Asset Inventory and Capital Improvement Plan

TOWN OF COLLBRAN

October 2020

Prepared by

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TOWN OF COLLBRAN

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1.0 Executive Summary

1.1 Introduction

SGM was selected by the Town of Collbran (Town) through a competitive RFP process to complete an Asset Inventory, Capital Improvement Plan, and Utility Rate Study. This Asset Inventory, Capital Improvement Plan, and Utility Rate Study is part of the Town's overall Capital Improvements Assessment, which is being funded in part through a Department of Local Affairs (DOLA) Grant to complete a comprehensive assessment of all the Town's assets. This project includes documenting current conditions and assessing buildings, infrastructure, open spaces, and park facilities in order to document informed deficiencies, recommendations, and corresponding cost estimates for the proposed capital projects. This Assessment is planned to be used by the Town of Collbran for planning and budgeting and is also part of a larger succession planning effort for Town Hall; creating a roadmap for current and future needs.

The assessment includes two components:

1. This report which provides narrative descriptions of buildings, parks, streets, stormwater, water, wastewater, raw water, equipment, etc., recommendations, and a summary of the corresponding cost estimates.
2. The Utility Rate Study which incorporates the water and wastewater capital improvement projects, existing utility rate structures, existing expenses, and existing revenues to determine appropriate changes to the water and wastewater rate structures to address future needs.

1.2 Document Scope and Purpose

SGM completed multiple site visits between September 2019 and February 2020 to begin the Asset Inventory, Capital Improvement Plan, and Utility Rate Study. SGM then developed this report to summarize the existing condition of Town assets and proposed capital improvements and their associated costs.

1.3 Capital Assessment Format

Each asset category has its own section including a general description, a summary of condition assessment, recommended improvements, and estimated costs.

2.0 Street and Stormwater Systems

2.1 Streets

The Town's street and road system consists of mainly asphalt roadways with some gravel roads which are largely alleyways. State Highway 330 bisects the Town; Highway 330 is referred to as Main Street as it passes through Town. The Town is responsible for maintenance of Highway 330, extending from the west entrance to Town at approximately the intersection of Highway 330 and Orchard Avenue to just over the Plateau Creek Bridge to the north of the downtown area.

The total street and road system consists of approximately 2.35 miles of asphalt roadways. The roads in Town were paved in 1996 and the roads have not been resurfaced since then.

2.1.1 Streets Condition Assessment

SGM conducted an assessment of the Town's roads using the Pavement Surface Evaluation and Rating (PASER) method. The PASER method considers surface defects, cracking and surface deformations in determining the rating.

SGM walked all of the asphalt streets in Town and rated each section which was defined as the segment of road between streets. The PASER system provides a range of ratings, from a 10 for to a newly constructed road to a 1 for roads that have completely failed. Table 2-1 summarizes the condition of the Town's roads; a map of the streets and their ratings is attached in Appendix A as Figure A.1.

Table 2-1. PASER Ratings

PASER Rating	Number of sections
1 (Failed)	0
2 (Very Poor)	4
3 (Poor)	10
4 (Fair)	6
5 (Fair)	9
6 (Good)	5
7 (Good)	1
8 (Very Good)	0
9 (Excellent)	0
10 (Excellent)	0

Most sections of the roads exhibit moderate to severe surface wear and defects referred to as raveling and polishing.

- Raveling is the progressive loss of asphalt material and the loss of the bond between aggregate and the binder which results in the deterioration of the road surface. Exposure to UV light and regular vehicle traffic can also contribute to raveling.
- Polishing is the smoothing of the exposed aggregate caused by vehicle and traffic loading.

All sections of the roads exhibit some type of surface cracking. Surface cracking is generally caused by fatigue from traffic, inadequate or deteriorating subgrade

support, temperature changes and hardening over time. Surface cracks tend to fall within the following categories:

- Longitudinal cracks run in the direction of traffic. Moisture can seep beneath the road and cause the subgrade to weaken which can contribute to the cracks expanding if the cracks are not sealed or maintained.
- Transverse cracks run perpendicular to traffic. If not addressed, transverse cracks will develop parallel cracks which will allow additional moisture to penetrate the road and weaken the subgrade.
- Block/Alligator cracks are interconnected forming blocks. Large blocks (larger than ~1ft) are categorized as block cracking and smaller blocks (less than ~1ft) are alligator cracking. If not addressed, chunks of asphalt can separate from the road and create potholes.

2.1.2 Street Monitoring Recommendations

The Town should perform an inspection of all the roads at a minimum of every 3 years. The Town should use either the PASER method or another rating/evaluation method – the key component of these inspections is to be consistent with the method of evaluation over time.

- Long Term Pavement Plan
  Any road from the recent PASER evaluation with a rating of 5 or less should be slated for repaving. A per-year budget for paving operations should be established in conjunction with the Mesa County paving plans.
- Routine Maintenance, Gravel Roads
  Gravel/dirt roads should be regraded in the late spring each year to mitigate potholing and washboarding that forms over the previous year.
- Routine Maintenance, Asphalt Roads
  Once a road is repaved, chip and seal (chip seal) is recommended to provide a wearing course and significantly lengthen the lifespan of the asphalt. Chip sealing is generally recommended for lower-traffic roads but may be applicable for all of the Town's roads. In addition, crack sealing should be performed each year on asphalt roads to prevent water infiltration and potholing.

2.1.3 Streets Improvement Recommendations

Working in cooperation with Mesa County paving operations, the Town should begin repairing critical streets, particularly those with the worst PASER ratings. Repaving of Spring Street was completed in June of 2020. Repaving of streets where waterline work is recommended (listed in Section 4.0 of this report) should not be performed until after the waterline work is completed. This includes repaving High Street, Highway 330 running east from Main Street, and 59 ½ Road.

Mesa County plans on having crews devoted to chip and sealing operations in 2021. Chip sealing is not recommended for roads with a PASER rating of 5 or less; any temporary benefits provided by the chip sealing would quickly degrade due to the poor condition of those roads. Instead, chip and seal should be put down on roads with a PASER rating of 6 or higher including:

- Willow Street
- Oakbrush Circle
- High Street (between Park Avenue and Glenarm Avenue)
- Clancy Avenue

If, in the Town's judgement, additional roads would benefit from chip and seal it is recommended that roads with a PASER rating of 5 be chosen. These roads include:

- Cherry Lane
- Elm Avenue
- Park Avenue
- Glenarm Avenue

Estimated 2020 costs for milling, paving, chipping, and fog sealing are shown in Table 2-2. Costs are estimated based on bid tabulations from nearby communities for 2020 projects. Mesa County is currently providing paving operations to the Town for the cost of materials only; that discount should be taken into account when budgeting.

Table 2-2. Estimated 2020 Paving Costs

Operation	Cost per SF
Pavement Milling	$2.00[1]
Asphalt Overlay	$12.50[1]
3/8" Chip Seal	$4.00
Fog Seal	$0.50

Notes: 1 - Cost reflects 2" depth

In addition to asphalt roads maintenance, the dirt access roads to the water and wastewater treatment plants require periodic resurfacing. A common method for a full resurfacing of a dirt road involves regrading, chemical application of a binding agent such as magnesium chloride, and final compaction/surfacing. Both access roads are in poor condition and in need of resurfacing.

1. Access Road Resurfacing:

-WTP Access Road	$ 15,000
-WWTP Access Road	$ 80,000
Cost estimate:	**$ 95,000**

The Town should consider setting aside an amount annually to fund street and road resurfacing and repairs. Included in this reserve are the repairs of curb and gutter and sidewalks. The Town needs to plan for upgrading and installing ADA compliant ramps at intersections and pedestrian safety improvements. It is recommended that the Town strive to reserve $150,000 per year for improvements.

2.1.4 Streets Funding Opportunities

Possible funding opportunities can include:

- Infrastructure Grants:
  - eCivis
  - USDOT-INFRA
  - CO-DOLA Rural Economic Development Initiative (REDI)
  - EPA-Federal Resources for Sustainable Rural Communities

2.2 Stormwater System

2.2.1 Stormwater System Condition Assessment

The Town's stormwater infrastructure consists of storm inlets, storm manholes, culverts, and outfalls into Grove Creek, Buzzard Creek, and Plateau Creek. Table 2-3 summarizes the stormwater infrastructure.

Table 2-3. Stormwater System Summary

Asset	Quantity
Storm Inlet	49
Storm Manhole	1
Culverts (LF)	4,760
Culverts (Segments)	48
Outfall to Grove Creek	2
Outfall to Buzzard Creek	1
Outfall to Plateau Creek	8

Overall, the Town's stormwater management infrastructure appears adequate. There is one known location with poor stormwater control near the intersection of Pinion Street and Poplar Court. The valley pan and gutter drainage in this area terminates without a proper drain to the creek, resulting in improper drainage during rain and runoff events. In addition, a drainage issue at the bridge along High Street and Orchard Avenue has been noted and is slated to be remedied by the State.

The Town's stormwater infrastructure does not operate within the State's Water Quality Control Division – Stormwater Program. There may be regulations associated with this program to which future stormwater projects will need to adhere.

2.2.2 Stormwater System Capital Improvement Recommendations

It is recommended that improvements be made to the drainage at the intersection of Pinion Street and Poplar Court. These improvements include approximately 235 LF of concrete valley pan running into the Town's lot at the end of Pinion Street, a drainage inlet, and 25 LF of culvert or riprapped swale providing an outlet to the adjacent stream. Figure 2-1 shows the proposed improvements.

Figure 2-1. Proposed Stormwater Improvements at Pinion Street and Poplar Court

1. Pinion Street Stormwater Improvements:

-235 LF valley pan	$ 10,000
-Drainage inlet, culvert, outlet	$ 7,500
Cost estimate:	**$ 17,500**

3.0 Public Works Operations

3.1 Snow Removal

Snow removal is performed by the Town using Town-owned equipment and personnel. SGM did not review snow removal operations or the adequacy of snow storage areas in Town.

3.2 Staffing

Currently, the Town's Public Works Department employs two foremen that handle the bulk of the work. In addition, part-time seasonal employees are hired to maintain parks and public spaces.

3.2.1 Staffing Recommendations

In addition to the current staff, the Town desires to hire a Public Works Superintendent to manage team and perform more of the administrative tasks. Budgeting and development of a thorough job description for the new Superintendent is recommended.

3.3 Public Works Facilities

The Public Works building is located on High Street, across from Town Hall, and contains the Public Works shop and offices. A structural and mechanical assessment of the building is included in Section 7 of this report. Town staff did not indicate any shortcomings or deficiencies with the current Public Work facilities.

3.3.1 Public Works Facilities Recommendations

A budget for the proposed structural and mechanical upgrades is outlined in Section 7 of this report.

3.4 Municipal Fleet Equipment/Vehicles

The Town maintains a fleet of vehicles for use by the Marshal, Public Works, and the Recreation Department. Table 3-1 lists the fleet vehicles and the current approximate value, and odometer reading (if available).

