



Public Works Department

Administration

300 6th Street Rapid City, SD 57701-5035

Telephone: (605) 394-4165

www.rcgov.org

MEMORANDUM

DATE: December 14, 2023

FROM: Stacey Titus, Assistant Public Works Director

RE: **Capital Projects for Water and Water Reclamation Divisions, supported by rate schedule**

A number of vital, high value projects are required to support the resiliency of our systems, as well as ensure regulatory compliance and adequate capacity for future growth. While the Utility continuously improves operations and implements efficiencies, it is prudent to invest in pro-active improvements to the assets to maintain the overall value of the utility. Deferring these high value projects delays the costs to the next adjustment when the rates are reevaluated in five years, as required by the Financial and Rate Setting Policy previously adopted by City Council. Deferring these investments will translate into future rate adjustments at even higher costs. Below is a list of high-priority projects that are included in the proposed rate schedule:

Standalone Water Reclamation Facility (WRF) Projects:

- **WRF South Plant Improvement Phase 1, CIP 51129** – Under Construction – Estimated cost \$15M - \$15M SRF loan/grant. Project basis: 2016 Facility Plan – Existing plant has exceeded its design life. Maintenance and parts are extremely difficult to source, regulatory compliance is becoming challenging and future regulations will not be achievable. **WRF South Plant Phase 2 Upgrades, CIP 51129.2** – Proposed Bid opening March/April 2024 – Probable cost \$165M – \$165M SRF loan/grant. Project basis: 2016 Facility Plan – Existing plant has exceeded its design life. Maintenance and parts are extremely difficult to source, regulatory compliance is becoming challenging and future regulations will not be achievable.
- **WRF Operation's Facility Improvements, CIP 51420** – Proposed Bid Opening 2026 – Probable Cost \$70M - \$70M SRF loan/grant. Project Basis: Create a combined maintenance facility for Water Reclamation Maintenance and Operations at a single location to improve efficiency and resource management. This project includes laboratory upgrades to meet existing and emerging regulations, and to stay current with technology. Expands office space and locker facilities to adequately handle staffing requirements. Project includes two remote equipment

buildings to allow for staging of critical equipment at strategic locations within the City. Remote sites will likely be co-located with Water.

- **Jolly Lane Sanitary Trunk Sewer Extension - Jolly Lane to Reservoir Road, CIP 51005** – Proposed Bid Opening 2025 – Probable Cost \$10.6M - \$10.2M SRF loan/grant. Project Basis: This project extends sanitary sewer trunk main (Southside Trunk Sewer) approximately 9,000 linear feet from Jolly Lane, near the Elks Club Lift Station, to Reservoir Road. The Jolly Lane Lift Station is nearing its hydraulic capacity due to development and has achieved its design life. This main allows the lift station to be abandoned. Rapid City has been experiencing significant growth over recent years. This project is key to reducing the flows in the existing 42" trunk sewer and allows for targeted growth in Rapid City by freeing up capacity in the 42" trunk sewer, refer to CIP 51093.
- **Elks Country Subdivision Sanitary Sewer Extension - SD 44 to Elks Club Lift Station, CIP 51093** – Proposed Bid Opening 2027 – Probable Cost \$5.4M - \$5.4M SRF loan/grant. Project Basis: This project extends up to 7,000 linear feet of 30" sanitary sewer trunk main from near the intersection of Jolly Lane and SD 44 to the Elks Club Lift Station location. Rapid City has been experiencing significant growth over recent years. This project is key to reducing the flows in the existing current 42" trunk sewer and allowing for targeted growth in Rapid City by freeing up capacity in the 42" trunk sewer.

Standalone Water Facility Projects:

- **Rapid City East Side Surface Water Treatment Facility, CIP 51396.1** – Proposed Bid Opening 2026 – Probable Cost \$110.5M - \$110.0M SRF loan/grant. Project Basis: Existing Mt. View WTP has exceeded its design life and replacement parts are obsolete or unavailable. The project constructs a surface water plant utilizing Rapid Creek as the water source and is intended to partially replace the Mountain View WTP. This project is necessary to provide system resiliency and meet the City's increasing water demands in the eastern and southern portions of the City.
- **Rapid City Mt View Water Treatment and Maintenance Facility, CIP 51396.2** – Proposed Bid Opening 2028 – Probable Cost \$165.5M - \$165.0M SRF loan/grant. Project Basis: Existing Mt View WTP has exceeded its design life and is in desperate need of replacement. The project constructs a surface water plant utilizing Rapid Creek as the water source and is intended to finish replacing the Mountain View WTP. This project is necessary to provide system resiliency and meet the City's increasing water demands. The project will consider the incorporation of Missouri River Water too. This project also includes creating a combined maintenance facility for Water Maintenance and Operations at a single location to improve efficiency and resource management. This project will include laboratory upgrades to meet existing and emerging regulations and to stay current with technology. Improvements for office space and locker facilities, to adequately handle staffing requirements, is another component. Project includes two remote equipment buildings to allow for staging of critical equipment at strategic locations within the City. Remote sites will likely be co-located with Water Reclamation.

