



CITY COUNCIL WORK SESSION MEETING AGENDA

**Wednesday, February 28, 2018
At 5:00 p.m.**

- 1. CALL TO ORDER**
- 2. ROLL CALL**
- 3. APPROVAL OF AGENDA – February 28, 2018 Council Work Session**
- 4. CITY COUNCIL BUSINESS**
 - A. South Washington Watershed District update report by Matt Moore
 - B. Pennington Avenue sewer connection options
 - C. The use of the City's revolving loan fund to encourage commercial/industrial development
 - D. The process for property owners to appeal the number of Equivalent Residential Units (ERU's) that were assigned to their property as part of the sanitary sewer project
 - E. The option of contracting with Washington County for election administration
 - F. Goal setting for 2018
- 5. ADJOURN**

A quorum of the City Council or Other Commissions may be present to receive information at this meeting

City of Afton
3033 St. Croix Trl, P.O. Box 219
Afton, MN 55001

Meeting Date Feb. 28, 2018

Council Memo

To: Mayor Bend and Members of the City Council
From: Ron Moose, City Administrator
Date: February 22, 2018
Re: South Washington Watershed District Update Report by Matt Moore

Matt Moore, of the South Washington Watershed District, will provide a brief update report regarding the District's activities.

City of Afton
3033 St. Croix Trl, P.O. Box 219
Afton, MN 55001

Meeting Date Feb. 28, 2018

Council Memo

To: Mayor Bend and Members of the City Council
From: Ron Moorse, City Administrator
Date: February 22, 2018
Re: Pennington Avenue Sewer Connection Options

Several properties on the east side of Pennington Avenue have septic systems located at the top of the bluff, while the new sanitary sewer lines are located at the bottom of the bluff. Due to the steep slope, and bedrock near the surface, the cost of the private connections to the sewer line is high. In addition, a significant number of properties on the west side of Pennington, that were not included in the sanitary sewer project, have small lots and should be connected to the sanitary sewer system at some point in the future. The City Engineer has been working to develop options for making the private connections to the properties on Pennington Avenue. Attached is the report from the City Engineer regarding the connection options. The City Engineer will attend the work session to present the report and respond to questions.



Memorandum

To: *Nick Guilliams, P.E.*
WSB & Associates, Inc.

From: *Greg Johnson, P.E.*
WSB & Associates, Inc.

Monika Bueltel, E.I.T.
WSB & Associates, Inc.

Date: *February 16, 2018*

Re: *Pennington Avenue Sewer Study*
City of Afton Downtown Village Improvement Project
City Project No. SAP 082-618-021/SAP 082-621-031
WSB Project No. 01856-520

Introduction

The following technical memorandum evaluates five options for sewer service expansion to the assessed parcels on the eastern side of Pennington Ave. These seven assessed parcels contain shallow bedrock and a steep hill between the parcel homes and the existing City sewer service. The challenging geological conditions are the primary reason why this preliminary study was completed to consider various sewer service extension options.

In this technical memorandum, each of the five options are summarized with a brief description of the assumptions and sewer installation methods, a map displaying the piping layout, and a general cost breakdown. Additionally, a preliminary cost estimate for extending sewer service to non-assessed parcels on the western side of Pennington Ave is summarized as a separate per-parcel cost for the options that include pipe along Pennington Ave. The total project costs estimated in this study consider the extension of sewer service to the parcel boundaries, and does not consider cost of piping within the residents' parcels.

The options include two types of sewer pipes: polyvinyl chloride (PVC) and high density polyethylene (HDPE). In this memorandum, PVC is installed via excavation and HDPE is installed via excavation or directional drilling, as specified. Furthermore, this technical memorandum assumes that for where rock excavation is required for pipe installation, a 4 ft width and 7 ft depth of bed rock would need to be excavated. The Pennington Avenue Geotechnical Evaluation Report, completed by WSB & Associates in 2011, was used to determine this conservative estimate of bedrock removal.

Assumptions used in this study:

- 6 inch thickness of Aggregate Base Class 5
- 3.5 inch thickness of Type SP 12.5 Wearing Course Mix
- 0.5 ft pipe bedding fill depth below pipe and 1 ft bedding fill depth above pipe
- Rock excavation of 4 ft width and 7 ft depth
- Sewer service installation along Pennington Ave at 10 ft depth

Options and add-ons evaluated in this technical memorandum:

- Option 1: Gravity connection to existing sewer service extension points
- Option 2: Gravity sewer line along Pennington Ave to 32nd/Perrot
- Option 3: Gravity sewer line along Pennington Ave to Afton Blvd
- Option 4: Forcemain sewer line along Pennington Ave to 32nd/Perrot
- Option 5: Forcemain sewer line along Pennington Ave to Afton Blvd
- Add-on *while* installing Option 2 or 3: Gravity service to western parcel on Pennington Ave
- Add-on *after* installing Option 2 or 3: Gravity service to western parcel on Pennington Ave
- Add-on *while* installing Option 4 or 5: Forcemain service to western parcel on Pennington Ave
- Add-on *after* installing Option 4 or 5: Forcemain service to western parcels on Pennington Ave

Existing Septic Structures at Assessed Properties

Currently, the seven assessed properties along Pennington Ave each maintain independent septic systems, which includes wastewater holding and pump tanks, septic piping, and drainage fields. Six of these seven properties have a portion of their septic systems installed in the City right of way, by previous approval of the City. An inventory of existing septic system as-builts was conducted using Washington County Septic Records and Afton City Hall Records. The results of this inventory are summarized in **Figure 1**, which indicates the locations of existing septic systems as suggested on available records.

If City sewer service is extended to the seven assessed Pennington Ave properties, the property owners will be responsible for the disconnection and removal of their existing septic systems.

