

INFRASTRUCTURE COMMITTEE MEETING

Monday, January 29, 2018

6:00 P.M.

HAMPDEN TOWN OFFICE

AGENDA

1. MINUTES
 - a. November 27, 2017 Meeting

2. OLD BUSINESS
 - a. Update on Hampden Capital Program work underway

3. NEW BUSINESS
 - a. Meeting with consultant engineer to review findings to date from CCTV (closed circuit TV) review of sewer infrastructure, and recommended capital projects to coincide with MDOT road reconstruction projects – *Kyle Corbeil, P.E., Woodard & Curran*
 - b. Correspondence from Hampden Water District regarding anticipated water rate increase

4. STAFF UPDATES
 - a. CSO Non-Compliance/Discharge Incident Report regarding Souadabscook Pump Station filed with MDEP Jan. 13, 2018

5. PUBLIC COMMENTS
 - a. Correspondence from Roland Fogg regarding salt v. sand for roads maintenance

6. COMMITTEE MEMBER COMMENTS

7. ADJOURN

INFRASTRUCTURE COMMITTEE MEETING

Monday, November 27, 2017

MINUTES – DRAFT*Attending:**Mayor Ivan McPike, Acting Chair**Councilor Mark Cormier**Councilor Dennis Marble**Councilor Terry McAvoy**Councilor David Ryder**Councilor Stephen Wilde**DPW Director Sean Currier**Town Manager Angus Jennings**Chairman McPike called the meeting to order at 6 PM.***1. MINUTES**

- a. October 23, 2017 Meeting** – *Motion by Councilor Ryder seconded by Councilor Marble to approve the minutes as written. Motion carried 6-0.*

2. OLD BUSINESS

- a. Transfer Station Rules & Regulations – review of proposed changes discussed by Councilors in spring 2017 – referral to Town Council for adoption** – *Manager Jennings spoke about the previous sessions where the Transfer Station rules changes were proposed. Town Manager Jennings is working to put together a working draft. There were a few questions raised, so one or two items are still being worked on. To allow for adoption of new rules to be in effect throughout 2018, it was recommended that the Services Committee take up this item on December 11, 2017.*
- b. Update on sewer financial commitments, and whether additional revenues and/or borrowing authorization may be needed** – *Manager Jennings recommended that this item be tabled until the FY17 audit is closed out. Three potential options were discussed for the potential use of sewer fund balance. The MDOT bridge replacement project was discussed and the Town's financial share of the project, and the expense of replacing the sewer lines.*
- c. Update on Hampden Capital Program work underway** – *Manager Jennings stated that this is a work in progress, the Public Works vehicles were left out of the capital program. The Library building needs was discussed. Councilor McAvoy stated that the*

Library Board Members seem fixated on the appearance of the building.

Councilor Marble asked about what we are going to do about Schoolhouse Lane. Director Currier stated he has been trying to get a grinder to grind a channel, pave the ditch to the bottom of the road by 1A, this would help with the surface water run-off from going into residents' basements. Other repair solutions were discussed, and the costs.

Stormwater costs were discussed. Councilor McPike asked about LED street lights. Councilor McAvoy wanted to know if we can ask Emera Maine to convert more streetlights to LED's.

Councilor Marble asked if we should put more toward dangerous buildings. He also does not understand why we would do a revaluation. Councilor McAvoy thought that the purpose is the State making sure Towns are not undervaluing properties. Manager Jennings discussed assessing factors with the Committee.

Councilor McAvoy asked if we should create a reserve for underfunded pension obligations as this first came up 2-3 years ago. He questioned if it will it escalate every year. Chairman McPike would like to provide resources for rehab of properties. Town Manager discussed budgeting for TIF funds. Councilor Marble stated in key places that could make sense.

- d. Update on salt shed repairs due to damage from recent wind storm** – *Director Currier discussed what needed to happen to have insurance coverage on the existing salt shed. The necessary work has been scheduled. As of December 8th, the repairs have been completed, and insurance is back on the salt building.*

3. NEW BUSINESS

Update on process to secure MDEP approval to store brush at DPW property (behind transfer station) – *Manager Jennings explained there are two options. The first option is long term storage of brush behind the transfer station and the second is post disaster storage. Director Currier stated that there could be a market for wood chips and pulp helping out with the cost. Councilor McAvoy asked what the environmental issues are. Director Currier stated it could be if it is pressure treated, or something else. Councilor Ryder stated that over*

the next 24 months the market could change. Councilor McPike asked what do you think the cost would be. Director Currier stated that we may be able to use materials on site.

- a. Update on November 16 meeting with FEMA, MEMA and Penobscot County EMA regarding damage and Town costs resulting from wind storm on Oct. 30** – *Manager Jennings gave an informational update on the meeting with FEMA, MEMA, and Penobscot County EMA. He stated that he is hopeful that the Town will receive some federal money to help cover the windstorm cost.*

- 4. STAFF UPDATES** – *Director Currier stated that debris from the windstorm is being accepted at the transfer station on a temporary basis. Councilor Marble stated he used it five (5) times- seems like everyone would have taken their storm debris to the Transfer Station by now. Director Currier agreed to go back to the regular schedule debris weekend at the transfer station.*

- 5. PUBLIC COMMENTS** – *None.*

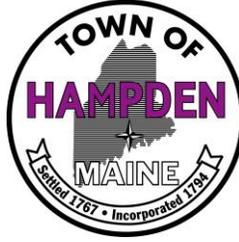
COMMITTEE MEMBER COMMENTS – *Councilor McAvoy asked about the construction at the Town garage. Director Currier stated that they are adding storage space. There is currently no room for parts and supplies. Having space for parts for the vehicles will minimize downtime. The goal is for the mechanic to have the work space necessary for fleet maintenance.*

6. ADJOURN

There being no further business, the meeting was adjourned at 7:30 p.m.