Table 3-1. Fleet Vehicle Inventory

CIRSA ID	Year	Make/Model	Department	2020 Value	04/2020 Odometer	Estimated Useful Years Remaining
05600009	1993	BJ TRAILER	MARSHAL	$1,000	N/A	0
05600007	1991	AM GENERAL HIGH MOBILITY VEHICLE	MARSHAL	$13,000	8,085	--
05600020	2015	DODGE DURANGO	MARSHAL	$48,867	36,790	5
05600011	1999	STEWART & STEVENSON TRUCK	MARSHAL	$50,000	1,192	0
0560008	1991	TRAILER	MARSHAL	$500	N/A	0
05600023	2018	DODGE DURANGO	MARSHAL	$49,000	13,165	8
N/A	1991	TRAILER	MARSHAL	$500	N/A	0
05600013	2003	POLARIS SIDE-BY-SIDE	MARSHAL	$6,000	*Doesn't run	0
05600016	2005	BIG TEX 14' UTILITY TRAILER	PUBLIC WORKS	$1,600	N/A	0
05600006	1990	FORD RANGER PICKUP	PUBLIC WORKS	$2,636	57,620	0
05600019	2012	CHEVROLET PICKUP 2500 TRUCK	PUBLIC WORKS	$28,413	34,446	2
05600005	1989	DODGE D100 PICKUP	PUBLIC WORKS	$2,500	71,458	0
05600021	2016	CHEVROLET SILVERADO K3500	PUBLIC WORKS	$44,500	12,995	6
05600010	1993	CHEVROLET PICKUP	PUBLIC WORKS	$1,500	56,298	0
05600022	2016	KAUFMAN TRAILER	PUBLIC WORKS	$4,780	N/A	11
N/A	2019	SIDE-BY-SIDE	PUBLIC WORKS	$18,000	91	--
N/A	2019	VERMEER VACUUM TRAILER	PUBLIC WORKS	$50,000	N/A	--
N/A	N/A	JOHN DEERE TRACTOR	PUBLIC WORKS	N/A	N/A	--
N/A	N/A	FORD TRACTOR 5000 (50% OWNERSHIP)	PUBLIC WORKS	N/A	N/A	--
05600012	2001	FORD GOSHEN COACH 11 PASSENGER	REC DEPT - SENIORS	$20,500	50,452	0

Note: Useful remaining life estimates based on industry standards of 10 years for a truck and 15 years for a trailer

3.4.1 Municipal Fleet Equipment/Vehicles Recommendations

Town staff noted the desire for a new passenger van for the Rec Department.

1. Recreation Department – Senior Van:
   -New Ford Goshen ADA Compliant Van $ 75,000
   Cost estimate: **$ 75,000**

3.5 Broadband

There have been previous discussions about bringing high-speed broadband internet access to the Town. There is no clear plan and associated costs yet but should be considered an upcoming capital improvement.

3.6 Public Works Funding Opportunities

Possible funding opportunities can include:

- Infrastructure Grant Programs:
  - eCivis
  - USDOT-INFRA
  - CO-DOLA Rural Economic Development Initiative (REDI)
  - EPA-Federal Resources for Sustainable Rural Communities
  - Government Fleet-Managing Public sector Vehicles and Equipment

4.0 Water System

The existing water system (Colorado Public Water System ID NO. CO0139185) is composed of four spring sources, one surface water intake, and associated raw water infrastructure, water treatment plant, two finished water storage tanks, and approximately 5.5 miles of distribution piping.

4.1 Raw Water System

The raw water collection system consists of four spring sources (Buzzard Creek Springs 1, 2, 3, and 4), a surface water intake off of Plateau Creek, the Raw Water House, and the Pump House. The raw water infrastructure includes a combination of pre-1970 collection and transmission facilities, improvements made in 1970 including installation of perforated concrete pipe, and improvements made in 2008 including modifications to spring catchments, the pump house discharge manifold, and other piping.

4.1.1 Raw Water System Condition Assessment

Based on discussions with Town staff and a review of historic raw water production data, it appears the raw water collection system is functioning well. Production from the spring sources has remained consistent for many years. Periodic increases in turbidity levels from an individual spring source can be isolated effectively until the turbidity decreases.

The Hoosier Ditch has never been used to supplement the raw water supply to the Water Treatment Plant (WTP). Use of ditch water would likely necessitate a significant change in treatment procedures, chemical usage, etc. due to its different water characteristics. The Town is interested, however, in possible ditch improvements to allow the use of raw water in irrigating Town properties, including the WTP, Gandi Park, and select properties in the Downtown area.

SGM prepared an assessment of the Hoosier Ditch in 2013, which is included in Appendix A, largely addressing possible uses of the Hoosier Ditch for the oil and gas industry. The alternatives and cost estimates provided in the 2013 assessment were developed for protection of the ditch water from oil and gas operations but are similar improvements to those needed to use the ditch as an irrigation water source. The cost estimates presented in Section 4.1.2 were adapted from the 2013 assessment and adjusted to 2020 using the Colorado Construction Cost Index.

4.1.2 Raw Water System Capital Improvement Recommendations

Yearly maintenance to the springs, transmission piping, Raw Water House, and Pump House is recommended to maximize the useful life of the components.

1. Yearly Maintenance, Raw Water Collection:

-Misc. maintenance	$ 2,500
Cost estimate:	**$ 2,500**

Improvements to the Hoosier Ditch needed to allow for raw water irrigation includes piping significant portions of the ditch, diverting the ditch in certain locations, new headgates, and coordination with The Colorado Water Division 5 Courts needed to manage the ditch improvements.

2. Hoosier Ditch Improvements:

-Piping entire length of ditch, 6,638 LF	$ 228,000
-Design and install new headgate	$ 6,000
-Design and install new diversion structure	$ 18,000
-Replace 6” steel pipe from settling basin to WTP, 12,700 LF	$ 760,000
Cost estimate:	**$ 1,012,000**

4.2 Water Treatment Plant (WTP)

The Town’s WTP was commissioned in 1994 and consists of two, 100 gpm package treatment trains including flocculation, settling, and dual media filters. Raw water is pumped to the WTP from a divider box which accepts water from the springs (pumped) or from the Hoosier Ditch (gravity). The raw water pumps are metered and deliver water to the flocculation tanks. Polymer is dosed into the line and is mixed through a static mixer prior to the flocculation tank. The flocculation tank is equipped with in-tank mixers to assist with mixing. Water is fed to the bottom of the settling tank through a distribution manifold, travels up through angled settling tubes, collected at the surface through a perforated pipe, and then transported to the dual media filter. Water percolates through the dual media filter, which consists of an anthracite/sand/gravel filter bed. Water is collected through a filter manifold and flowS by gravity to the finished water clearwell. The dual media filter has a surface wash system and metal troughs to convey backwash water to the solids pond. Surface wash water for the filters and spray wash for the settling tank are provided by a sump pump.

Gaseous chlorine is used as the disinfectant. A separate chlorine storage room with gas canisters and scales, tubing, HVAC and alarm system. The safety measures were all found to be functional and appear to meet the required codes. Chlorine gas is delivered to the finished water after the sump pumps and is controlled by a chlorine residual analyzer.

The clearwell is approximately 200,000 gallons in capacity and is unbaffled. Chlorine contact is achieved in the clearwell and the compliance point is immediately downstream of the clearwell.

The WTP typically operates with one treatment train online at a flow of 100 gpm. Peak demands can be satisfied with only one 100 gpm output from the WTP.

4.2.1 Water Treatment Plant Process Assessment

Most of the WTP’s process equipment appears to be in excellent condition and has been well maintained. The piping, instrumentation, and chlorine disinfection equipment appear clean and orderly. There is some rust and corrosion visible on metal equipment (pumps, flanges, nuts, and bolts) but that is expected with 25+ year old equipment. There is various piping equipment, primarily for an abandoned pre-chlorination system, that should either be updated and reconnected or removed entirely. In addition, the flow pacing functionality of the chlorine disinfection system was disconnected which makes operations difficult.

As noted in Section 7.7 of this report, the wooden roof structure above the clearwell is in poor condition and in need of replacement. Options for replacing this roof while keeping the WTP online have been evaluated. Bypassing the clearwell during construction and instead using the water transmission piping and the finished water storage Tank 1 to achieve the required chlorine contact time may be possible. This

would require removing all water services between the WTP and Tank 1 and rerouting those services downstream of Tank 1. Concentration time (CT) and 3- and 4-log inactivation calculations for *Giardia lamblia* and viruses (respectively) can be achieved for this scenario at the current WTP operating points. In order to utilize Tank 1 for CT, piping modifications at the tank would be needed to provide separate inlet and outlet piping. The Town would like to possibly combine that work with modifications to the WTP and clearwell into one project.

In addition, temporary potable water storage could be used at the WTP to act as the clearwell. This solution would allow the clearwell to be taken offline for roof reconstruction. Finally, a new clearwell could be constructed adjacent to the existing clearwell.

4.2.2 Water Treatment Plant Capital Improvement Recommendations

The Town has received a proposal from Filter Tech for WTP improvements including replacing the programmsble logic controller (PLC), replacing the pneumatic controller, Filter 1 effluent turbidimeter modifications, and adding flow pacing back into the chlorine disinfection system.

1. WTP Improvements:

-Pneumatic controller replacement	$ 11,000
-Filter 1 turbidimeter modifications	$ 2,000
-Chlorine system automation/flow pacing	$ 2,500
-PLC replacement	$ 32,000
Cost estimate:	**$ 47,500**

**Note: Costs adapted from Filter Tech proposal*

2. WTP Clearwell:

-New concrete clearwell	$ 150,000
Cost estimate:	**$ 150,000**

3. Tank 1 Modifications:

-Install separate inlet/outlet piping	$ 50,000
-Paint tank (Interior and Exterior)	$ 10,000
-Security Fence	$ 8,000
Cost estimate:	**$ 68,000**

4.3 Distribution System

The Town's treated water distribution system consists of approximately 5.5 miles of piping, all fed by gravity from the WTP. Table 4-1 provides a summary of the system's piping and an existing conditions map is attached in Appendix A as Figure A.2.

Table 4-1. Distribution System Piping Summary

Pipe Diameter (in)	Pipe Material	Length (ft)
≤ 2.5	PVC	4,534
4	PVC	4,232
6	PVC	16,616
6	HDPE	785
8	PVC	1,381
10	PVC	1,111
	Total	28,659

4.3.1 Distribution System Hydraulic Modeling

A hydraulic model was developed in Innovyze InfoWater using compiled distribution system GIS data. Typical system demands were distributed to the water model nodes in order to analyze flows and pressures throughout the system.

The hydraulic model was used to perform a fireflow analysis in order to determine the available fireflow throughout the Town while maintaining a minimum of 20 psi residual pressure throughout the system. The existing conditions, shown in the attached Figure A.2, revealed a critical lack of available fireflow throughout most of the Town. Approximately 83% of the modeled nodes had an available fireflow less than 1,500 gpm, typically used as a minimum threshold for fireflow in residential areas. A lack of connectivity, looping, and some bottlenecks are the primary reasons for the low fireflows in the Town.

Alternative modeling scenarios, maps of which are attached as Figures A.3-A.7, were developed to analyze modifications that could be made to the distribution system to improve fireflows. The most promising alternatives use a combination of adding new piping to create some looping in the system and upsizing small diameter pipes in critical areas. Proposed distribution system projects to improve fireflows are included in the CIP.

4.3.2 Distribution System Condition Assessment

The distribution system's biggest issue is the lack of available fireflow throughout large sections of the Town. There are multiple pipeline upsizing and looping alternatives that would improve fireflows and water transmission throughout the Town. The Town expressed interested in a new pipeline connecting the WTP/Tank 1 to the distribution system along Hwy 330, adding redundancy to the existing pipeline that crosses Plateau Creek. Section 4.3.3 outlines the recommended improvements that were selected based on value to the Town as well as planned paving operations in 2020 and 2021.