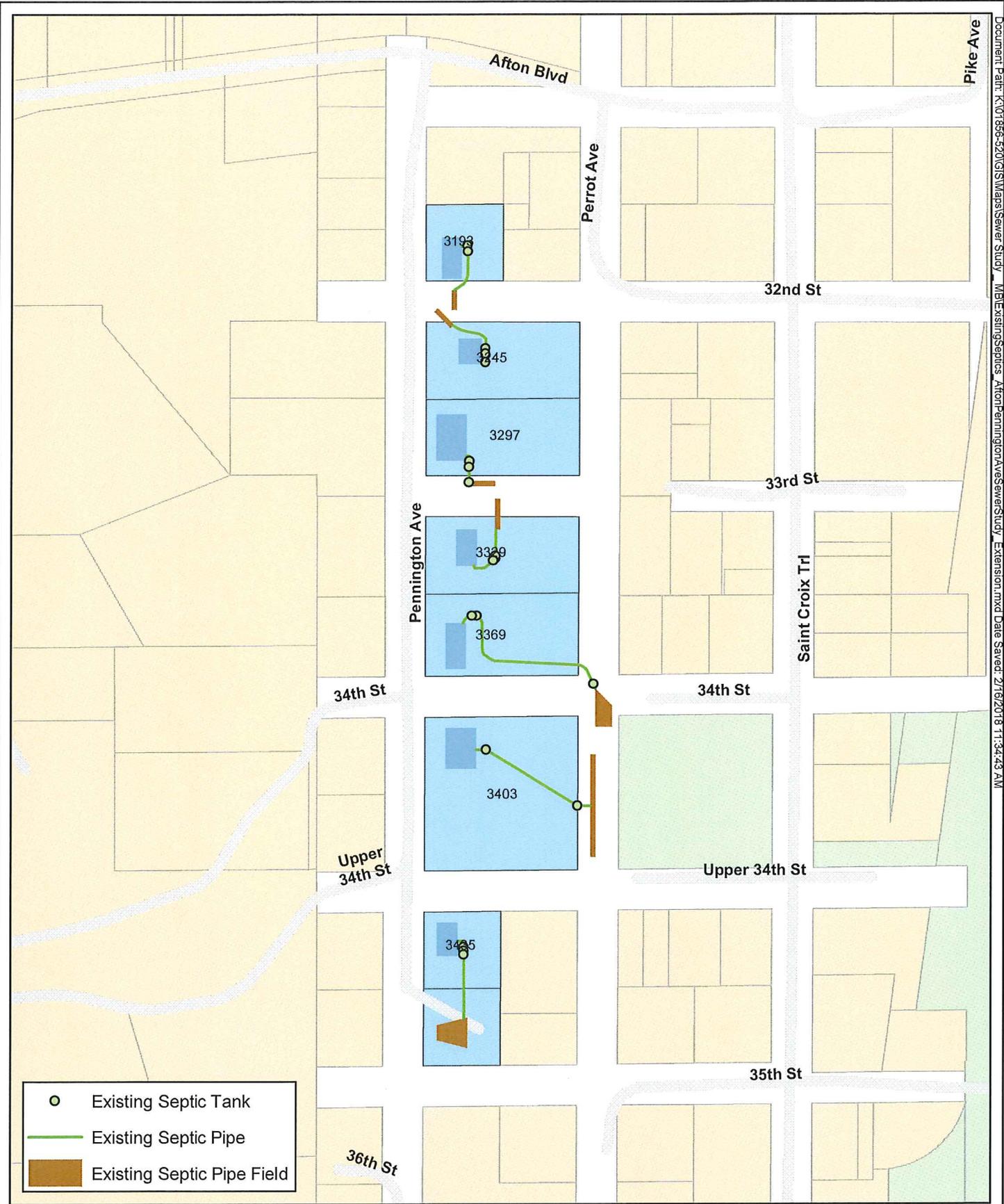


Figure 1: Existing Septic Systems at Assessed Properties
 Pennington Avenue Sewer Study
 City of Afton



Option 1: Gravity connection to existing sewer service extension points

This option includes a gravity sewer service that would connect to existing sewer service extension points, which were installed during the City's recent utilities expansion. For this option, 6" PVC pipe would be installed west from the sewer service extension points to the top of the hill. Additionally, service lines of 4" PVC pipe would be installed between the 6" PVC pipe and the parcel boundaries. **Figure 2** summarizes this piping layout. The steep slopes at which the 6" PVC pipe would be installed could require periodic maintenance by the City at the manholes at the base of the hill.

Option 1 would be least intrusive to residents on Pennington Ave, because the piping installation will occur in backyards and no street asphalt removal/re-installation would be required. This option could be installed by a small crew, and WSB's Construction Services Group estimates that completion of Option 1 could ideally require approximately 6 working days. Furthermore, this option would extend City sewer service piping to a parcel boundary point near the residents' existing septic structures. This would allow for residents to more conveniently connect to the City's wastewater service while disconnecting and removing their septic structures. **Figure 3** illustrates the convenience of Option 1 for the assessed property owners, by including both the existing septic structures that will need to be removed and the proposed gravity sewer pipe for Option 1.

Table 1 below summarizes the cost of Option 1. Since Option 1 is likely the most feasible and cost effective option, a more thorough cost estimate was conducted for Option 1 by WSB's Construction Services Group, which considers both the materials and labor cost for Option 1. The unit prices for the Option 1 cost estimate vary slightly from the cost estimates of the remaining options in this technical memorandum because the Option 1 cost estimate considers labor and installation costs, and therefore some unit costs vary accordingly.

Table 1. Preliminary cost estimate for materials and labor for Option 1

Note: Assumptions made included are five working days to complete all services, 1 day for restoration not included on labor or equipment costs, bid item costs are from base bid, labor cost from certified payroll, and equipment cost is averaged from MnDOT estimating office.

Item #	Description	Unit	Unit Price	Estimated	Estimated cost
2021.501	MOBILIZATION	LS	\$5,000.00	1	\$5,000.00
2101.502	CLEARING	Tree	\$80.00	40	\$3,200.00
2101.507	GRUBBING	Tree	\$80.00	40	\$3,200.00
2503.602	CONNECT TO EXISTING SANITARY	EA	\$2,000.00	4	\$8,000.00
2503.602	6"X4" WYE	EA	\$225.00	5	\$1,125.00
2451.607	PIPE BEDDING MATERIAL	CY	\$65.00	130	\$8,450.00
2503.511	4" PVC PIPE SEWER	LF	\$42.00	562	\$23,604.00
2503.511	6" PVC PIPE SEWER	LF	\$34.00	605	\$20,570.00
2502.602	4" PVC PIPE DRAIN CLEANOUT	EA	\$300.00	7	\$2,100.00
5573.533	SEDIMENT CONTROL LOG TYPE COMPOST	LF	\$2.30	400	\$920.00
2574.525	COMMON TOPSOIL BORROW	CY	\$15.60	925	\$14,430.00
2575.501	SEEDING	Acre	\$580.00	1.2	\$696.00
2575.502	SEED MIXTURE 35-621	Pound	\$50.00	14	\$700.00
2575.532	FERTILIZER TYPE 3	Pound	\$1.00	240	\$240.00
2575.523	EROSION CONTROL BLANKET CATEGORY 3	SY	\$1.40	5500	\$7,700.00
Total Material Cost:					\$99,935.00

Crew:	Wage/Hr	10Hr Day
Foreman:	\$37.50	\$375.00
Laberor(bottom)	\$34.30	\$343.00
Laberor(general)	\$31.50	\$315.00
Operator(Excavator)	\$34.99	\$349.90
Operator(Loader/packer)	\$34.69	\$346.90
		<u>\$1,729.80</u> Crew cost per day
		\$8,649.00 Crew for five working days

Equipment:	Wage/Hr	10Hr Day
Excavator:	\$154.00	\$1,540.00
Wheel Loader:	\$108.00	\$1,080.00
Sheeps Foot Roller:	\$40.00	\$400.00
Pickup:	\$12.00	\$120.00
		<u>\$3,140.00</u> Equipment Cost per day
		\$15,700.00 Equipment for five working days

