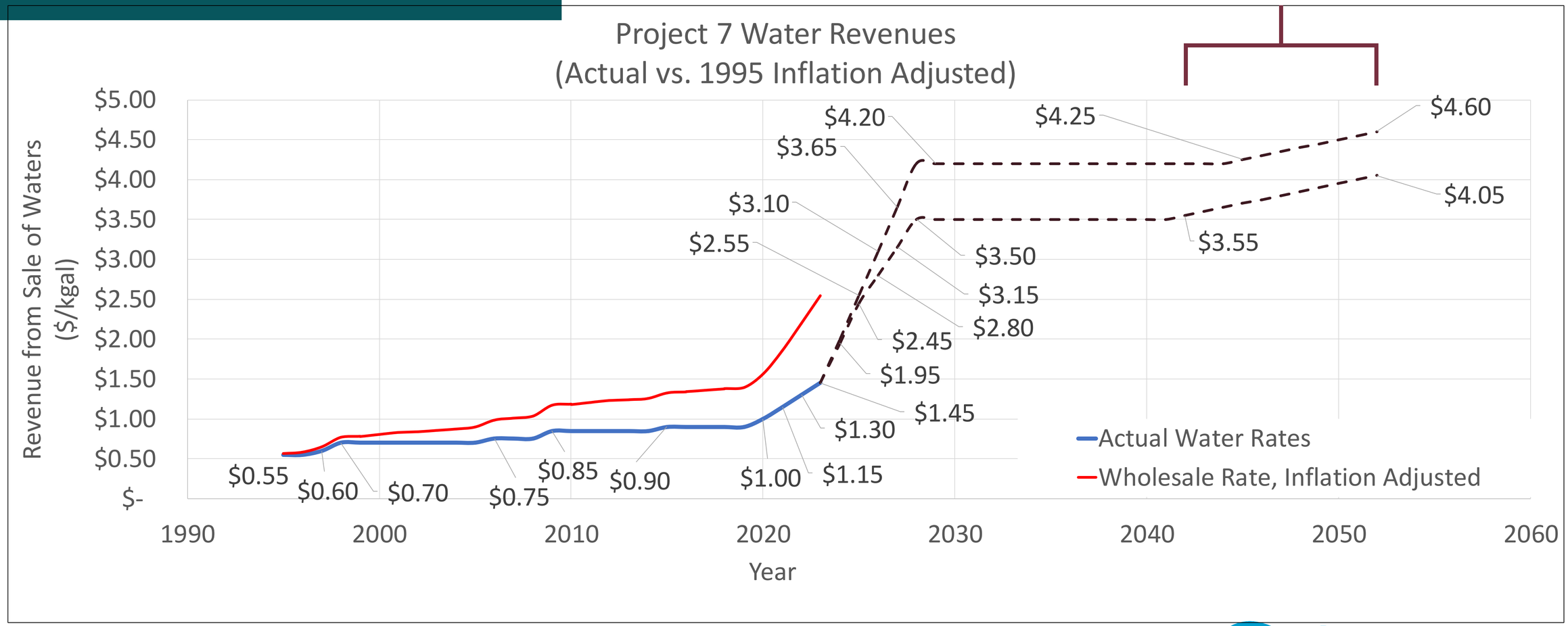
- Project Cost $120 million
- Preliminary cost estimate and target goal
- Does not include significant contingency as a result of an unpredictable market

Scenario 2

- Project Cost $159 million
- Provides buffering for unforeseen shifts in the market
- Provides an opportunity to request additional loan amounts
- Showcases need for grant pursuits

Historical Revenue versus Inflation

Revenue Increase for Debt Service Coverage *(worst-case scenario, no outside funding)*



Financial Planning: Next Steps

- Project 7 Board of Directors Meeting: June 22
  - Consider two future rate adjustments
  - $0.50 increases in 2024 and 2025
- Allocated for capital reserve requirements and debt service coverage
- Opportunity to flatten future adjustments with cost reductions and grant funding

Funding Strategy & Value of Water

- **Maximize outside funding** to multiply every dollar contributed locally
- **Strong candidate for federal/state grants**; however, a local match is required by increasing the price of wholesale water
- **Match the inflation adjusted value of water**; 40+ years of efficient management has allowed us to keep rates below inflation adjusted levels
- **Fund the region's future water needs**, while simultaneously keeping rates low by correcting for deferred inflation
- **Bottom Line:** Now is the time to reinvest in a secure regional water supply for future generations…***so the next 40-years are as strong as the past 40-years***

Project 7: Regional Water Supply Program	Funding Contribution*
Estimate of Total Program Costs* (Total cost dependent on final design and inflationary/market conditions)	**$120 - $159 million**
Low-Interest Loans* **Primary funding mechanism, provides structured and subsidized construction loans.** State Revolving Fund Loan: $80 million (with potential for $5M principal forgiveness) EPA WIFIA Loan: Up to $79 million	**Up to $159 million** *(up to 100% of project cost)*
Project 7 Capital Reserves** Required to meet near-term debt service for low-interest project development loan/s. Funded with revenue increases.	**$TBD** *(based on annual cash flow)*
Project 7 Operating Revenue: Increased revenue per 1,000 gallons sold will be used to fund early project costs and build Capital Reserves early in the project. After construction some of Project 7's annual revenue will be used to service low-interest loans.	**Up to 10% of project cost, or $16M**
Grant Opportunities*** (Bureau of Reclamation Title XVI, State Revolving Fund Principal Forgiveness, Congressionally Directed Spending, EDA, DOLA, CDPHE, etc.)	**Up to $40M / Awarded: $687,059** *(up to 25% of project cost)*

**preliminary estimates subject to change / **potential local funding sources shown for planning purposes only / ***future grant awards will be applied towards loan and revenue/fee amounts*

Program Cost and Funding Projections

DEFINING SUCCESS:

Program leadership regularly meets with all Project 7 voting members to track progress towards common definitions of success.

System Strength: "We are part of the whole and we want the whole system to be strong."

Predictable Budgeting: Transparent cost sharing agreements must be established. "We need real numbers and specifics on how this is going to work."

Return on Investment: "What size is the right size to provide maximum value on day one."

Long-Term: "Twenty years from now this will be a bump in the road, but a water shortage is remembered forever."

Value of Water: "The founding investment in Project 7 yielded huge regional benefits. Now is the time to reinvest. No one wants to be the generation that drops the ball."

Get Involved

1. **Upcoming events:**
   Community Town Hall (Summer/Fall 2023)

2. **Schedule a tour:**
   Existing facility and/or new site

3. **Learn More:**
   www.Project7water.org

4. **Contact Us:**
   Project7@Montrose.net

Questions?

Project 7 Water Authority