3.7.3 *Condition Assessment*

The City has 5 storage tanks providing a combined capacity of 3.2 million gallons. The five tanks provide storage in excess of the peak day and fire flow demands for the City as long as the distribution system can deliver the water. The storage system supplements the supply system during short duration periods when demand exceeds the supply. The 4 storage tanks that make up the storage facilities for the system include:

- South Tank
  A 1 million gallon partially buried concrete storage tank that is located on the south side of town. The tank is generally in good condition.

- Prison Tank
  A relatively new 500,000 gallon elevated tank located near the Crossroads Correctional Facility. The tank is in good condition.

- City Shop Tank
  A 1.5 million gallon above ground steel tank that is located on the northeast side of town near the City shops. In 2005 the steel water main that supplies that tank suffered a major leak. "The foundation for this tank is an oiled sand bed, a common type of foundation at the time of the tank construction. The City needs to study this foundation to ensure the leak did not wash too much of the sand away and that the foundation will be adequate to support this tank in the long term" (from the 2006 PER). Regular maintenance of a steel tank requires periodic recoating on the outside and in.

- Airport Tank
  A 100,000 gallon elevated tank that is located on the northwest side of town near the border patrol station and the airport. Lab tests of the paint that is flaking off of the exterior of the tank show that the paint used to coat the tank was lead based. The lab results are included in Appendix E. This tank should be removed from service and properly disposed of. "This area of town should be connected to the current high pressure zone in the near future" (from the 2006 PER). A new tank could also be constructed to serve this area of town but would require a booster station. Storage requirements for this area could be provided by the prison tank.

- Well Field Clear Well
  A 100,000 gallon steel tank that is located near the water treatment plant approximately 5 miles south of the City. This tank is in good condition. Regular maintenance of a steel tank requires periodic recoating on the outside and in.

3.7.4 *Regulatory Assessment (if applicable)*

3.8 Evaluation of Existing Distribution Facilities

3.8.1 *Description of Existing System*

The original water distribution system was installed in the late 1930's and early 1940's. Most of the original pipe has been replaced with asbestos concrete pipe with the more recent improvements utilizing PVC. The distribution system within the City is composed primarily of 6 inch to 16 inch diameter mains. Only a few 4 inch diameter mains remain. Soils in the area

are highly corrosive to cast iron and steel pipes therefore almost all of these pipes have deteriorated and have been replaced.

The distribution system is fed by a 16" asbestos cement main line extending from the treatment building (located approximately 5 miles south) to the south tank. This particular water main is very vital to the City, as it is the only main to deliver water from the well field to the City. If this main were to break, the City would be without water until the main was repaired. Due to this, a project is planned for completion in 2017 of installing a parallel 20" water main from the Well Field booster station to the existing treatment plant and then to the South storage tank. This project will provide redundancy and additional capacity to the existing 16" water main.

The distribution system is made up of the three pressure zones shown in Appendix D. The low pressure district is fed directly by the South Tank with storage provided by the South Tank, the City Shop Tank, and the Airport Tank. The high and middle pressure zones are fed directly by the new booster station located adjacent to the South Tank with storage provided by the Prison Tank. When the booster station was constructed, two PRV's were installed to reduce excessive pressures, therefore separating part of the existing system from the low pressure zone.

Since the 2010 PER the City of Shelby completed water distribution projects that have looped several areas. Water becomes stagnant in long dead end mains and to improve water quality it is recommended that the mains be looped. Looping the mains not only limits the length of dead end mains improving water quality, but also provides alternate paths for the water to reach the same destination. This allows flexibility for the operator to isolate specific areas for repairs while limiting service interruptions. Other benefits of looping include increased fire flow through smaller mains.

The City has completed numerous distribution system improvements throughout the years that include replacing old and deteriorating pipe, looping mains, and increasing fire flows to key areas of town.

The City of Shelby is almost entirely metered with the exception of a small park. The impact of this park is relatively small with minimal usage. The City currently hires Shelby Gas to read the water meters at the same time that they read their gas meters. The meter reading process works well but the City may want to eventually consider options for more efficient meter reading. There are many options available for converting to a radio-read system, which would eliminate nearly all time to read the meters.

Table 13: Summary of Distribution Pipe

Size (in)	Pipe Type	Quantity (ft)
16	AC	10,797
16	PVC	16,720
12	AC	131,451
10	AC	22,519
8	AC	7,682
8	PVC	2,777
6	AC	49,668
6	PVC	12,586
4	AC	9,327
Total		263,527 (49.91 Miles)

Table 15: Hydraulic Model Calibration

3.8.2 Capacity Assessment

A computer model was developed for the water system based on water system maps provided by the City. The model was constructed using WaterCad V8i by Haestad Methods with topographic maps superimposed over the Shelby water system map to determine elevations.

The purpose of the computer model is to analyze the adequacy of the existing system and to develop alternatives for providing peak day demands along with fire protection to the different areas of the City.

The high pressure zone of the existing water system operates at a hydraulic grade of approximately 3,671feet to 3,679 feet. The high pressure zone operates above 75 psi during the peak day.

The middle pressure zone of the existing water system operates at a hydraulic grade of approximately 3,582 feet to 3,583 feet. The middle pressure zone operates above 62 psi during the peak day.

The low pressure zone of the existing water system operates at a hydraulic grade of approximately 3,476 feet to 3,482 feet. Some of the higher areas are as low as 22.7 psi during the peak day. The area north of town near the Border Patrol Station operates at 25.9 psi and the area near the City Shop tank operates near 30 psi on the peak day. The 22.7 psi occurs on the west side of town in an unpopulated area that could experience some growth during the planning period.

The existing distribution system provides generally provides adequate fire protection. There are inadequate fire protection in the areas near the South storage tank. However, these areas have nearby hydrants that could also be connected to provide adequate fire flows.

3.8.3 *Condition Assessment*

Generally the water distribution system in good working order. However, the existing 16" AC pipe that connects to the South Tank has been exposed to the elements at existing vaults and is beginning to deteriorate. This main is also very close to the existing foundation of the South tank. The City has shared concern of how to adequately repair this water main. The City has also shared concern regarding the two 12" water mains that deliver water from the wellfield booster station to the treatment plant. These mains are dated and were installed on a steep slope from the well field booster station to the treatment plant. However, a project has been proposed to supplement these mains with a new 20" main.