*Respectfully Submitted,
Rosemary Bezanson, Public Works*

Town of Hampden
106 Western Avenue
Hampden, Maine 04444



Phone: (207) 862-3034
Fax: (207) 862-5067
Email:
townmanager@hampdenmaine.gov

TO: Infrastructure Committee
FROM: Angus Jennings, Town Manager
DATE: January 26, 2017
RE: Capital Program, progress update

As you know, the Town Charter (excerpt enclosed) requires annual updates to the Capital Program. However, following a prior Council's adoption of a Capital Program within the 2010 Comprehensive Plan (which was identical to a 2008 Capital Program proposed by the former Manager), the Council did not formally adopt Capital Program updates for the many years that followed.

The June 26, 2017 Infrastructure Committee meeting packet included documentation of the degree to which adopted budgets in the years since 2010 did not meet the funding levels proposed in the 2010 Capital Program in the area of DPW vehicles. This information can be reviewed beginning on page 20 of the packet, online [here](#).

The combination of not preparing a Capital Program, and not funding the Capital Program that was adopted, contributes directly to the financial and infrastructure challenges facing the Town today.

Capital Programs were prepared as part of the past two budget cycles, and are online:

[June 2016 Capital Program](#)
[June 2017 Capital Program](#)

We are in the process of completely updating and reformatting a Capital Program for the FY19 budget cycle that will be more comprehensive and accessible than prior years' work, including backup documentation available through web links for Councilors or members of the public who would like to drill down to the details of proposed projects.

Although significant progress has been made, it would be premature to include the current draft in Monday's meeting packet. However, at Monday's meeting I'll present the current draft, how it differs from prior work, and how it is designed to be a living document that will be fully accessible to current and future Department Heads, Manager and Councilors even as it changes over the years. I'll invite feedback so we can refine the document as we move toward finalizing a proposed Capital Program.

As reflected by its prominence in the Town Charter, a Capital Program is a foundational document of municipal budgeting. Taking the time to get this done well is expected to inform the FY19 and future budgeting processes, and to benefit the Town of Hampden, for many years to come.

- (1) Proposed expenditures for operations detailed by offices, departments and agencies for the next fiscal year; and
- (2) Proposed Capital Expenditures detailed by offices, departments, and agencies for the next fiscal year; and
- (3) Anticipated net surplus or deficit for the next fiscal year of each utility owned or operated by the Town, if any, and the proposed method of its disposition; subsidiary budgets for each utility giving detailed income and expenditure information shall be attached as appendices to the budget. *(Amended: June 2, 1982)*

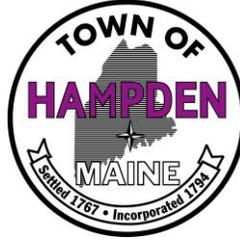
THE TOTAL OF PROPOSED EXPENDITURES SHALL NOT EXCEED THE TOTAL OF ESTIMATED INCOME.

Sec. 705 Capital Program

- (a) *Submission to Council:* The manager shall prepare and submit to the council a five-year capital program at the same time as the manager submits the budget. *(Amended: November 6, 1990)*
- (b) *Contents:* The capital program shall include:
 - (1) A clear general summary of its contents;
 - (2) A list of all capital improvements which are proposed to be undertaken during the five fiscal years next ensuing, with appropriate supporting information as to the necessity for such improvements;
 - (3) Cost estimates, methods of financing and recommended time schedules for each improvement; and
 - (4) The estimated annual cost of operating and maintaining the facilities to be constructed or acquired.

The above information may be revised and extended each year with regard to capital improvements still pending or in process of construction or acquisition.

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106 Western Avenue
Hampden, Maine 04444



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townmanager@hampdenmaine.gov

TO: Infrastructure Committee
FROM: Angus Jennings, Town Manager
DATE: January 26, 2017
RE: New information regarding Sewer capital needs

Director Currier and I met with Woodard & Curran at length on January 9 to review their preliminary findings based on review of sewer closed circuit TV (CCTV) footage.

Unfortunately (but not unexpectedly) their review of the CCTV review of sections of the sewer system has identified some major repairs that will be needed. In scoping the CCTV work completed by Ted Berry Company, which will take place over multiple years, we prioritized those sections of the system that are within MDOT right-of-way and that MDOT intends to construct in the next 2-3 years because, if we are to complete sewer system repairs, these would need to happen concurrent with road reconstruction.

The three areas with major deficiencies include Main Road North in the vicinity of the southernmost intersection with Old County; Main Road North between Western Ave and the Weatherbee School; and Western Ave. between Main Road North and 202. These are locations with clay pipe, brick and mortar manholes, etc.

Based on preliminary cost estimates, the combined cost of all three project could reach or exceed \$2M, so borrowing authorization would be needed. The attached memo from Woodard & Curran includes additional detail, some of which was unavailable on Jan. 9.

The Sewer Fund paid off one bond this year, so the FY19 Sewer debt service budget would be about \$100k below current, allowing for some borrowing without impacting the overall sewer budget. (Current debt service obligations, sewer and general fund, are attached for reference). One question for Committee consideration is whether the costs of these projects can be shared between the Sewer and General Fund.