There are two fire hydrants located in the area of Poplar Court and Pinion Street that are fed off of 2" to 3" piping. Colorado Department of Health and Environment (CDPHE) design guidelines state that fire hydrant leads must be at least 6" in diameter. In addition to becoming compliant with CDPHE requirements, upsizing these hydrant leads would improve fireflows at these locations.

The Town expressed interest in extending a waterline west along Hwy 330 to Plateau City and Plateau Valley School. SGM previously prepared a feasibility study for this connection which provided a cost estimate, modeled pressure, and fireflows. If the fireflow improvements shown in Figure A.6 were implemented, the fireflow available at the Plateau Valley School would be approximately 500 gpm, which would still not be enough to meet a fireflow requirements at the school. Additional improvements would be needed to provide adequate fireflows.

Finally, the Town intends to modify the bulk water filling station to decrease the contamination risk.

4.3.3 Distribution System Capital Improvement Recommendations

1. <u>Pipeline Upsizing on High Street, 695 LF:</u>
   -Construction of 695 LF 12" C900 piping $ 185,000

-Engineer and construction management	$ 22,000
Cost estimate:	**$ 207,000**

**Note: Does not include costs for repaving High Street which will be performed by Mesa County*

2. Looped Pipe on 59 ½ Road, 1,380 LF:

-Construction of 1,380 LF 8" C900 piping	$ 275,000
-Engineer and construction management	$ 35,000
Cost estimate:	**$ 310,000**

3. Looped Pipe on Hwy 330, 1,325 LF:

-Construction of 1,325 LF 8" C900 piping	$ 320,000
-Engineer and construction management	$ 40,000
Cost estimate:	**$ 360,000**

4. Plateau City/School Waterline Extension, 5,850 LF:

-Construction of 5,850 LF 8" C900 piping	$ 1,500,000
-Engineer and construction management	$ 150,000
Cost estimate:	**$ 1,650,000**

5. Bulk Water Filling Station:

-Modifications to decrease contamination	$ 15,000
Cost estimate:	**$ 15,000**

4.4 Water Storage Tanks

The Town has two finished water storage tanks. Tank 1 was built in 1970, is located near the WTP off PE 3/10 Road, and has a capacity of 285,000 gallons. Water is supplied to the tank via a 10-inch waterline. Tank 1 is a welded steel tank that is approximately 24 feet tall and has a 42-foot - 3-inch internal diameter. The water tank has an 8-inch overflow that tees into the 8-inch drain line. The drain line has an 8-inch gate valve located above the tee. The combined overflow/drain line daylights at a rip-rap channel; the end of the pipe has a flapper gate valve. The tank has two 24-inch manways on the side shell and a 24-inch manway/roof hatch on the domed roof. A 30-inch vent with number 24 stainless steel mesh is provided at the apex of the roof. Access to the roof is by a locked caged ladder. There is no security fencing or other security features at the tank site.

Tank 2 was built in 2000, is located at the end of Delores Road, and has a capacity of 250,000 gallons. Water is supplied to the tank via a 6-inch waterline. Tank 2 is a welded steel tank that is approximately 29 feet tall and has a 39 ft internal diameter. The water tank has a 6-inch overflow that drains to a pit adjacent to the tank which then flows by gravity via a 6-inch pipe to an irrigation ditch. The 6-inch tank drain wyes into the overflow and is isolated by a 6-inch gate valve. The end of the combined overflow/drain pipe is equipped with a flapper gate valve. The tank has one 24-inch manway on the side shell and a 24-inch manway/roof hatch on the domed roof. A 12.5-inch vent with number 24 stainless steel mesh is provided at the apex of the roof. The tank site has security fencing and a locked gate at the access road.

4.5 Water System Funding Opportunities

Possible funding opportunities can include:

- CO W & WW Funding sources see Table C in the Appendix.
- Infrastructure Grants:

- USDA Rural Development
- CO-Water Pollution Revolving Fund Program
- CO-DOLA Energy and Mineral Impact Assistance Fund (EIAF)
- CO-CDPHE Water Quality Improvement Fund
- EPA-Federal Resources for Sustainable Rural Communities

5.0 Wastewater System

The existing wastewater collection system receives wastewater from residential and commercial customers and conveys it to the Wastewater Treatment Plant (WWTP, Colorado Discharge Permit System Number CO004087). The collection system is almost entirely a gravity system with the exception of a pump station and pressurized forcemain at Plateau Valley School. The wastewater collection system consists of service laterals, manholes, gravity sewer mains and forcemains.

5.1 Collection System

As shown in Table 5-1 there is approximately 5.9 miles of pipe in the Town's collection system. The majority of the collection system is composed of PVC piping.

Table 5-1 Wastewater Collection System Summary

Pipe Diameter (in)	Pipe Material	Length (ft)
4	PVC, SDR 35	305
6	PVC, SDR 35	9,362
6	PVC, C900	1,863
6	Unknown	111
8	PVC, SDR 35	7,247
8	Ductile Iron	347
10	PVC, C900	7,181
Unknown	Unknown	4,478
	Total	30,894

5.1.1 Collection System Condition Assessment

SGM inspected all of the manholes within the Town's wastewater collection system except for a couple that were either buried or not accessible. The manholes were all found to be in good condition. Manholes were constructed of concrete and are 4-feet in diameter with 24-inch diameter access covers with lids. In total, rim elevations, condition assessments, and photographs were recorded at 121 manholes as part of this assessment.

The Town noted a section of sewer piping along Pearl Street that is seeing significant infiltration and some sagging. Infiltration was seen in video of the pipeline at a joint, likely due to a rolled gasket or pipe separation. It is recommended that this joint be repaired prior to paving operations planned for Pearl Street in 2020. Some sagging of the pipeline was observed but does not warrant repairs or replacement. Jetting the sewer line at regular intervals will clean out materials collected in the sagging pipe portions.

The Town also noted a bottleneck in the collection system at the east end of High Street where three residential sewer services tie into one pipe. There are issues in this location every winter that cause sewage backups.

Finally, the sewer line along Grove Creek/59.5 Road does not have any manholes, creating maintenance issues. Full replacement of the sewer with 8" pipe and manholes at least every 400' is recommended. The Town also noted the possibility of extending the sewer up to Red Mountain Lane, costs for which are included.

5.1.2 Collection System Capital Improvement Recommendations

It is recommended that the Town self-perform a spot repair to the joint along Pearl Street that is seeing infiltration.

1. Pipe Repair at Pearl Street:
   -Repair of PVC pipeline $ 5,000
   Cost estimate: $ 5,000
   **Note: Does not include costs for paving of Pearl Street already earmarked for 2020*

2. Sewer Service Improvements at High Street:
   -Improve services to remove bottleneck $ 40,000
   Cost estimate: $ 40,000

3. Grove Creek/59.5 Rd Sewer Line:
   -8" PVC Pipe w/Manholes $ 750,000
   Cost estimate: $ 750,000

5.2 Wastewater Treatment Plant (WWTP)

The WWTP was constructed in 1984-85. The WWTP consists of a manual bar screen, two aerated lagoons, a settling/polishing pond, a serpentine chlorine contact chamber and a dechlorination chamber, which was built in 2019. Space for a third lagoon is available on-site for future expansion needs. Treated wastewater is discharged to Plateau Creek. The WWTP has a permitted rated capacity of 0.192 MGD and typically treats 0.06 MGD.

5.2.1 WWTP Process Assessment

In 2019, SGM completed a memorandum analyzing the WWTP's nutrient removal capabilities, particularly how current and future nutrient removal regulations impact the WWTP. Currently, the WWTP only has a nutrient discharge limit for ammonia. The WWTP has struggled to meet the ammonia limit during colder periods when the biological activity within the lagoons is reduced. Kinetic modeling of the lagoons was performed, and the estimated kinetic reaction coefficients of the lagoons were found to be at the lower end of published reaction coefficients for flow-through lagoons. The lower reaction coefficients are likely the result of accrued sludge within the lagoons.

The Colorado Department of Public Health and Environment (CDPHE) has publicly stated that in-stream limits for total nitrogen (TN) and phosphorus will be implemented by 2027. The draft criteria and limits are not anticipated until 2026, but it is expected that the limits will be at least as stringent as the current limits for new domestic wastewater treatment plants in the current Regulation 85. These limits are an annual median of 7 mg/L total inorganic nitrogen (TIN) and 0.7 mg/L phosphorous.

Between July of 2017 and May of 2019, 12 samples with TIN and phosphorous were collected from the Collbran WWTP. Concentrations of TIN ranged from 2.1 mg/L to 25.2 mg/L and averaged 12.6 mg/L. Concentrations of total phosphorous ranged from 2.3 mg/L to 5.0 mg/L and averaged 3.9 mg/L. These results demonstrate the inability of the current facility to meet future nutrient limitations.

Additional kinetic modeling demonstrates that the current lagoons have the capacity to effectively remove biological oxygen demand (BOD), total suspended solids (TSS), and to treat ammonia to the current limits depending on the reaction rate coefficient. The lagoons, however, are not suitable for additional nutrient removal. To effectively reduce the TN, the plant must nitrify the remaining ammonia in an aerobic environment and then denitrify the nitrite and nitrate to nitrogen gas in an anoxic environment. For phosphorous removal enhanced biological processes are necessary; these are not possible in a lagoon system. As legislation progresses Collbran will likely need to abandon the existing lagoons and replace the system with a mechanical plant that is capable of nutrient removal.

5.2.2 WWTP Capital Improvement Projects

Planning for the possibility of needing a new mechanical plant that can achieve nutrient removal is critical. Additionally, if more reliable ammonia removal is desired with the existing lagoons, sludge removal is recommended.

1. Mechanical WWTP:

-Construction and Design of WWTP	$ 12,000,000
Cost estimate:	**$ 12,000,000**

**Note: Upper end of cost range presented in 2019 memorandum used*

Due to the high costs of a mechanical WWTP, the Town may want to explore a joint WWTP venture with surrounding towns and municipalities.

Costs for sludge removal are largely dependent on the location and availability of a landfill that will accept the sludge. If there is no nearby landfill, it often becomes necessary to use additional dewatering equipment to further dry the sludge prior to hauling to a more distant disposal facility.

2. Sludge Removal:

-Cell 1 sludge removal, 20,000 gallons	$ 60,000
-Cell 2 sludge removal, 20,000 gallons	$ 60,000
Cost estimate:	**$ 120,000**

**Note: Sludge volume taken from estimate used in lagoon kinetic calculations performed for 2019 memorandum*

5.3 Wastewater System Funding Opportunities

Possible funding opportunities can include:

- CO W & WW Funding sources see Table C in the Appendix.
- Infrastructure Grants:
  - USDA Rural Development
  - CO-DOLA Energy and Mineral Impact Assistance Fund (EIAF)
  - CO-CDPHE Water Quality Improvement Fund
  - EPA-Federal Resources for Sustainable Rural Communities

6.0 Parks

6.1 Terrell Park

Terrell Park is located off Spring Street on the east side of Town. The park is composed of a large field, playground equipment, a pavilion, a basketball court, and a bathroom.

6.1.1 Summary of Findings – Terrell Park

Terrel Park is in good condition. The playground equipment is estimated to be 20+ years old but appears in good shape with years of useful life yet. The pavilion appears structurally sound with no visible deficiencies. The bathrooms have flat roofs with skylights. The skylights show signs of leaking. Fixtures in both the mens and womens rooms are in good condition.

