City of Golden | Capital Improvement Plan 2023-2032 | Project Detail Sheet

| | |
|---|---|
| Completed by: | Les Major |
| Department Head Review: | Brian Tracy |
| Responsible Department: | Public Works |
| Fund: | Water #4 |

| Strategic Success Factor | Active, Connected and Sustainable | Affordable and Thriving | Safe, Inclusive and Engaged | Respected and Relational Governance | Quality Services |
|---|---|---|---|---|---|
| | | | | | X |

| | |
|---|---|
| Strategic Action | Replacement and rehabilitation of aging water distribution lines |
| Project Name | **Utility Line Replacement - Water** |

| | | | | | |
|---|---|---|---|---|---|
| **Funding Source** | Existing Grant Funds Identified for Project | Potential Grant Funds Identified | Funds Identified From Capital Project Fund | Funds Identified From Other Fund (Name) | No Identified Funding |
| | | | X | | |
| **New/Additional Revenue Generated** | Significant Ongoing Revenue Source | Small Ongoing Revenue Source | One-Time Revenue Generated | No New/Additional Revenue Generated | |
| | | | | X | |
| **Legally Mandated** | Court Decision | Regulatory Requirement | Pending Legal Action | Potential Legal Action | Normal Liability |
| | | X | | | |
| **Public Health & Safety** | Existing Severe Hazard | Existing Minor Hazard | Potential Severe Hazard | Potential Minor Hazard | No Health or Safety Issue |
| | | | | X | |
| **Operating Budget Impact** | Decreases Operating and/or Personnel Costs | Minimal or No Impact on Operating and/or Personnel Costs | Slight Increase to Operating and/or Personnel Costs | Significant Increase to Operating and/or Personnel Costs | |
| | | X | | | |
| **Environment and Sustainability** | Enhances Environment and/or Sustainability | Benefits Environment and/or Sustainabilty | No Environmental Impact | Minor or Negative Environmental Impact | Diminishes Environment |
| | | | X | | |
| **% Of Population Served** | 100% of Population Served by Project | Majority of Population Served | Approximately 50% of Population Served | Less than 50% of the Population Served | |
| | X | | | | |
| **Preservation of Facility** | Loss of Facility Imminent without Project Completion | Additional Damage Likely without Project Completion | Project Constitutes Normal Major Maintenance | Project Constitutes Normal Minor Maintenance | New Facility/ No Safety Issue |
| | | | X | | |
| **Project Useful Life** | 20+ Years With Little/No Maintenance | 20+ Years With Normal Maintenance | 10-20 Years With Normal Maintenance | 5-9 Years with Normal Maintenance | 1-4 Years with Normal Maintenance |
| | | X | | | |
| **Recreational or Aesthetic Value** | Major Value | Moderate value | No Value | Possibly Detrimental | |
| | | | X | | |
| **Estimated Frequency of Use** | Every Day | Several Times per Week | Several Times per Month | Once per Month or Less | |
| | X | | | | |

**Vision 2030 Guiding Principles Priority - (Choose One Best Fit)**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| X | (A) Safe and Reliable Public Infrastructure | | (B) Economic Vitality and Community Amenities that Improve Quality of Life | | (C) Public Safety | | (D) Other |

**Category of Capital Expenditures - (Choose One Best Fit)**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Land Improvement | | Building Improvement | | Equipment | | Vehicle | | Technology | X | Infrastructure |

**Financial Impact - Expenses**

| | Life-To-Date* | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project Costs** | | 800,000 | 800,000 | 800,000 | 986,949 | 1,026,427 | 1,067,484 | 1,110,184 | 1,154,591 | 1,200,775 | 1,248,806 | **10,195,216** |
| **On-Going Maintenance** | | | | | | | | | | | | - |
| **Total Project Costs** | - | **800,000** | **800,000** | **800,000** | **986,949** | **1,026,427** | **1,067,484** | **1,110,184** | **1,154,591** | **1,200,775** | **1,248,806** | **10,195,216** |

*Life-to-date includes any actual expenditures from start of project through July 2022 and estimates for the remainder of FY 2022

**Basis for Project Cost Estimate**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Formal Proposal | | Contractor/Engineer Estimate | | State Purchasing Co-Op | X | Staff Estimate |

**Financial Impact - Revenues**

| | Life-To-Date* | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Revenue Estimate** | | | | | | | | | | | | - |

*Life-to-date includes any actual revenue generated from start of project through July 2022 and estimates for the remainder of FY 2022

| Project Name: | Utility Line Replacement - Water |
|---|---|

| | |
|---|---|
| **Please provide details for the following:**<br>**1. Project Description**<br>**2. Justification**<br>**3. Measure of Success**<br>**4. Description of Revenue Generated (if applicable)** | The City of Golden owns 113.9 miles of water distribution mains with an expected life span of 75 years. In order to maintain the current system, approximately 1.5 miles of water main should be replaced each year. Since we have slightly over invested in water mains in recent years, the cost estimate has been calculated based on replacing 1.4 miles of water main (90% of the goal) at current contract unit costs. Increased water quality complaints, main breaks and reduced flow are used as indicators for planning replacements. ROW costs associated with cutting newer streets also drive replacement of mains that may not need replacement today but will within the next five to 10 years. A reliable and safe water distribution system is expected by the residents of Golden and this type of project ensures that. This project will not change ongoing maintenance costs for the distribution system overall, but deferred investment would result in increases to maintenance. |
| **Describe how this project connects to and supports Stragetic Action Plan success factor(s) identified above.** | The utility line replacement program assures that we have a reliable water distribution system and can provide quality potable water to our citizens. |
| **List any obstacles for implementation** | |

*Finance Use Only*

| | Date |
|---|---|
| **Received by Finance Department** | |
| **Reviewed by City Manager:** | |

City of Golden | Capital Improvement Plan 2023-2032 | Project Detail Sheet

| | |
|---|---|
| Completed by: | Les Major |
| Department Head Review: | Brian Tracy |
| Responsible Department: | Public Works |
| Fund: | Water #5 |

| Strategic Success Factor | Active, Connected and Sustainable | Affordable and Thriving | Safe, Inclusive and Engaged | Respected and Relational Governance | Quality Services |
|---|---|---|---|---|---|
| | | | | | X |

| | |
|---|---|
| Strategic Action | Add telemetry to the Urad reservoirs and lower Urad outlet pipe recoating |
| Project Name | **Urad Reservoir Improvements** |

| | | | | | |
|---|---|---|---|---|---|
| **Funding Source** | Existing Grant Funds Identified for Project | Potential Grant Funds Identified | Funds Identified From Capital Project Fund | Funds Identified From Other Fund (Name) | No Identified Funding |
| | | | X | | |
| **New/Additional Revenue Generated** | Significant Ongoing Revenue Source | Small Ongoing Revenue Source | One-Time Revenue Generated | No New/Additional Revenue Generated | |
| | | | | X | |
| **Legally Mandated** | Court Decision | Regulatory Requirement | Pending Legal Action | Potential Legal Action | Normal Liability |
| | | X | | | |
| **Public Health & Safety** | Existing Severe Hazard | Existing Minor Hazard | Potential Severe Hazard | Potential Minor Hazard | No Health or Safety Issue |
| | | | X | | |
| **Operating Budget Impact** | Decreases Operating and/or Personnel Costs | Minimal or No Impact on Operating and/or Personnel Costs | Slight Increase to Operating and/or Personnel Costs | Significant Increase to Operating and/or Personnel Costs | |
| | | X | | | |
| **Environment and Sustainability** | Enhances Environment and/or Sustainability | Benefits Environment and/or Sustainabilty | No Environmental Impact | Minor or Negative Environmental Impact | Diminishes Environment |
| | | | X | | |
| **% Of Population Served** | 100% of Population Served by Project | Majority of Population Served | Approximately 50% of Population Served | Less than 50% of the Population Served | |
| | X | | | | |
| **Preservation of Facility** | Loss of Facility Imminent without Project Completion | Additional Damage Likely without Project Completion | Project Constitutes Normal Major Maintenance | Project Constitutes Normal Minor Maintenance | New Facility/ No Safety Issue |
| | | | X | | |
| **Project Useful Life** | 20+ Years With Little/No Maintenance | 20+ Years With Normal Maintenance | 10-20 Years With Normal Maintenance | 5-9 Years with Normal Maintenance | 1-4 Years with Normal Maintenance |
| | | | | X | |
| **Recreational or Aesthetic Value** | Major Value | Moderate value | No Value | Possibly Detrimental | |
| | | | X | | |
| **Estimated Frequency of Use** | Every Day | Several Times per Week | Several Times per Month | Once per Month or Less | |
| | X | | | | |

**Vision 2030 Guiding Principles Priority - (Choose One Best Fit)**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| X | (A) Safe and Reliable Public Infrastructure | | (B) Economic Vitality and Community Amenities that Improve Quality of Life | | (C) Public Safety | | (D) Other |

**Category of Capital Expenditures - (Choose One Best Fit)**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Land Improvement | | Building Improvement | | Equipment | | Vehicle | | Technology | X | Infrastructure |