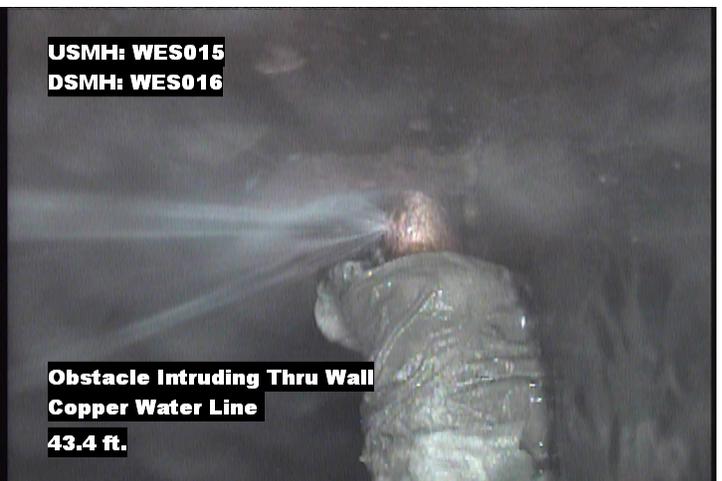
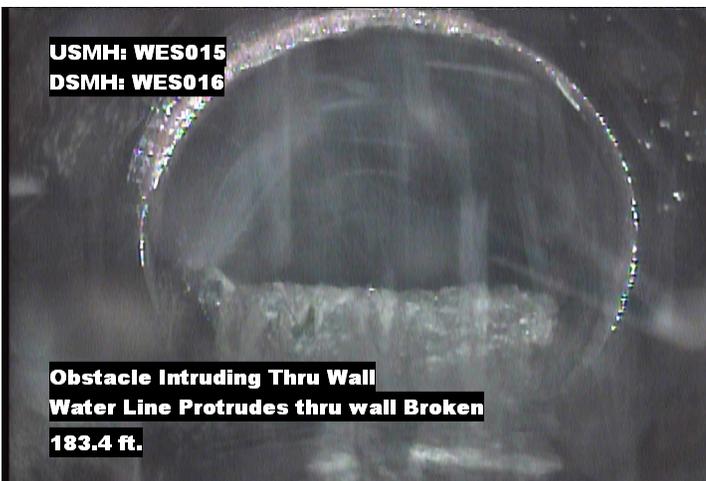
It is important to understand that none of this information about the specific condition of the sewer mains was known (or knowable) until the CCTV work was complete, and the current FY18 is the first year that the sewer budget included adequate funds to begin the CCTV work. This is one of the many consequences of the sewer being so badly underresourced for so many years.

This information will be a focus of Monday's Infrastructure Committee meeting and, once a policy direction is set, will be before Finance and Council. In anticipation of seeking voter authorization of borrowing at a June 2018 referendum, the Town Clerk prepared the enclosed timeline that would need to be met to do so.

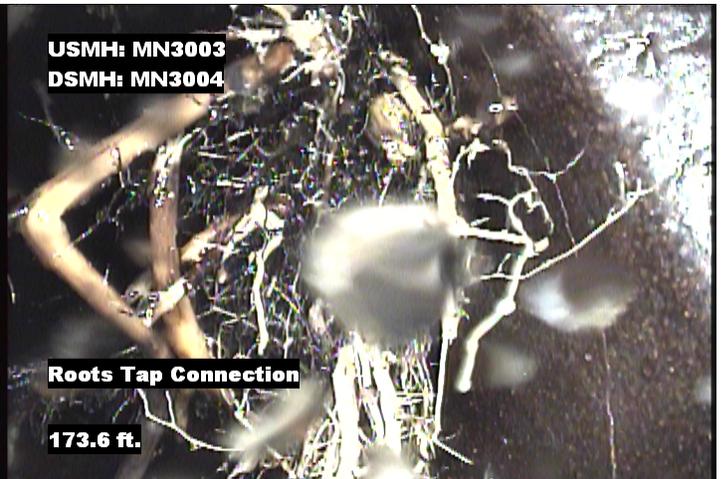
Main Road North (between Old County Rd and Mountain View Dr)



Western Ave: Water line broken (between Evergreen and Constitution)



Main Road North (between superintendent's office and Cottage St)



Town of Hampden Debt Service Analysis, 12-21-17 **Future Debt Service Obligations**

Sewer Fund	Bond Series	Maturity Date	Principal Balance (Year-End FY17)	FY18	FY19	FY20	FY21	FY22	FY23	FY24
1996 Sewer SRF	1997 A	10/1/2017	\$ 93,448	\$ 96,217						
2006 Sewer Construction Bond	2006 C	11/1/2025	\$ 710,530	\$ 103,669	\$ 99,495	\$ 95,715	\$ 85,889	\$ 87,484	\$ 84,812	\$ 82,598
2010 Route 1A Sewer Bond SRF	2009 FS	7/29/2029	\$ 1,249,216	\$ 108,526	\$ 108,520	\$ 108,514	\$ 108,508	\$ 108,502	\$ 108,495	\$ 108,489
2014 Sewer Project	2014 A	11/1/2034	\$ 811,846	\$ 68,594	\$ 68,066	\$ 67,397	\$ 66,578	\$ 65,622	\$ 64,560	\$ 63,410
Sewer Overdue Bills (\$258,810)	Loan #44181126	1/23/2024	\$ 244,688	\$ 40,543	\$ 40,543	\$ 40,543	\$ 40,543	\$ 40,543	\$ 40,543	\$ 23,650
Sewer Bangor WWTP (\$262,936)	Camden Nat. loan	5/16/2024	\$ 262,936	\$ 41,060	\$ 41,060	\$ 41,060	\$ 41,060	\$ 41,060	\$ 41,060	\$ 41,060
			<u>\$ 3,372,663</u>	<u>\$ 458,609</u>	<u>\$ 357,684</u>	<u>\$ 353,229</u>	<u>\$ 342,577</u>	<u>\$ 343,210</u>	<u>\$ 339,470</u>	<u>\$ 319,207</u>
			<i>Change from prior year:</i>	\$ 60,250	\$ (100,924)	\$ (4,456)	\$ (10,651)	\$ 633	\$ (3,740)	\$ (20,263)