6.1.2 Summary of Recommendations – Terrell Park

It is recommended to replace the flat roof with a pitched roof to allow snow and rain to drain off. The skylights should be replaced at the same time. No lighting is present at the bathroom facilities, it is recommended tht motion-detector exterior lighting be provided for safety and security. Yearly assessments of park components are recommended.

1. Bathrooms:

-Replace roofs, new skylights, lighting	$ 20,000
Cost estimate:	**$ 20,000**

6.2 Gandi Park

Gandi Park is located off Hwy 330, adjacent to Water Tank 1. The park is composed of a baseball field, tennis courts, a basketball court, a pavilion, and a bathroom.

6.2.1 Summary of Findings – Gandi Park

Most of Gandi Park is in good condition. The pavilion appears structurally sound with no visible deficiencies. The bathrooms have flat roofs with skylights. The skylights show signs of leaking. Fixtures in both the mens and womens rooms are in good condition. Town staff noted that the two tennis court surfaces have degraded and could use resurfacing.

6.2.2 Summary of Recommendations – Gandi Park

It is recommended to replace the flat roof with a pitched roof to allow snow and rain to drain off. The skylights should be replaced at the same time. No lighting is present at the bathroom facilities, it is recommended tht motion-detector exterior lighting be

provided for safety and security. Yearly assessments of park components are recommended.

1.	Tennis courts:	
	-Reconstruct two tennis courts	$ 100,000
2.	Bathrooms:	
	- Replace roofs, new skylights, lighting	$ 20,000
	Cost estimate:	**$ 120,000**

6.3 Collbran Rodeo Grounds and Arena

The Collbran Rodeo Grounds and Arena are located on 58 6/10 Road adjacent to Buzzard Creek.

6.3.1 Summary of Findings – Collbran Rodeo Grounds and Arena

The rodeo grounds and arena have multiple deficiences and failing infrastructure that need to be addressed. The most immediate needs include new bathrooms and water/sewer connections. The concessions building and grandstands will also need to be replaced.

6.3.2 Summary of Recommendations – Collbran Rodeo Grounds and Arena

1.	Bathrooms	
	-New bathrooms at Rodeo Grounds	$ 25,000
2.	Power	
	-Upgrade electrical system	$ 20,000
3.	Water/Sewer	
	-Connect water/ sewer to Town systems	$ 50,000
	Cost estimate:	**$ 95,000**

6.4 Lilac Park

Lilac Park is located at the corner of Branch Street and Elm Avenue.

6.4.1 Summary of Findings – Lilac Park

Improvements slated for Lilac Park include a Plateau Creek activation project and possibly a pedestrian trail/bridge.

6.4.2 Summary of Recommendations – Lilac Park

1.	Lilac Park Improvements	
	-Creek activation, improvements	$ 200,000
	Cost estimate:	**$ 200,000**

6.5 Parks Funding Opportunities

Possible funding opportunities can include:

- Fourteen (14) possible grants listed on The Grant Helpers
- National Recreation and Park Association
- Eight (8) grants listed on the osteoarthritis Action Alliance
- Reconnect America
- Great Outdoors Colorado

7.0 Buildings

7.1 Town Hall

Town Hall was constructed in 1994. It is ~2,300 square feet in size and houses most municipal departments, the Town Manager, the Town Clerk, the Town Council Chambers and the Marshal's Department.

The purpose of this section is not to represent all recommended projects, but rather to highlight which projects are recommended for higher priorities. Most recommended projects involve improving asset durability to minimize maintenance or repairing deteriorated assets that require immediate attention. The Town has indicated that they are planning for future expansions of Town Hall, the Marshal's office, and the Marshal's storage yard/impound lot. Costs for these expansions are not included in this study.

7.1.1 Town Hall - Summary of Findings

Structural Integrity

a. Description: The building structure of Town Hall appears to consist of a wood frame roof, masonry and wood frame walls, and a concrete slab-on-grade foundation. Interior finishes consist primarily of acoustical ceiling tiles, drywall, and carpet and tile floors. A concrete retaining wall forms a grade break on the south side of the building. Overall condition is good.

b. Discussion:

i. Roofing on the south side of the building is metal panel roofing, reportedly replaced 6 to 7 years ago. The remainder of the roofing consists of composite shingles that appear quite worn and degraded and likely near the end of their useful life. Replacement of the composite shingle roofing with metal panel roofing similar to the south side is highly recommended.

ii. Gutters and downspouts have some areas of damage and reportedly leak repeatedly at all seams and corners and cause icing issues on sidewalks during winter weather. Replacement with new seamless gutters and downspouts is recommended.

iii. Retaining wall on the south side of the building has numerous vertical cracks at the location of plastic weep hole pipes. The cracks do not appear to have affected the structural integrity of the wall but are unsightly.

iv. Flooring within the building, particularly the carpet, showed signs of wear and should be replaced in the near future.

Durability / Maintenance

The majority of the Town Hall building consists of brick and concrete masonry unit walls that are very durable with regular attention to painting or coating. Roofing and gutters should be replaced as noted previously. Wood windows, doors, and trim need regular repainting to protect and preserve them. Wood protected from the elements is expected to have a life span of 50 to 100 years. Repainting every 5 years is typically recommended.

Mechanical Integrity

a. Description: The main heating system for the Town Hall consists of a gas fired boiler (140 MBH) serving approximately (4) baseboard heating zones. Cooling is present with two fan coil units and ductwork with two condensing units mounted to the back side of the building. No mechanical ventilation is present, aside from localized exhaust in the breakroom and toilet rooms. Ceiling fans are present to destratify the air and aid local air circulation. Hot water is provided via gas fired water heater (40 gallon, 38 MBH). The overall condition is described as fair to good.

b. Discussion:
   i. The lack of an entry vestibule exposes regular staff to cold drafts when occupants enter the building, a condition that the radiant heating cannot adequately recover from. It is highly recommended to add an air curtain. This would provide adequate temperature recovery and significantly reduce the magnitude of incoming drafts.
   ii. The boiler is a ~28 year old cast iron boiler and could be upgraded to a higher efficiency boiler. Since the baseboard registers require 180ºF water a condensing boiler would not be practical. A standard higher efficiency boiler is recommended for replacement.
   iii. Occupants have indicated certain rooms do not receive adequate radiant heating in the winter, resulting in over- or under-heating of various spaces. Many zone valves are in the ceiling and have leaked, causing damage to the ceiling tiles. Most of the zone valves are in the manual position therefore not fully open (causing not enough heat, and/or always on, causing overheating). New zone valves should be installed and preferably in the boiler room for ease of troubleshooting and maintenance.
   iv. The building has air conditioning via two (2) split direct expansion (DX) systems. Each system consists of a Nordyne air handling unit (AHU) with an electronic air filter and a condensing unit (CU). The AHUs are above the drop ceiling and appear to be well maintained.
      - Occupants have indicated certain rooms do not receive adequate air conditioning. The air system needs to be tested and balanced to provide adequate airflows to all areas of the building.
      - The CUs are mounted up high on the rear outside wall. Town staff mentioned that, with the many trees in the area, they clean the coils at least once per season. It is recommended to insulate the refrigerant piping to these units as well.
   v. The hot water heater was replaced in 2016 according to Town staff. The tag on the water heater indicates it was manufactured in 2013. It is a tank style heater and in good condition. It should be noted that tank style heaters tend to start leaking after they are six (6) years old. A plan to replace the tank style water heater with an on-demand system type system would save on repeated replacements. Other Town buildings have on demand water heaters.
      - The water heater piping is not insulated. Insulation of the water heater piping would reduce energy use.
   vi. Some of the lighting has been changed to LED fixtures, however many fluorescent fixtures remain. It is recommended to continue to replace all fixtures with LED lighting.

Building Expansion

The Town has expressed that the current space in Town Hall is not sufficient to conduct business effectively and a separate conference room/council room is desired. Additionally, the Marshall's office shares space with the administration space and it would be productive to create additional space for the Marshalls. Town Hall can be expanded to the north into the existing parking lot. Town Hall could be expanded by approximately 1,400 sf.

Other
What was visible of the electrical system appeared to be in working order. Some extension cords are used, and a lack of electrical plugs and data connections was noted in the offices.

7.1.2 Town Hall - Summary of Recommendations

1. Replace roofing, gutters and downspouts:

-Roofing replacement	$ 12,000
-Gutter and Downspout replacement	$ 8,500
Cost estimate:	**$ 20,500**

2. Bring HVAC systems to best practice standards:

It is recommended that applicable components be improved as follows:

HVAC – Add an air curtain to front doors:	$ 5,500
– Install a new boiler:	$ 7,500
– Install new zone valves:	$ 1,500
– Replace ductwork:	$ 40,000
– Replace heating piping:	$ 20,000
Cost estimate:	**$ 74,500**

3. Perform appropriate maintenance to maximize remaining useful life:
It is recommended that this facility have an annual maintenance budget, separate from repair and replacement projects, equal to or above the following dollar figure, which includes estimates for basic labor and basic materials.

Maintenance examples – door and hardware repairs/parts, seasonal annual boiler system tune-up. Touch up painting, etc. (budgeted in replacement budget).

Cost estimate: **$ 1,500**

4. Expand Town Hall
Town hall can be expanded into the parking lot to the north, or to the south if the large tree is removed. Expansion estimated at 1,400 sf.

Cost estimate: **$ 200,000**

7.2 Auditorium

The Auditorium was constructed in ~1905. It is ~4,800 square feet in size. A new addition that included restrooms was added in 1999.

7.2.1 Auditorium - Summary of Findings

Structural Integrity

a. Description: The Auditorium building is a unique historic wood frame structure. The roof framing consists of wood purlins with arched wood trusses and a wood framed ceiling. Walls and floor framing appear to be rough sawn wood framing typical of historic building construction. Finishes are typically wood siding, and interior wood paneling. Windows are single pane wood frame and there does not appear to be any insulation. The restroom addition is a modern wood frame structure on a concrete foundation. Leaks and damage to areas of the roof framing were observed. The building is well past its useful life span and the structural condition of the building is rated as poor.

b. Discussion:
   i. The roof has numerous areas of leaks and water infiltration that have caused degradation of the wood sheathing and framing. Plastic tarps have been used in some areas as a temporary protection measure. The roofing of the building is compromised and is leading to damage and degradation of the structural framing. If the building is to be preserved, replacement of the roofing and reconstruction of portions of the wood framing and sheathing is required.
   ii. Upgrades to the building could be performed to make it a useful structure for the future. Replacement of windows, addition of insulation, reconstruction of interior finishes and replacement of exterior siding would all be required for upgrading and restoring the building.

Durability / Maintenance

Wood framing protected from the elements is expected to have a life span of 50 to 100 years. Wood exposed to the elements is typically considered to have a life span of 20 to 40 years but may last much longer with meticulous maintenance. Given the age of the building, regular attention to maintenance and replacement of decayed or degraded timber framing should be expected to be required for the remaining life of the structure. Repainting every 5 years is typically recommended.

