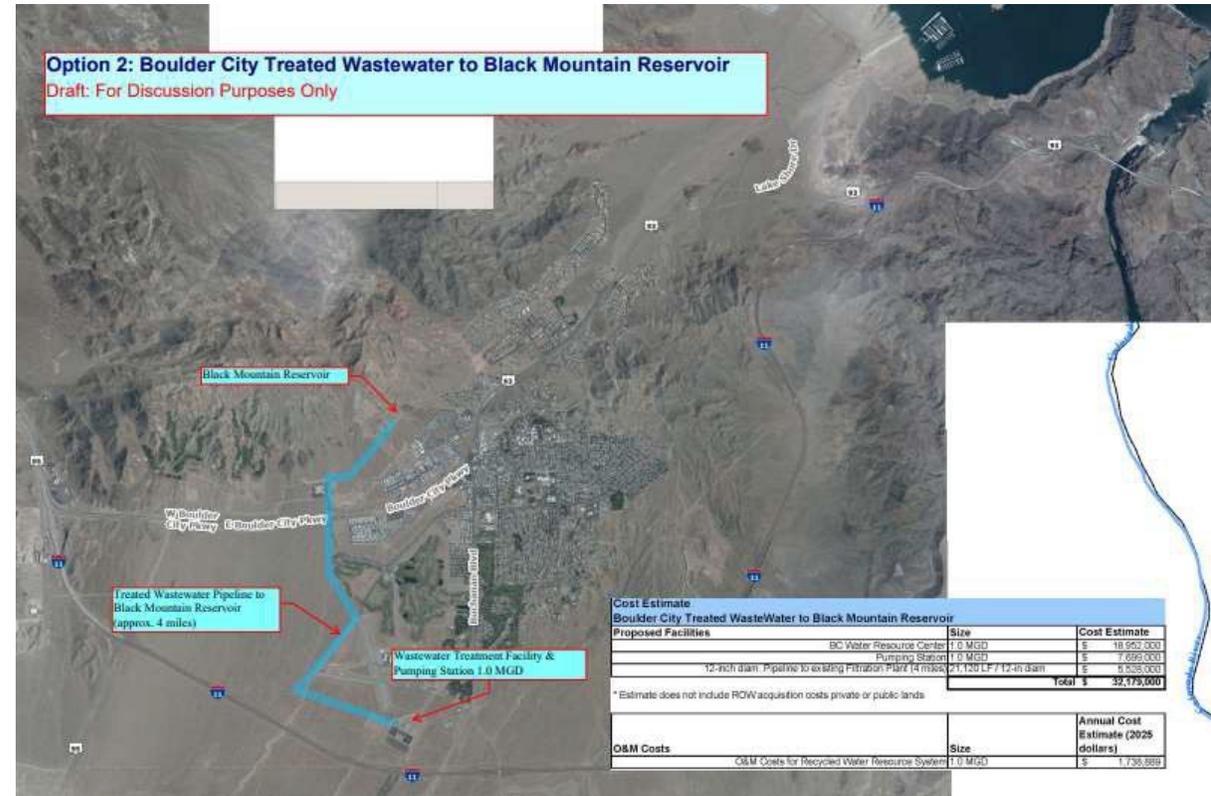


2 DIRECT REUSE – DESCRIPTION OF ALTERNATIVE



Key System Components:

- Wastewater Treatment Facility and Pumping Station (1 MGD capacity)
- Treated Wastewater Pipeline (~ 21,000 linear feet)



From SNWA

www.bcnv.org

2 DIRECT REUSE FOR IRRIGATION – KEY CONSIDERATIONS



- Provides 100 percent utilization of treated effluent
- Does not require operating agreements with other local municipalities
- Requires wastewater treatment plant upgrade/replacement (improved water quality effluent needed for irrigation)
- Involves repurposing existing raw water line, blending potable and treated wastewater for irrigation
- Allows potential repurposing of existing raw water transmission system as potable system back-up
- Water quality implications of using high TDS treated wastewater during winter require monitoring and management at the end user level

2 DIRECT REUSE – ASSUMPTIONS



- **Boulder City Golf Course will reduce irrigation usage to 4 af/ac**
(Combination of warm-season turf utilization and improved irrigation practices; water demand by month will reflect practices for non-overseeded warm-season grasses)
- **Boulder Creek Golf Course will reduce irrigation usage to 4 af/ac**
(Combination of turf/pond reduction and improved irrigation practices - already warm season with no overseeding)
- **Veteran's Memorial Park and Veteran's Cemetery will reduce water by 20% by the time project is operational**
(Convert non-functional and marginal grass areas to drip-irrigated landscaping, improve irrigation efficiency, and/or potentially convert turf areas to warm-season varieties)
- **100% of effluent will be used in low-irrigation months**
The direct reuse option utilizes the entirety of the raw water irrigation network. During shoulder and peak seasons, supplemental raw water will be needed, mitigating water quality issues.

From SNWA

www.bcnv.org

2 DIRECT REUSE – ESTIMATED COSTS

Cost Estimate Boulder City Treated WasteWater to Black Mountain Reservoir		
Proposed Facilities	Size	Cost Estimate
BC Water Resource Center	1.0 MGD	\$ 18,952,000
Pumping Station	1.0 MGD	\$ 7,699,000
12-inch diam. Pipeline to existing Filtration Plant (4 miles)	21,120 LF / 12-in diam	\$ 5,528,000
Total		\$ 32,179,000

* Estimate does not include ROW acquisition costs private or public lands

O&M Costs	Size	Annual Cost Estimate (2025 dollars)
O&M Costs for Recycled Water Resource System	1.0 MGD	\$ 1,738,889

DIRECT REUSE KEY POINTS



- SNWA has agreed to pay up to \$26 million for capital costs
- \$6,179,000 estimated capital costs by Boulder City
- Additional certifications needed for operators (Grade 3)
- Ongoing maintenance considerations for parks and golf
- Existing main raw line could be repurposed to potable