3.8.4 *Regulatory Assessment (if applicable)*

3.9 Financial Status of Existing Facilities

A summary of the City's income and expenditures for the last three fiscal years is provided in the following table. A complete breakdown of the sewer and water revenues, expenditures, debt service reserve, and rates are included in Appendix M.

Table 14: Summary of Expenses and Revenues

Year	Water		Sewer	
	Revenues	Expenditures	Revenues	Expenditures
2012-2013	$1,003,302.00	$764,321.00	$476,048.00	$378,212.00
2013-2014	$954,020.00	$761,690.00	$454,465.00	$380,052.00
2014-2015	$1,052,446.00	$998,033.00	$518,546.00	$667,202.00

* Does not include expenses nor revenues incurred from loans.

The current water rates for the City of Shelby are established at a base rate of $43.00/month (for a ¾" service), and increases based on the size of the service and the quantity of water used. The water rates are included in Appendix M.

The current residential and commercial sewer rates for the City are established at a base rate $22.18 per month and increases based on the size of the sewer service and the quantity of sewage. The sewer rates are included in Appendix M.

The target rate is a user rate that is established for each municipality across the state. The target rate is used to determine if the municipality is paying its fair share of a project's cost. In order to apply for grant funding from the Montana Department of Commerce, the user rates after completion of the project must meet or exceed the target rates.

The target rates are calculated as a percentage of the median income for the municipality. The percentages of median income are approximately 0.9 percent of the median household income for wastewater only, 1.4 percent of the median household income for water only, or 2.3 percent of the median household income for water and wastewater combined. The median household income for Shelby according to the 2010 census was $40,464. According to

the Montana Department of Commerce for the City of Shelby, the final target rates for the 2017 biennium are as follows:

Table 15: Target Rates

System	Median Household Income	Percentage	Target Rate	
			Annual	Monthly
Water Only	$40,464.00	1.4%	$566.50	$47.21
Wastewater Only	$40,464.00	0.9%	$364.18	$30.35
Water and Wastewater Combined	$40,464.00	2.3%	$930.67	$77.56

The water target rates are based on residential equivalent dwelling units (EDUs), therefore it is necessary to calculate the City's existing rates based on EDUs. A 3/4 inch water service is a typical residential water service and is considered to be 1 EDU. The EDUs for each water service line are calculated by comparing the area of the service line to the area of a ¾ inch service line. The calculation assumes that the 5/8 inch services are roughly equivalent to the ¾ inch services and the 1 ¼ inch services are roughly equivalent to the 1 inch services. The number of each size of water services is included in Appendix M. The total Residential EDUs for the City of Shelby are summarized in the following table.

Table 16: Equivalent Dwelling Units

Hookup Size	Number of Hookups	EDUs per hookup	EDUs
3/4" or smaller	1060	1.00	1060
1"	137	1.79	245
1-1/2"	15	4.00	60
2"	21	7.14	150
3"	4	16.00	64
4"	7	28.57	200
6"	1	64.29	64
TOTALS	1245		1843

According to City officials the 2015 revenue from residential metered sales was $949,010 giving an average monthly residential metered water charge in 2015 of $79,084/month. The revenues and expenditures are included in Appendix I. The total residential EDUs in 2015 were 1,843 therefore the 2015 rate per EDU was $42.91/EDU/month.

According to City officials the 2015 revenue from residential sewer sales was $719,584 (reference Appendix M) giving an average monthly residential metered water charge in 2013 of $59,965/month. There were a total of 1245 residential sewer connections in 2015;

therefore, the 2015 sewer only rate per connection was $48.16/Connection/month or $32.53/EDU/month.

The combined water and waste water rate in 2015 was $75.44/EDU/month. The City does not currently exceed the target rate ($77.56/EDU/month). However, after the improvements from this PER are in place the combined monthly water/sewer rate will be above the target rate; therefore, the City will be eligible to apply for grant funding through the Montana Department of Commerce.

3.10 Water/Energy/Waste Audits

A Sanitary Survey Inspection of the City of Shelby Public Water Supply System was conducted on August 13, 2015 by the Montana Department of Environmental Quality (DEQ). The full findings of the current conditions are reported in the Sanitary Survey Form and summarized in the Sanitary Survey cover letter, both attached in Appendix X.

4 REGULATORY REQUIREMENTS

4.1 General Introduction

The Montana Department of Environmental Quality (DEQ) Circular 1 will be the governing design guides and the Montana Public Works Standard Specifications will be the governing construction specifications.

Other applicable design requirements include the National Primary Drinking Water Regulations administered by the EPA and enforced by the DEQ. If a new well(s) is considered, the City will need to apply for new water appropriation rights or for a transfer of their existing water right. The Department of Natural Resources (DNRC) requirements will be met for any water right appropriations or transfers.

4.1.1 Source

Section 3.2.1.1.a of DEQ 1 states: "The total developed groundwater source capacity for systems utilizing gravity storage or pumped storage, unless otherwise specified by MDEQ must equal or exceed the design maximum day demand with the largest producing well out of service. Storage must comply with the requirements of Section 7.0.1."

4.1.2 Storage

Section 7.0.1.a of DEQ 1 states: "The minimum allowable storage must be equal to the average day demand plus fire flow demand, as defined below, where fire protection is provided."

Section 7.0.1.e of DEQ 1 states: "Excessive storage capacity should be avoided to prevent water quality deterioration and potential freezing problems."

4.1.3 Treatment

DEQ 1 Policy on Ultraviolet Light for Treatment of Public Water Supplies shall be the governing design guide.

4.1.4 Pumping Facilities

Section 6.3 and Section 6.4 of DEQ 1 shall be the governing design guides for these components.

4.1.5 Distribution System

Chapter 8 of DEQ 1 shall be the governing design guide for any distribution system improvements.

4.2 Water Quality & Uses

Existing and projected water usage was presented and calculated in Section 3.2 based on population projections, and commitments the City of Shelby has made to the City of Cut Bank and Devon. Since the planning period is through 2036, the following projected water usage/demands will be used as the basis for design

Average Day Demand	836 gpm (1,203,175 gpd)
Peak Day Demand	1,982 gpm (2,853,414 gpd)
Peak Hour Demand	3,385 gpm
Fire Flows	3,000 gpm for 3 hours

5 Need for Project

5.1 Summary of Problems

Problems within the existing water system were discussed in Chapter 3, however, a brief summary will be provided in this section. Generally speaking, the problems consist of:

- Inadequate water supply to meet the future peak day demands of the City of Shelby, City of Cut Bank and Devon
- Inability to operate all of the wells in the well field year-round
- Inability to adequately treat the quantity of water supplied from the supply wells
- Inadequate booster station capacity at the Prison Booster Station to meet the current and future peak day demands City of Shelby, City of Cut Bank and Devon
- Excess system storage capacity

5.1.1 Supply

The City's groundwater wells provide a good source of drinking water. There is adequate supply of water available for current peak day demands and "the water is generally of good quality with the exception of high iron and manganese values. The iron and manganese pose no health risks, but can cause taste and staining problems" (from the 2006 PER).