**Financial Impact - Expenses**

| | Life-To-Date* | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project Costs** | | | | 50,000 | 50,000 | | | | | | | **100,000** |
| **On-Going Maintenance** | | | | | | | | | | | | - |
| **Total Project Costs** | - | - | - | **50,000** | **50,000** | - | - | - | - | - | - | **100,000** |

*Life-to-date includes any actual expenditures from start of project through July 2022 and estimates for the remainder of FY 2022

**Basis for Project Cost Estimate**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Formal Proposal | | Contractor/Engineer Estimate | | State Purchasing Co-Op | X | Staff Estimate |

**Financial Impact - Revenues**

| | Life-To-Date* | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Revenue Estimate** | | | | | | | | | | | | - |

*Life-to-date includes any actual revenue generated from start of project through July 2022 and estimates for the remainder of FY 2022

| Project Name: | Urad Reservoir Improvements |
|---|---|

| | |
|---|---|
| **Please provide details for the following:**<br>**1. Project Description**<br>**2. Justification**<br>**3. Measure of Success**<br>**4. Description of Revenue Generated (if applicable)** | In the spring of 2022 Lower Urad Reservoir was reclassified by the State of Colorado as a "High Hazard" structure. This reclassification was driven by data supplied by the City of Golden from updated inundation mapping done by W.W. Wheeler & Associates, Inc. Due to this reclassification remote monitoring and control systems need to be installed at Lower Urad reservoir. Recoating of the interior of the outlet piping at Lower Urad is planned due to the failure of the existing coating in some areas. |
| **Describe how this project connects to and supports Stragetic Action Plan success factor(s) identified above.** | Routine reinvestment in capital assets such as reservoirs reduces long term costs and assures that we continue to have safe and well maintaned raw water storage facilities. |
| **List any obstacles for implementation** | |

*Finance Use Only*

| | **Date** |
|---|---|
| **Received by Finance Department** | |
| **Reviewed by City Manager:** | |

City of Golden | Capital Improvement Plan 2023-2032 | Project Detail Sheet

| | |
|---|---|
| Completed by: | Theresa Worsham |
| Department Head Review: | Anne Beierle |
| Responsible Department: | Public Works |
| Fund: | Water #5 |

| Strategic Success Factor | Active, Connected and Sustainable | Affordable and Thriving | Safe, Inclusive and Engaged | Respected and Relational Governance | Quality Services |
|---|---|---|---|---|---|
| | | | | | X |

| | |
|---|---|
| Strategic Action | Installation of hydroelectric generation facilities at Urad reservoirs |
| Project Name | **Hydroelectric Power Project** |

| | | | | | |
|---|---|---|---|---|---|
| **Funding Source** | Existing Grant Funds Identified for Project | Potential Grant Funds Identified | Funds Identified From Capital Project Fund | Funds Identified From Other Fund (Name) | No Identified Funding |
| | | | X | | |
| **New/Additional Revenue Generated** | Significant Ongoing Revenue Source | Small Ongoing Revenue Source | One-Time Revenue Generated | No New/Additional Revenue Generated | |
| | | X | | | |
| **Legally Mandated** | Court Decision | Regulatory Requirement | Pending Legal Action | Potential Legal Action | Normal Liability |
| | | | | | X |
| **Public Health & Safety** | Existing Severe Hazard | Existing Minor Hazard | Potential Severe Hazard | Potential Minor Hazard | No Health or Safety Issue |
| | | | | | X |
| **Operating Budget Impact** | Decreases Operating and/or Personnel Costs | Minimal or No Impact on Operating and/or Personnel Costs | Slight Increase to Operating and/or Personnel Costs | Significant Increase to Operating and/or Personnel Costs | |
| | | X | | | |
| **Environment and Sustainability** | Enhances Environment and/or Sustainability | Benefits Environment and/or Sustainabilty | No Environmental Impact | Minor or Negative Environmental Impact | Diminishes Environment |
| | X | | | | |
| **% Of Population Served** | 100% of Population Served by Project | Majority of Population Served | Approximately 50% of Population Served | Less than 50% of the Population Served | |
| | X | | | | |
| **Preservation of Facility** | Loss of Facility Imminent without Project Completion | Additional Damage Likely without Project Completion | Project Constitutes Normal Major Maintenance | Project Constitutes Normal Minor Maintenance | New Facility/ No Safety Issue |
| | | | | | X |
| **Project Useful Life** | 20+ Years With Little/No Maintenance | 20+ Years With Normal Maintenance | 10-20 Years With Normal Maintenance | 5-9 Years with Normal Maintenance | 1-4 Years with Normal Maintenance |
| | X | | | | |
| **Recreational or Aesthetic Value** | Major Value | Moderate value | No Value | Possibly Detrimental | |
| | | | X | | |
| **Estimated Frequency of Use** | Every Day | Several Times per Week | Several Times per Month | Once per Month or Less | |
| | X | | | | |

**Vision 2030 Guiding Principles Priority - (Choose One Best Fit)**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| X | (A) Safe and Reliable Public Infrastructure | | (B) Economic Vitality and Community Amenities that Improve Quality of Life | | (C) Public Safety | | (D) Other |

**Category of Capital Expenditures - (Choose One Best Fit)**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Land Improvement | | Building Improvement | | Equipment | | Vehicle | | Technology | X | Infrastructure |

**Financial Impact - Expenses**

| | Life-To-Date* | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Costs | | | | | | | 250,000 | | | | | 250,000 |
| On-Going Maintenance | | | | | | | | | | | | - |
| Total Project Costs | - | - | - | - | - | - | 250,000 | - | - | - | - | 250,000 |

*Life-to-date includes any actual expenditures from start of project through July 2022 and estimates for the remainder of FY 2022

**Basis for Project Cost Estimate**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Formal Proposal | | Contractor/Engineer Estimate | | State Purchasing Co-Op | X | Staff Estimate |

**Financial Impact - Revenues**

| | Life-To-Date* | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Revenue Estimate | | | | | | | | | | | | - |

*Life-to-date includes any actual revenue generated from start of project through July 2022 and estimates for the remainder of FY 2022

| Project Name: | Hydroelectric Power Project |
|---|---|

| | |
|---|---|
| **Please provide details for the following:**<br>**1. Project Description**<br>**2. Justification**<br>**3. Measure of Success**<br>**4. Description of Revenue Generated (if applicable)** | In order to make progress on the City Council adopted renewable energy goals embodied in Resolutions 1793, 2330, and 2656, it will be necessary to pursue the implementation of significant renewable energy projects for city facilities. Council's stated goal is to achieve 50% of electricity from renewable sources. Hydroelectric power could yield a significant source of renewable energy for City operations. The feasibility study included identification of opportunities, economic analysis, conceptual design and permitting. The best opportunities for return on investment are at the Upper & Lower Urad and Guanella Reservoir locations. Preliminary estimates include $250,000 for a 10kW turbine and associated pipe infrastructure. There may be opportunities for state grant funds to offset a portion of the costs and monthly revenue for the electricity generation.<br><br>Revenues are dependent on both the utility offerings at the time of construction and the price paid per kWh of electricity generated. Because this turbine would not offset any COG electricty generation, but would sell energy to the Henderson Mine (nearest electric consumer) through a net metering agreement, the cost offset is minimal for the City. However, the energy produced would directly benefit the City's renewable energy goals and be counted toward the City's investment and progress. Due to financial feasibility determined from the feasibility study we have pushed this project back to 2025. |
| **Describe how this project connects to and supports Stragetic Action Plan success factor(s) identified above.** | This project will help meet Golden's renewable energy goals. |
| **List any obstacles for implementation** | The Federal Energy Regulatory Commission (FERC) publishes rules on the process for activities within regulated bodies of water. The process to obtain permits may take longer than the estimated timeline proposed here. |

*Finance Use Only*

| | Date |
|---|---|
| **Received by Finance Department** | |
| **Reviewed by City Manager:** | |