Mechanical Integrity

a. Description: The Auditorium is heated via two (2) gas fired furnaces (100 MBH each) with electronic air filters and electric baseboard in the restrooms. No cooling is present. No mechanical ventilation is present, aside from localized exhaust fans in the restrooms. Hot water is provided via electric on-demand point of use water heaters. The condition is described as fair given the age and type of building but is outdated by modern standards.

b. Discussion:
   i. It appears the restrooms are winterized and not used during the winter season.

ii. The furnaces are ~23 years old and probably past their useful life. It is recommended to upgrade heating equipment only if other building issues are updated as well (i.e. windows, leaking exterior, insulation, etc.).
iii. The restroom addition was built in 1999. Baseboard heaters and water heaters appear in good condition for being ~20 years old.

Other
What was visible of the electrical system appeared to be in working order as it was new in 1999 to the restroom addition.

7.2.2 Auditorium - Summary of Recommendations

1. Replace roofing and repair framing damage:

-Roofing replacement	$ 75,000
-Framing and sheathing repairs	$ 25,000
Cost estimate:	**$ 100,000**

2. Perform appropriate maintenance to maximize remaining useful life:
If the structure is to be retained, it is recommended that this facility have an annual maintenance budget, separate from repair and replacement projects, equal to or above the following dollar figure. Please refer to the R&R tabulation for more detail.

Maintenance examples – painting, siding window, etc. (budgeted in replacement budget).

Cost estimate: $5,000

3. Conservation Repairs:
The Town had the Auditorium reviewed by the Historical Society to make renovations and repairs to the structure.

-Conservation repairs (by others)	$ 750,000
Cost estimate:	**$ 750,000**

7.3 Public Works

The Public Works facility was constructed in 1997. It is ~3,600 square feet in size and houses the Public Works shop and offices.

7.3.1 Public Works – Summary of Findings

Structural Integrity

a. Description: The Public Works building consists of masonry walls on a concrete foundation with a steel framed roof built to modern standards. Roofing reportedly consists of gravel topping on a membrane roof but was not observed at this time. Exterior finishes are brick masonry on the two street sides and concrete masonry units on the other two sides. Interior finishes are painted masonry with concrete slab-on-grade floors. Overall condition is good.

b. Discussion:
i. Signs of water infiltration were observed along the east wall of the building at the roof. The roofing was not observed at this time due to lack of access and snow. Failure of the flashing or roofing terminations is

likely the cause of the leaking. The roofing is likely a membrane system with a life expectancy of 20 to 40 years. Further assessment of the roofing should be conducted and the roofing repaired or replaced.

ii. Cracks of the slab on grade floors were observed, but do not appear to have affected the structural integrity of the floor.

Durability / Maintenance

The majority of the Public Works building consists of brick and concrete masonry unit walls that are very durable with regular attention to painting or coating. Roofing is likely a membrane system that is typically expected to have a life expectancy of 20-40 years. Given the age of the building, the roofing should be evaluated and repaired as noted previously. Wood windows, doors, and trim need regular repainting to protect and preserve them. Wood protected from the elements is expected to have a life span of 50 to 100 years. Repainting every 5 years is typically recommended.

Mechanical Integrity

Description: The building heating system consists of three (3) gas fired radiant heaters in the garage bays, and electric baseboards in the offices and restroom. Each unit draws combustion air from the space. The restroom freeze protection is via an electric baseboard heater. An exhaust fan is present in the restroom. Vehicle exhaust that is present is identified via a carbon monoxide (CO) detector, and a sidewall exhausted via a sidewall fan and through motorized dampers in the roof and sidewall. The side wall actuator does not open the louver and is recommended to be replaced. Cooling is present via one small (portable) window shaker unit serving the Office space. A tank style electric water heater (50 gallons, 4500W) serves the restroom for handwashing and showers.

The condition of the present heating and water heating systems is described as both fair and common for the type of building and application; however, ventilation needs to be repaired.

Discussion:

a. Modern facilities of this type are usually required to have a high rate of exhaust and makeup air (MA), due to the presence of vehicles and equipment. At minimum, some form of ventilation is required for all occupied spaces. Staff indicated that this building is commonly used during severe weather, thereby eliminating natural ventilation. It is recommended to add an exhaust and makeup air system. The non-recirculating nature of this system would also allow evaporative cooling to be added with little additional effort. If vehicles will be running within the space, a dedicated vehicle exhaust (such as manufactured by Plymovent) is common practice and recommended.

Other

What was visible of the electrical system appeared to be in working order.

7.3.2 Public Works – Summary of Recommendations

1. Roofing assessment and repair:
   It is recommended to have the roofing assessed for the cause of leakage and for repairs to be conducted.
   Cost estimate: $ 10,000

2. Bring HVAC systems to best practice standards:

It is recommended that applicable components be improved as follows:

HVAC – Install MA unit for mechanical ventilation and vehicle exhaust system.

Cost estimate: $ 34,000

3. Perform appropriate maintenance to maximize remaining useful life:

It is recommended that this facility have an annual maintenance budget, separate from repair and replacement projects, equal to or above the following dollar figure. Please refer to the R&R tabulation for more detail.

Maintenance examples –door and hardware repairs/parts, repair garage doors when needed, gates, fencing, etc. (budgeted in replacement budget).

Cost estimate: $ 1,500

7.4 Stockmen's Bank Building

The Stockmen's Bank is a registered historical site, was constructed in 1916, remodeled in 1929 and is ~1,200 square feet in size. It has housed the Collbran Branch of the Mesa County Library since 1995.

7.4.1 Stockmen's Bank Building - Summary of Findings

Structural Integrity

a. Description: The Stockmen's Bank building is a masonry building with a concrete foundation. Wood framing is likely used for the floor and roof construction. Roofing consists of standing seam metal roofing panels. Windows are double pane, wood frame, double hung windows with metal tracks. Interior finishes are typically drywall finish, likely over wood furring. Given the condition of the roofing and finishes, it is assumed that significant improvements were made when Mesa County Library took over the building in 1995. Overall condition is good for a building of this age.

b. Discussion:

i. Brick on the exterior walls of the building appear to consist of relatively soft masonry and were likely locally sourced given the age. Some small areas of degradation from water and exposure to the elements was observed. Regular repointing and repairs to degraded grout and bricks will likely be needed for the life of the building.

ii. Concrete foundations were observed from the exterior of the building as well as from what could be seen in the lower crawl space access. Some cracks were observed adjacent to the sidewalk along the north side. The cracks do not appear to have displaced and do not appear to have affected the structural integrity of the building.

Durability / Maintenance

Walls of the building are of relatively soft brick as noted previously. Regular repointing and repairs to degraded grout and bricks will likely be needed for the life of the building. The standing seam metal roofing is typically considered to have a life

expectancy of 40 to 70 years. The wood windows, doors, and trim need regular repainting to protect and preserve them. Wood protected from the elements is expected to have a life span of 50 to 100 years. Repainting every 5 years is typically recommended.

Mechanical Integrity
Description: The space is heated via a gas furnace with an electronic air filter. Mechanical cooling was recently added in the form of a direct expansion (DX) condensing unit. A ceiling fan is used to destratify the air and aid local air circulation. A small tank style electric water heater (6 gallons & 1500W) serves the restroom. The condition is described as newer and in good condition.

Other
What was visible of the electrical system appeared to be in working order and upgrade in 2008.

7.4.2 Stockmen's Bank Building - Summary of Recommendations

1. Perform appropriate maintenance to maximize remaining useful life:
   It is recommended that this facility have an annual maintenance budget, separate from repair and replacement projects, equal to or above the following dollar figure. Please refer to the R&R tabulation for more detail.
   Maintenance examples – door and hardware repairs/parts, seasonal annual gas fireplace tune-up, touch up painting, etc. (budgeted in replacement budget).
   Cost estimate: $1,500

7.5 The Springs

The Springs consists of two buildings. One is a newer tank building and is ~1,000 square-feet in size. The other is a pump building and is ~500 square-feet in size.

7.5.1 The Springs - Summary of Findings

Structural Integrity

a. Description: The newer tank building appears to be a wood frame building with metal panel roofing and siding on a concrete tank foundation. Interior finishes primarily consist of painted plywood. Overall condition is good. The older pump building is a concrete block and wood frame building with corrugated metal panel roofing. Siding of portions of the building are painted wood, while the remainder is painted concrete block. Paint of the exterior was quite worn and degraded. Overall condition is fair.

b. Discussion:
   i. Repainting of the exterior woodwork of the smaller pump building is recommended at this time.

Durability / Maintenance
Metal panel roofing and siding is typically considered to have a life expectancy of 40 to 70 years. Wood windows, doors, and trim need regular repainting to protect and preserve them. Wood protected from the elements is expected to have a life span of

50 to 100 years. Repainting every 5 years is typically recommended. As noted previously, repainting of the pump house building is recommended at this time.

Mechanical Integrity
Description: No heating or cooling is present. The ventilation is via side wall exhaust fans and door louvers.

Other
What was visible of the electrical system appeared to be in working order. There is a wye connection for the pumps.

7.5.2 The Springs - Summary of Recommendations

1. Repaint Pump House Building:
   Cost estimate: $ 1,000

2. Perform appropriate maintenance to maximize remaining useful life:
   It is recommended that this facility have an annual maintenance budget, separate from repair and replacement projects, equal to or above the following dollar figure. Please refer to the R&R for more detail.
   Maintenance examples – door and hardware repairs/parts, touch up painting, etc. (budgeted in replacement budget).
   Cost estimate: $ 1,000

7.6 Wastewater Treatment Plant Lab/Control Building / Lagoons

WWTP is a control building, which houses the adjacent aerated lagoon treatment system electrical and controls equipment and a laboratory. The Lab/Control building was completed in 1996 and is ~400 square feet in size.

7.6.1 Wastewater Treatment Plant Lab/Control - Summary of Findings

Structural Integrity
Description: The Lab/Control Building at the WWTP lagoon is a small, steel frame building with a porch addition of wood framing with corrugated metal roofing. Wood framing of the porch addition appeared weathered from exposure to the elements, and likely does not meet current design code for snow loading. Overall condition of the building is fair.

Durability / Maintenance
Metal panel roofing and siding is typically considered to have a life expectancy of 40 to 70 years. Wood framing exposed to the elements needs regular repainting or staining to protect and preserve them. It is unknown what the age of the porch framing is, but given the weathering observed, it should be stained or painted at this time. Repainting or staining every 5 years is typically recommended.

Mechanical Integrity
Description: Electric baseboard serves the interior of the lab area. A mall air conditioning unit is attached to the side of the variable frequency drive (VFD) and

electrical control cabinet for the pumps. Bottled water is used for the lab/testing. No cooling is present. The heating and ventilation systems are in good condition.

Other
What was visible of the electrical system appeared to be in working order and in good condition.

7.6.2 Wastewater Treatment Plant Lab/Controls - Summary of Recommendations

1. Restain or paint exposed wood framing
   Cost estimate: $ 500

2. HVAC systems - no improvements needed at this time. It is recommended to have a $10,000 line item in the budget if the VFD cooling unit needs replaced.

3. Perform appropriate maintenance to maximize remaining useful life:
   It is recommended that this facility have an annual maintenance budget, separate from repair and replacement projects, equal to or above the following dollar figure. Please refer to the R&R tabulation for more detail.
   Maintenance examples – door and hardware repairs/parts, touch up painting, etc. (budgeted in replacement budget).
   Cost estimate: $ 1,500

7.7 Water Treatment Plant

The WTP building was constructed in 1995 and is ~1,500 square-feet in size. The water tank building is ~2,100 square-feet in size.