The primary concerns with the wells is that Wells No. 9-12 can only be operated during certain times of the year. To meet the current peak day demands all of the wells, including Well No. 4 need to be operational year-round. The other primary concern is that the well field has the lack of capacity to meet the future peak day demands of the City of Shelby and the communities that it will service. A secondary concern is that currently the City does not have a means to meter the flow of water from each individual well and the well field as a whole. By having the means to measure the flow rate from each well, the City will have control of the quantity of water delivered from each well.

5.1.2 Treatment

Currently the existing UV treatment system must be operated in series to meet the 4-log virus inactivation per the UVDGM as required by DEQ 1 3.2.5.2.d. This limits the capacity of the system to 1,750 gpm. The necessary capacity to meet the output from the well field is 1,931 gpm. Therefore, the treatment system cannot adequately treat the finish water to 4-log virus inactivation. We have been in touch with the supplier of the treatment system and they have indicated that the current system can be upgraded to treat up to 6,320 gpm. Our correspondence with Trojan is in Appendix X.

5.1.3 Storage

The existing storage facilities for the City of Shelby provide excess capacity to supplement the water supply during peak hour demands and fire flow demands. There is so much excess storage that the City has to take measures to keep the water in the tanks from becoming stagnant. The elimination of the 100,000 gallon tank near the border patrol station and Airport will help with the excess storage problem. The 100,000 gallon Airport tank is also coated in lead based paint posing an additional potential public health and safety risk.

In 2005 the steel water main that supplies the City Shop tank suffered a major leak. "The foundation for this tank is an oiled sand bed, a common type of foundation used at the time of the tank construction. The City needs to study this foundation to ensure the leak did not wash too much of the sand away and that the foundation will be adequate to support this tank in the long term" (from the 2006 PER). According to City officials the foundation beneath the tank appears to be withstanding the weight of the tank.

5.1.4 Pumping Facilities

The Prison Tank booster station currently has the capacity to meet the peak day demand of the area of the City that it serves. However, the pumps cannot meet the peak day demand of the area it serves and the 0.75 MGD peak day to the City of Cut Bank. We will be analyzing cost effective options to improve the capacity of these pumps.

5.1.5 Distribution System

The existing 16" AC water main near the South Tank has been exposed to the elements in existing vaults over time and is beginning to corrode in the manholes near the tank foundation. We will analyze an alternative to replace this water main.

5.2 Health, Sanitation & Security

Health and safety of the public is by far the largest concern of any community water system. The City of Shelby has several deficiencies within the water system that compromise the health and safety of the public. Lack of adequate future water supply, the inability to operate all of the wells in the well field year-round, the lack of adequate water treatment capacity, lack of adequate booster station capacity, lack of fire protection, lead based paint coating on the 100,000 gallon Airport storage tank, and excess storage capacity causing stagnant water are the largest community concerns.

The lack of adequate water supply, treatment capacity, and pumping capacity to meet the future demands of the City of Shelby and the other communities the system will service are major public health and safety issues.

The old 100,000 gallon Airport tank located near the border patrol station does not supply adequate fire flows or normal working pressures to the area. The tank is also coated with lead based paint. The lead based paint, and the potential for stagnant water are all public health and safety issues. The issues caused by Airport tank are public health and safety issues, however, the issues at the wellfield and the treatment plant are higher priorities than the tank at this time.

In other areas of town the normal working pressures are also less than 20 psi which is clearly out of compliance with DEQ standards. DEQ-1 8.2.1 states that the distribution system is considered adequate if the system pressures remain at or above 35 psi during peak demands and 20 psi during fire events. The inadequate fire flow is limited to areas near existing water storage tanks, areas on dead-end mains, and non-residential areas. These areas also have multiple fire hydrants nearby to provide adequate fire protection.

5.3 Aging Infrastructure

The majority of the City's infrastructure is relatively new. The City has been performing water main rehabilitations as needed with the most recent project taking place in 2014.

5.4 System Operation and Maintenance

The O&M requirements for the City's water system are relatively straight-forward as limited treatment is provided. The treatment building and booster station are visited every morning. The meters are read and manually recorded.

In addition to daily inspection of the treatment building and booster station, City operators inspect each well house and monitor all activity in Williamson Park. The operators are also responsible for reading any meters that are not accessible to Shelby Gas. Shelby Gas is paid by the City every month to read the accessible water meters. In addition to reading the meters, the static water levels of the wells are measured, recorded, and documented on a monthly basis.

The alternatives that will be presented in Chapters 6 and 7 will not only consider capital costs but will also consider O&M requirements.

5.5 Future Growth

The design population equivalent for the treatment system is 3,219 (1985 O&M Manual). The current population as projected from the 2010 census is 3,376. According to City officials the actual current population is less than the calculated 3,376. The 2036 population is projected to be 4,373. The population growth is further discussed in Section 2.5.

Projected water demands were discussed in Section 3.2. The projected average day demand for 2036 is 1,203,175 gpd and the projected peak day demand is 2,853,414 gpd. These demands include the City of Shelby, City of Cut Bank and Devon.

5.6 Unresolved Issues

The City has several problems within the water system, which include problems with the treatment facilities, existing Prison Tank Booster Station, and the distribution system. Issues at the treatment plant, the well field, and the distribution system are currently being addressed or are in the process of being addressed with the implementation of the improvements suggested in this report. As previously stated in Chapter 5, the City's priorities have changed since the 2010 water system PER, and therefore some of the existing 4" water mains will be unresolved in this PER.

6 WATER SYSTEM ALTERNATIVES & RECOMMENDATIONS

6.1 Water Supply Alternative Screening

6.1.1 Alternative S1- No Action

Description

With the "No Action" alternative no improvements would be made to the water supply. This alternative would probably be the choice of the residents as it would minimize water rates.

Design Criteria

No design criteria is required for the "No Action" alternative.