+10% Contengency
Estimated Total: \$136,712.40

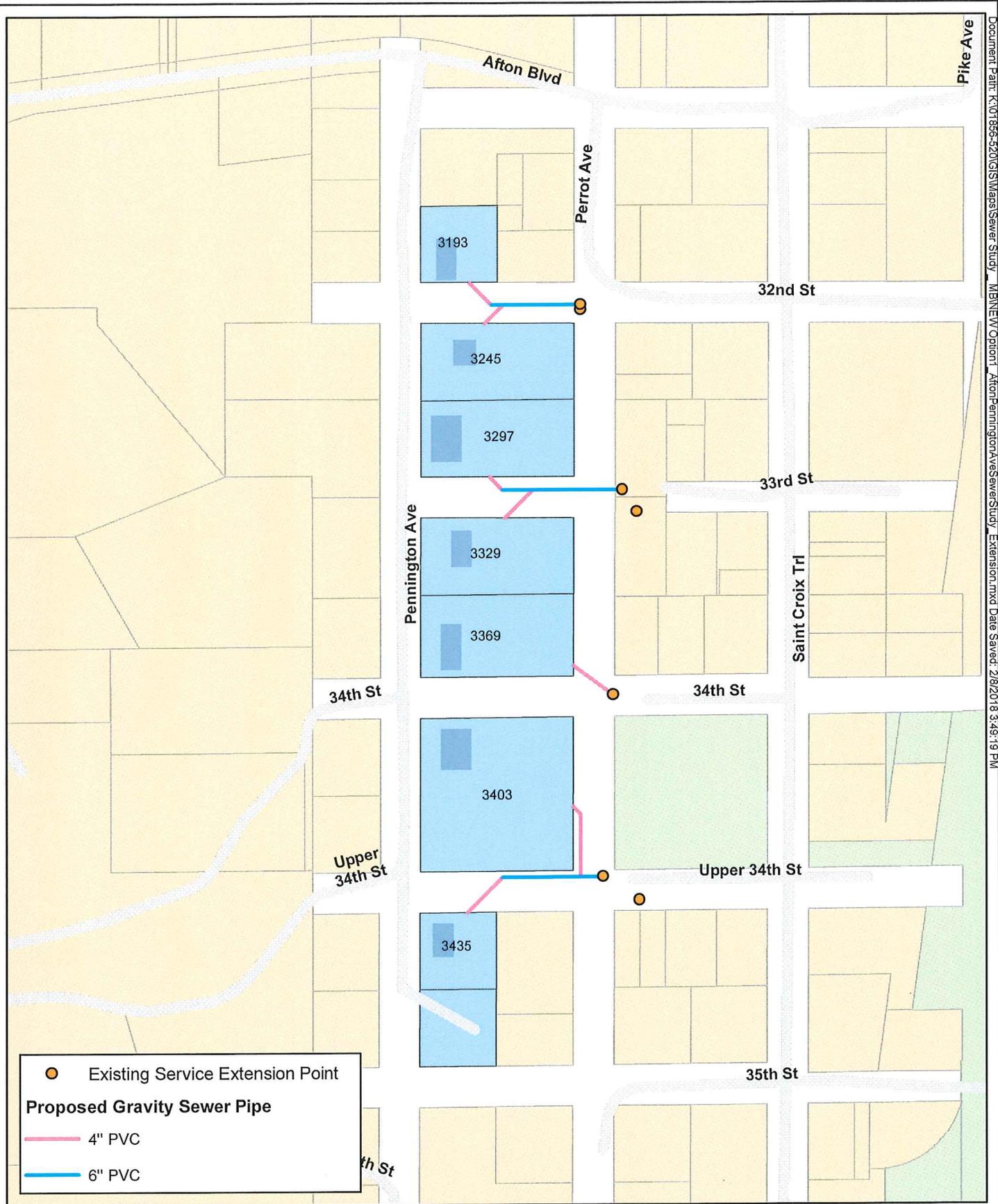


Figure 2: Gravity connection to existing sewer service extension points
Pennington Avenue Sewer Study
City of Afton





Figure 3: Existing Septic Systems at Assessed Properties and Option 1
Pennington Avenue Sewer Study
City of Afton



Option 2: Gravity sewer line along Pennington Ave to 32nd/Perrot

This option includes a gravity sewer line that would collect wastewater along Pennington Ave from the assessed parcels. The sewer pipe would extend north along Pennington Ave and then extend east towards an existing manhole on the corner of 32nd Street and Perrot Ave. For this option, 8" HDPE pipe would be directionally drilled west from the existing manhole to a future manhole (indicated as MH5 in **Figure 4**). Additionally, 8" PVC pipe would be installed along Pennington Ave, and 4" PVC piping would extend from the 8" PVC pipe to the parcel boundaries. **Figure 4** summarizes this piping layout.

This option is more intrusive for Pennington Ave residents during construction; it would require the Pennington Ave asphalt to be removed and reconstructed, due to the need to excavate for the PVC installation along the road. Pennington Ave was previously reconstructed in 2011. But a benefit of this option is the cost is likely less volatile, since directional drilling is limited to one hill. Furthermore, installation of sewer pipe along Pennington Ave holds the potential for add-on gravity service connection of western parcels on Pennington Ave. **Table 2** summarizes the cost of Option 2.

It is possible that installation of 8" PVC pipe could be less expensive than directional drilling 8" HDPE pipe, and excavation of the hillside for installation of 8" PVC pipe from MH5 to the Existing MH on the corner of 32nd Street and Perrot Ave, instead of directionally drilled 8" HDPE pipe, could be feasible. But this study did not explore this method further due to the concern of local residential disruption that might be caused by the installation of 350 ft of large sewer pipe near multiple residences.

Table 2. Preliminary cost estimate for Option 2.

Item	Unit	Unit Price	Quantity	Total Price
MOBILIZATION	LS	(5% of total cost estimate)		\$26,596.98
CLEARING	ACRE	\$3,750.00	0.405	\$1,518.89
CLEARING	TREE	\$235.00	12	\$2,820.00
GRUBBING	ACRE	\$3,083.33	0.405	\$1,248.87
GRUBBING	TREE	\$201.67	12	\$2,420.00
SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LF	\$3.13	96	\$300.80
AGGREGATE BASE (CV) CLASS 5	CU YD	\$29.40	338.73	\$9,958.66
TYPE SP 12.5 WEARING COURSE MIX (2,C)	TON	\$61.67	400.12	\$24,674.36
PIPE BEDDING MATERIAL	CU YD	\$47.67	467.60	\$22,288.96
4" PVC PIPE SEWER	LF	\$34.33	341.04	\$11,708.99
8"X4" PVC WYE	EACH	\$188.33	7	\$1,318.33
RESIDENTIAL SEPTIC DISCONNECTION	EACH	\$3,733.33	7	\$26,133.33
CONNECT TO EXISTING SANITARY SEWER	EACH	\$2,833.33	1	\$2,833.33
8" PVC PIPE SEWER	LF	\$47.33	1,207.26	\$57,143.58
TELEWISE SANITARY SEWER	LF	\$1.83	1,565.42	\$2,869.93
CONST 48" DIA SAN SEWER MANHOLE	LF	\$178.33	50	\$8,916.67
TRAFFIC BARRIER DESIGN B8338	LF	\$26.00	200	\$5,200.00
TRAFFIC CONTROL	LS	\$10,000.00	1	\$10,000.00
SILT FENCE, TYPE MS	LF	\$1.93	2,414.52	\$4,668.07
STORM DRAIN INLET PROTECTION	EACH	\$191.67	1	\$191.67
SODDING TYPE LAWN	SY	\$5.48	1,960.37	\$10,749.37
ROCK EXCAVATION	CY	\$100.00	1,605.64	\$160,564.18

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SELECT GRANULAR BACKFILL MATERIAL	CY	\$35.00	1,605.64	\$56,197.46
8" HDPE PIPE (DIRECTIONALLY DRILLED)	LF	\$200.00	358.16	\$71,631.28
REMOVE BITUMINOUS PAVEMENT	SY	\$18.00	2,032.38	\$36,582.84
SubTotal Construction Cost				\$558,536.55
Contingencies (10% of Subtotal Const. Cost)				\$55,853.66
Total Construction Cost				\$614,390.21
Engineering, Legal, Administration (10%)				\$61,439.02
Total Project Cost				\$675,829.23



Figure 4: Gravity sewer line along Pennington Ave to 32nd/Perrot.

Pennington Avenue Sewer Study
City of Afton



0 300 Feet



Option 3: Gravity sewer line along Pennington Ave to Afton Blvd

This option includes a gravity sewer line that would collect wastewater along Pennington Ave from the assessed parcels. The sewer pipe would extend north along Pennington Ave and then extend east along Afton Blvd towards an existing manhole located west of the intersection of Afton Blvd and Saint Croix Trail. For this option, 8" HDPE pipe would be directionally drilled west from the existing manhole on Afton Blvd and then south along Pennington Ave to a future manhole (indicated as MH4 in **Figure 5**). Additionally, 8" PVC pipe would be installed along Pennington Ave, and 4" PVC piping would extend from the 8" piping to the parcel boundaries. **Figure 5** summarizes this piping layout.

This option is more intrusive for Pennington Ave residents during construction; it would require Pennington Ave asphalt to be removed and reconstructed, due to the need to excavate for the PVC installation along the road. Pennington Ave was previously reconstructed in 2011. Furthermore, four segments of Afton Blvd would have asphalt removed and reconstructed during the manhole installation along the 8" HDPE pipe, which could impact local traffic along this street. A benefit of this option is that installation of sewer pipe along Pennington Ave holds the potential for add-on gravity service connection of western parcels on Pennington Ave. **Table 3** outlines the cost of Option 3.

Table 3. Preliminary cost estimate for Option 3.