7.7.1 Water Treatment Plant - Summary of Findings

Structural Integrity

a. Description: The Water Treatment Plant building is a Pre-Engineered Metal Building (PEMB) on a concrete foundation with a slab on grade floor. The roofing and siding consist of metal panels with metal trim. Overall the condition is good. The water tank building is a wood framed roof with corrugated metal roofing over a cast in place concrete water tank. The wood framing appears to be significantly degraded from exposure to moisture and humidity. The roofing was reportedly reattached due to screws loosening, which typically occurs as wood degrades. Overall, condition is poor.

b. Discussion:
   i. The wood framed roof over the water tank is in poor condition and should be replaced. The reconstruction should take into consideration the exposure to the water and humidity and alternative construction materials should be considered, such as galvanized steel, or precast concrete.

Durability / Maintenance
Metal panel roofing and siding are typically considered to have a life expectancy of 40 to 70 years. Any damage should be taken care of regularly. No other

maintenance is typically needed. The wood frame roof over the water tank is degraded and recommended for replacement as noted previously.

Mechanical Integrity
Description: The building is heated via two (2) gas fired unit heaters. Several roof exhaust fans are incorporated with side wall louvers for humidity control. One (1) small exhaust fan and a space heater are used in the chlorine room. A small tank style electric water heater (6 gallon & 1500W) serves sink area.

7.7.2 Water Treatment Plant - Summary of Recommendations

1. Replace Roof over Clearwell:
   Cost estimate: $ 65,000

2. Perform appropriate maintenance to maximize remaining useful life:
   It is recommended that this facility have an annual maintenance budget, separate from repair and replacement projects, equal to or above the following dollar figure. Please refer to the R&R for more detail.
   Maintenance examples – door and hardware repairs/parts, touch up painting, etc. (budgeted in replacement budget).
   Cost estimate: $ 1,000

7.8 Building Funding Opportunities

Possible funding opportunities can include:

- State and Federal grants for aging Municipal Bldgs (EFFICIENTGOV)
- USDA Rural Development
- National Association of Counties
- Community Development Block Grant (CDBG)
- Colorado Municipal League (CML)

8.0 Property and Trails

8.1 Property

In addition to the buildings, facilities, parks, etc. discussed previously in this report, the Town of Collbran owns three platted lots adjacent to Terrell Park. These lots are platted for multi-family residential development. The Town has no current plans for developing these lots.

8.2 Trails

The Town has denoted several trails and pedestrian paths/sidewalks that may be future capital improvements. These include: a path from Town to the Rodeo Grounds, a path to the Plateau Valley School, and a path from Town to Gandi Park. The Town has received a grant for a feasibility study for the path to Plateau Valley School.

1. Plateau Valley School Path:

-Path from Town (estimated cost)	$ 750,000
Cost estimate:	**$ 750,000**

9.0 Capital Improvement Plan Summary

9.1 Capital Improvement Project Prioritization

As part of the capital improvements planning, SGM worked with the Town to develop a prioritization of the projects identified in this report. Table 9-1 lists the proposed capital projects, their respective priority, and other pertinent information.

Table 9-1 Capital Improvement Project Summary

Asset Category	Priority	Gross Capital Costs	% Grant Funding	Net Capital Costs	Timeframe
Section 2.0 - Streets and Stormwater					
2021 Chip and Seal Operations	1	$50,000	0%	$50,000	2020-2021
Resurface WTP Access Road	2	$15,000	50%	$7,500	2021-2022
Resurface WWTP Access Road	2	$80,000	50%	$40,000	2021-2022
Pinion Street Stormwater Improvements	2	$17,500	50%	$8,750	2021-2022
Section 3.0 - Public Works Operations					
ADA Improvements	3				2023+
Broadband Access	3				2023+
Rec Department - Senior Van	2	$75,000	50%	$37,500	2021-2022
Section 4.0 - Water System					
Yearly Maintenance, Raw Water	1	$2,500	50%	$1,250	2020-2021
Hoosier Ditch Improvements	4	$1,012,000	50%	$506,000	Future
WTP Improvements 1	1	$15,500	50%	$7,750	2020-2021
WTP Improvements 2	2	$32,000	50%	$16,000	2021-2022
WTP Clearwell	2	$150,000	50%	$75,000	2021-2022
Tank 1 Modifications	1	$60,000	50%	$30,000	2020-2021
Upsized Piping High Street, 695 LF	2	$207,000	50%	$103,500	2021-2022
Looped Piping 59.5 Rd, 1,380 LF	3	$310,000	50%	$155,000	2023+
Looped Piping Hwy 330, 1,325 LF	2	$360,000	50%	$180,000	2021-2022
Plateau City/School Waterline Extension, 5,850 LF	4	$1,650,000	50%	$825,000	Future
Bulk Water Filling Station	2	$15,000	50%	$7,500	2021-2022
Section 5.0 - Wastewater System					
Pipe Repair at Pearl Street	1	$5,000	0%	$5,000	2020-2021
Sewer Service Improvements at High Street	1	$40,000	0%	$40,000	2020-2021
Grove Creek/59.5 Road Sewer Line	4	$750,000	50%	$375,000	Future
Mechanical WWTP, 0.192 MGD	4	$12,000,000	50%	$6,000,000	Future
Sludge Removal	2	$120,000	50%	$60,000	2021-2022
Section 6.0 - Parks					
Resurface Gandi Park Tennis Courts	3	$100,000	50%	$50,000	2023+
Rodeo Arena Improvements	3	$95,000	50%	$47,500	2023+
Lilac Park Improvements	4	$200,000	50%	$100,000	Future
Section 7.0 - Buildings					
Town Hall Structural/MEP Repairs	2	$296,500	50%	$148,250	2021-2022
Auditorium Structural, MEP, Conservation Repairs	2	$855,000	88%	$102,600	2021-2022
Public Works Structural/MEP Repairs	3	$45,500	50%	$22,750	2023+
Stockmen's Bank Structural/MEP Repairs	3	$1,500	50%	$750	2023+
The Springs Structural/MEP Repairs	3	$2,000	50%	$1,000	2023+
WWTP Structural/MEP Repairs	2	$2,000	50%	$1,000	2021-2022
WTP Structural/MEP Repairs	2	$1,000	50%	$500	2021-2022
Section 8.0 - Property and Trails					
Plateau Valley School Path	4	$750,000	50%	$375,000	Future

9.2 Capital Improvement Funding

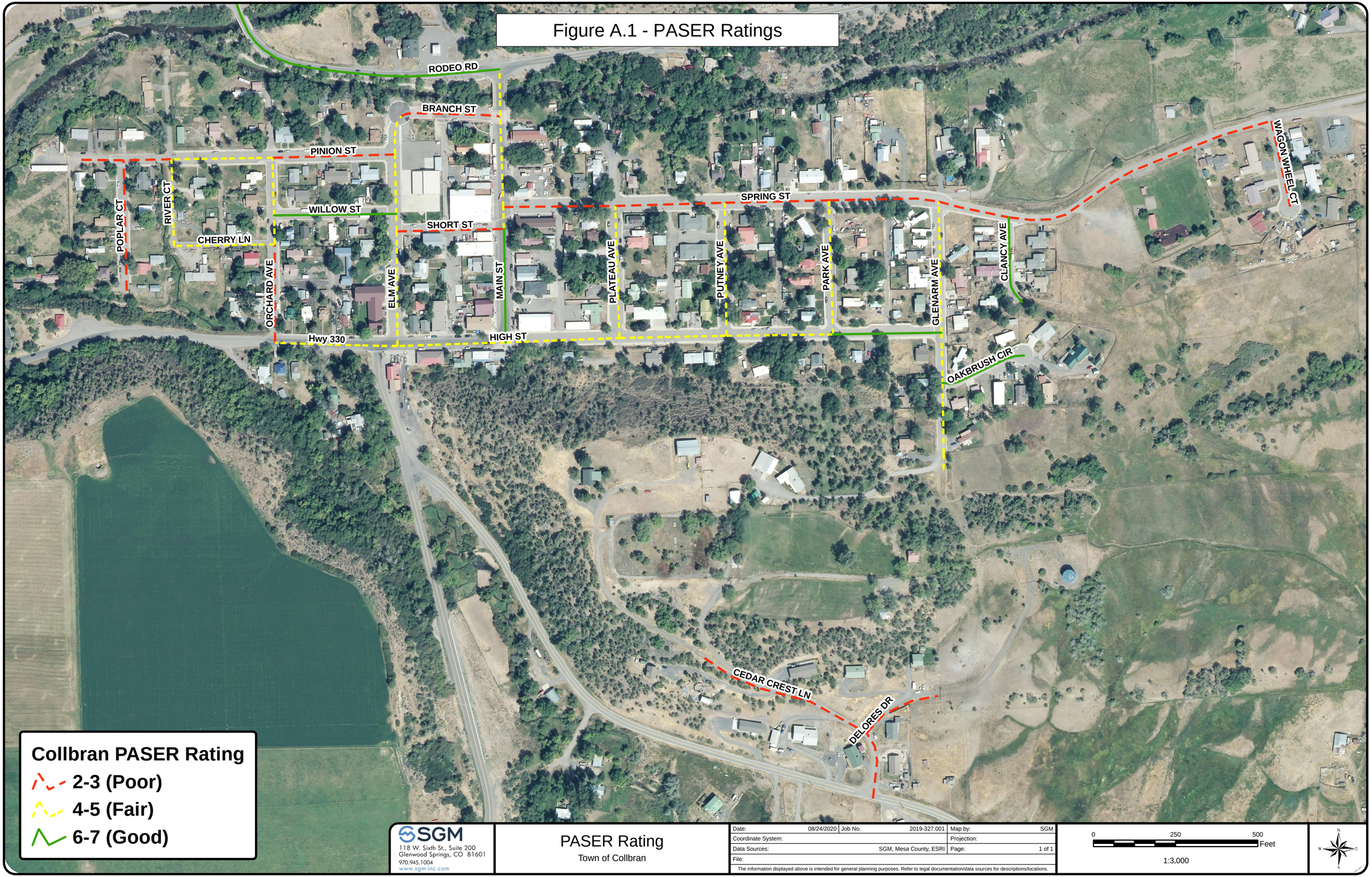
Because the projected capital needs exceed the Town's current ability to fund them, identifying additional funding sources is a critical component to this plan. The Town has had success in securing grant funding in the past and it is recommended that the Town continue to plan (but not necessarily budget) for capital projects that exceed non-grant revenues.

9.3 Utility Rate Study

SGM has also prepared a Utility Rate Study that specifically addresses the capital projects, costs, and revenues associated with the water and wastewater systems. The purpose of the Utility Rate Study is to assess the current water and wastewater rate structures and determine the appropriate changes for the Town to be financially able to complete the needed capital projects.

Appendix A - Maps

Figure A.1 - PASER Ratings



Collbran PASER Rating

- 2-3 (Poor)
- 4-5 (Fair)
- 6-7 (Good)

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PASER Rating

Town of Collbran

Date:	08/24/2020	Job No.	2019-327.001	Map by:	SGM
Coordinate System:				Projection:	
Data Sources:	SGM, Mesa County, ESRI			Page:	1 of 1
File:					

The information displayed above is intended for general planning purposes. Refer to legal documentation/data sources for descriptions/locations.