Map

A schematic of the existing system is included in Appendix D. No improvements would be made to the existing water supply system.

Environmental Impacts

General environmental conditions were discussed in Section II.A.4 and a Uniform Environmental Checklist was completed and is included in Appendix C.

Land Requirements

There are no proposed improvements for this alternative therefore there will be no additional land required.

Potential Construction Problems

There are no proposed improvements for this alternative therefore there will be no construction problems.

Sustainability Considerations

This alternative will not be able to sustain the projected peak day demand of the water system.

Cost Estimates

There are no proposed improvements for this alternative therefore a cost estimate has not been prepared.

6.1.2 Alternative S2- Winterize Wells No. 9 - 12

Description

This alternative would include installing heated structures over Wells No. 9 - 12, and lowering the water main from the wells to the water main leading to the clear well below frost depth. This alternative would also include connecting Wells No. 11 and 12 to the water main that feeds the existing clear well. This alternative would also include installing a meter vault at the Well Field booster station, and individual flow meters at each well in the well field so the City can more accurately measure the amount of water flowing from the Well Field.

As a separate project, the City has constructed the heated buildings for these wells and will be installing them in the summer of 2016. We have included a copy of the building plans in Appendix X.

Therefore, the work required left for this alternative would be to replace the existing mains to a lower depth, connect Wells No. 11-12 directly to the water main that feeds the 100,000 gallon Clear Well, install flow meters at each individual well, and install a water meter vault at the Well Field Booster station.

Design Criteria

The design and construction of the lowered water main and water main connections would need to comply with DEQ 1 requirements. The plans and specifications must also be submitted to and approved by DEQ prior to construction. A Storm Water Pollution Prevention Plan must be completed and submitted to DEQ prior to construction. Comments from the other regulatory agencies have been requested and are included in Appendix C.

Map

Figure 6.1.2 is a schematic layout of the lowered water mains and is included in Appendix X.

Environmental Impacts

General environmental conditions were discussed in Section II.A.4 and a Uniform Environmental Checklist was completed and is included in Appendix C.

Land Requirements

The City owns the land within Williamson Park where the Well Field is located. No land acquisition is anticipated with this alternative.

Potential Construction Problems

This alternative is considered physically feasible and no construction problems are anticipated.

Sustainability Considerations

This project will ensure the capability of operating Wells No. 9 - 12 year-round. This alternative is crucial for meeting the water demand of the City.

Cost Estimates

Table 17 provides a summary of capital and O&M costs as well as a 20 year present worth analysis assuming a discount rate of 6% for the alternative and construction in 2018. Unit costs were based on bid tabs for similar projects.

Table 17: Alternative S2 Cost Estimate

Item	Unit	Quantity	Unit Cost	Total
Mobilization	LS	1	$7,600.00	$7,600.00
Temporary Erosion Control	LS	1	$15,000.00	$15,000.00
Remove Existing Water Main	LF	2,222	$15.00	$33,330.00
4" C900 PVC Water Main	LF	1,588	$30.00	$47,610.00
6" C900 PVC Water Main	LF	1,107	$35.00	$38,815.00
3" Cap	EA	2	$400.00	$800.00
4" Gate Valve & Box	EA	2	$1,200.00	$2,400.00
4" Bend	EA	3	$450.00	$1,350.00
6" Gate Valve & Box	EA	2	$1,800.00	$3,600.00
6" Tee	EA	2	$650.00	$1,300.00
6" Bend	EA	1	$450.00	$450.00
6" Cap	EA	2	$500.00	$1,000.00
12" Tee	EA	2	$750.00	$1,500.00
18" Meter Assembly	LS	1	$15,700.00	$15,700.00
Individual Well Flow Meter	EA	11	$2,000.00	$22,000.00
Hydraulic Seeding	SY	3,000	$2.00	$6,000.00
Alternative S2 Direct Construction Costs Subtotal (2016)				**$206,115**
Alternative S2 Direct Construction Costs Subtotal (2018)				**$215,410**
Contingency		10%		$21,541
Total: Construction Cost (2018)				**$236,951**
Engineering and Administration		20%		$47,390
Total Cost (Constructed in 2018)				**$284,342**
Estimated Change to Annual O&M Cost				$0
Present Worth of O&M Difference Over 20 Yrs (6% Discount Rate)				$0
Total 20 Year Costs				**$284,342**

6.1.3 *Alternative S3-Incorporating the Iverson Well into the Water System*

Description

This alternative would include investigate the feasibility of drilling a new well and connecting it to the existing well field. The Iverson well is located ~1.5 miles Southwest of the existing well field, across the Marias River.

Design Criteria

Installation of the new well would need to meet the requirements of DEQ 1 Section 3.2. The transmission main from the well to the existing well field would need to meet the requirements of DEQ 1 Chapter 8.

Map

Figure 6.1.3 is an aerial map showing the location of the proposed well in relation to the existing well field. The figure is included in Appendix X.

Environmental Impacts

General environmental conditions were discussed in Section II.A.4 and a Uniform Environmental Checklist was completed and is included in Appendix C.

Land Requirements

At this time no land is required. However, if the project is deemed feasible, new easements for the pipeline would be required.

Potential Construction Problems

This alternative is considered physically feasible and no construction problems are anticipated. However, the Contractor selected for the well installation will need to be specialized, and the Contractor to install the water main across the Marias River will need to be specialized.

Sustainability Considerations

This alternative is very sustainable, as it will allow the City to make a determination if drilling the well and investing in the infrastructure to connect it to the well field is feasible.

Cost Estimates

Table 18 provides a summary of engineering and geological costs associated with investigating and conducting a feasibility study in 2018.

Table 18: Alternative S3 Cost Estimate

Item	Unit	Quantity	Unit Cost	Total
Well Pump Test	LS	1	$7,500.00	$7,500.00
Water Quality Testing	LS	1	$3,500.00	$3,500.00
Engineering Feasibility Study	LS	1	$10,000.00	$10,000.00
Alternative S3 Direct Construction Costs Subtotal (2016)				**$21,000**
Alternative S3 Direct Construction Costs Subtotal (2018)				**$21,947**
Contingency		10%		$2,195
Total: Construction Cost (2018)				**$24,142**
Estimated Change to Annual O&M Cost				$0
Present Worth of O&M Difference Over 20 Yrs (6% Discount Rate)				$0
Total 20 Year Costs				$24,142

6.1.4 *Alternative S4-To Be Determined After Well Field Testing*

Description

Design Criteria

Map

Environmental Impacts

Land Requirements

Potential Construction Problems

Sustainability Considerations

Cost Estimates

6.2 Water Treatment Screening Alternatives

6.2.1 *Alternative T1-No Action*

Description

This alternative would involve making no improvements to the water treatment plant. This alternative would probably be the choice of the residents as it would minimize water rates.