City of Golden | Capital Improvement Plan 2023-2032 | Project Detail Sheet

| | |
|---|---|
| Completed by: | Les Major |
| Department Head Review: | Brian Tracy |
| Responsible Department: | Public Works |
| Fund: | Water #7 |

| Strategic Success Factor | Active, Connected and Sustainable | Affordable and Thriving | Safe, Inclusive and Engaged | Respected and Relational Governance | Quality Services |
|---|---|---|---|---|---|
| | | | | | |

| | |
|---|---|
| Strategic Action | Rebuild and replace infrastructure collection points, pipelines, instrumentation, portals, and tunnel |
| Project Name | **Vidler Tunnel Improvements** |

| | | | | | |
|---|---|---|---|---|---|
| **Funding Source** | Existing Grant Funds Identified for Project | Potential Grant Funds Identified | Funds Identified From Capital Project Fund | Funds Identified From Other Fund (Name) | No Identified Funding |
| | | | X | | |
| **New/Additional Revenue Generated** | Significant Ongoing Revenue Source | Small Ongoing Revenue Source | One-Time Revenue Generated | No New/Additional Revenue Generated | |
| | | | | X | |
| **Legally Mandated** | Court Decision | Regulatory Requirement | Pending Legal Action | Potential Legal Action | Normal Liability |
| | | X | | | |
| **Public Health & Safety** | Existing Severe Hazard | Existing Minor Hazard | Potential Severe Hazard | Potential Minor Hazard | No Health or Safety Issue |
| | | | | X | |
| **Operating Budget Impact** | Decreases Operating and/or Personnel Costs | Minimal or No Impact on Operating and/or Personnel Costs | Slight Increase to Operating and/or Personnel Costs | Significant Increase to Operating and/or Personnel Costs | |
| | | X | | | |
| **Environment and Sustainability** | Enhances Environment and/or Sustainability | Benefits Environment and/or Sustainabilty | No Environmental Impact | Minor or Negative Environmental Impact | Diminishes Environment |
| | | | X | | |
| **% Of Population Served** | 100% of Population Served by Project | Majority of Population Served | Approximately 50% of Population Served | Less than 50% of the Population Served | |
| | X | | | | |
| **Preservation of Facility** | Loss of Facility Imminent without Project Completion | Additional Damage Likely without Project Completion | Project Constitutes Normal Major Maintenance | Project Constitutes Normal Minor Maintenance | New Facility/ No Safety Issue |
| | | | X | | |
| **Project Useful Life** | 20+ Years With Little/No Maintenance | 20+ Years With Normal Maintenance | 10-20 Years With Normal Maintenance | 5-9 Years with Normal Maintenance | 1-4 Years with Normal Maintenance |
| | | X | | | |
| **Recreational or Aesthetic Value** | Major Value | Moderate value | No Value | Possibly Detrimental | |
| | | | X | | |
| **Estimated Frequency of Use** | Every Day | Several Times per Week | Several Times per Month | Once per Month or Less | |
| | X | | | | |

**Vision 2030 Guiding Principles Priority - (Choose One Best Fit)**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| X | (A) Safe and Reliable Public Infrastructure | | (B) Economic Vitality and Community Amenities that Improve Quality of Life | | (C) Public Safety | | (D) Other |

**Category of Capital Expenditures - (Choose One Best Fit)**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Land Improvement | | Building Improvement | | Equipment | | Vehicle | | Technology | X | Infrastructure |

**Financial Impact - Expenses**

| | Life-To-Date* | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project Costs** | | 450,000 | - | 75,000 | 75,000 | 75,000 | 75,000 | 75,000 | 75,000 | 75,000 | 75,000 | **1,050,000** |
| **On-Going Maintenance** | | | | | | | | | | | | - |
| **Total Project Costs** | - | **450,000** | - | **75,000** | **75,000** | **75,000** | **75,000** | **75,000** | **75,000** | **75,000** | **75,000** | 1,050,000 |

*Life-to-date includes any actual expenditures from start of project through July 2022 and estimates for the remainder of FY 2022

**Basis for Project Cost Estimate**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Formal Proposal | | Contractor/Engineer Estimate | | State Purchasing Co-Op | X | Staff Estimate |

**Financial Impact - Revenues**

| | Life-To-Date* | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Revenue Estimate** | | | | | | | | | | | | - |

*Life-to-date includes any actual revenue generated from start of project through July 2022 and estimates for the remainder of FY 2022

| Project Name: | Vidler Tunnel Improvements |
|---|---|

| | |
|---|---|
| **Please provide details for the following:**<br>**1. Project Description**<br>**2. Justification**<br>**3. Measure of Success**<br>**4. Description of Revenue Generated (if applicable)** | The Vidler collection system and diversion tunnel allows Golden to divert water from the Colorado River headwaters to Clear Creek for use at Fossil Trace and for other uses that require “Non-tributary” water. It is a vital part of Golden's water infrastructure.<br>It consists of six collection points with six head gates that feed snowmelt into a pipeline. The pipeline is about 5000 feet long and carries the snowmelt across the Horseshoe basin. At the end of the pipeline is a flume that measures and controls the water before feeding it into the West Portal of a tunnel (Vidler Tunnel). The tunnel extends 1.4 miles (7400 feet) through a mountain, under the Continental Divide, and discharges the water into the headwaters of Clear Creek several miles above Georgetown. Once the water is in Clear Creek, it becomes available for Golden to use. This project will not change ongoing maintenance costs for the Vidler system overall, but deferred investment would result in increases to maintenance.<br>In 2023 we will replace the remaining section of the collection system pipe, approximatly 1,000 ft. and rebuild one collection point structure. Current market conditions for materials may require that we purchase materials in 2022 and install in 2023 as part of a multi year project. This project will increase the prorated share of the carriage fees to all Vidler water users. |
| **Describe how this project connects to and supports Stragetic Action Plan success factor(s) identified above.** | Routine reinvestement in capital assets such as the Vidler Tunnel reduces long term costs and assures that we continue to have a reliable water supply so that we can provide potable water to the community. |
| **List any obstacles for implementation** | |

*Finance Use Only*

| | Date |
|---|---|
| **Received by Finance Department** | |
| **Reviewed by City Manager:** | |

City of Golden | Capital Improvement Plan 2023-2032 | Project Detail Sheet

| | |
|---|---|
| Completed by: | Brynn Goe |
| Department Head Review: | Brian Tracy |

| | |
|---|---|
| Responsible Department: | Public Works |
| Fund: | Water #8 |

| Strategic Success Factor | Active, Connected and Sustainable | Affordable and Thriving | Safe, Inclusive and Engaged | Respected and Relational Governance | Quality Services |
|---|---|---|---|---|---|
| | x | | | | |

| | |
|---|---|
| Strategic Action | Comprehensive, connected infrastructure, services and amenities and preserve a beautiful community existing in harmony with the natural environment. |
| Project Name | **Solar Photovoltaic Projects at Water Treatment Ponds** |

| | | | | | |
|---|---|---|---|---|---|
| Funding Source | Existing Grant Funds Identified for Project | Potential Grant Funds Identified | Funds Identified From Capital Project Fund | Funds Identified From Other Fund (Name) | No Identified Funding |
| | | | x | water | |
| New/Additional Revenue Generated | Significant Ongoing Revenue Source | Small Ongoing Revenue Source | One-Time Revenue Generated | No New/Additional Revenue Generated | |
| | | x | | | |
| Legally Mandated | Court Decision | Regulatory Requirement | Pending Legal Action | Potential Legal Action | Normal Liability |
| | | | | | x |
| Public Health & Safety | Existing Severe Hazard | Existing Minor Hazard | Potential Severe Hazard | Potential Minor Hazard | No Health or Safety Issue |
| | | | | | x |
| Operating Budget Impact | Decreases Operating and/or Personnel Costs | Minimal or No Impact on Operating and/or Personnel Costs | Slight Increase to Operating and/or Personnel Costs | Significant Increase to Operating and/or Personnel Costs | |
| | x | | | | |
| Environment and Sustainability | Enhances Environment and/or Sustainability | Benefits Environment and/or Sustainabilty | No Environmental Impact | Minor or Negative Environmental Impact | Diminishes Environment |
| | x | | | | |
| % Of Population Served | 100% of Population Served by Project | Majority of Population Served | Approximately 50% of Population Served | Less than 50% of the Population Served | |
| | x | | | | |
| Preservation of Facility | Loss of Facility Imminent without Project Completion | Additional Damage Likely without Project Completion | Project Constitutes Normal Major Maintenance | Project Constitutes Normal Minor Maintenance | New Facility/ No Safety Issue |
| | | | | x | |
| Project Useful Life | 20+ Years With Little/No Maintenance | 20+ Years With Normal Maintenance | 10-20 Years With Normal Maintenance | 5-9 Years with Normal Maintenance | 1-4 Years with Normal Maintenance |
| | x | | | | |
| Recreational or Aesthetic Value | Major Value | Moderate value | No Value | Possibly Detrimental | |
| | | | x | | |
| Estimated Frequency of Use | Every Day | Several Times per Week | Several Times per Month | Once per Month or Less | |
| | x | | | | |

**Vision 2030 Guiding Principles Priority - (Choose One Best Fit)**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| x | (A) Safe and Reliable Public Infrastructure | | (B) Economic Vitality and Community Amenities that Improve Quality of Life | | (C) Public Safety | | (D) Other |

**Category of Capital Expenditures - (Choose One Best Fit)**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Land Improvement | | Building Improvement | | Equipment | | Vehicle | | Technology | x | Infrastructure |

**Financial Impact - Expenses**

| | Life-To-Date* | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Costs | | | | | | | 650,000 | | | | | 650,000 |
| On-Going Maintenance | | | | | | | | | | | | - |
| Total Project Costs | - | - | - | - | - | - | 650,000 | - | - | - | - | 650,000 |

*Life-to-date includes any actual expenditures from start of project through July 2022 and estimates for the remainder of FY 2022

**Basis for Project Cost Estimate**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| x | Formal Proposal | x | Contractor/Engineer Estimate | | State Purchasing Co-Op | | Staff Estimate |

**Financial Impact - Revenues**

| | Life-To-Date* | 2023 | 2024 | 2024 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Revenue Estimate | | | | | | | | | | | | - |