General Fund	Bond Series	Maturity Date	Principal Balance (Year-End FY17)	FY18	FY19	FY20	FY21	FY22	FY23	FY24
2000 Road Construction & Line Extensions (Business Park)	2000 D	11/1/2020	\$ 360,000	\$ 90,000	\$ 90,000	\$ 90,000	\$ 90,000			
2002 Fire Station	2001 D	11/1/2021	\$ 421,500	\$ 103,343	\$ 84,300	\$ 84,300	\$ 84,300	\$ 84,300		
2011 Mayo Road Bond	2010 F	11/1/2030	\$ 1,277,500	\$ 121,056	\$ 119,380	\$ 117,581	\$ 115,731	\$ 113,806	\$ 111,806	\$ 109,718
<i>Route 1A Reconstruction (\$600k principal authorized)¹</i>					\$ 48,318	\$ 48,318	\$ 48,318	\$ 48,318	\$ 48,318	\$ 48,318
			<u>\$ 2,059,000</u>	<u>\$ 314,398</u>	<u>\$ 341,998</u>	<u>\$ 340,199</u>	<u>\$ 338,349</u>	<u>\$ 246,424</u>	<u>\$ 160,124</u>	<u>\$ 158,036</u>
			<i>Change from prior year:</i>	\$ (25,587)	\$ 27,600	\$ (1,799)	\$ (1,850)	\$ (91,925)	\$ (86,300)	\$ (2,088)

Total Debt Service Obligations:
\$ 773,007 \$ 699,682 \$ 693,427 \$ 680,926 \$ 589,635 \$ 499,595 \$ 477,244

¹ Assumed 15 year borrowing term at 2.53% interest.

Sources:

- Town of Hampden Financial Statements with Independent Auditor's Report, FY16.
- Amortization Schedules, Outstanding Sewer Fund Debt.
- Town of Hampden General Fund and Sewer Fund FY15 and FY16 budgets.
- Debt Payment Schedule for 2000 D revised to reflect reduced payments per 1/8/16 letter from Maine Municipal Bond Bank.
- Debt Payment Schedule for 2001 D revised to reflect reduced payments per 12/14/17 letter from Maine Municipal Bond Bank.
- Debt service for 2011 Mayo Road bond adjusted to reflect additional costs resulting from Federal Sequestration.



FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35
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\$ 81,588	\$ 79,074									
\$ 108,483	\$ 108,475	\$ 108,470	\$ 108,462	\$ 108,456	\$ 108,450					
\$ 62,187	\$ 60,879	\$ 59,468	\$ 57,963	\$ 56,389	\$ 54,768	\$ 53,088	\$ 51,356	\$ 49,597	\$ 47,813	\$ 46,009

\$ 252,259	\$ 248,428	\$ 167,938	\$ 166,426	\$ 164,845	\$ 163,218	\$ 53,088	\$ 51,356	\$ 49,597	\$ 47,813	\$ 46,009
\$ (66,949)	\$ (3,830)	\$ (80,490)	\$ (1,512)	\$ (1,581)	\$ (1,628)	\$ (110,130)	\$ (1,732)	\$ (1,759)	\$ (1,784)	\$ (1,804)

FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34	FY35
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\$ 107,543	\$ 105,367	\$ 102,976	\$ 100,370	\$ 97,765	\$ 95,159	\$ 92,553				
\$ 48,318	\$ 48,318	\$ 48,318	\$ 48,318	\$ 48,318	\$ 48,318	\$ 48,318	\$ 48,318	\$ 48,318	\$ 48,318	\$ 48,318
\$ 155,861	\$ 153,685	\$ 151,294	\$ 148,688	\$ 146,083	\$ 143,477	\$ 140,871	\$ 48,318	\$ 48,318		
\$ (2,176)	\$ (2,176)	\$ (2,391)	\$ (2,606)	\$ (2,606)	\$ (2,606)	\$ (2,606)	\$ (92,553)	\$ -		

\$ 408,119	\$ 402,113	\$ 319,232	\$ 315,114	\$ 310,928	\$ 306,694	\$ 193,959	\$ 99,674	\$ 97,915	\$ 47,813	\$ 46,009
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Tentative Election Timeline