Design Criteria

There are no proposed improvements for this alternative therefore there will be no requirements that need to be met or permits to acquire.

Map

A schematic of the existing system is included in Appendix D. No improvements would be made to the existing water supply system.

Environmental Impacts

General environmental conditions were discussed in Section II.A.4 and a Uniform Environmental Checklist was completed and is included in Appendix C.

Land Requirements

There are no proposed improvements for this alternative therefore there will be no additional land required.

Potential Construction Problems

There are no proposed improvements for this alternative therefore there will be no construction problems.

Sustainability Considerations

This alternative is not sustainable, due to the fact that the existing treatment plant does not have capacity to meet the current output from the well field. Therefore, this alternative will be eliminated.

Cost Estimates

There are no proposed improvements for this alternative therefore a cost estimate has not been prepared.

6.2.2 *Alternative T2-Upgrade the Existing Water Treatment Plant to 6-Bulb UV Treatment System*

Description

The manufacturer of the existing UV treatment system, Trojan UV, has indicated to the City of Shelby that they can upgrade the treatment plant by increasing the quantity of bulbs in the reactors to 6-bulbs. The system would remain operating in series to provide the 4-log virus inactivation. This would treat up 3,820 gpm or 5.5 MGD. The existing reactors would be upgraded from a 4-bulb to a 6-bulb reactors.

Design Criteria

The design of the improvements to the UV plant will meet DEQ 1 Section 3.2.5.2.d and the DEQ 1 Policy on Ultraviolet Light for Treatment of Public Water Supplies.

Map

A schematic of the existing system is included in Appendix D. Improvements for this alternative would take place within the existing water treatment plant building.

Environmental Impacts

General environmental conditions were discussed in Section II.A.4 and a Uniform Environmental Checklist was completed and is included in Appendix C.

Land Requirements

No land acquisition needs to take place for this alternative. All of the work for this alternative will take place within the existing water treatment plant building.

Potential Construction Problems

This alternative is considered physically feasible and no construction problems are anticipated.

Sustainability Considerations

This alternative will sustain through the planning period. It will provide adequate treatment for the City of Shelby and the communities it serves.

Cost Estimates

Table 19 provides a summary of capital and O&M costs as well as a 20 year present worth analysis assuming a discount rate of 6% for the alternative and construction in 2018. Unit costs were based on information provided by the treatment plant supplier.

Table 19: Alternative T2 Cost Estimate

Item	Unit	Quantity	Unit Cost	Total
Mobilization	LS	1	$17,000.00	$17,000.00
Mechanical/Electrical Components (Gen I)	LS	1	$42,313.00	$42,313.00
Controls/Programming (Gen I)	LS	1	$4,680.00	$4,680.00
Mechanical/Electrical Components (Gen II)	LS	1	$36,186.00	$36,186.00
Controls/Programming (Gen II)	LS	1	$5,620.00	$5,620.00
Alternative T2 Direct Construction Costs Subtotal (2016)				**$105,799**
Alternative T2 Direct Construction Costs Subtotal (2016)				**$110,570**
Contingency		10%		$11,057
Total: Construction Cost (2018)				**$121,627**
Engineering and Administration		20%		$24,325
Total Cost (Constructed in 2018)				**$145,953**
Estimated Change to Annual O&M Cost				$0
Present Worth of O&M Difference Over 20 Yrs (6% Discount Rate)				$0
Total 20 Year Costs				**$145,953**

Since the addition of bulbs will not affect the overall operation of the system, no change of the annual O&M cost is anticipated.

6.2.3 *Alternative T3- Upgrade the Existing Water Treatment Plant to 8-Bulb UV Treatment System*

Description

The manufacturer of the existing UV treatment system, Trojan UV, has indicated to the City of Shelby that they can upgrade the treatment plant by increasing the quantity of bulbs in the reactors to 8-bulbs. The system would remain operating in series to provide the 4-log virus inactivation. This would treat up 6,320 gpm or 9.1 MGD. The existing reactors would be upgraded from a 4-bulb to an 8-bulb reactors.

Design Criteria

The design of the improvements to the UV plant will meet DEQ 1 Section 3.2.5.2.d and the DEQ 1 Policy on Ultraviolet Light for Treatment of Public Water Supplies.

Map

A schematic of the existing system is included in Appendix D. Improvements for this alternative would take place within the existing water treatment plant building.

Environmental Impacts

General environmental conditions were discussed in Section II.A.4 and a Uniform Environmental Checklist was completed and is included in Appendix C.

Land Requirements

No land acquisition needs to take place for this alternative. All of the work for this alternative will take place within the existing water treatment plant building.

Potential Construction Problems

This alternative is considered physically feasible and no construction problems are anticipated. The treatment plant supplier noted that a crane or lifting device may be required to lift the new bulbs in place.

Sustainability Considerations

This alternative will provide excess treatment for the planning period. The capacity of this alternative is approximately three times the peak day demand. If the City ever needed this amount of treatment then the existing plant could be upgraded at that time, and this alternative will be eliminated.

Cost Estimates

Table 20 provides a summary of capital and O&M costs as well as a 20 year present worth analysis assuming a discount rate of 6% for the alternative and construction in 2018. Unit costs were based on information provided by the treatment plant supplier.

Table 20: Alternative T3 Cost Estimate

Item	Unit	Quantity	Unit Cost	Total
Mobilization	LS	1	$17,000.00	$17,000.00
Mechanical/Electrical Components (Gen I)	LS	1	$71,500.00	$71,500.00
Controls/Programming (Gen I)	LS	1	$4,680.00	$4,680.00
Mechanical/Electrical Components (Gen II)	LS	1	$61,500.00	$61,500.00
Controls/Programming (Gen II)	LS	1	$5,620.00	$5,620.00
Alternative T3 Direct Construction Costs Subtotal (2016)				**$160,300**
Alternative T3 Direct Construction Costs Subtotal (2018)				**$167,529**
Contingency		10%		$16,753
Total: Construction Cost (2018)				**$184,282**
Engineering and Administration		20%		$36,856
Total Cost (Constructed in 2018)				**$221,138**
Estimated Change to Annual O&M Cost				$0
Present Worth of O&M Difference Over 20 Yrs (6% Discount Rate)				$0
Total 20 Year Costs				**$221,138**

Since the addition of bulbs will not affect the overall operation of the system, no change of the annual O&M cost is anticipated.