- **Pinelawn Reservoir Construction, CIP 50451** – Proposed Bid Opening 2027 – Probable Cost \$9.6M - \$9.25M SRF loan/grant. Project Basis: This project is for construction of the new 1.0 - 2.0 million-gallon Pinelawn Reservoir as identified in the 2008 Utility System Master Plan. The current Master Plan (2019) identifies this reservoir a 1.0 MG, although additional capacity would benefit the community, if cost savings can be realized. This project may include a new booster station and approximately 2,000 feet of 20" transmission main.
- **Palo Verde Reservoir Replacement, CIP 50968** – Proposed Bid Opening 2026 – Probable Cost \$7.5M - \$7.25M SRF loan/grant. Project Basis: This project replaces the current the Palo Verde Reservoir. Operations staff has seen an uptick in maintenance associated with deterioration of the reservoir. Reservoir has exceeded design life and maintenance is problematic and expensive. The 2019 Master Plan indicates that the existing storage volume of 1.0 MG is adequate but the existing location is problematic as the site is small and access is very limited. Relocation allows for better maintenance and access.
- **Shepherd Hills Water Booster Pump Station, CIP 51338** – Bid Opening 12/12/24 – Probable Cost \$6.3M – \$5.8M Rate funded. Project Basis: The project is Developer driven to sustain growth and provide water system redundancy/resiliency. The booster station will be located near the intersection of Anamosa St. and E. Philadelphia St as part of Tax Increment District #84.
- **High Level Elk Vale Reservoir and Water Main Construction, CIP 50474** – Proposed Bid Opening 2027 – Probable Cost \$6.75M - \$6.5M SRF loan/grant. Project Basis: A new North Rapid Elk Vale reservoir is recommended to accommodate near term and future growth and development; provide operational, fire, and emergency storage volume; ensure greater system reliability; and facilitate improved operations. Note: Storage is an integral component of the Shepard Hills Booster Station Project and assumes construction of the 1.5 MG High-Level Elk Vale Reservoir. Total storage recommendation in the 2019 Master Plan calls for 4.0 MG but recommendation is to complete this project in 2 phases, completing 1.5MG storage in Phase 1.
- **Selador Ranch Reservoir Construction, CIP 50289** – Proposed Bid Opening 2026 – Probable Cost \$7.9M - \$7.5M SRF loan/grant. Project Basis: This project is for the construction of the Selador Ranch Reservoir. The project includes the construction of a new 2-3-million-gallon reservoir to service the new Selador pressure zone above the Red Rocks Pressure Zone. Currently, customers are provided service by a constant pressure system so storage is critical long term to serve upper pressure zone in Red Rock Estates and surrounding undeveloped areas. The 2008 master plan noted storage of 750,000 gals although the 2019 Master Plan indicates the need for 1.2 MG storage capacity. Recent development proposals are reflecting higher densities than what was assumed in the 2019 MP.
- **Rapid City Groundwater Supply Improvements, CIP 50805.1** – Proposed Bid Opening 2024 – Probable Cost \$12M \$12M Rate funded. Project Basis: The City has recently had several wells that were developed in the late 80's and 90's develop maintenance issues. Parts and supply chain have become problematic and Operations became aware that groundwater source reliability was not as strong as originally thought and more redundancy was necessary. The City

utilizes a balanced portfolio of water rights (surface water and groundwater). The City last constructed a groundwater well in the early 2000's. Additional water sources in the City's groundwater sources will result in more resiliency and redundancy. This project consists of abandonment of Well 1, improvement and rehabilitation of Wells 4 and 13, and construction of new Well 14.

Combination (Streets, Drainage, Water, and Sanitary Sewer) Projects:

- **Wonderland Drive Reconstruction Phase 2 - Ponderosa Ct to Starlite Dr, CIP 51070.2** – Proposed Bid Opening 2028 – Probable Cost \$3.1M (\$1.75M Rate funded from sewer and water rates. The balance of the project is funded from streets and drainage.) Project Basis: The Wonderland Drive neighborhood is a Water source protection area. The streets are in poor condition and have exceeded their useful life. The area has septic tanks and individual water wells. This project includes the extension of approximately 1,460 linear feet of water main and approximately 1,080 linear feet of sanitary sewer main to provide City services to adjacent properties.
- **Wonderland Drive Reconstruction Phase 3 - Starlite Dr to Rosemary Ln, CIP 51070.3** – Proposed Bid Opening 2029 – Probable Cost \$3.9M (\$1.75M Rate funded from sewer and water rates. The balance of the project is funded from streets and drainage.) Project Basis: The Wonderland Drive neighborhood is a Water source protection area. The streets are in poor condition and have exceeded their useful life. The area has septic tanks and individual water wells. This project includes the extension of approximately 1,460 linear feet of water main and approximately 1,490 linear feet of water main and approximately 1,630 linear feet of sanitary sewer main to provide City services to adjacent properties.
- **West Main Reconstruction - Jackson BLVD, West Main, Cross Street, CIP 50858** – Proposed Bid Opening 2026 – Probable Cost \$10.8M (\$2.45M Rate funded from sewer and water rates. The balance of the project is funded from streets and drainage.) Project Basis: The street and intersection has exceeded its useful life and access modifications are needed to improve the level of service. Spall repairs have temporarily extended the roadway surface life, but the PCC concrete surface needs to be replaced. Because the street is being reconstructed it is prudent to replace the water and sanitary sewer infrastructure at the same time.
- **Sioux Ave and E Saint Charles Street - Street and Utilities Improvements, CIP 51365** – Proposed Bid Opening 2024 – Probable Cost \$5.5M (\$2.55M Rate funded from sewer and water rates. The balance of the project is funded from streets and drainage.) Project Basis: This project will address aging water and sewer infrastructure and replace non-conforming utility systems with compliant systems. The infrastructure has exceeded the design life. Because of the utility works it is prudent to reconstruct the street at the same time. Street PCI of 50 or less.
- **Robbinsdale Reconstruction - E. Tallent Street and Willow Avenue, CIP 50390.5-1** – Proposed Bid Opening 2026 – Probable Cost \$4.2M (\$1.75M Rate funded from sewer and water rates. The balance of the project is funded from streets and drainage.) Project Basis: This project is

being driven by street condition (PCI 25-39) and it is prudent to replace the water and sewer infrastructure that has exceeded its useful life at the same time.

- **Robbinsdale Reconstruction - E. Oakland St, Oakland St, Lynnwood St, and Grandview Dr., CIP 50390.5-2** – Proposed Bid Opening 2027 – Probable Cost \$7.6M (\$1.9M Rate funded from sewer and water rates. The balance of the project is funded from streets and drainage.) Project Basis: This project is being driven by street condition (PCI 40-59) and it is prudent to replace the water and sewer infrastructure that has exceeded its useful life at the same time.
- **Robbinsdale Reconstruction - Cypress St, E Montana St, Maple Ave., CIP 50390.5-5** – Proposed Bid Opening 2028 – Probable Cost \$3.3M (\$0.9M Rate funded from sewer and water rates. The balance of the project is funded from streets and drainage.) Project Basis: This project is being driven by street condition (PCI 29-35) and it is prudent to replace the water and sewer infrastructure that has exceeded its useful life at the same time.
- **Robbinsdale Reconstruction - Indiana, Ivy and Iowa, CIP 50389.4-1** – Proposed Bid Opening 2029 – Probable Cost \$7.3M (\$2.4M Rate funded from sewer and water rates. The balance of the project is funded from streets and drainage.) Project Basis: This project is being driven by street condition (PCI 29-39) and it is prudent to replace the water and sewer infrastructure that has exceeded its useful life at the same time.
- **Canyon Lake Area Reconstruction - Elmhurst St, CIP 51098.1** – Proposed Bid Opening 2026 – Probable Cost \$2.5M (\$1.4M Rate funded from sewer and water rates. The balance of the project is funded from streets and drainage.) Project Basis: This project is being driven by street condition (PCI 19-23) and it is prudent to replace the water and sewer infrastructure that has exceeded its useful life at the same time.
- **Canyon Lake Area Reconstruction - 7th Ave, Cottonwood St and Minnekahta Dr, CIP 51098.2** – Proposed Bid Opening 2024 – Probable Cost \$2.3M (\$1.2M Rate funded from sewer and water rates. The balance of the project is funded from streets and drainage.) Project Basis: The project is being driven by drainage needs. The street is in marginal condition (PCI 43-68) and the existing utilities are also in marginal condition. Because the street is being reconstructed, it is prudent to replace the water and sanitary sewer infrastructure at the same time.
- **Canyon Lake Area Water Reconstruction - Dover St, 9th Ave, Cottonwood Dr and 1st Ave, CIP 51098.3** – Proposed Bid Opening 2024 – Probable Cost \$3.5M – (\$2.1M Rate funded from sewer and water rates. The balance of the project is funded from streets and drainage.) Project Basis: The project will improve the water system performance and pressure for customers in the Canyon Lake area. Because the water is being reconstructed, it is prudent and cost effective to reconstruct the street and sanitary sewer at the same time.

These projects are each of vital importance to our community and will require replacement in the near future. By deferring replacement, the City may be required to restrict development in addition to incurring additional maintenance costs in these areas. By taking a pro-active approach to replace our infrastructure, we can minimize the cost of performing emergency repairs and provide more reliable service for our rate payers.