*Life-to-date includes any actual revenue generated from start of project through July 2022 and estimates for the remainder of FY 2022

| Project Name: | Solar Photovoltaic Projects at Water Treatment Ponds |
|---|---|
| **Please provide details for the following:**<br>**1. Project Description**<br>**2. Justification**<br>**3. Measure of Success**<br>**4. Description of Revenue Generated (if applicable)** | Ground-mounted and rooftop solar photovoltaic is the most cost-effective technology for renewable energy generation in Golden. The surface of the water treatment ponds presents an opportunity for newer floating solar technology and to integrate renewable energy into the water plant/RV park area as a means toward the City's 100% renewable energy goals (adopted by Resolution 2656). A small 30kW system (equivalent to 15% of the RV Park's annual electricity usage) as a pilot project to assess durability over a winter season is a reasonable first step. Pending success and additional data to ensure reliability, a system up to 500kW could be appropriate.<br><br>Revenue generated would be dependent on the utility rebates offered at the time of construction. In general, solar rebates are declining, but total costs of equipment are also trending down, resulting in a similar or better payback period as other city solar projects. It is expected that overall monthly consumption (electricity bills) will decrease, offset by any loan payment for construction, and significant reduced costs after the payback period. The total system size would offset the entire electricity usage at the RV Park and some additional from the Water Treatment Plant. |
| **Describe how this project connects to and supports Stragetic Action Plan success factor(s) identified above.** | Routine reinvestement in capital assets such as the control system at the water treatment plant reduces long term costs and assures that we continue to provide reliable potable water to the community. |
| **List any obstacles for implementation** | All major maintenance at the water plant faces the challenge of doing the work while continuing to operate the plant and provide water. When a PLC needs to be taken off line for replacement, the plant may need to be shut down. Work is scheduled based on potential impact and generally avoids high demand periods. |

*Finance Use Only*

| | **Date** |
|---|---|
| **Received by Finance Department** | |
| **Reviewed by City Manager:** | |

City of Golden | Capital Improvement Plan 2023-2032 | Project Detail Sheet

| | |
|---|---|
| Completed by: | Brynn Goe |
| Department Head Review: | Brian Tracy |
| Responsible Department: | Public Works |
| Fund: | Water #9 |

| Strategic Success Factor | Active, Connected and Sustainable | Affordable and Thriving | Safe, Inclusive and Engaged | Respected and Relational Governance | Quality Services |
|---|---|---|---|---|---|
| | | | | | x |

| Strategic Action | Balancing fiscal responsibility with creativity and innovation to deliver quality public services |
|---|---|

| Project Name | **Water Quality/Plant Improvements - General** |
|---|---|

| | | | | | |
|---|---|---|---|---|---|
| **Funding Source** | Existing Grant Funds Identified for Project | Potential Grant Funds Identified | Funds Identified From Capital Project Fund | Funds Identified From Other Fund (Name) | No Identified Funding |
| | | | x | | |
| **New/Additional Revenue Generated** | Significant Ongoing Revenue Source | Small Ongoing Revenue Source | One-Time Revenue Generated | No New/Additional Revenue Generated | |
| | | | | x | |
| **Legally Mandated** | Court Decision | Regulatory Requirement | Pending Legal Action | Potential Legal Action | Normal Liability |
| | | x | | | |
| **Public Health & Safety** | Existing Severe Hazard | Existing Minor Hazard | Potential Severe Hazard | Potential Minor Hazard | No Health or Safety Issue |
| | | | | x | |
| **Operating Budget Impact** | Decreases Operating and/or Personnel Costs | Minimal or No Impact on Operating and/or Personnel Costs | Slight Increase to Operating and/or Personnel Costs | Significant Increase to Operating and/or Personnel Costs | |
| | | x | | | |
| **Environment and Sustainability** | Enhances Environment and/or Sustainability | Benefits Environment and/or Sustainabilty | No Environmental Impact | Minor or Negative Environmental Impact | Diminishes Environment |
| | | | x | | |
| **% Of Population Served** | 100% of Population Served by Project | Majority of Population Served | Approximately 50% of Population Served | Less than 50% of the Population Served | |
| | x | | | | |
| **Preservation of Facility** | Loss of Facility Imminent without Project Completion | Additional Damage Likely without Project Completion | Project Constitutes Normal Major Maintenance | Project Constitutes Normal Minor Maintenance | New Facility/ No Safety Issue |
| | | | x | | |
| **Project Useful Life** | 20+ Years With Little/No Maintenance | 20+ Years With Normal Maintenance | 10-20 Years With Normal Maintenance | 5-9 Years with Normal Maintenance | 1-4 Years with Normal Maintenance |
| | | | x | | |
| **Recreational or Aesthetic Value** | Major Value | Moderate value | No Value | Possibly Detrimental | |
| | | | x | | |
| **Estimated Frequency of Use** | Every Day | Several Times per Week | Several Times per Month | Once per Month or Less | |
| | x | | | | |

**Vision 2030 Guiding Principles Priority - (Choose One Best Fit)**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| x | (A) Safe and Reliable Public Infrastructure | | (B) Economic Vitality and Community Amenities that Improve Quality of Life | | (C) Public Safety | | (D) Other |

**Category of Capital Expenditures - (Choose One Best Fit)**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Land Improvement | | Building Improvement | | Equipment | | Vehicle | | Technology | x | Infrastructure |

**Financial Impact - Expenses**

| | Life-To-Date* | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project Costs** | | 800,000 | 800,000 | 1,100,000 | 750,000 | 750,000 | 750,000 | 650,000 | 750,000 | 650,000 | 750,000 | **7,750,000** |
| **On-Going Maintenance** | | | | | | | | | | | | - |
| **Total Project Costs** | - | **800,000** | **800,000** | **1,100,000** | **750,000** | **750,000** | **750,000** | **650,000** | **750,000** | **650,000** | **750,000** | **7,750,000** |

*Life-to-date includes any actual expenditures from start of project through July 2022 and estimates for the remainder of FY 2022

**Basis for Project Cost Estimate**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Formal Proposal | | Contractor/Engineer Estimate | | State Purchasing Co-Op | x | Staff Estimate |

**Financial Impact - Revenues**

| | Life-To-Date* | 2023 | 2024 | 2024 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Revenue Estimate** | | | | | | | | | | | | - |

*Life-to-date includes any actual revenue generated from start of project through July 2022 and estimates for the remainder of FY 2022

| Project Name: | Water Quality/Plant Improvements - General |
|---|---|

| | |
|---|---|
| **Please provide details for the following:**<br>**1. Project Description**<br>**2. Justification**<br>**3. Measure of Success**<br>**4. Description of Revenue Generated (if applicable)** | Golden's water treatment plant provides safe, clean potable water to residents and businesses in the City of Golden. The water plant starts at the raw water ponds west of the plant and includes several processes, including oxidation, coagulation, flocculation, sedimentation, filtration, disinfection, and solids handling, controlled using state of the art process control. The oldest facilities at the plant date back to the 1950s and the plant has been updated and modified to meet demand and to improve the reliability and quality of water delivered to the system. Capital replacement projects at the plant are identified and planned based on age of facility, life cycle of equipment, reliability and regulatory changes.<br>The reclaim basin is a single underground tank at the water treatment plant that holds approximately 500,000 gallons of water. The reclaim basin acts as a flow equalization basin for the water treatment plant and plays a crucial role in recycling water back to the raw water holding ponds rather than sending any water to the sewer system unnecessarily. The reclaim basin was part of the 1991 upgrade and plant expansion project. The equipment in the reclaim basin, such as the residuals collectors, piping, valves and pumps are reaching the end of their useful life and some parts will soon be obsolete. The reclaim basin rehab project for 2023 will replace these components with updated equipment which will allow for longer life and easier operations of the basin. If the sludge collection system is not replaced, it will make it impossible to keep residuals from building up in the reclaim basin. Once the basin gets full, the water quality being pumped from the reclaim basin will change and a large cost will be associated with having to manually pump the residuals from the basin. This would also eliminate the option for the residuals to be dewatered using existing equipment at the WTP. In 2024 chemical storage will be increased by adding additional storage tanks in the chemical building. This storage addition will help the water plant better prepare for chemical supply chain shortages. At that time, a hypochlorite (chlorine) generation unit will also be installed which will allow bleach to be generated on-site as opposed to waiting for deliveries from vendors that are often delayed. All water plants in the U.S are currently facing chemical supply chain shortages and the problem could get worse in upcoming years. Currently the water plant is unable to store a supply of chemicals to last more than 45-60 days. When the storage tanks are at levels low enough to be able to take a full delivery, the supply is down to roughly 9 days on hand. |
| **Describe how this project connects to and supports Stragetic Action Plan success factor(s) identified above.** | Routine reinvestement in capital assets such as the water treatment plant reduces long term costs and assures that we continue to provide reliable potable water to the community. |
| **List any obstacles for implementation** | All major maintenance at the water plant faces the challenge of doing the work while continuing to operate the plant and provide water. Work is scheduled based on potential impact and generally avoids high demand periods. |

*Finance Use Only*

| | Date |
|---|---|
| **Received by Finance Department** | |
| **Reviewed by City Manager:** | |