Item	Unit	Unit Price	Quantity	Total Price
MOBILIZATION	LS	(5% of total cost estimate)		\$31,896.31
CLEARING	ACRE	\$3,750.00	0.308	\$1,153.72
CLEARING	TREE	\$235.00	7	\$1,645.00
GRUBBING	ACRE	\$3,083.33	0.308	\$948.62
GRUBBING	TREE	\$201.67	7	\$1,411.67
SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LF	\$3.13	288	\$902.40
AGGREGATE BASE (CV) CLASS 5	CU YD	\$29.40	347.03	\$10,202.57
TYPE SP 12.5 WEARING COURSE MIX (2,C)	TON	\$61.67	409.92	\$25,278.70
PIPE BEDDING MATERIAL	CU YD	\$47.67	433.88	\$20,681.38
4" PVC PIPE SEWER	LF	\$34.33	335.04	\$11,503.01
8"X4" PVC WYE	EACH	\$188.33	7	\$1,318.33
RESIDENTIAL SEPTIC DISCONNECTION	EACH	\$3,733.33	7	\$26,133.33
CONNECT TO EXISTING SANITARY SEWER	EACH	\$2,833.33	1	\$2,833.33
8" PVC PIPE SEWER	LF	\$47.33	1,107.21	\$52,408.12
TELEWISE SANITARY SEWER	LF	\$1.83	2,077.39	\$3,808.55
CONST 48" DIA SAN SEWER MANHOLE	LF	\$178.33	70	\$12,483.33
TRAFFIC BARRIER DESIGN B8338	LF	\$26.00	200	\$5,200.00
TRAFFIC CONTROL	LS	\$10,000.00	1	\$10,000.00
SILT FENCE, TYPE MS	LF	\$1.93	2,735.08	\$5,287.82
STORM DRAIN INLET PROTECTION	EACH	\$191.67	13	\$2,491.67
SODDING TYPE LAWN	SY	\$5.48	1,489.06	\$8,165.03
ROCK EXCAVATION	CY	\$100.00	1,495.67	\$149,566.97
SELECT GRANULAR BACKFILL MATERIAL	CY	\$35.00	1,495.67	\$52,348.44
8" HDPE PIPE (DIRECTIONALLY DRILLED)	LF	\$200.00	970.18	\$194,035.35
REMOVE BITUMINOUS PAVEMENT	SY	\$18.00	2,117.71	\$38,118.84

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SubTotal Construction Cost	\$669,822.49
Contingencies (10% of Subtotal Const. Cost)	\$66,982.25
Total Construction Cost	\$736,804.74
Engineering, Legal, Administration (10%)	\$73,680.47
Total Project Cost	\$810,485.21



Figure 5: Gravity sewer line along Pennington Ave to Afton Blvd

Pennington Avenue Sewer Study
City of Afton



Option 4: Forcemain sewer line along Pennington Ave to 32nd/Perrot

This option includes a forcemain sewer line that would collect wastewater along Pennington from the assessed parcels. The forcemain would extend north along Pennington Ave and then extend east towards an existing manhole on the corner of 32nd Street and Perrot Ave. For this option, 4" HDPE pipe would be directionally drilled west from an existing manhole on the corner of 32nd Street and Perrot Ave and south along Pennington Ave. Furthermore, 1 1/4" HDPE piping would extend from the 4" HDPE pipe to the parcel boundaries. For forcemain sewer service, each of the serviced parcels would need to have a grinder tank pump station installed in their yard. **Figure 6** summarizes this piping layout. The future grinder tanks, as indicated in **Figure 6**, may be installed elsewhere in the residents' yards.

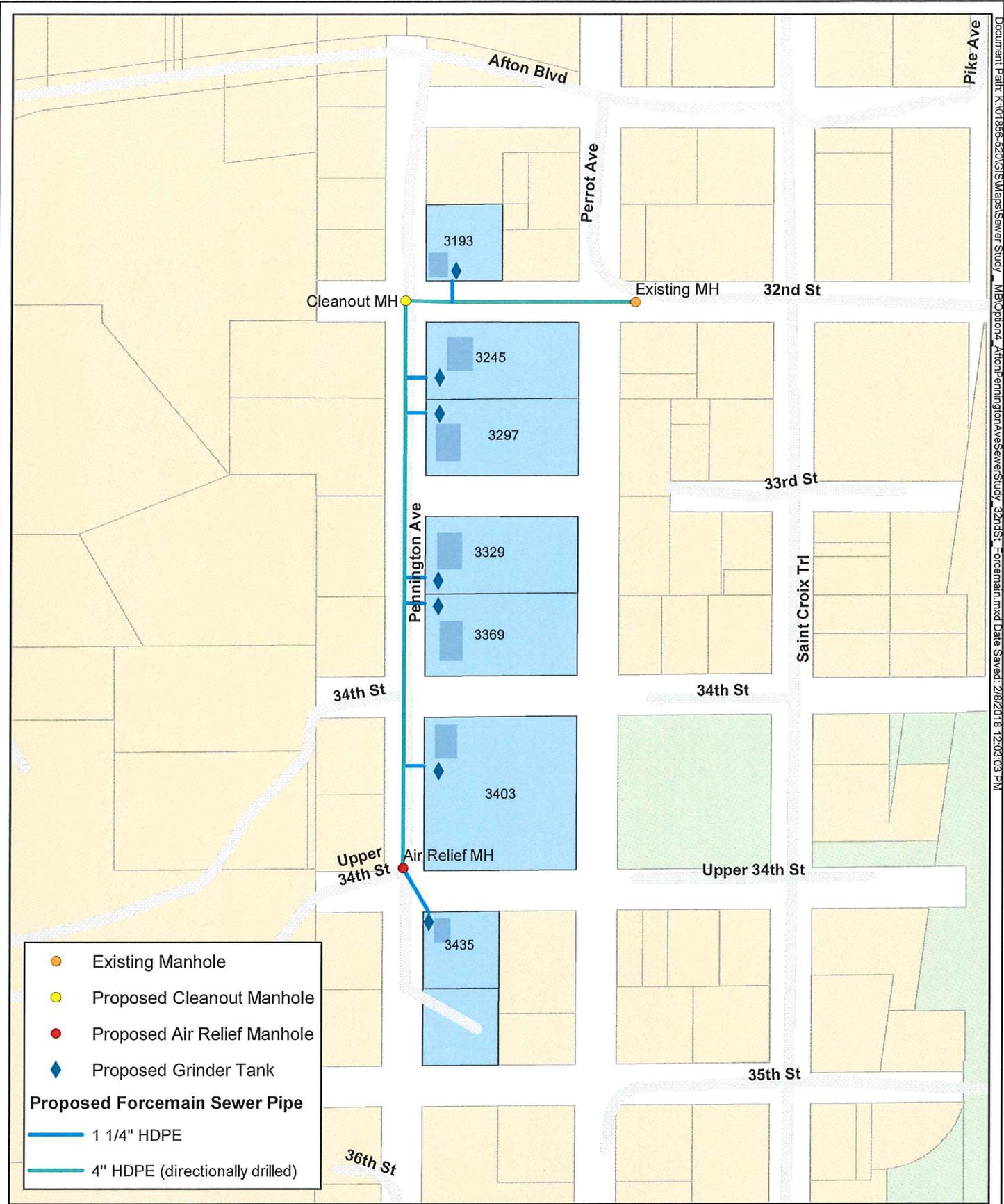
This option is somewhat less intrusive for Pennington Ave residents during construction, because excavation and bituminous removal and reconstruction is limited to 1 1/4" PVC pipe and manhole installation. Furthermore, installation of sewer pipe along Pennington Ave holds the potential for add-on forcemain service connection of western parcels on Pennington Ave. The grinder tanks installed in the residents' yards would require periodic maintenance, and would not operate in the case of a power outage. A risk associated with this option is that the final cost could vary greatly, as directional drilling through hard bedrock could lead to a drill bit breaking during drilling, resulting in potentially significant additional costs. **Table 4** below outlines the cost of Option 4.

Table 4. Preliminary cost estimate for Option 4.