0 250 500 Feet

1:3,000

N W E S

Figure A.2 - Distribution System Existing Conditions

Legend

Fire Flow
- < 500 gpm
- 500 - 1,000 gpm
- 1,000 - 1,500 gpm
- > 1,500 gpm

Pipe Diameter
- 2"
- 4"
- 6"
- 8"
- 10"
- 12"

Fireflow Data		
Fireflow Range (gpm)	Junction Count	Percentage
< 500	19	20%
500 - 1,000	34	36%
1,000 - 1,500	26	27%
> 1,500	16	17%

Notes

1. Fireflow available at junctions while maintaining 20 psi residual pressure throughout system.

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Town of Collbran
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0 750 1,500 Feet

1 inch = 750 feet

N W E S

Figure A.3 - Fireflow Alternative: Looping

Legend

Fire Flow
- < 500 gpm
- 500 - 1,000 gpm
- 1,000 - 1,500 gpm
- > 1,500 gpm

Pipe Diameter
- 2"
- 4"
- 6"
- 8"
- 10"
- 12"

Fireflow Data		
Fireflow Range (gpm)	Junction Count	Percentage
< 500	13	14%
500 - 1,000	11	12%
1,000 - 1,500	34	36%
> 1,500	37	39%

Notes

1. Looping added where appropriate.
2. Approx. 4,070 LF of 6" and 8" piping added.
3. Crossings of Plateau Creek were avoided.

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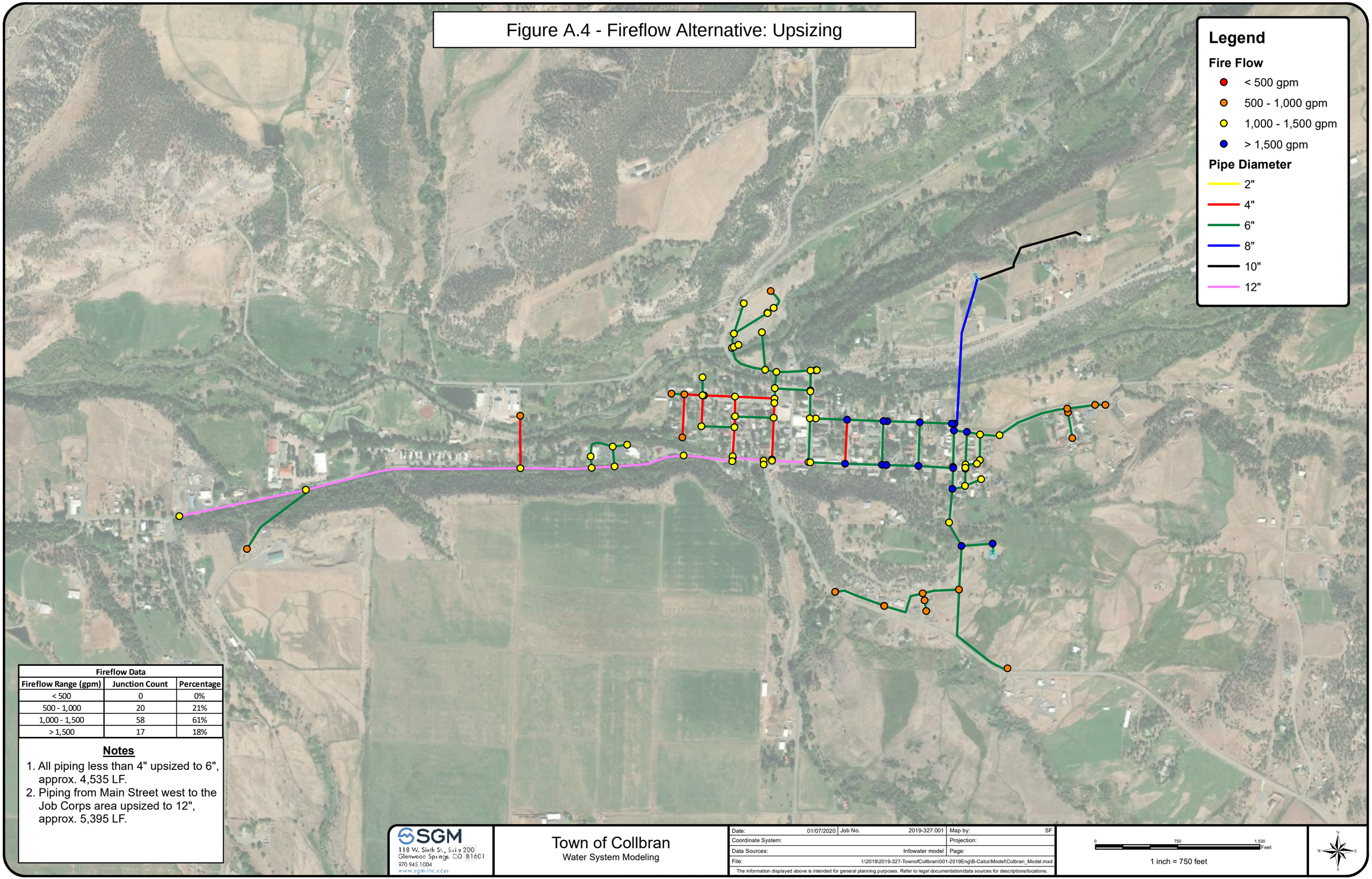
0 750 1,500 Feet

1 inch = 750 feet

N W E S

Figure A.4 - Fireflow Alternative: Upsizing



Fireflow Data		
Fireflow Range (gpm)	Junction Count	Percentage
< 500	0	0%
500 - 1,000	20	21%
1,000 - 1,500	58	61%
> 1,500	17	18%

Notes

1. All piping less than 4" upsized to 6", approx. 4,535 LF.
2. Piping from Main Street west to the Job Corps area upsized to 12", approx. 5,395 LF.

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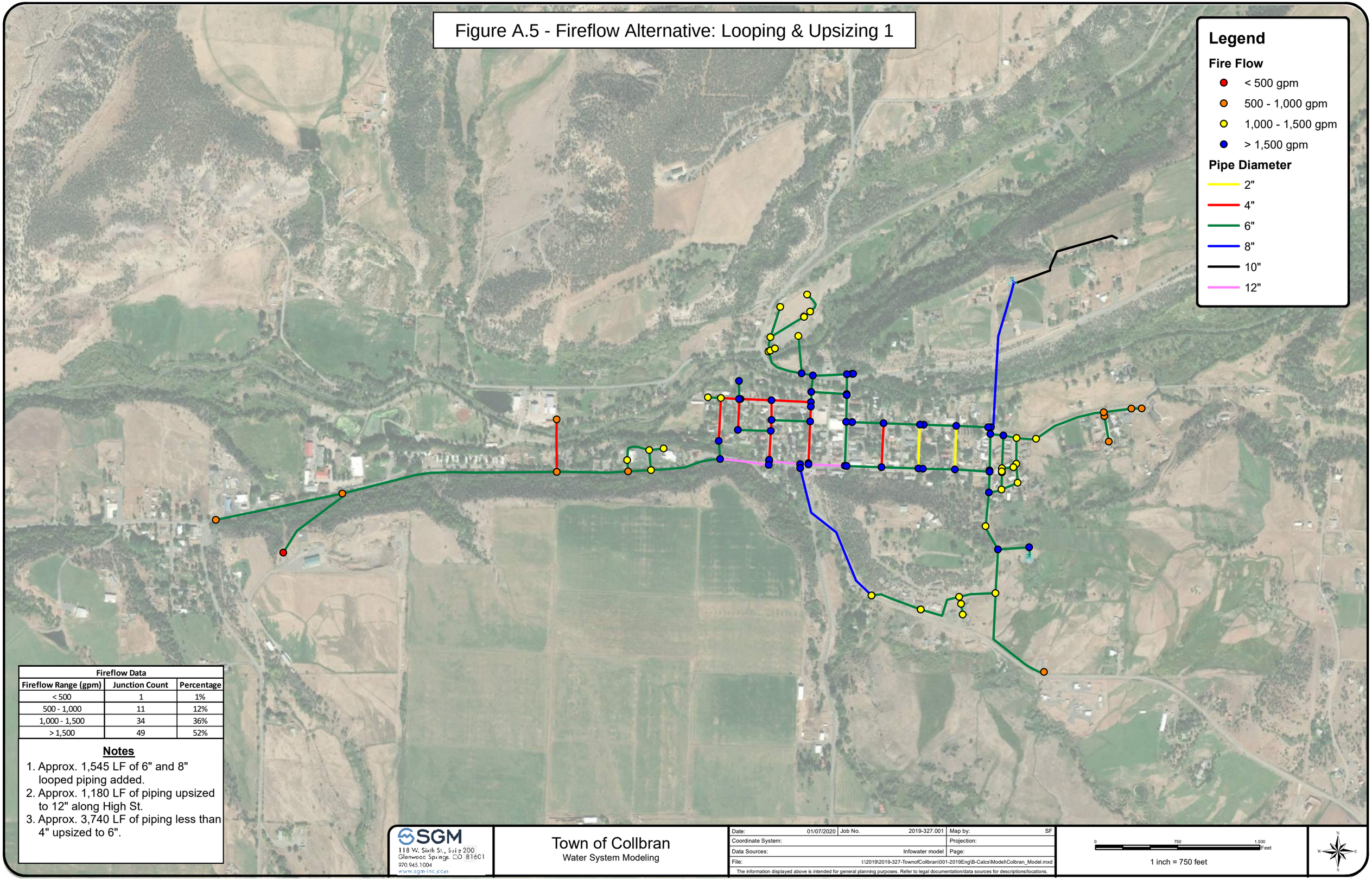
0 750 1,500 Feet

1 inch = 750 feet

N W E S

Figure A.5 - Fireflow Alternative: Looping & Upsizing 1



Fireflow Data		
Fireflow Range (gpm)	Junction Count	Percentage
< 500	1	1%
500 - 1,000	11	12%
1,000 - 1,500	34	36%
> 1,500	49	52%

Notes

1. Approx. 1,545 LF of 6" and 8" looped piping added.
2. Approx. 1,180 LF of piping upsized to 12" along High St.
3. Approx. 3,740 LF of piping less than 4" upsized to 6".