City of Golden | Capital Improvement Plan 2023-2032 | Project Detail Sheet

| | |
|---|---|
| Completed by: | Brynn Goe |
| Department Head Review: | Brian Tracy |
| Responsible Department: | Public works |
| Fund: | Water #9 |

| Strategic Success Factor | Active, Connected and Sustainable | Affordable and Thriving | Safe, Inclusive and Engaged | Respected and Relational Governance | Quality Services |
|---|---|---|---|---|---|
| | | | | | x |

| | |
|---|---|
| Strategic Action | Balancing fiscal responsibility to fund and deliver quality public services |
| Project Name | **Water Quality/Plant Improvements - PLC Replacement** |

| | | | | | |
|---|---|---|---|---|---|
| **Funding Source** | Existing Grant Funds Identified for Project | Potential Grant Funds Identified | Funds Identified From Capital Project Fund | Funds Identified From Other Fund (Name) | No Identified Funding |
| | | | x | | |
| **New/Additional Revenue Generated** | Significant Ongoing Revenue Source | Small Ongoing Revenue Source | One-Time Revenue Generated | No New/Additional Revenue Generated | |
| | | | | x | |
| **Legally Mandated** | Court Decision | Regulatory Requirement | Pending Legal Action | Potential Legal Action | Normal Liability |
| | | x | | | |
| **Public Health & Safety** | Existing Severe Hazard | Existing Minor Hazard | Potential Severe Hazard | Potential Minor Hazard | No Health or Safety Issue |
| | | | | x | |
| **Operating Budget Impact** | Decreases Operating and/or Personnel Costs | Minimal or No Impact on Operating and/or Personnel Costs | Slight Increase to Operating and/or Personnel Costs | Significant Increase to Operating and/or Personnel Costs | |
| | | x | | | |
| **Environment and Sustainability** | Enhances Environment and/or Sustainability | Benefits Environment and/or Sustainabilty | No Environmental Impact | Minor or Negative Environmental Impact | Diminishes Environment |
| | | | x | | |
| **% Of Population Served** | 100% of Population Served by Project | Majority of Population Served | Approximately 50% of Population Served | Less than 50% of the Population Served | |
| | x | | | | |
| **Preservation of Facility** | Loss of Facility Imminent without Project Completion | Additional Damage Likely without Project Completion | Project Constitutes Normal Major Maintenance | Project Constitutes Normal Minor Maintenance | New Facility/ No Safety Issue |
| | | | x | | |
| **Project Useful Life** | 20+ Years With Little/No Maintenance | 20+ Years With Normal Maintenance | 10-20 Years With Normal Maintenance | 5-9 Years with Normal Maintenance | 1-4 Years with Normal Maintenance |
| | | | x | | |
| **Recreational or Aesthetic Value** | Major Value | Moderate value | No Value | Possibly Detrimental | |
| | | | x | | |
| **Estimated Frequency of Use** | Every Day | Several Times per Week | Several Times per Month | Once per Month or Less | |
| | x | | | | |

**Vision 2030 Guiding Principles Priority - (Choose One Best Fit)**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| x | (A) Safe and Reliable Public Infrastructure | | (B) Economic Vitality and Community Amenities that Improve Quality of Life | | (C) Public Safety | | (D) Other |

**Category of Capital Expenditures - (Choose One Best Fit)**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Land Improvement | | Building Improvement | | Equipment | | Vehicle | | Technology | x | Infrastructure |

**Financial Impact - Expenses**

| | Life-To-Date* | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project Costs** | | 100,000 | 50,000 | | | | | | | 125,000 | 125,000 | **400,000** |
| **On-Going Maintenance** | | | | | | | | | | | | - |
| **Total Project Costs** | - | **100,000** | **50,000** | - | - | - | - | - | - | **125,000** | **125,000** | **400,000** |

*Life-to-date includes any actual expenditures from start of project through July 2022 and estimates for the remainder of FY 2022

**Basis for Project Cost Estimate**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Formal Proposal | x | Contractor/Engineer Estimate | | State Purchasing Co-Op | | Staff Estimate |

**Financial Impact - Revenues**

| | Life-To-Date* | 2023 | 2024 | 2024 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Revenue Estimate** | | | | | | | | | | | | - |

*Life-to-date includes any actual revenue generated from start of project through July 2022 and estimates for the remainder of FY 2022

| Project Name: | Water Quality/Plant Improvements - PLC Replacement |
|---|---|
| **Please provide details for the following:**<br>**1. Project Description**<br>**2. Justification**<br>**3. Measure of Success**<br>**4. Description of Revenue Generated (if applicable)** | Operation of Golden's water treatment plant has been automated using a control system and PLCs that control individual components of the plant such as pumps, valves and chemical feeders. PLCs are essentially small programmable computers that communicate with a central control system. The potable treatment plant and distribution system contains dozens and dozens of individual PLCs. As with all technology, PLCs are quickly outdated. In the past we have replaced all the PLCs at once in a comprehensive program. Doing the upgrades in this manner is expensive and presents challenges for continuous operation of the plant. This multi-year replacement program spreads the project over several years. This project is necessary to assure continued, reliable, uninterrupted operations of the water plant. This project will not change ongoing maintenance costs for the water plant overall, but deferred investment would result in increases to maintenance. In 2018, funds were used to complete a comprehensive PLC and SCADA system inventory to better plan for the changes in technology and cost associated with PLC upgrades. In 2019, funds were used to complete an updated SCADA masterplan. As of 2020, there is a total of 33 PLC's in the water plant and distribution system. Each unit has a life expectancy of 10-12 years and the cost to replace a single unit (including hardware and labor) is approximately $40,000. The number of individual PLC units will also increase as time goes on and more of the plant and distribution system becomes further automated. New regulatory instrumentation at the water plant and in the distribution system will also add to the number of PLC units as instrumentation becomes more automated and communicates better with our SCADA system. The water treatment has 3 more PLC's to upgrade and will be able to complete the upgrades by 2024. The PLC's in the distribution system are not being upgraded at this time but instead, the spare parts available from the PLC replacements at the water treatment plant are being used to maintain the distribution system PLC's. |
| **Describe how this project connects to and supports Stragetic Action Plan success factor(s) identified above.** | Routine reinvestement in capital assets such as the control system at the water treatment plant reduces long term costs and assures that we continue to provide reliable potable water to the community. |
| **List any obstacles for implementation** | All major maintenance at the water plant faces the challenge of doing the work while continuing to operate the plant and provide water. When a PLC needs to be taken off line for replacement, the plant may need to be shut down. Work is scheduled based on potential impact and generally avoids high demand periods. |

*Finance Use Only*

| | Date |
|---|---|
| **Received by Finance Department** | |
| **Reviewed by City Manager:** | |

City of Golden | Capital Improvement Plan 2023-2032 | Project Detail Sheet

| | |
|---|---|
| Completed by: | Brynn Goe |
| Department Head Review: | Brian Tracy |
| Responsible Department: | Public Works |
| Fund: | Water #9 |

| Strategic Success Factor | Active, Connected and Sustainable | Affordable and Thriving | Safe, Inclusive and Engaged | Respected and Relational Governance | Quality Services |
|---|---|---|---|---|---|
| | | | | | x |

| Strategic Action | Using creativity and innovation to fund and deliver quality public services today and in the future. |
|---|---|

| Project Name | **Water Quality/Plant Improvements - Fire resiliency** |
|---|---|

| | | | | | |
|---|---|---|---|---|---|
| **Funding Source** | Existing Grant Funds Identified for Project | Potential Grant Funds Identified | Funds Identified From Capital Project Fund | Funds Identified From Other Fund (Name) | No Identified Funding |
| | | | x | | |
| **New/Additional Revenue Generated** | Significant Ongoing Revenue Source | Small Ongoing Revenue Source | One-Time Revenue Generated | No New/Additional Revenue Generated | |
| | | | | x | |
| **Legally Mandated** | Court Decision | Regulatory Requirement | Pending Legal Action | Potential Legal Action | Normal Liability |
| | | x | | | |
| **Public Health & Safety** | Existing Severe Hazard | Existing Minor Hazard | Potential Severe Hazard | Potential Minor Hazard | No Health or Safety Issue |
| | | | x | | |
| **Operating Budget Impact** | Decreases Operating and/or Personnel Costs | Minimal or No Impact on Operating and/or Personnel Costs | Slight Increase to Operating and/or Personnel Costs | Significant Increase to Operating and/or Personnel Costs | |
| | | | x | | |
| **Environment and Sustainability** | Enhances Environment and/or Sustainability | Benefits Environment and/or Sustainabilty | No Environmental Impact | Minor or Negative Environmental Impact | Diminishes Environment |
| | | | x | | |
| **% Of Population Served** | 100% of Population Served by Project | Majority of Population Served | Approximately 50% of Population Served | Less than 50% of the Population Served | |
| | x | | | | |
| **Preservation of Facility** | Loss of Facility Imminent without Project Completion | Additional Damage Likely without Project Completion | Project Constitutes Normal Major Maintenance | Project Constitutes Normal Minor Maintenance | New Facility/ No Safety Issue |
| | | x | | | |
| **Project Useful Life** | 20+ Years With Little/No Maintenance | 20+ Years With Normal Maintenance | 10-20 Years With Normal Maintenance | 5-9 Years with Normal Maintenance | 1-4 Years with Normal Maintenance |
| | | | x | | |
| **Recreational or Aesthetic Value** | Major Value | Moderate value | No Value | Possibly Detrimental | |
| | | | x | | |
| **Estimated Frequency of Use** | Every Day | Several Times per Week | Several Times per Month | Once per Month or Less | |
| | x | | | | |