6.3 Water Storage Screening Alternatives

6.3.1 *Alternative ST1-No Action*

Description

The "No Action" alternative would include continuing use of the existing 100,000 gallon least action and would result in a minimal costs increase in water storage tank. The main advantage of this alternative is that there is no capital cost associated with it. This alternative involves the usage rates.

Design Criteria

There are no proposed improvements for this alternative therefore there will be no requirements that need to be met or permits to acquire.

Map

A schematic of the existing system is included in Appendix D. No improvements would be made to the existing water storage system.

Environmental Impacts

General environmental conditions were discussed in Section 2 and a Uniform Environmental Checklist was completed and is included in Appendix C.

Land Requirements

There are no proposed improvements for this alternative therefore there will be no additional land required.

Potential Construction Problems

There are no proposed improvements for this alternative therefore there will be no construction problems.

Sustainability Considerations

The "No Action" alternative could be eliminated due to the public health and safety concerns. However, the City's priorities have changed due to the addition of servicing the City of Cut Bank and Devon. By leaving the tank in place, the negative impact of leaving the tank in place is far less than the negative impact on the system by simply removing the tank. The City of Shelby does plan to one day remove the existing 100,000 gallon tank and connect to the High Pressure Zone as indicated in the 2010 Water System PER.

Cost Estimates

There are no proposed improvements for this alternative therefore a cost estimate has not been prepared.

6.3.2 *Alternative ST2-Recoat 100,000 Gallon Airport Tank*

Description

The "Recoat 100,000 Gallon Airport Tank" alternative would include removing the existing lead based paint coating on the 100,000 gallon tank and recoat.

Design Criteria

The new coating shall meet the requirements of DEQ 1 Section 7.0.16. The disinfection shall meet the requirements of DEQ 1 Section 7.0.17.

Map

A schematic of the existing system is included in Appendix D. Improvements would take place at the existing tank site.

Environmental Impacts

General environmental conditions were discussed in Section II.A.4 and a Uniform Environmental Checklist was completed and is included in Appendix C.

Land Requirements

No land acquisition is required with this alternative, due to the alternative taking place at the existing tank site.

Potential Construction Problems

This alternative is considered physically feasible and no construction problems are anticipated. However, the Contractor selected for this project should be specialized.

Sustainability Considerations

Recoating the existing 100,000 gallon tank will address the lead based paint issue but does not improve the excess system storage capacity or the inadequate pressures and fire flows in the area that is partially made up of the airport and the border patrol station.

The "Recoat 100,000 Gallon Airport Tank" alternative is eliminated because it does not address the inadequate pressures and fire flows or the excess storage capacities addressed by the other alternatives. For these reasons, the "Recoat 100,000 Gallon Airport Tank" alternative will not be considered in the Alternative Analysis section.

Cost Estimates

Since this alternative has been eliminated, no cost estimate was completed.

6.3.3 *Alternative ST3-Eliminate the 100,000 Gallon Airport Tank*

Description

The "Eliminate 100,000 Gallon Airport Tank" alternative would include eliminating the 100,000 gallon tank that is coated with lead based paint. Fire protection for the area would be supplied by the City Shop Tank only.

Design Criteria

There are no design criteria for removing the existing tank. However, the work should be completed per OSHA standards.

Map

A schematic of the existing system is included in Appendix D. Improvements would take place at the existing tank site.

Environmental Impacts

General environmental conditions were discussed in Section 2 and a Uniform Environmental Checklist was completed and is included in Appendix C.

Land Requirements

No land acquisition is required with this alternative, due to the alternative taking place at the existing tank site. However, construction easements may need to be acquired.

Potential Construction Problems

This alternative is considered physically feasible and no construction problems are anticipated. However, the Contractor selected for this project should be specialized.

Sustainability Considerations

The hydraulic model was used to evaluate the feasibility of simply eliminating the 100,000 gallon Airport Tank. The hydraulic model revealed that by simply eliminating the 100,000 gallon Airport Tank the fire flows in the area extending from the border patrol station down to the intersection of Teton Ave and Prairie Street would be severely impacted to a point that they are almost reduced to zero. Results of the hydraulic model area included in Appendix J. The hydrants showing the largest negative impacts are labeled H-193 thru H-195 and H-197 thru H-201.

The "Eliminate 100,000 Gallon Airport Tank" alternative is eliminated due to the negative impacts the project will have on the fire flows in the area and public health and safety. For these reasons, the "Eliminate 100,000 Gallon Airport Tank" alternative will not be considered in the Alternative Analysis section. Additionally, the City of Shelby does plan to one day remove the existing 100,000 gallon tank and connect to the High Pressure Zone as indicated in the 2010 Water System PER.

Cost Estimates

Since this alternative has been eliminated, no cost estimate was completed.

6.4 Water Pumping Facilities Screening Alternatives

6.4.1 Alternative P1-No Action

Description

The No Action alternative would provide no upgrades to the existing Prison Tank booster station. This alternative would probably be the choice of the residents as it would minimize water rates.

Design Criteria

There are no proposed improvements for this alternative therefore there will be no requirements that need to be met or permits to acquire.

Map

A schematic of the existing system is included in Appendix D. No improvements would be made to the existing water booster station.

Environmental Impacts

General environmental conditions were discussed in Section 2 and a Uniform Environmental Checklist was completed and is included in Appendix C.

Land Requirements

There are no proposed improvements for this alternative therefore there will be no additional land required.

Potential Construction Problems

There are no proposed improvements for this alternative therefore there will be no construction problems.

Sustainability Considerations

The "No Action" alternative should be eliminated due to the public health and safety concerns. By not improving the booster station, the City will not be able to deliver the peak day demand to the residents in the area served and supply 1.0 MGD to the City of Cut Bank. Based on this, this alternative shall be eliminated.

Cost Estimates

There are no proposed improvements for this alternative therefore a cost estimate has not been prepared.