Item	Unit	Unit Price	Quantity	Total Price
MOBILIZATION	LS	(5% of total cost estimate)		\$27,303.04
CLEARING	ACRE	\$3,750.00	0.313	\$1,174.35
CLEARING	TREE	\$235.00	12	\$2,820.00
GRUBBING	ACRE	\$3,083.33	0.313	\$965.58
GRUBBING	TREE	\$201.67	12	\$2,420.00
SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LF	\$3.13	360.00	\$1,128.00
AGGREGATE BASE (CV) CLASS 5	CU YD	\$29.40	23.11	\$679.47
TYPE SP 12.5 WEARING COURSE MIX (2,C)	TON	\$61.67	27.30	\$1,683.50
PIPE BEDDING MATERIAL	CU YD	\$47.67	56.44	\$2,690.48
RESIDENTIAL SEPTIC DISCONNECTION	EACH	\$3,733.33	7	\$26,133.33
CONNECT TO EXISTING SANITARY SEWER	EACH	\$2,833.33	1	\$2,833.33
TRAFFIC BARRIER DESIGN B8338	LF	\$26.00	200	\$5,200.00
TRAFFIC CONTROL	LS	\$10,000.00	1	\$10,000.00
SILT FENCE, TYPE MS	LF	\$1.93	682.06	\$1,318.65
STORM DRAIN INLET PROTECTION	EACH	\$191.67	1	\$191.67
SODDING TYPE LAWN	SY	\$5.48	1,515.69	\$8,311.03
ROCK EXCAVATION	CY	\$100.00	353.66	\$35,366.07
SELECT GRANULAR BACKFILL MATERIAL	CY	\$35.00	353.66	\$12,378.12
4" HDPE PIPE (DIRECTIONALLY DRILLED)	LF	\$200.00	1,566.36	\$313,271.16
GRINDER TANK & SERVICE REDIRECT	EACH	\$12,000.00	7	\$84,000.00
REMOVE BITUMINOUS PAVEMENT	SY	\$18.00	138.67	\$2,496.00
CLEANOUT MANHOLE (ALONG FORCEMAIN)	EACH	\$8,000.00	1	\$8,000.00
AIR RELEIF MANHOLE (ALONG FORCEMAIN)	EACH	\$9,000.00	1	\$9,000.00

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1 1/4" HDPE Service	EACH	\$2,000.00	7	\$14,000.00
			SubTotal Construction Cost	\$573,363.78
			Contingencies (10% of Subtotal Const. Cost)	\$57,336.38
			Total Construction Cost	\$630,700.15
			Engineering, Legal, Administration (10%)	\$63,070.02
			Total Project Cost	\$693,770.17



- Existing Manhole
- Proposed Cleanout Manhole
- Proposed Air Relief Manhole
- ◆ Proposed Grinder Tank
- Proposed Forcemain Sewer Pipe**
- 1 1/4" HDPE
- 4" HDPE (directionally drilled)

Figure 6: Forcemain sewer line along Pennington Ave to 32nd/Perrot

Pennington Avenue Sewer Study
City of Afton



Option 5: Forcemain sewer line along Pennington Ave to Afton Blvd

This option includes a forcemain sewer line that would collect wastewater along Pennington from the assessed parcels. The forcemain would extend north along Pennington Ave and then extend east along Afton Blvd towards an existing manhole located west of the intersection of Afton Blvd and Saint Croix Trail. For this option, 4" HDPE pipe would be directionally drilled west from the existing manhole on Afton Blvd and south along Pennington Ave. Furthermore, 1 1/4" HDPE piping would extend from the 4" HDPE pipe to the parcel boundaries. For forcemain sewer service, each of the serviced parcels would need to have a grinder tank pump station installed in their yard. **Figure 7** summarizes this piping layout. The future grinder tanks, as indicated in **Figure 7**, may be installed elsewhere in the residents' yards.

This option is somewhat less intrusive for Pennington Ave residents during construction, because excavation and bituminous removal and reconstruction is limited to 1 1/4" HDPE pipe and manhole installation. Two segments of Afton Blvd would have asphalt removed and reconstructed during manhole connection and installation along the 4" HDPE pipe, which could impact local traffic along this street. A benefit of this option is that the installation of sewer pipe along Pennington Ave holds the potential for add-on forcemain service connection of western parcels on Pennington Ave. The grinder tanks installed in the residents' yards would require periodic maintenance, and would not operate in the case of a power outage. A risk associated with this option is that the final cost could vary greatly, as directional drilling through hard bedrock could lead to a drill bit breaking during drilling, resulting in potentially significant additional costs. **Table 5** outlines the cost of Option 5.

Table 5. Preliminary cost estimate for Option 5.

Item	Unit	Unit Price	Quantity	Total Price
MOBILIZATION	LS	(5% of total cost estimate)		\$32,393.87
CLEARING	ACRE	\$3,750.00	0.308	\$1,153.69
CLEARING	TREE	\$235.00	7	\$1,645.00
GRUBBING	ACRE	\$3,083.33	0.308	\$948.59
GRUBBING	TREE	\$201.67	7	\$1,411.67
SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LF	\$3.13	388	\$1,215.73
AGGREGATE BASE (CV) CLASS 5	CU YD	\$29.40	24.59	\$723.02
TYPE SP 12.5 WEARING COURSE MIX (2,C)	TON	\$61.67	29.05	\$1,791.42
PIPE BEDDING MATERIAL	CU YD	\$47.67	55.45	\$2,643.15
RESIDENTIAL SEPTIC DISCONNECTION	EACH	\$3,733.33	7	\$26,133.33
CONNECT TO EXISTING SANITARY SEWER	EACH	\$2,833.33	1	\$2,833.33
TRAFFIC BARRIER DESIGN B8338	LF	\$26.00	200	\$5,200.00
TRAFFIC CONTROL	LS	\$10,000.00	1	\$10,000.00
SILT FENCE, TYPE MS	LF	\$1.93	670.06	\$1,295.45
STORM DRAIN INLET PROTECTION	EACH	\$191.67	13	\$2,491.67
SODDING TYPE LAWN	SY	\$5.48	1,489.02	\$8,164.82
ROCK EXCAVATION	CY	\$100.00	347.44	\$34,743.90
SELECT GRANULAR BACKFILL MATERIAL	CY	\$35.00	347.44	\$12,160.36
4" HDPE PIPE (DIRECTIONALLY DRILLED)	LF	\$200.00	2,078.33	\$415,666.23
GRINDER TANK & SERVICE REDIRECT	EACH	\$12,000.00	7	\$84,000.00
REMOVE BITUMINOUS PAVEMENT	SY	\$18.00	147.56	\$2,656.00
CLEANOUT MANHOLE (ALONG FORCEMAIN)	EACH	\$8,000.00	1	\$8,000.00

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AIR RELEIF MANHOLE (ALONG FORCEMAIN)	EACH	\$9,000.00	1	\$9,000.00
1 1/4" HDPE Service	EACH	\$2,000.00	7	\$14,000.00
SubTotal Construction Cost				\$680,271.24
Contingencies (10% of Subtotal Const. Cost)				\$68,027.12
Total Construction Cost				\$748,298.36
Engineering, Legal, Administration (10%)				\$74,829.84
Total Project Cost				\$823,128.20