**Vision 2030 Guiding Principles Priority - (Choose One Best Fit)**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| x | (A) Safe and Reliable Public Infrastructure | | (B) Economic Vitality and Community Amenities that Improve Quality of Life | | (C) Public Safety | | (D) Other |

**Category of Capital Expenditures - (Choose One Best Fit)**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Land Improvement | | Building Improvement | | Equipment | | Vehicle | | Technology | x | Infrastructure |

**Financial Impact - Expenses**

| | Life-To-Date* | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project Costs** | | | 516,127 | 250,000 | | | | | | | | **766,127** |
| **On-Going Maintenance** | | | | | 242,550 | 254,678 | 267,411 | 280,782 | 294,821 | 309,562 | | **1,649,804** |
| **Total Project Costs** | - | - | **516,127** | **250,000** | **242,550** | **254,678** | **267,411** | **280,782** | **294,821** | **309,562** | - | **2,415,931** |

*Life-to-date includes any actual expenditures from start of project through July 2022 and estimates for the remainder of FY 2022

**Basis for Project Cost Estimate**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Formal Proposal | x | Contractor/Engineer Estimate | | State Purchasing Co-Op | | Staff Estimate |

**Financial Impact - Revenues**

| | Life-To-Date* | 2023 | 2024 | 2024 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Revenue Estimate** | | | | | | | | | | | | - |

*Life-to-date includes any actual revenue generated from start of project through July 2022 and estimates for the remainder of FY 2022

| Project Name: | Water Quality/Plant Improvements - Fire resiliency |
|---|---|

| | |
|---|---|
| **Please provide details for the following:**<br>**1. Project Description**<br>**2. Justification**<br>**3. Measure of Success**<br>**4. Description of Revenue Generated (if applicable)** | After watching the water quality issues following the recent wildfire seasons, it has become clear that water plants need to prepare for the possibility that source water will be impacted by wildfire. Golden is active in efforts to protect the watershed and water supply, but these projects are implemented over many years and only reduce, not eliminate, the risk of wildfire. This project makes it possible to treat water that has been impacted by wildfire in the upper Clear Creek Basin. The water treatment plant draws water from Clear Creek, which is a heavily forested mountainous, dry watershed that has been highly impacted by the Mountain Pine Beetle epidemic. Clear Creek is the only water source for Golden and is either treated in the water treatment plant or conveyed in the non-potable irrigation system. Golden does not have the option to use a different water supply if Clear Creek is compromised by fire. Anticipated water quality impacts that can take place following a wildfire event in the clear creek watershed are: increased turbidity, increased organic carbon, increased heavy metals, increase in alkalinity and pH, increase in radionuclides, and increased nutrient loading. The current process at the water treatment plant is not set up to effectively treat raw water impacted by wildfire. Even if plant flow could be reduced and slowed to try to achieve higher removal to be safe to drink, the treated water would likely have taste and odor issues. Infrastructure and additional or alternative treatments would be needed to treat this water. Most either have long lead times or cannot address taste and odor concerns. Based on engineering assessments, the most cost effective first step in moving the water treatment plant towards being able to treat the effected water is to add additional granular activated carbon filters into the treatment process. The granular activated carbon (GAC) will help in the removal of organics, taste, odor, color, metals, radionuclides and turbidity. GAC will improve water quality from the plant under normal conditions, but is only necessary to meet drinking water standards if the watershed is impacted by wildfire. |
| **Describe how this project connects to and supports Stragetic Action Plan success factor(s) identified above.** | The water utility has identifed an upstream wildfire as a risk to our ability to provide potable water to the community. This risk is high enough that this project has been proposed to assure that the water plant has the treatment methods necessary to treat a water supply that has been contaminated as a result of a wildfire and assure that we can provide continuous quality service and potable water to the community. |
| **List any obstacles for implementation** | All major projects at the water plant faces the challenge of doing the work while continuing to operate the plant and provide water. Work is scheduled based on potential impact and generally avoids high demand periods. |

*Finance Use Only*

| | Date |
|---|---|
| **Received by Finance Department** | |
| **Reviewed by City Manager:** | |

City of Golden | Capital Improvement Plan 2023-2032 | Project Detail Sheet

| | |
|---|---|
| Completed by: | Les Major |
| Department Head Review: | Brian Tracy |

| | |
|---|---|
| Responsible Department: | Public Works |
| Fund: | Water #10 |

| Strategic Success Factor | Active, Connected and Sustainable | Affordable and Thriving | Safe, Inclusive and Engaged | Respected and Relational Governance | Quality Services |
|---|---|---|---|---|---|
| | | | | | |

| | |
|---|---|
| Strategic Action | Pump Station equipment and facilities rehabilitation and replacement |
| Project Name | **Pump Station Improvements** |

| | | | | | |
|---|---|---|---|---|---|
| **Funding Source** | Existing Grant Funds Identified for Project | Potential Grant Funds Identified | Funds Identified From Capital Project Fund | Funds Identified From Other Fund (Name) | No Identified Funding |
| | | | X | | |
| **New/Additional Revenue Generated** | Significant Ongoing Revenue Source | Small Ongoing Revenue Source | One-Time Revenue Generated | No New/Additional Revenue Generated | |
| | | | | X | |
| **Legally Mandated** | Court Decision | Regulatory Requirement | Pending Legal Action | Potential Legal Action | Normal Liability |
| | | X | | | |
| **Public Health & Safety** | Existing Severe Hazard | Existing Minor Hazard | Potential Severe Hazard | Potential Minor Hazard | No Health or Safety Issue |
| | | | | X | |
| **Operating Budget Impact** | Decreases Operating and/or Personnel Costs | Minimal or No Impact on Operating and/or Personnel Costs | Slight Increase to Operating and/or Personnel Costs | Significant Increase to Operating and/or Personnel Costs | |
| | | X | | | |
| **Environment and Sustainability** | Enhances Environment and/or Sustainability | Benefits Environment and/or Sustainabilty | No Environmental Impact | Minor or Negative Environmental Impact | Diminishes Environment |
| | | | X | | |
| **% Of Population Served** | 100% of Population Served by Project | Majority of Population Served | Approximately 50% of Population Served | Less than 50% of the Population Served | |
| | X | | | | |
| **Preservation of Facility** | Loss of Facility Imminent without Project Completion | Additional Damage Likely without Project Completion | Project Constitutes Normal Major Maintenance | Project Constitutes Normal Minor Maintenance | New Facility/ No Safety Issue |
| | | | X | | |
| **Project Useful Life** | 20+ Years With Little/No Maintenance | 20+ Years With Normal Maintenance | 10-20 Years With Normal Maintenance | 5-9 Years with Normal Maintenance | 1-4 Years with Normal Maintenance |
| | | X | | | |
| **Recreational or Aesthetic Value** | Major Value | Moderate value | No Value | Possibly Detrimental | |
| | | | X | | |
| **Estimated Frequency of Use** | Every Day | Several Times per Week | Several Times per Month | Once per Month or Less | |
| | X | | | | |

**Vision 2030 Guiding Principles Priority - (Choose One Best Fit)**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| X | (A) Safe and Reliable Public Infrastructure | | (B) Economic Vitality and Community Amenities that Improve Quality of Life | | (C) Public Safety | | (D) Other |

**Category of Capital Expenditures - (Choose One Best Fit)**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Land Improvement | | Building Improvement | | Equipment | | Vehicle | | Technology | X | Infrastructure |

**Financial Impact - Expenses**

| | Life-To-Date* | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project Costs** | | 70,193 | 72,999 | 75,919 | 78,956 | 82,114 | 85,399 | 88,815 | 92,367 | 96,062 | 99,904 | **842,728** |
| **On-Going Maintenance** | | | | | | | | | | | | - |
| **Total Project Costs** | - | **70,193** | **72,999** | **75,919** | **78,956** | **82,114** | **85,399** | **88,815** | **92,367** | **96,062** | **99,904** | **842,728** |

*Life-to-date includes any actual expenditures from start of project through July 2022 and estimates for the remainder of FY 2022

**Basis for Project Cost Estimate**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Formal Proposal | | Contractor/Engineer Estimate | | State Purchasing Co-Op | X | Staff Estimate |

**Financial Impact - Revenues**

| | Life-To-Date* | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Revenue Estimate** | | | | | | | | | | | | - |