June 12th Bond Referendum

Jan. 29 th	Infrastructure Committee referral to Finance & Administration for Feb. 5 th for further discussion or referral. Amount to be determined in Finance Committee
Feb. 20 th	F& A referral to Council, Council referral to Public Hearing
Mar. 5 th	Public Hearing for borrowing ordinance
Mar. 5 th	Clerk must submit nominations for election clerks to the Council to appoint prior to the 4/1 deadline
Mar. 6 th	Begin working on ballot content, treasurer's statement
Mar. 12 th	Final draft for ballot content, submit mock-up to Election Systems & Software
Mar. 19 th	Sign off on ballot content and quantity with Election Systems & Software
Apr. 9 th	Coordinate with the Secretary of State on programming and mailing thumb drives to include local election. (This could change due to potential Ranked Choice Voting programming complexity)
Apr. 28 th	Marks 45 days prior to election.
May 7 th -10 th	Absentee ballots should be delivered this week. They must be available 30-45 days prior to the election. State ballots will also be delivered this week.
May 14 th – 21 st	Regular ballots should be delivered. Begin tabulator testing as soon as all ballots are received.
June 5 th	Deadline to post Notices of Election and sample ballots
June 12 th	Bond Referendum/Primary/RSU Budget Referendum

Hampden Sewer Billing Relative to Total Recorded Flows Discharged to Wastewater Treatment Plant, 2010 to 2016



Last year, invoiced sewer volumes only represented 62.7% of sewer volumes discharged to WWTP. Difference between invoiced volumes and volumes discharging to WWTP is assumed to reflect system Inflow & Infiltration (I/I)



January 26, 2018



Sean Currier, Public Works Director
 Town of Hampden
 106 Western Avenue
 Hampden, ME 04444

Re: Task Order 17 – Sewer Inspection Results Engineering Support

Dear Sean:

The following is our summary review of the results of the 2017 sewer system inspection that was conducted by Ted Berry Company, per Task Order No. 17. The scope of this Task Order is to provide ongoing engineering support including a review of the sewer inspection results, improvement recommendations, and support with implementation of recommendations.

Background

The Town of Hampden (Town) contracted with Ted Berry Company to provide sewer and manhole inspection services for a multi-year contract. This work is being done to address compliance with Combined Sewer Overflow (CSO) regulations, which requires elimination of infiltration and inflow (I/I) induced sewer overflows as well as reducing the excess volume of wastewater sent to the Bangor Wastewater Treatment Plant (WWTP) to comply with the Town’s Interlocal Agreement with the City. Inspections conducted in 2017 included areas expected to be impacted by scheduled and proposed upcoming highway projects, including the Maine Department of Transportation (MDOT), Bangor Area Comprehensive Transportation System (BACTS), and Hampden Water District (HWD) projects as described in Table 1.

Table 1: Upcoming Project Areas

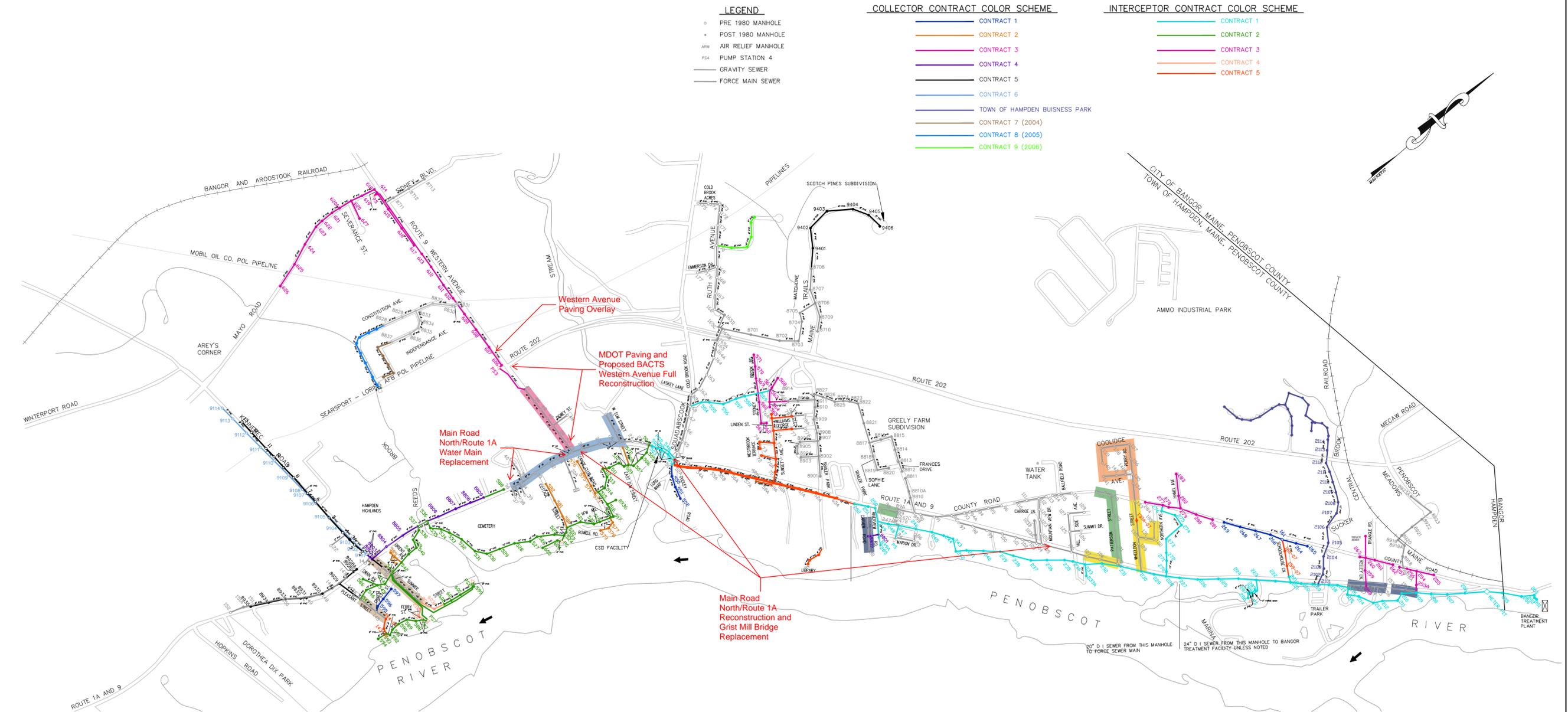
Project Area & Work ID Number (WIN)	Project Scope	Location	Scheduled Year
Main Road North/Rt. 1A WIN 021692.00 & 011577.00	Full Reconstruction and Grist Mill Bridge Replacement	Western Ave north to Mountain View Drive	2018-2019
Western Avenue WIN 023593.00 (MDOT)	MDOT Paving (Mill and Fill)	Main Road North to intersection of Route 202/Hampden Academy	2020
	BACTS Full Reconstruction		Not scheduled Proposed for 2022
Western Avenue WIN 023326.00	Paving (Overlay)	From 0.18 miles west of Chapman Road to Route 202/Hampden Academy intersection	2018
Main Road North/Rt 1A	HWD Water Main Replacement	Western Ave south past Weatherbee School	2018