6.4.2 *Alternative P2- To be Completed Once we have information from the Booster Station Pump Supplier*

Description

Design Criteria

Map

Environmental Impacts

Land Requirements

Potential Construction Problems

Sustainability Considerations

Cost Estimates

6.4.3 *Alternative P3- To be Completed Once we have information from the Booster Station Pump Supplier*

Description

Design Criteria

Map

Environmental Impacts

Land Requirements

Potential Construction Problems

Sustainability Considerations

Cost Estimates

6.5 Water Distribution System Screening Alternatives

6.5.1 *Alternative D1-No Action*

Description

The No Action alternative would provide no upgrades to the existing water distribution system. This alternative would probably be the choice of the residents as it would minimize water rates. It should be noted that a project has been planned to replace the water main from the well field to the clear well and Well Field booster station. Another project is also

planned to be completed in summer 2017 to install a parallel 20" water main from the booster station to the treatment plant and to the South storage tank. These two projects will greatly improve the City of Shelby's water distribution system.

Design Criteria

There are no proposed improvements for this alternative therefore there will be no requirements that need to be met or permits to acquire.

Map

A schematic of the existing system is included in Appendix D. No improvements would be made to the existing water booster station.

Environmental Impacts

General environmental conditions were discussed in Section 2 and a Uniform Environmental Checklist was completed and is included in Appendix C.

Land Requirements

There are no proposed improvements for this alternative therefore there will be no additional land required.

Potential Construction Problems

There are no proposed improvements for this alternative therefore there will be no construction problems.

Sustainability Considerations

The "No Action" alternative is viable for a few reasons. The first is the City of Shelby has completed projects in recent years to improve the fire protection flow in key areas within the City. Secondly, a project has been planned to install a supplemental 20" water main from the existing well field booster station to the water treatment plant. Thirdly, a project has been planned to be completed in the summer of 2017 to install a parallel 20" water main from the clear well to the water treatment plant and to the South tank. This water main will not only provide a factor of safety of having two water mains feed the City, this water main will also improve the capacity of the Well Field Booster Station to the point where it will have the capacity to meet the projected 2036 Peak Day Demand of the City of Shelby and the communities it serves.

Cost Estimates

There are no proposed improvements for this alternative therefore a cost estimate has not been prepared.

6.5.2 *Alternative D2- Re-route the South Tank Water Main*

Description

This alternative would install a new 16" PVC water main around the West side of the South tank and connect to the main on each end. A connection will be made at the existing gate valve on the West side of the South tank.

Design Criteria

The design and construction of the lowered water main and water main connections would need to comply with DEQ 1 requirements. The plans and specifications must also be submitted to and approved by DEQ prior to construction. A Storm Water Pollution Prevention Plan must

be completed and submitted to DEQ prior to construction. Comments from the other regulatory agencies have been requested and are included in Appendix C.

Map

A schematic of this alternative has been included in Appendix X.

Environmental Impacts

General environmental conditions were discussed in Section 2 and a Uniform Environmental Checklist was completed and is included in Appendix C.

Land Requirements

The work proposed for this alternative will take place within existing City easements, therefore there will be no additional land required.

Potential Construction Problems

There are no proposed improvements for this alternative therefore there will be no construction problems.

Sustainability Considerations

This alternative is very sustainable, as it is a solution to the deteriorating 16" AC main near the foundation of the South Tank.

Cost Estimates

Table 21 provides a summary of capital and O&M costs as well as a 20 year present worth analysis assuming a discount rate of 6% for the alternative and construction in 2018. Unit costs were based on bid tabs for similar projects.

Table 21: Alternative D2 Cost Estimate

Item	Unit	Quantity	Unit Cost	Total
Mobilization	LS	1	$5,700.00	$5,700.00
Temporary Erosion Control	LS	1	$15,000.00	$15,000.00
Remove & Reset Existing Fence	LF	135	$30.00	$4,050.00
16" C905 PVC Water Main	LF	257	$100.00	$25,700.00
16"X16" Tee	EA	2	$3,000.00	$6,000.00
16" 45^0 Bend	EA	2	$2,260.00	$4,520.00
16" 90^0 Bend	EA	2	$2,400.00	$4,800.00
16" End Cap	EA	3	$1,100.00	$3,300.00
16" Butterfly Valve & Box	EA	1	$4,500.00	$4,500.00
Structural Backfill	CY	37	$90.00	$3,330.00
Hydraulic Seeding	SY	343	$10.00	$3,430.00
Alternative D2 Direct Construction Costs Subtotal (2016)				**$80,630**
Alternative D2 Direct Construction Costs Subtotal (2018)				**$84,266**
Contingency		10%		$8,427
Total: Construction Cost (2018)				**$92,693**
Engineering and Administration		20%		$18,539
Total Cost (Constructed in 2018)				**$111,231**
Estimated Change to Annual O&M Cost				$0
Present Worth of O&M Difference Over 20 Yrs (6% Discount Rate)				$0
Total 20 Year Costs				**$111,231**

6.6 Selection of Water Supply Alternatives

6.6.1 Life Cycle Cost Analysis

To be determined after well testing.

6.6.2 Non-Monetary Factors

6.6.3 Comparative Summary

6.7 Selection of Water Treatment Alternatives

6.7.1 Life Cycle Cost Analysis

In Section 6.2 the water treatment plan alternatives were analyzed. Alternative T1 would negatively impact the water system and was eliminated during the Screening Process, therefore we will analyze the life-cycle cost of Alternative T2 and Alternative T3. Alternatives

T2 and T3 cost estimates are shown below. They can also be found in in Section 6.2.2 and in Section 6.2.3 respectively.

Table 19: Alternative T2 Cost Estimate

Item	Unit	Quantity	Unit Cost	Total
Mobilization	LS	1	$17,000.00	$17,000.00
Mechanical/Electrical Components (Gen I)	LS	1	$42,313.00	$42,313.00
Controls/Programming (Gen I)	LS	1	$4,680.00	$4,680.00
Mechanical/Electrical Components (Gen II)	LS	1	$36,186.00	$36,186.00
Controls/Programming (Gen II)	LS	1	$5,620.00	$5,620.00
Alternative T2 Direct Construction Costs Subtotal (2016)				**$105,799**
Alternative T2 Direct Construction Costs Subtotal (2016)				**$118,876**
Contingency		10%		$11,888
Total: Construction Cost (2018)				**$130,763**
Engineering and Administration		20%		$26,153
Total Cost (Constructed in 2018)				**$156,916**
Estimated Change to Annual O&M Cost				$0
Present Worth of O&M Difference Over 20 Yrs (6% Discount Rate)				$0
Total 20 Year Costs				**$156,916**

Based on the principle that the treatment plant will operate in the same manner as it did previously, no additional cost for Operation and Maintenance was accounted for in both Alternative T2 and Alternative T3.