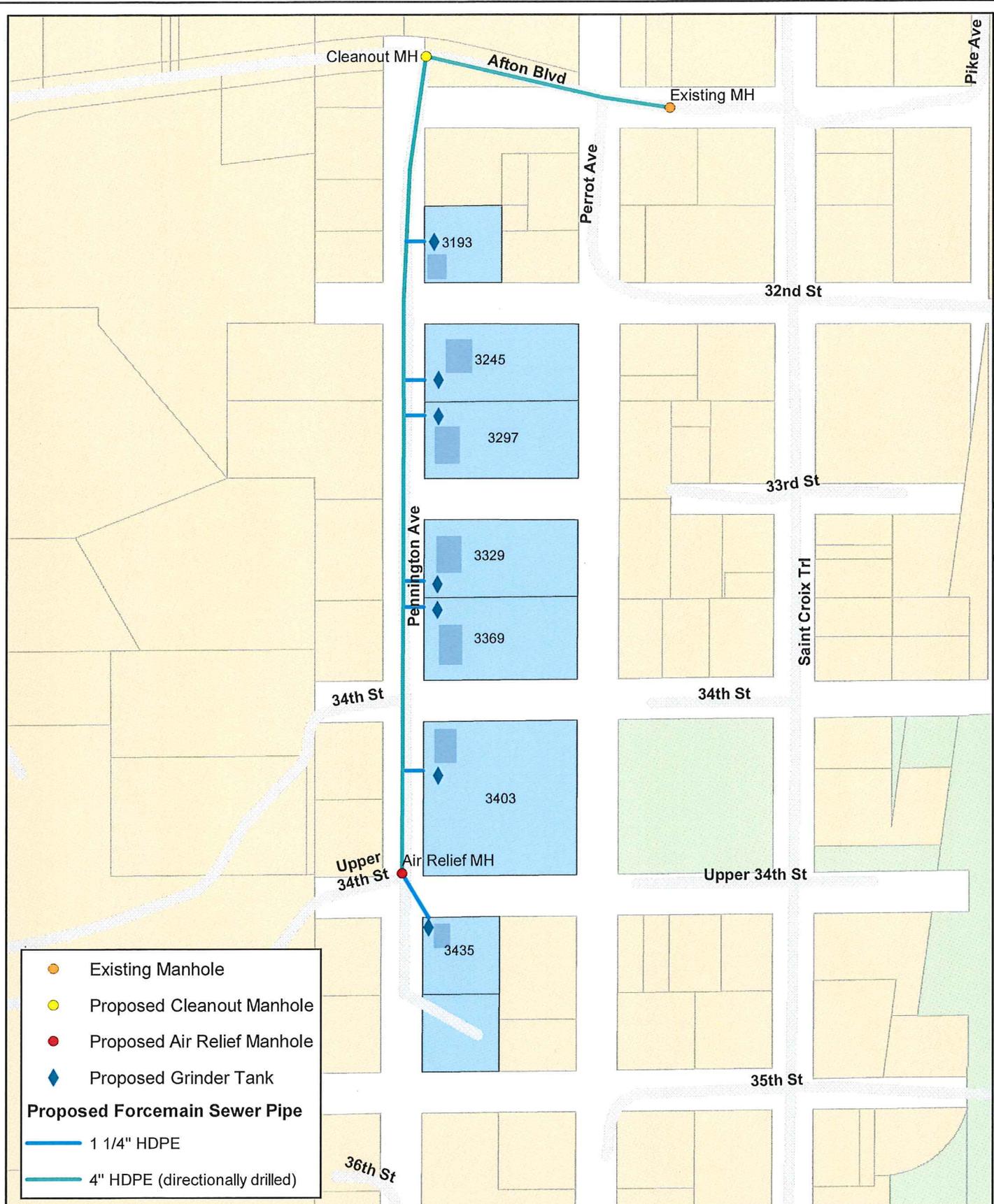


Figure 7: Forcemain sewer line along Pennington Ave to Afton Blvd

Pennington Avenue Sewer Study
City of Afton



Add-on Overview

The remainder of the technical memorandum includes four per-parcel sewer expansion options that could be added to the pipe layout of Options 2, 3, 4 or 5, as specified. Each add-on outlines the per-parcel cost estimate of connecting a parcel on the western side of Pennington Ave to sewer service along Pennington Ave. These parcels have not been assessed, like the parcels on the eastern side of Pennington Ave, but are worth consideration as an addition to the abovementioned options that have installation of sewer pipe along Pennington Ave.

Add-on *while* installing Option 2 or 3: Gravity service to western parcel on Pennington Ave

This add-on includes the expansion of 4" PVC gravity sewer service to parcels on the western side of Pennington Ave *during* the construction of Option 2 or 3. These parcels have not been assessed, like the parcels on the eastern side of Pennington Ave, but are worth consideration as an addition to Option 2 or 3. A preliminary cost estimate is summarized in **Table 6**, which indicates the approximate per-parcel cost of this add-on.

Table 6. Per-parcel cost estimate for gravity service add-on *during* Option 2 or 3 construction

Item	Unit	Unit Price	Quantity	Total Price
MOBILIZATION	LS	(5% of total cost estimate)		\$657.12
CLEARING	ACRE	\$3,750.00	0.037	\$137.74
CLEARING	TREE	\$235.00	1	\$235.00
GRUBBING	ACRE	\$3,083.33	0.037	\$113.25
GRUBBING	TREE	\$201.67	1	\$201.67
PIPE BEDDING MATERIAL	CU YD	\$47.67	9.03	\$430.32
4" PVC PIPE SEWER	LF	\$34.33	40	\$1,373.33
8"X4" PVC WYE	EACH	\$188.33	1	\$188.33
RESIDENTIAL SEPTIC DISCONNECTION	EACH	\$3,733.33	1	\$3,733.33
SILT FENCE, TYPE MS	LF	\$1.93	80	\$154.67
SODDING TYPE LAWN	SY	\$5.48	177.78	\$974.81
ROCK EXCAVATION	CY	\$100.00	41.48	\$4,148.15
SELECT GRANULAR BACKFILL MATERIAL	CY	\$35.00	41.48	\$1,451.85
SubTotal Construction Cost				\$13,799.59
Contingencies (10% of Subtotal Const. Cost)				\$1,379.96
Total Construction Cost				\$15,179.55
Engineering, Legal, Administration (10%)				\$1,517.96
Total Project Cost				\$16,697.51

Add-on after installing Option 2 or 3: Gravity service to western parcel on Pennington Ave

This add-on includes the expansion of 4" PVC gravity sewer service to parcels on the western side of Pennington Ave after the construction of Option 2 or 3 has already been completed. These parcels have not been assessed, like the parcels on the eastern side of Pennington Ave. A preliminary cost estimate is summarized in **Table 7**, which indicates the approximate per-parcel cost of this add-on. The cost to extend service to a western parcel on Pennington Ave after the construction of Option 2 or 3 is more expensive than during the construction of Option 2 or 3, due to the need to reconstruct the segment of the road that would need to be removed again to install the 4" PVC service line.

Table 7. Per-parcel cost estimate for gravity service add-on after Option 2 or 3 construction

Item	Unit	Unit Price	Quantity	Total Price
MOBILIZATION	LS	(5% of total cost estimate)		\$838.25
CLEARING	ACRE	\$3,750.00	0.037	\$137.74
CLEARING	TREE	\$235.00	1	\$235.00
GRUBBING	ACRE	\$3,083.33	0.037	\$113.25
GRUBBING	TREE	\$201.67	1	\$201.67
SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LF	\$3.13	28	\$87.73
AGGREGATE BASE (CV) CLASS 5	CU YD	\$29.40	1.48	\$43.56
TYPE SP 12.5 WEARING COURSE MIX (2,C)	TON	\$61.67	1.75	\$107.92
PIPE BEDDING MATERIAL	CU YD	\$47.67	9.03	\$430.32
4" PVC PIPE SEWER	LF	\$34.33	40	\$1,373.33
8"X4" PVC WYE	EACH	\$188.33	1	\$188.33
RESIDENTIAL SEPTIC DISCONNECTION	EACH	\$3,733.33	1	\$3,733.33
CONNECT TO EXISTING SANITARY SEWER	EACH	\$2,833.33	1	\$2,833.33
TRAFFIC BARRIER DESIGN B8338	LF	\$26.00	15	\$390.00
SILT FENCE, TYPE MS	LF	\$1.93	80	\$154.67
SODDING TYPE LAWN	SY	\$5.48	177.78	\$974.81
ROCK EXCAVATION	CY	\$100.00	41.48	\$4,148.15
SELECT GRANULAR BACKFILL MATERIAL	CY	\$35.00	41.48	\$1,451.85
REMOVE BITUMINOUS PAVEMENT	SY	\$18.00	8.89	\$160.00
SubTotal Construction Cost				\$17,603.26
Contingencies (10% of Subtotal Const. Cost)				\$1,760.33
Total Construction Cost				\$19,363.58
Engineering, Legal, Administration (10%)				\$1,936.36
Total Project Cost				\$21,299.94

Add-on *while* installing Option 4 or 5: Forcemain service to western parcel on Pennington Ave

This add-on includes the expansion of 1 1/4" HDPE forcemain sewer service to parcels on the western side of Pennington Ave *during* the construction of Option 4 or 5. These parcels have not been assessed, like the parcels on the eastern side of Pennington Ave, but are worth consideration as an addition to Options 4 and 5. A preliminary cost estimate is summarized in **Table 8**, which indicates the approximate per-parcel cost of expanding forcemain sewer service to a parcel on the western side of Pennington Ave.