Woodard & Curran provided sewer infrastructure planning support in 2008, resulting in the identification of seven Sewer Priority Areas based on their condition. These areas were identified as having poor condition sewer and high inflow and infiltration (I/I) rates, resulting in sewer overflows and excessive flow to the Bangor WWTP.



Since 2008, several of the identified projects have been completed, addressing sewer replacement in Priority Areas 1 through 3 and a portion of Priority Area 4. Portions of the remaining Priority Areas are included within the listed project areas and are described further by respective project area. For reference purposes, the 2008 Sewer Priority Area Map has been included as Figure 1.

woodwardcurran.net\shared\Projects\213302 Hampden - Sewer Dept General Engineering Services\SEWER COST ESTIMATES\cad drawings\2007-04-09 Hampden Sewer Locations.dwg, Dec 30, 2015 - 3:03pm



- LEGEND**
- PRE 1980 MANHOLE
 - POST 1980 MANHOLE
 - ARM AIR RELIEF MANHOLE
 - PS4 PUMP STATION 4
 - GRAVITY SEWER
 - FORCE MAIN SEWER
- COLLECTOR CONTRACT COLOR SCHEME**
- CONTRACT 1
 - CONTRACT 2
 - CONTRACT 3
 - CONTRACT 4
 - CONTRACT 5
 - CONTRACT 6
 - TOWN OF HAMPDEN BUSINESS PARK
 - CONTRACT 7 (2004)
 - CONTRACT 8 (2005)
 - CONTRACT 9 (2006)
- INTERCEPTOR CONTRACT COLOR SCHEME**
- CONTRACT 1
 - CONTRACT 2
 - CONTRACT 3
 - CONTRACT 4
 - CONTRACT 5



**Priority Areas 1 through 7
Town of Hampden
June 3, 2008**

Description
Priority Area 1
Priority Area 2
Priority Area 3
Priority Area 4
Priority Area 5
Priority Area 6
Priority Area 7

SEWER PRIORITY AREA MAP



SOURCE:
PLAN ENTITLED, "TOWN OF HAMPDEN, TOWN OF HAMPDEN SEWER LOCATIONS",
DATED 03-21-2006, PREPARED BY JAMES W. SEWALL COMPANY

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WOODARD & CURRAN
COMMITMENT & INTEGRITY DRIVE RESULTS

REV	DESCRIPTION	DATE

DESIGNED BY: 2007-04-09 Hampden Sewer
DRAWN BY: jpc@wac.com

SEWER PRIORITY AREA MAP

TOWN OF HAMPDEN, MAINE	SEWER COST ESTIMATE
------------------------	---------------------

JOB NO.: 213302
DATE: JUNE 2008
SCALE: 1"=1000'
SHEET: OF



Inspection Results

Route 1A – Reconstruction Project Area

A large portion of the sewer within this project area has been rehabilitated as part of ongoing CSO control projects and consists of precast manholes with PVC sewer main. In general, the system was in good condition with a few isolated issues such as leaking service lateral taps, pipe sags resulting from backfill settlement, or infiltration at manhole joints.

There was at least one instance of an active high flow from a lateral, indicating that the service pipe may be in poor conditions, a sump pump may have been in use, or a direct foundation or roof drainage connection was present. Further investigation of this service has not been conducted to date.

A section of sewer on Main Road North extending from Old County Road to Mountain View Drive consists of asbestos cement (AC) main and manholes constructed with masonry block. Some significant issues were noted in this section of sewer main, including holes in the pipe, infiltration, roots, and other pipe damage. Many of the manholes showed signs of degradation including missing mortar and brick, frames and risers in poor condition, and poor invert condition.

While this section of AC pipe and manholes was not previously identified as a Sewer Priority Area, the age and condition of the system warrants further consideration for rehabilitation. AC pipe was predominantly installed in the 1950's and 1960's, indicating an asset age exceeding 50 years. Gravity sewer mains are generally predicted to have a useful life of approximately 50 years.

This project is expected to require grade adjustment for each of the 45 sewer manholes in the right-of-way. Additional impacts may result from MDOT drainage system design or alignment impacts. A further review of the MDOT design plans is required for scoping of improvement work, which will be completed separately under the scope of Task Order 16.