*Life-to-date includes any actual revenue generated from start of project through July 2022 and estimates for the remainder of FY 2022

| Project Name: | Pump Station Improvements |
|---|---|

| | |
|---|---|
| **Please provide details for the following:**<br>**1. Project Description**<br>**2. Justification**<br>**3. Measure of Success**<br>**4. Description of Revenue Generated (if applicable)** | Golden has nine pump stations that are essential components of Golden's water infrastructure. Gravity is used to maintain water pressure throughout the city by storing water in tanks at different elevations. The water treatment plant on Clear Creek is at an elevation of about 5700 feet. Finished water is pumped from the plant to tanks at an elevation of 6000 feet, then pumped up to tanks at elevations of 6130, 6170, 6200 and 6260 feet, then finally to tanks at an elevation of 6400 feet. The pump stations also provide pumped non-potable irrigation and pumped diversions from Clear Creek. Included in the Pump Station infrastructure are four automated control valves and the bulk water station, plus nine pressure reducing valves which are not automated. This project will not change ongoing maintenance costs for pump stations overall, but deferred investment would result in increases to maintenance going forward. 2023 projects include exterior painting of 6400 pump station, ventilation improvements at 6200 pump station and pump and motor rebuilds at Welch Ditch and Fossil Trace pump stations. An ongoing project is algae control and installation of a structure on the inlet pipe at Fossil Trace to allow better maintenance of the suction piping for that pump station. |
| **Describe how this project connects to and supports Stragetic Action Plan success factor(s) identified above.** | Routine reinvestement in capital assets such as the pump stations reduces long term costs and assures that we continue to reliably provide potable water to the community. |
| **List any obstacles for implementation** | |

*Finance Use Only*

| | Date |
|---|---|
| **Received by Finance Department** | |
| **Reviewed by City Manager:** | |

City of Golden | Capital Improvement Plan 2023-2032 | Project Detail Sheet

| | |
|---|---|
| Completed by: | Les Major |
| Department Head Review: | Brian Tracy |

| | |
|---|---|
| Responsible Department: | Public Works |
| Fund: | Water #11 |

| Strategic Success Factor | Active, Connected and Sustainable | Affordable and Thriving | Safe, Inclusive and Engaged | Respected and Relational Governance | Quality Services |
|---|---|---|---|---|---|
| | | | | | |

| | |
|---|---|
| Strategic Action | Replacement of ladders, vents and hatchs on and in storage tanks |
| Project Name | **Storage Tank Improvements** |

| | | | | | |
|---|---|---|---|---|---|
| **Funding Source** | Existing Grant Funds Identified for Project | Potential Grant Funds Identified | Funds Identified From Capital Project Fund | Funds Identified From Other Fund (Name) | No Identified Funding |
| | | | X | | |
| **New/Additional Revenue Generated** | Significant Ongoing Revenue Source | Small Ongoing Revenue Source | One-Time Revenue Generated | No New/Additional Revenue Generated | |
| | | | | X | |
| **Legally Mandated** | Court Decision | Regulatory Requirement | Pending Legal Action | Potential Legal Action | Normal Liability |
| | | X | | | |
| **Public Health & Safety** | Existing Severe Hazard | Existing Minor Hazard | Potential Severe Hazard | Potential Minor Hazard | No Health or Safety Issue |
| | | | | X | |
| **Operating Budget Impact** | Decreases Operating and/or Personnel Costs | Minimal or No Impact on Operating and/or Personnel Costs | Slight Increase to Operating and/or Personnel Costs | Significant Increase to Operating and/or Personnel Costs | |
| | | X | | | |
| **Environment and Sustainability** | Enhances Environment and/or Sustainability | Benefits Environment and/or Sustainabilty | No Environmental Impact | Minor or Negative Environmental Impact | Diminishes Environment |
| | | | X | | |
| **% Of Population Served** | 100% of Population Served by Project | Majority of Population Served | Approximately 50% of Population Served | Less than 50% of the Population Served | |
| | X | | | | |
| **Preservation of Facility** | Loss of Facility Imminent without Project Completion | Additional Damage Likely without Project Completion | Project Constitutes Normal Major Maintenance | Project Constitutes Normal Minor Maintenance | New Facility/ No Safety Issue |
| | | | X | | |
| **Project Useful Life** | 20+ Years With Little/No Maintenance | 20+ Years With Normal Maintenance | 10-20 Years With Normal Maintenance | 5-9 Years with Normal Maintenance | 1-4 Years with Normal Maintenance |
| | | X | | | |
| **Recreational or Aesthetic Value** | Major Value | Moderate value | No Value | Possibly Detrimental | |
| | | | X | | |
| **Estimated Frequency of Use** | Every Day | Several Times per Week | Several Times per Month | Once per Month or Less | |
| | X | | | | |

**Vision 2030 Guiding Principles Priority - (Choose One Best Fit)**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| X | (A) Safe and Reliable Public Infrastructure | | (B) Economic Vitality and Community Amenities that Improve Quality of Life | | (C) Public Safety | | (D) Other |

**Category of Capital Expenditures - (Choose One Best Fit)**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Land Improvement | | Building Improvement | | Equipment | | Vehicle | | Technology | X | Infrastructure |

**Financial Impact - Expenses**

| | Life-To-Date* | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project Costs** | | 100,000 | 100,000 | 80,000 | 80,000 | 80,000 | 80,000 | 80,000 | 80,000 | 80,000 | 80,000 | **840,000** |
| **On-Going Maintenance** | | | | | | | | | | | | - |
| **Total Project Costs** | - | **100,000** | **100,000** | **80,000** | **80,000** | **80,000** | **80,000** | **80,000** | **80,000** | **80,000** | **80,000** | **840,000** |

*Life-to-date includes any actual expenditures from start of project through July 2022 and estimates for the remainder of FY 2022

**Basis for Project Cost Estimate**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Formal Proposal | | Contractor/Engineer Estimate | | State Purchasing Co-Op | | Staff Estimate |

**Financial Impact - Revenues**

| | Life-To-Date* | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Revenue Estimate** | | | | | | | | | | | | - |

*Life-to-date includes any actual revenue generated from start of project through July 2022 and estimates for the remainder of FY 2022

| Project Name: | Replacement of ladders, vents and hatchs on and in storage tanks |
|---|---|
| **Please provide details for the following:**<br>**1. Project Description**<br>**2. Justification**<br>**3. Measure of Success**<br>**4. Description of Revenue Generated (if applicable)** | The City of Golden owns ten tanks that serve as potable water storage for the citizens of Golden. Five tanks are above ground steel tanks with an expected life of 70-80 years. Five are concrete tanks with an expected life of 100+ years. Replacement of corroded ladders, vents and hatchs will ensure that routine maintenance is accomplished safely and easily. This project will not change ongoing maintenance costs for storage tanks overall, but deferred investment would result in increases to maintenance. 2023 projects include drainage improvements, rock scaling and grouting of the slope adjacent to the 6130 tank, Rimrock tank interior cleaning, coating repairs and ladder replacements in several tanks. |
| **Describe how this project connects to and supports Stragetic Action Plan success factor(s) identified above.** | Routine reinvestement in capital assets such as water storage tanks reduces long term costs and assures that we continue to provide a reliable source of potable water to the community. |
| **List any obstacles for implementation** | |

*Finance Use Only*

| | **Date** |
|---|---|
| **Received by Finance Department** | |
| **Reviewed by City Manager:** | |

City of Golden | Capital Improvement Plan 2023-2032 | Project Detail Sheet

| | |
|---|---|
| Completed by: | Brian Tracy |
| Department Head Review: | Anne Beierle |
| Responsible Department: | Public Works |
| Fund: | Water #12 |

| Strategic Success Factor | Active, Connected and Sustainable | Affordable and Thriving | Safe, Inclusive and Engaged | Respected and Relational Governance | Quality Services |
|---|---|---|---|---|---|
| | | | | | X |

| | |
|---|---|
| Strategic Action | Lead Service Line inventory and replacement throughout the city. |
| Project Name | **Lead Service Line Replacement** |

| | | | | | |
|---|---|---|---|---|---|
| Funding Source | Existing Grant Funds Identified for Project | Potential Grant Funds Identified | Funds Identified From Capital Project Fund | Funds Identified From Other Fund (Name) | No Identified Funding |
| | | | X | | |
| New/Additional Revenue Generated | Significant Ongoing Revenue Source | Small Ongoing Revenue Source | One-Time Revenue Generated | No New/Additional Revenue Generated | |
| | | | X | | |
| Legally Mandated | Court Decision | Regulatory Requirement | Pending Legal Action | Potential Legal Action | Normal Liability |
| | | X | | | |
| Public Health & Safety | Existing Severe Hazard | Existing Minor Hazard | Potential Severe Hazard | Potential Minor Hazard | No Health or Safety Issue |
| | | | X | | |
| Operating Budget Impact | Decreases Operating and/or Personnel Costs | Minimal or No Impact on Operating and/or Personnel Costs | Slight Increase to Operating and/or Personnel Costs | Significant Increase to Operating and/or Personnel Costs | |
| | | X | | | |
| Environment and Sustainability | Enhances Environment and/or Sustainability | Benefits Environment and/or Sustainabilty | No Environmental Impact | Minor or Negative Environmental Impact | Diminishes Environment |
| | | | X | | |
| % Of Population Served | 100% of Population Served by Project | Majority of Population Served | Approximately 50% of Population Served | Less than 50% of the Population Served | |
| | | | | X | |
| Preservation of Facility | Loss of Facility Imminent without Project Completion | Additional Damage Likely without Project Completion | Project Constitutes Normal Major Maintenance | Project Constitutes Normal Minor Maintenance | New Facility/ No Safety Issue |
| | | | X | | |
| Project Useful Life | 20+ Years With Little/No Maintenance | 20+ Years With Normal Maintenance | 10-20 Years With Normal Maintenance | 5-9 Years with Normal Maintenance | 1-4 Years with Normal Maintenance |
| | | X | | | |
| Recreational or Aesthetic Value | Major Value | Moderate value | No Value | Possibly Detrimental | |
| | | | X | | |
| Estimated Frequency of Use | Every Day | Several Times per Week | Several Times per Month | Once per Month or Less | |
| | X | | | | |