For forcemain sewer service, each of the serviced parcels would need to have a grinder tank pump station installed in their yard. The grinder tanks installed in the residents' yards would require periodic maintenance, and would not operate in the case of a power outage.

Table 8. Per-parcel cost estimate for forcemain service add-on *during* Option 4 or 5 construction

Item	Unit	Unit Price	Quantity	Total Price
MOBILIZATION	LS	(5% of total cost estimate)		\$1,286.86
CLEARING	ACRE	\$3,750.00	0.037	\$137.74
CLEARING	TREE	\$235.00	1	\$235.00
GRUBBING	ACRE	\$3,083.33	0.037	\$113.25
GRUBBING	TREE	\$201.67	1	\$201.67
SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LF	\$3.13	12	\$37.60
AGGREGATE BASE (CV) CLASS 5	CU YD	\$29.40	1.11	\$32.67
TYPE SP 12.5 WEARING COURSE MIX (2,C)	TON	\$61.67	1.3125	\$80.94
PIPE BEDDING MATERIAL	CU YD	\$47.67	6.62	\$315.57
RESIDENTIAL SEPTIC DISCONNECTION	EACH	\$3,733.33	1	\$3,733.33
SILT FENCE, TYPE MS	LF	\$1.93	80	\$154.67
SODDING TYPE LAWN	SY	\$5.48	177.78	\$974.81
ROCK EXCAVATION	CY	\$100.00	41.48	\$4,148.15
SELECT GRANULAR BACKFILL MATERIAL	CY	\$35.00	41.48	\$1,451.85
GRINDER TANK & SERVICE REDIRECT	EACH	\$12,000.00	1	\$12,000.00
REMOVE BITUMINOUS PAVEMENT	SY	\$18.00	6.67	\$120.00
1 1/4" HDPE Service	EACH	\$2,000.00	1	\$2,000.00
SubTotal Construction Cost				\$27,024.12
Contingencies (10% of Subtotal Const. Cost)				\$2,702.41
Total Construction Cost				\$29,726.53
Engineering, Legal, Administration (10%)				\$2,972.65
Total Project Cost				\$32,699.18

Add-on after installing Option 4 or 5: Forcemain service to western parcels on Pennington Ave

This add-on considers the expansion of 1 1/4" HDPE forcemain sewer service to parcels on the western side of Pennington Ave after the construction of Option 4 or 5 has already been completed. These parcels have not been assessed, like the parcels on the eastern side of Pennington Ave.

A preliminary cost estimate is summarized in **Table 9**, which indicates the approximate per-parcel cost of this add-on. This cost to extend service to a western parcel on Pennington Ave after the construction of Option 4 or 5 is more expensive than during the construction of Option 4 or 5, due to the need to remove and reconstruct a larger segment of the road after construction rather than during construction of the 4" PVC service line. For forcemain sewer service, each of the serviced parcels would need to have a grinder tank pump station installed in their yard. The grinder tanks installed in the residents' yards would require periodic maintenance, and would not operate in the case of a power outage.

Table 9. Per-parcel cost estimate for forcemain service add-on after Option 4 or 5 construction

Item	Unit	Unit Price	Quantity	Total Price
MOBILIZATION	LS	(5% of total cost estimate)		\$1,454.43
CLEARING	ACRE	\$3,750.00	0.037	\$137.74
CLEARING	TREE	\$235.00	1	\$235.00
GRUBBING	ACRE	\$3,083.33	0.037	\$113.25
GRUBBING	TREE	\$201.67	1	\$201.67
SAWING BITUMINOUS PAVEMENT (FULL DEPTH)	LF	\$3.13	28	\$87.73
AGGREGATE BASE (CV) CLASS 5	CU YD	\$29.40	1.48	\$43.56
TYPE SP 12.5 WEARING COURSE MIX (2,C)	TON	\$61.67	1.75	\$107.92
PIPE BEDDING MATERIAL	CU YD	\$47.67	6.62	\$315.57
RESIDENTIAL SEPTIC DISCONNECTION	EACH	\$3,733.33	1	\$3,733.33
CONNECT TO EXISTING SANITARY SEWER	EACH	\$2,833.33	1	\$2,833.33
TRAFFIC BARRIER DESIGN B8338	LF	\$26.00	15	\$390.00
SILT FENCE, TYPE MS	LF	\$1.93	80	\$154.67
SODDING TYPE LAWN	SY	\$5.48	177.78	\$974.81
ROCK EXCAVATION	CY	\$100.00	41.48	\$4,148.15
SELECT GRANULAR BACKFILL MATERIAL	CY	\$35.00	41.48	\$1,451.85
GRINDER TANK & SERVICE REDIRECT	EACH	\$12,000.00	1	\$12,000.00
REMOVE BITUMINOUS PAVEMENT	SY	\$18.00	8.89	\$160.00
1 1/4" HDPE Service	EACH	\$2,000.00	1	\$2,000.00
SubTotal Construction Cost				\$30,543.02
Contingencies (10% of Subtotal Const. Cost)				\$3,054.30
Total Construction Cost				\$33,597.32
Engineering, Legal, Administration (10%)				\$3,359.73
Total Project Cost				\$36,957.05

City of Afton
3033 St. Croix Trl, P.O. Box 219
Afton, MN 55001

Meeting Date Feb. 28, 2018

Council Memo

To: Mayor Bend and Members of the City Council
From: Ron Moorse, City Administrator
Date: February 22, 2018
Re: Use of the City's Revolving Loan Fund to Encourage Commercial and Industrial Development

A number of years ago, the City, through the Department of Employment and Economic Development (DEED), provided a loan to Chandler Inc. When this loan was fully paid, there was a surplus of \$100,000 that remained with the City to be used as a revolving loan fund for economic development. The City has not used these funds. Chris Eng, Washington County Economic Development Director, has suggested that these funds could be used to facilitate obtaining quality development in the Industrial zones. The funds could also be used to encourage and assist improvements to properties in the Downtown Village area. Chris Eng will attend the work session to discuss how to best utilize the revolving loan fund dollars.

City of Afton
3033 St. Croix Trl, P.O. Box 219
Afton, MN 55001

Meeting Date Feb. 28, 2018

Council Memo

To: Mayor Bend and Members of the City Council
From: Ron Moore, City Administrator
Date: February 22, 2018
Re: Appeal Process Regarding Equivalent Residential Units (ERU's) Assigned to Properties as Part of the Sanitary Sewer Project

A number of owners of commercial properties have questioned the number of Equivalent Residential Units (ERU's) assigned to their properties, based on the volume of water they believe they use. The Zoning Code provides an appeal process regarding ERU's. This process is set out in Sec. 12-2202. Equivalent Residential Units (ERU), which is shown below. While the code language calls for the installation of water meters, it does not provide any detail regarding the time period over which the volume of usage is determined. Neither does it address whether the waste strength needs to be taken into account in addition to the volume. Staff would like to discuss with the Council and the City Engineer the details regarding the ERU appeal process.

Sec. 12-2202. Equivalent Residential Units (ERU).