The MDOT design plans are currently preliminary and do not have all required existing sewer information incorporated; so, while we have been working with MDOT on design details, we have not been able to perform a complete review. MDOT design plans are expected to be finalized by summer of 2018.

Western Avenue – Main Road North to Route 202 Intersection

The sewer main and manholes along this section of Western Avenue expected to be impacted by the full reconstruction project are some of the oldest in the Hampden system and are in poor condition. Piping consists of vitrified clay pipe (VCP) and manholes are constructed of brick. There are numerous structural pipe failures, holes, and active infiltration throughout this section of sewer main. Several of the manholes also have structural failures with barrel-section fractures, missing brick and mortar, and active infiltration.

Several photos from the sewer inspection are presented to illustrate the deficiencies (see Figures 2 through 4).

Replacement of this section of sewer was identified as Priority Area 5 in previous sewer rehabilitation planning efforts. The Dewey Street sewer main was not inspected and the condition is currently unknown, although it may require rehabilitation as well as it is expected to be of the same installation era.

Figure 2: Example Hole in VCP

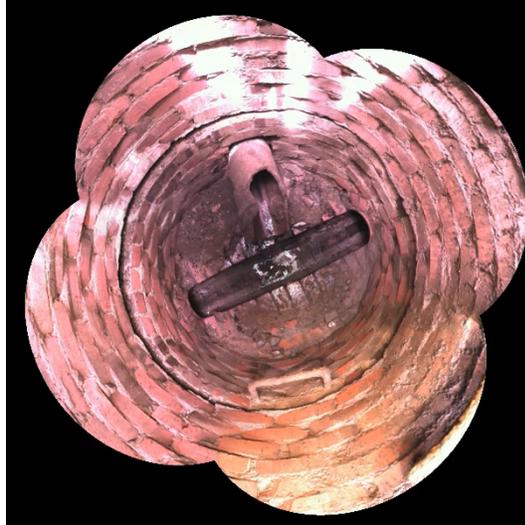


Figure 3: Example VCP Fracture





Figure 4: Example Manhole Barrel Fracture



Western Avenue – Route 202 Intersection to Mayo Road

The sewer system along this section of Western Avenue appears to have been constructed as part of the Interceptor and Collector Sewers Contract 3 around 1981 and consists of precast concrete manholes and PVC pipe. Piping and manholes were generally in good condition with isolated issues, including infiltration at break-in taps (services installed after installation) and grease deposits. The manhole closest to the Mayo Road Pump Station showed some surface damage, indicating a possible corrosion issue typical of hydrogen sulfide gas formation. Other manholes had poorly-formed inverts resulting from new mains being cut in and one manhole showed evidence of a leaking barrel joint.

Main Road North – South of Western Avenue Intersection

The sewer main and manholes along this section of Main Road North is some of the oldest in the Hampden system and in poor condition. Piping consists of vitrified clay pipe (VCP) and manholes are constructed of brick. There are numerous structural pipe failures, holes, root growth, and active infiltration throughout this section of sewer main. Several of the manholes also have structural failures with barrel fractures, missing brick, and active infiltration. Grease deposition has been a known issue in this section of sewer as it serves several restaurants, exacerbated by intruding service laterals and root obstruction. Figures 5 through 7 show examples of these issues from the sewer inspection.

Replacement of this section of sewer was previously identified as part of Priority Area 4 in previous sewer rehabilitation planning efforts. The remainder of Priority Area 4 was replaced in a project completed in 2015.

Figure 5: Example Hole in VCP

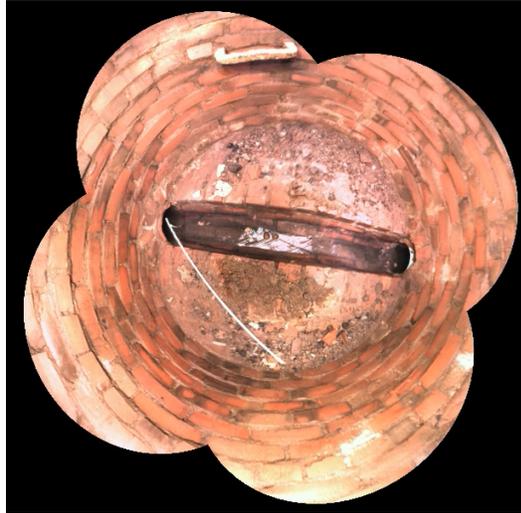


Figure 6: Example Root Intrusion





Figure 7: Example I/I Evidence of Gravel in Sewer



Improvement Recommendations

Route 1A – Reconstruction Project Area

The condition of sewer main and manholes was generally in good condition throughout the Route 1A reconstruction project, except for the section of sewer constructed of AC main and barrel-block manholes. There are several significant deficiencies in the AC pipe and in the manhole structures, which are barrel-block construction and exhibited evidence of I/I from damage block and mortar joints. The type and condition of each sewer lateral along this section of AC main is not known, although one appears to be PVC based on the tap connection. There are approximately seven services connected to the approximately 1,800 feet of sewer main within the MDOT project area.

Two barrel-block manholes and approximately 180 feet of AC main are located outside of the MDOT project area.

We recommend the following actions:

- Replacement of all barrel-block manholes within the MDOT project area and replacement and/or rehabilitation of the two barrel-block manholes outside of the MDOT project area.
- Replacement of non-PVC service laterals along the AC main section within the MDOT project area.
- Lining repair of all existing AC main to restore its structural integrity and seal infiltration sources. This can occur after the MDOT project is complete.