Table 20 Alternative T3 Cost Estimate

Item	Unit	Quantity	Unit Cost	Total
Mobilization	LS	1	$17,000.00	$17,000.00
Mechanical/Electrical Components (Gen I)	LS	1	$71,500.00	$71,500.00
Controls/Programming (Gen I)	LS	1	$4,680.00	$4,680.00
Mechanical/Electrical Components (Gen II)	LS	1	$61,500.00	$61,500.00
Controls/Programming (Gen II)	LS	1	$5,620.00	$5,620.00
Alternative T3 Direct Construction Costs Subtotal (2016)				**$160,300**
Alternative T3 Direct Construction Costs Subtotal (2018)				**$180,113**
Contingency		10%		$18,011
Total: Construction Cost (2018)				**$198,124**
Engineering and Administration		20%		$39,625
Total Cost (Constructed in 2018)				**$237,749**
Estimated Change to Annual O&M Cost				$0
Present Worth of O&M Difference Over 20 Yrs (6% Discount Rate)				$0
Total 20 Year Costs				**$237,749**

Both Alternatives will effectively treat the water from the well field. However, Alternative T3 has a higher capital cost and is grossly oversized for the capacity required for the planning period. Therefore, through a life cycle cost analysis, Alternative T2 is the chosen alternative.

6.7.2 Non-Monetary Factors

Alternative T1 negatively impacts the existing water system, and therefore is eliminated. Alternative T3 is grossly oversized in capacity, the capacity of this Alternative is ~6,320 gpm which equates to over three times the peak day demand of the water system.

6.7.3 Summary

When comparing Alternatives T2 and T3, the fact that Alternative T2 will have adequate treatment capacity throughout the planning period and has a lower life cycle cost when compared to Alternative T3. Therefore, Alternative T2 will be the chosen alternative.

6.8 Selection of Water Storage Alternatives

6.8.1 Life Cycle Cost Analysis

In Section 6.3 the water storage alternatives were analyzed. The chosen alternative out of this section was Alternative ST-1. The No Action alternative does not require a life cycle cost analysis. According to City officials the airport tank is currently inspected and cleaned every 5 years at a cost of $2600 or $520 per year.

Alternatives ST2 and ST3 were eliminated during the screening process, due to their negative impact to the water system.

6.8.2 *Non-Monetary Factors*

Alternative ST-2 would improve the existing tank by removing the lead based paint, however it would not improve the water pressures and flow rates to the area it serves. Concluding that recoating the tank would be beneficial to the entire water system. Alternative ST3 would completely remove the existing tank, however by simply removing the tank the water pressures in the area served drastically drop. Consequently, having the tank in service would better serve the system than simply removing it.

6.8.3 *Comparative Summary*

Based on the City of Shelby's new priority to deliver water to the City of Cut Bank and Devon, the City has chosen Alternative ST-1. However, the City does plan in the future to remove the Airport storage tank from service and connect to the High Pressure Zone as indicated in the 2010 PER.

6.9 Selection of Water Pumping Facilities Alternatives

6.10 Selection of Water Distribution Alternatives

6.10.1 *Life Cycle Cost Analysis*

In Section 6.5 the water distribution alternatives were analyzed. Alternative D1 and Alternative D2 were both analyzed. They can also be found in in Section 6.5.1 and in Section 6.5.2 respectively. Alternative D1 does not have a project cost, therefore we will analyze Alternative D2 shown below. This cost estimate can also be found in Section 6.5.2.

Table 21: Alternative D2 Cost Estimate

Item	Unit	Quantity	Unit Cost	Total
Mobilization	LS	1	$5,700.00	$5,700.00
Temporary Erosion Control	LS	1	$15,000.00	$15,000.00
Remove & Reset Existing Fence	LF	135	$30.00	$4,050.00
16" C905 PVC Water Main	LF	257	$100.00	$25,700.00
16"X16" Tee	EA	2	$3,000.00	$6,000.00
16" 45^0 Bend	EA	2	$2,260.00	$4,520.00
16" 90^0 Bend	EA	2	$2,400.00	$4,800.00
16" End Cap	EA	3	$1,100.00	$3,300.00
16" Butterfly Valve & Box	EA	1	$4,500.00	$4,500.00
Structural Backfill	CY	37	$90.00	$3,330.00
Hydraulic Seeding	SY	343	$10.00	$3,430.00
Alternative D2 Direct Construction Costs Subtotal (2016)				**$80,630**
Alternative D2 Direct Construction Costs Subtotal (2018)				**$84,266**
Contingency		10%		$8,427
Total: Construction Cost (2018)				**$92,693**
Engineering and Administration		20%		$18,539
Total Cost (Constructed in 2018)				**$111,231**
Estimated Change to Annual O&M Cost				$0
Present Worth of O&M Difference Over 20 Yrs (6% Discount Rate)				$0
Total 20 Year Costs				**$111,231**

6.10.2 Non-Monetary Factors

Since Alternative D1 does not require any improvements, therefore Alternative D2 is the only alternative remaining.

6.10.3 Comparative Summary

7 PROPOSED PROJECT

7.1 Recommended Project Improvements and Estimated Costs

7.1.1 Treatment Facility Recommended Improvements

7.1.2 Prioritization of Recommended Improvements

7.2 Implementation of Recommended Improvements

7.2.1 Phase 1 Project Improvements

7.2.1.1 PRELIMINARY PROJECT DESIGN

7.2.1.2 PERMIT REQUIREMENTS

7.2.1.3 SUSTAINABILITY CONSIDERATIONS

7.2.1.4 TOTAL PROJECT COST ESTIMATE

7.2.1.5 ANNUAL OPERATING BUDGET

7.2.2 Phase 2 Project Improvements

7.2.2.1 PRELIMINARY PROJECT DESIGN

7.2.2.2 PERMIT REQUIREMENTS

7.2.2.3 SUSTAINABILITY CONSIDERATIONS

7.2.2.4 TOTAL PROJECT COST ESTIMATE

7.2.2.5 ANNUAL OPERATING BUDGET

7.3 Implementation Plan & Schedule

7.4 Funding Strategy

7.5 Public Input & Participation

Appendix A: Appendix Label (insert caption function)