Wastewater charges will be established based on Equivalent Residential Units (ERU). One ERU is defined as a unit of wastewater volume of 240 gallons per day with a theoretical waste strength of 300 mg/l of BOD, 200 mg/l of TSS, and 50 mg/L O&G. The assignment of ERUs will be made by the City. Commercial properties will have multiple units as identified by the City Administrator or his/her agent.

A. Users may appeal the number of ERUs assigned to a particular connection by installing and maintaining, at their own expense, water meters of a type approved by the City. Such meters shall be equipped with remote registering recorders located at an accessible site on the owner's property.

B. The City may, at its discretion, require non-residential users to install water meters for the purpose of determining wastewater volume. The City may require residential connections to install water or wastewater meters within the HVSTSA as part of a comprehensive program to install meters. When so required, such meters shall be of a type approved by the City and equipped with remote registering recorders, and located at an accessible site on the owner's property.

City of Afton
3033 St. Croix Trl, P.O. Box 219
Afton, MN 55001

Meeting Date Feb. 28, 2018

Council Memo

To: Mayor Bend and Members of the City Council
From: Ron Moorse, City Administrator
Date: February 22, 2018
Re: Option of Contracting with Washington County for Elections Administration

The recent special elections required a very substantial amount of the City Clerk's time, even with substantial assistance from Washington County. The upcoming general election will require more time over a longer period of time. Staff recently became aware that several cities, mostly larger, contract with Washington County for elections administration. This includes the recruiting and training of election judges, testing of election equipment, and managing the election day activities at the polling location. Staff requested a proposal from Washington County for election administration services for the even-year primary and general elections. The proposal was for approximately \$32,000. This includes the cost of election judges. The City currently spends approximately \$7,200 per election, which includes the hours of the City Clerk and the Public Works Supervisor. The cost difference is significantly greater than staff anticipated. While contracting with the County would free up the City Clerk's time to accomplish other projects, the additional cost is significant. Staff would like to obtain feedback from the Council regarding the contracting option.

City of Afton
3033 St. Croix Trl, P.O. Box 219
Afton, MN 55001

Meeting Date Feb. 28, 2018

Council Memo

To: Mayor Bend and Members of the City Council
From: Ron Moorse, City Administrator
Date: February 22, 2018
Re: Goal Setting for 2018

Attached is the list of goals adopted by the Council for 2017, with the goals accomplished shown in bold. Also attached is a draft set of goals for 2018 to assist the Council in identifying goals for 2018.

Goals for 2017

(Completed Goals are shown in **bold**)

Downtown Improvement Projects

- **Facilitate the completion of the Section 106 process in an effective and timely manner**
 - **Work with the tribal governments to obtain their sign-off on the project and the 106 process**
 - **Coordinate with the MPCA to have its documentation of findings and final determination regarding the 106 process complete within two weeks of the tribal sign-off**
- **Finalize the special assessments for the downtown improvement projects, schedule an assessment hearing, provide individual property notices for the assessment hearing and hold the assessment hearing**
- Work with the City Attorney to complete the eminent domain process for the acquisition of the remaining required easements in a way that results in acquisition costs at or near the City's final offers
- **Manage construction of the downtown improvement projects in 2017 in a way that minimizes impacts to businesses and residents and ensures the project costs remain within the budgeted amount**
- **Conduct a Request for Proposals and select a firm to operate and maintain the Wastewater Collection and Treatment System**

Groundwater Management:

- Ensure effective involvement with local and regional groundwater organizations to ensure Afton's interests regarding the protection of groundwater are represented and protected. **(This is an on-going goal)**
 - Washington County Groundwater Consortium
 - Washington County Municipal Water Coalition
 - DNR
 - Met Council

Land Use Planning

Comprehensive Plan Update

- Complete a draft of the Comprehensive Plan update by the end of 2017 **[No. 1 Goal]**
- Obtain a grant to fund a consultant to assist in drafting a Resilience section for the Comprehensive Plan
- Identify a consultant to assist with the Resilience section and preparation of an environmental scorecard

Planning and Zoning

- Identify criteria for selecting uses to be permitted in the Industrial zones and identify specific uses to be permitted. **[No. 2 Goal]**

- Facilitate improved communication between the City Council and the Commissions/Committees **[No. 3 Goal]**
- Develop procedures to fully and clearly communicate Afton’s zoning requirements to developers at the administrative level, and improve early administrative zoning review
- **Integrate Minimal Impact Design Standards (MIDS) into the City’s land use/ surface water management ordinances as appropriate**

Proactive Planning

- Proactively identify parcels that could qualify for Preservation and Land Conservation Developments (PLCD’s) and identify the optimal access points and connections to other potential developments and natural resource areas
- Proactively identify infrastructure alignment for future development
- Proactively identify open space corridors for protection and future connections

Natural Resources Inventory

- Update the City’s Natural Resources Inventory to enable it to be more practical and useful for planning activities related to land use and the protection of natural resources, including providing mapping capabilities.

Zoning Code

High Speed Internet Access:

- **Expand high speed internet access community-wide**

Gateway Corridor:

- Effectively impact decisions regarding the location of the easternmost park and ride facility and the design of the easternmost transit station.

Administrative:

- **Prepare a plan and proposal for tracking software that can be used to track a broad range of activities**
- **Prepare a plan and proposal for the use of paperless office/document management technology**
- **Complete the process for the adoption of the 2012 Park Plan**
- **Designate Mt. Hope Cemetery Road as a minimum maintenance road**
- Develop a multi-year maintenance/improvement plan for the City facilities

Projects Completed in Addition to the Goals

- **Adopted a sanitary sewer user fee for the new wastewater collection and treatment system**
- **Resolved the two largest assessment appeals (Windmill Marina and the Afton St. Croix Company)**
- **Implemented a utility billing system for the collection of sanitary sewer user fees**

Goals for 2018

Downtown Improvement Projects

- Determine the optimal solution for the Pennington Avenue sewer connections
- Manage the final stage of construction of the downtown improvement projects in 2018 in a way that minimizes impacts to businesses and residents and ensures the project costs remain within the budgeted amount
- Work with the City Attorney to complete the eminent domain process for the acquisition of required easements in a way that results in acquisition costs at or near the City's final offers
- Resolve remaining assessment appeals

Groundwater Management:

- Effectively participate in the process to determine the use of the \$850 million 3M settlement funds, with the goal of ensuring Afton's drinking water is PFC-free
- Ensure effective involvement with local and regional groundwater organizations to ensure Afton's interests regarding the protection of groundwater are represented and protected.
 - Washington County Groundwater Consortium
 - Washington County Municipal Water Coalition
 - DNR
 - Met Council

Land Use Planning

Comprehensive Plan Update

- Finalize the update to the Comprehensive Plan and complete the process required for the adoption of the updated Comprehensive Plan

Planning and Zoning

- Update the Industrial zone ordinance regarding allowed uses and landscaping and architectural design standards
- Facilitate improved communication between the City Council and the Commissions/Committees
- Develop procedures to fully and clearly communicate Afton's zoning requirements to developers at the administrative level, and improve early administrative zoning review

Proactive Planning

- Proactively identify parcels that could qualify for Preservation and Land Conservation Developments (PLCD's) and identify the optimal access points and connections to other potential developments and natural resource areas
- Proactively identify infrastructure alignment for future development
- Proactively identify open space corridors for protection and future connections

Natural Resources Inventory

- Update the City's Natural Resources Inventory to enable it to be more practical and useful for planning activities related to land use and the protection of natural resources, including providing mapping capabilities.

High Speed Internet Access:

- Resolve the lack of service to properties along Valley Creek Trail

Administrative:

- Complete an RFP process for the annual audit and for building inspection services
- Complete the implementation of the Laserfiche system
 - Scan all property files for input into the Laserfiche system
 - Finalize the file structure for all city documents
 - Begin to scan all new documents into the Laserfiche system
- Install and implement a shared calendaring system to track tasks/projects
- Administer the 2018 General Election process