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Projection:
Page:

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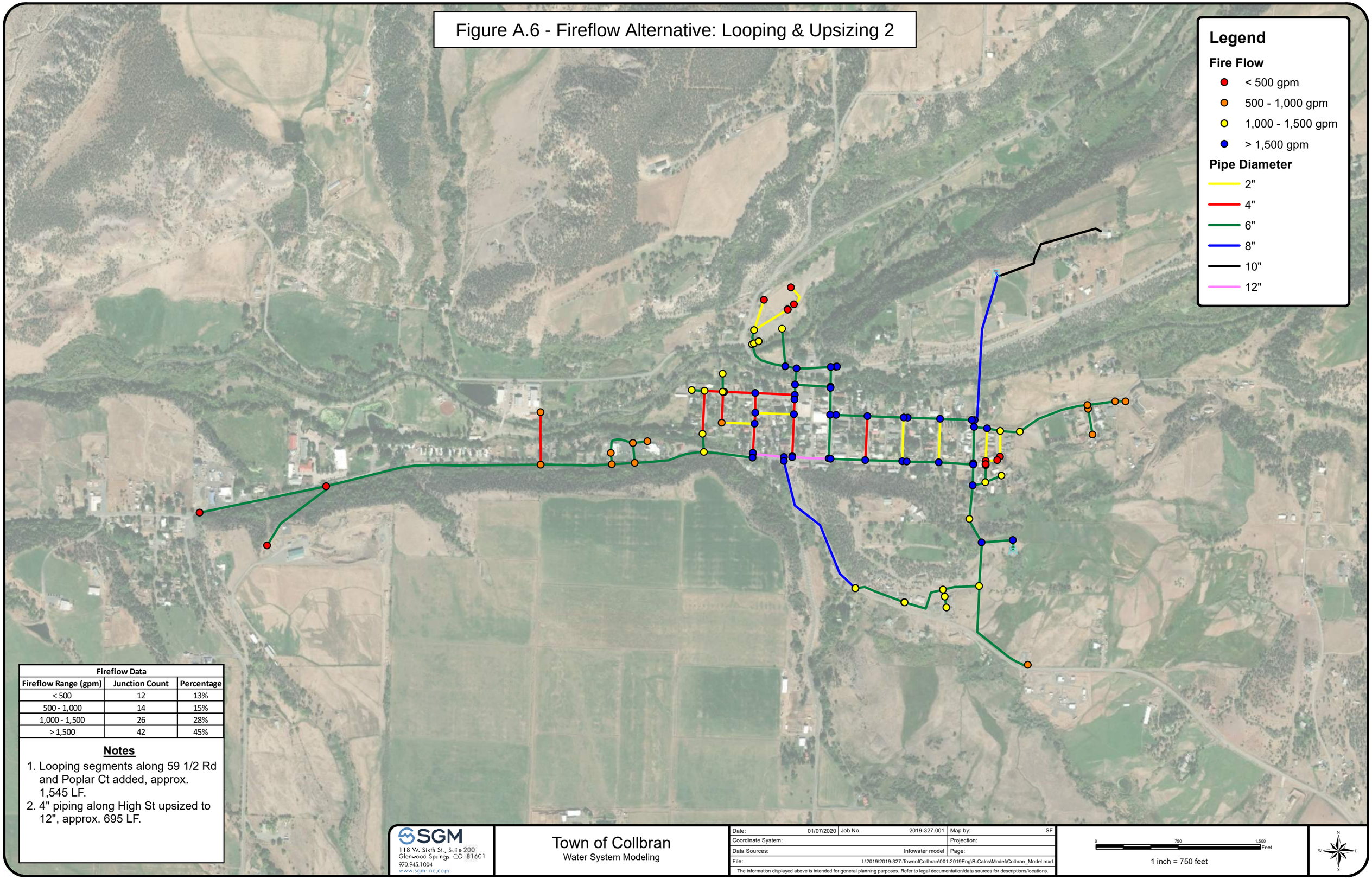
0 750 1,500 Feet
1 inch = 750 feet

N W E S

Figure A.6 - Fireflow Alternative: Looping & Upsizing 2



Fireflow Data		
Fireflow Range (gpm)	Junction Count	Percentage
< 500	12	13%
500 - 1,000	14	15%
1,000 - 1,500	26	28%
> 1,500	42	45%

Notes

1. Looping segments along 59 1/2 Rd and Poplar Ct added, approx. 1,545 LF.
2. 4" piping along High St upsized to 12", approx. 695 LF.

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Water System Modeling

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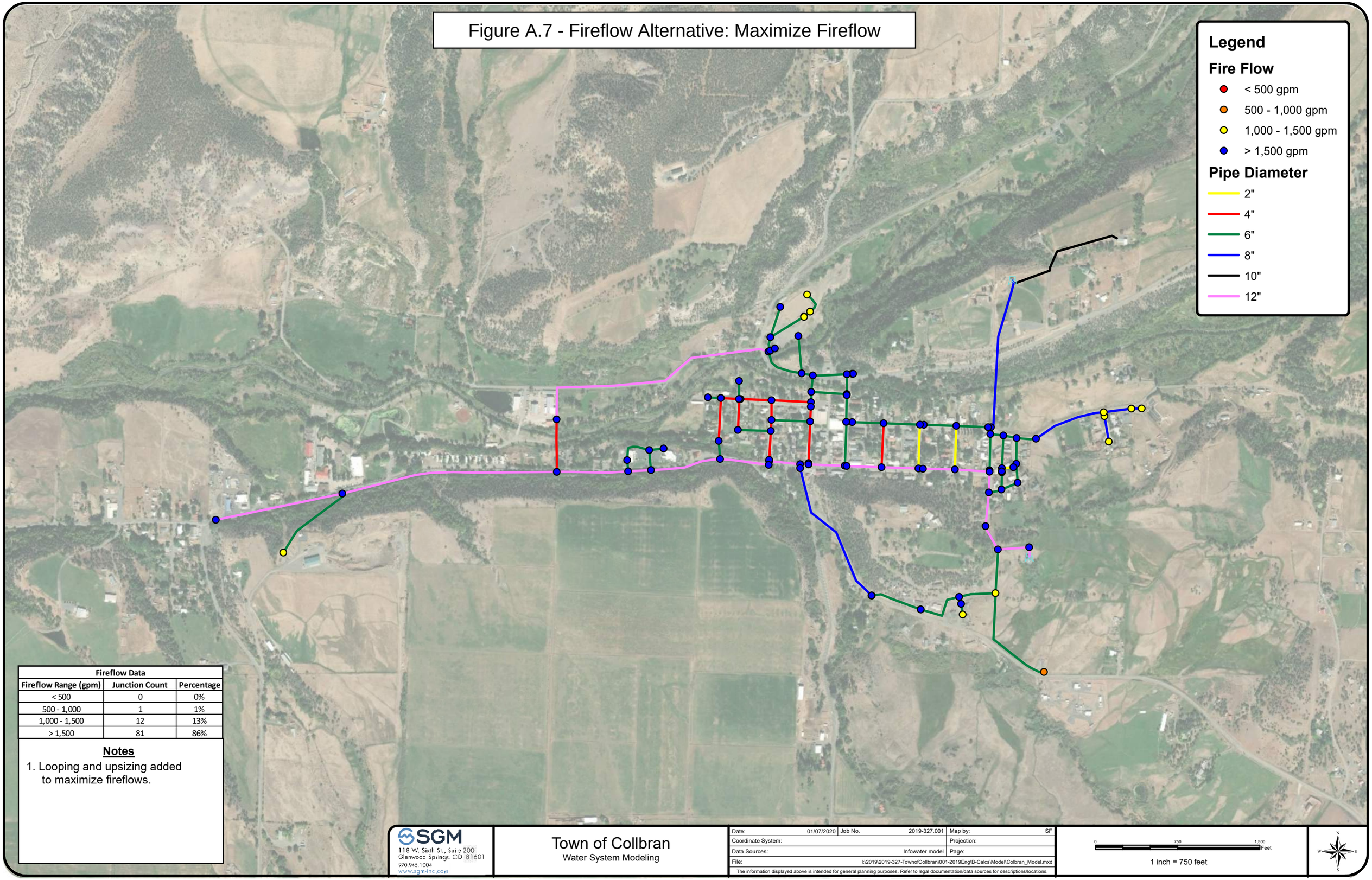
0 750 1,500 Feet

1 inch = 750 feet

N W E S

Figure A.7 - Fireflow Alternative: Maximize Fireflow



Fireflow Data		
Fireflow Range (gpm)	Junction Count	Percentage
< 500	0	0%
500 - 1,000	1	1%
1,000 - 1,500	12	13%
> 1,500	81	86%

Notes

1. Looping and upsizing added to maximize fireflows.

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Town of Collbran
Water System Modeling

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Projection:
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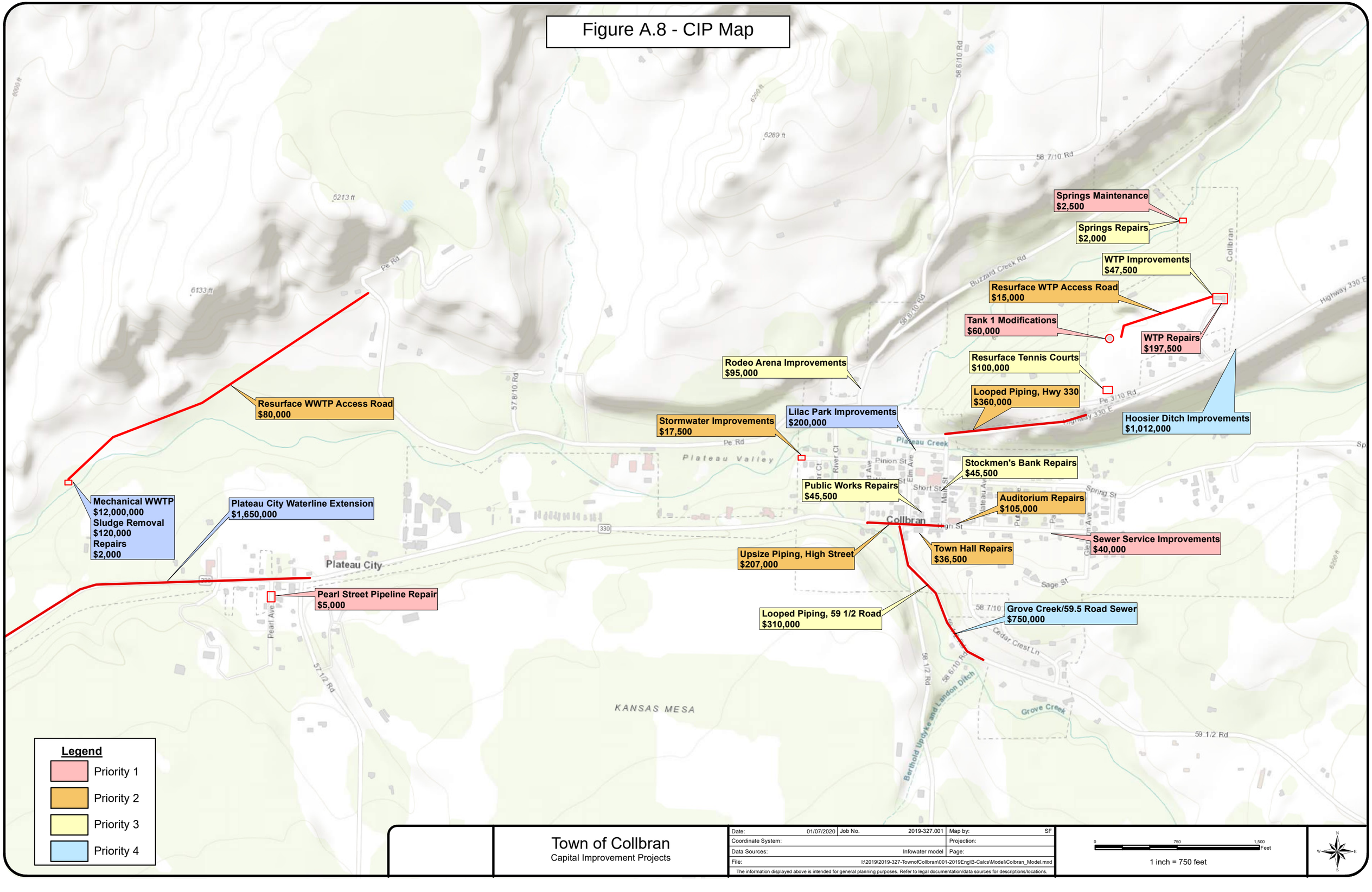
0 750 1,500 Feet

1 inch = 750 feet

N W E S

Figure A.8 - CIP Map



Legend

- Priority 1
- Priority 2
- Priority 3
- Priority 4

Town of Collbran
Capital Improvement Projects

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0 750 1,500 Feet

1 inch = 750 feet

N W E S