**Vision 2030 Guiding Principles Priority - (Choose One Best Fit)**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| X | (A) Safe and Reliable Public Infrastructure | | (B) Economic Vitality and Community Amenities that Improve Quality of Life | | (C) Public Safety | | (D) Other |

**Category of Capital Expenditures - (Choose One Best Fit)**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Land Improvement | | Building Improvement | | Equipment | | Vehicle | | Technology | X | Infrastructure |

**Financial Impact - Expenses**

| | Life-To-Date* | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Costs | | | | 100,000 | 200,000 | 206,000 | 212,000 | 219,000 | 225,000 | 232,000 | 239,000 | **1,633,000** |
| On-Going Maintenance | | | | | | | | | | | | - |
| Total Project Costs | - | - | - | **100,000** | **200,000** | **206,000** | **212,000** | **219,000** | **225,000** | **232,000** | **239,000** | **1,633,000** |

*Life-to-date includes any actual expenditures from start of project through July 2022 and estimates for the remainder of FY 2022

**Basis for Project Cost Estimate**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Formal Proposal | | Contractor/Engineer Estimate | | State Purchasing Co-Op | X | Staff Estimate |

**Financial Impact - Revenues**

| | Life-To-Date* | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Revenue Estimate | | | | 50,000 | 100,000 | 103,000 | 106,000 | 109,500 | 112,500 | 116,000 | 119,500 | **816,500** |

*Life-to-date includes any actual revenue generated from start of project through July 2022 and estimates for the remainder of FY 2022

| Project Name: | Lead Service Line Replacement |
|---|---|

| | |
|---|---|
| **Please provide details for the following:**<br>**1. Project Description**<br>**2. Justification**<br>**3. Measure of Success**<br>**4. Description of Revenue Generated (if applicable)** | EPA established the Lead and Copper Rule (LCR) to protect public health and reduce exposure to lead and copper in drinking water. Although lab results indicate there is not lead and copper contamination issue in the city, it is still a best practice to remove any source of lead, inclding lead service lines. In homes with lead pipes that connect the home to the water main, also known as lead services lines, these pipes are typically the most significant source of lead in the water. Lead pipes are more likely to be found in older cities and homes built before 1986. The City of Golden estimates there are up to 200 Lead Service Lines served by City of Golden Public Works. A lead service line inventory of underway in 2022, which will help forecast costs related to this project. During this budget cycle, a cost estimate of $10,000 for each line replacement is used, with a roughly 3% inflation escaltor year over year, starting after 2026. We anticipate, as the most expensive scenario, to replace 10 lead service lines in 2025, and 20 lead service lines each year thereafter, through 2032, or until every identified lead service line is replaced. This project will generate revenue through eligible grant money, and may be eligible for federal or state low-cost loans, which could offset some of the project cost. |
| **Describe how this project connects to and supports Stragetic Action Plan success factor(s) identified above.** | The lead service line replacement program assures that we have a reliable water distribution system and can provide quality potable water to our citizens. |
| **List any obstacles for implementation** | |

*Finance Use Only*

| | Date |
|---|---|
| **Received by Finance Department** | |
| **Reviewed by City Manager:** | |

City of Golden | Capital Improvement Plan 2023-2032 | Project Detail Sheet

| | |
|---|---|
| Completed by: | Les Major |
| Department Head Review: | Brian Tracy |

| | |
|---|---|
| Responsible Department: | Public Works |
| Fund: | Water #13 |

| Strategic Success Factor | Active, Connected and Sustainable | Affordable and Thriving | Safe, Inclusive and Engaged | Respected and Relational Governance | Quality Services |
|---|---|---|---|---|---|
| | | | | | |

| | |
|---|---|
| Strategic Action | Replacement of AMI equipment and meters that have reached the end of their expected lifcycle. |
| Project Name | **Meter System Upgrade - Water Meter Replacement** |

| | | | | | |
|---|---|---|---|---|---|
| Funding Source | Existing Grant Funds Identified for Project | Potential Grant Funds Identified | Funds Identified From Capital Project Fund | Funds Identified From Other Fund (Name) | No Identified Funding |
| | | | X | | |
| New/Additional Revenue Generated | Significant Ongoing Revenue Source | Small Ongoing Revenue Source | One-Time Revenue Generated | No New/Additional Revenue Generated | |
| | | | | X | |
| Legally Mandated | Court Decision | Regulatory Requirement | Pending Legal Action | Potential Legal Action | Normal Liability |
| | | X | | | |
| Public Health & Safety | Existing Severe Hazard | Existing Minor Hazard | Potential Severe Hazard | Potential Minor Hazard | No Health or Safety Issue |
| | | | | X | |
| Operating Budget Impact | Decreases Operating and/or Personnel Costs | Minimal or No Impact on Operating and/or Personnel Costs | Slight Increase to Operating and/or Personnel Costs | Significant Increase to Operating and/or Personnel Costs | |
| | | X | | | |
| Environment and Sustainability | Enhances Environment and/or Sustainability | Benefits Environment and/or Sustainabilty | No Environmental Impact | Minor or Negative Environmental Impact | Diminishes Environment |
| | | | X | | |
| % Of Population Served | 100% of Population Served by Project | Majority of Population Served | Approximately 50% of Population Served | Less than 50% of the Population Served | |
| | X | | | | |
| Preservation of Facility | Loss of Facility Imminent without Project Completion | Additional Damage Likely without Project Completion | Project Constitutes Normal Major Maintenance | Project Constitutes Normal Minor Maintenance | New Facility/ No Safety Issue |
| | | | X | | |
| Project Useful Life | 20+ Years With Little/No Maintenance | 20+ Years With Normal Maintenance | 10-20 Years With Normal Maintenance | 5-9 Years with Normal Maintenance | 1-4 Years with Normal Maintenance |
| | | | X | | |
| Recreational or Aesthetic Value | Major Value | Moderate value | No Value | Possibly Detrimental | |
| | | | X | | |
| Estimated Frequency of Use | Every Day | Several Times per Week | Several Times per Month | Once per Month or Less | |
| | X | | | | |

**Vision 2030 Guiding Principles Priority - (Choose One Best Fit)**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| X | (A) Safe and Reliable Public Infrastructure | | (B) Economic Vitality and Community Amenities that Improve Quality of Life | | (C) Public Safety | | (D) Other |

**Category of Capital Expenditures - (Choose One Best Fit)**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Land Improvement | | Building Improvement | | Equipment | | Vehicle | | Technology | X | Infrastructure |

**Financial Impact - Expenses**

| | Life-To-Date* | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Project Costs | | 50,000 | 50,000 | 100,000 | 100,000 | 100,000 | 100,000 | 100,000 | 100,000 | 100,000 | 100,000 | **900,000** |
| On-Going Maintenance | | | | | | | | | | | | - |
| Total Project Costs | - | **50,000** | **50,000** | **100,000** | **100,000** | **100,000** | **100,000** | **100,000** | **100,000** | **100,000** | **100,000** | **900,000** |

*Life-to-date includes any actual expenditures from start of project through July 2022 and estimates for the remainder of FY 2022

**Basis for Project Cost Estimate**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Formal Proposal | | Contractor/Engineer Estimate | | State Purchasing Co-Op | X | Staff Estimate |

**Financial Impact - Revenues**

| | Life-To-Date* | 2023 | 2024 | 2024 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Revenue Estimate | | | | | | | | | | | | - |

*Life-to-date includes any actual revenue generated from start of project through July 2022 and estimates for the remainder of FY 2022

| Project Name: | Meter System Upgrade - Water Meter Replacement |
|---|---|
| Please provide details for the following:<br>1. Project Description<br>2. Justification<br>3. Measure of Success<br>4. Description of Revenue Generated (if applicable) | Replacement of water meters and AMI equipment that have reached the end of their expected lifecycle. Mechanical meters lose accuracy as the age which results in lost revenue. Replacing these meters before they fail will result in a more even revenue stream and avoid increasing maintenance costs associated with failing or stopped meters. In the past we have replaced all of the meters at once in a comprehensive program. Upgrading meters in this manner is expensive and leads to challenges in data quality control and billing. A multi year approach will allow for better data quality control and ensure billing needs are met in a timely manner. The project will not change ongoing maintenance costs, but deferred investment would result in increases to maintenance. This is a ongoing campaign. |
| Describe how this project connects to and supports Stragetic Action Plan success factor(s) identified above. | Accurate water meters assure that we bill correctly and continue to provide quality public services in the delivery of potable water to the community. |
| List any obstacles for implementation | |

*Finance Use Only*

| | Date |
|---|---|
| Received by Finance Department | |
| Reviewed by City Manager: | |