A summary cost estimate for these recommendations is provided in Table 2 and a more detailed estimated is included as an attachment.

The full impacts of the scheduled MDOT road reconstruction project have not been evaluated as part of the scope of this report and will be assessed as part of Task Order 16 and presented separately from this report.



Western Avenue – Main Road North to Route 202 Intersection

The condition of sewer along this section of Western Avenue warrants full replacement due to its poor condition.

We recommend the following:

- Replacement of all gravity sewer and service laterals along Western Avenue.
- Replacement of gravity sewer and service laterals on Dewey Street to minimize future disruption.
 - We recommend replacement through open-cut installation within the road right-of-way to occur in advance of or concurrent with the scheduled road rehabilitation project.

For the purposes of this evaluation, we have assumed that the Town will conduct a stand-alone project. However, approaching it as a project concurrent with the road reconstruction project will minimize paving costs on Western Avenue, although the Town will be subject to local cost sharing. A summary total project cost estimate for this Work is provided in Table 2 and a more detailed estimated is included as an attachment.

Western Avenue – Route 202 Intersection to Mayo Road

The sewer system along Western Avenue extending west from the Route 202 intersection does not require significant rehabilitation. Impacts from paving projects (overlay or mill and fill-type projects) are typically minimal and do not require structure replacement or grade adjustment.

We recommend addressing deficiencies noted in the inspections such as replacement of broken manhole covers, reconstruction of manhole inverts for proper drainage, and sealing of manhole joints where infiltration is apparent. We also recommend addressing infiltration occurring at lateral taps by excavating and replacing, injection-grouting, or otherwise repairing the leaking tap connections prior to paving activities along Western Avenue.

No cost estimate is provided for this Work as it does not require significant capital investment.

Main Road North – South of Western Avenue Intersection

The condition of sewer along this section of Western Avenue warrants full replacement due to its poor condition. We recommend replacement through open-cut installation within the road right-of-way.

As this area is scheduled for water main replacement in 2018 by the Hampden Water District, we recommend that the Town coordinate sewer replacement to minimize overall construction impacts. We do not recommend scheduling this work to occur while the MDOT Route 1A reconstruction project is in progress due to the combined impact of construction projects on the Route 1A corridor. Pavement and sidewalk restoration will be required for this project due to the location of the sewer. Coordination water main and sewer replacement

A summary total project cost estimate for this Work is provided in Table 2 and a more detailed estimated is included as an attachment.



Summary

Summaries of the sewer main and manhole inspection results are included as Attachment 1 and Attachment 2, respectively. This is intended to provide a quick reference to the type of sewer and overall condition until a more comprehensive reporting system is adopted by the Town.

The estimated total project cost for each recommendation, including contingency, engineering, and construction administration services, is provided in Table 2. Detailed estimates are included as Attachments 3 and 4 for each respective project.

Table 2: Summary Cost Estimate

Project Area	Estimated Cost
Main Road North/Rt. 1A – Old County Road to Hillside Drive Sewer Rehabilitation	\$442,000 (Partial estimate and does not include all costs associated with Rt. 1A project)
Western Avenue – Main Road North to Route 202 Intersection	\$754,000
Main Road North – South of Western Avenue	\$635,000

We trust the information provided within this letter is useful to the Town for budget planning. We would be happy to continue our work with the Town to prioritize the improvements discussed in this letter and to assist with implementation. If you have any questions or concerns, please don't hesitate to contact me at 207-945-5105 or via email at kcorbeil@woodardcurran.com.

Sincerely,

WOODARD & CURRAN

Kyle Corbeil, P.E.
Technical Manager

KMC/jeh

cc: Jim Wilson, P.E. – Woodard & Curran

PN: 213302.17

ATTACHMENT 1
MAIN SUMMARY



CLIENT Town of Hampden
PROJECT Sanitary Sewer Inspection Review

1 MERCHANTS PLAZA
SUITE 501
BANGOR, MAINE 04401
TEL.(207) 945-5105

DESIGNED BY KMC DATE 1/9/2018
CHECKED BY _____ DATE _____
PROJECT NO. 0213302.17

Project Area	Upstream MH	Downstream MH	Location	Pipe Material	Pipe Diameter	Pipe Length	Structural					Operations & Maintenance					Sum		Overall Index	Quick Rating	Notes
							1	2	3	4	5	1	2	3	4	5	Structural	O & M			
DOT Rt. 1A Reconstruction and Bridge Replacement 2018/19	MN3008	MN3009	Main Rd N	PolyVinyl Chloride	10	221.4											0	0			No issues
	MN3009	MN3010	Main Rd N	PolyVinyl Chloride	12	259											0	0			No issues
	MN3010	MN3011	Main Rd N	PolyVinyl Chloride	12	241.5											0	0			No issues
	MN3011	MN3012	Main Rd N	PolyVinyl Chloride	12	228.8											0	0			No issues
	MN3012	MN3013	Main Rd N	PolyVinyl Chloride	12	258.9											0	0			No issues
	MN3013	MN3014	Main Rd N	PolyVinyl Chloride	12	251.4											0	0			No issues
	MN3014	MN3015	Main Rd N	PolyVinyl Chloride	12	219.6											0	0			No issues
	MN3015	MN3016	Main Rd N	PolyVinyl Chloride	12	42.4									4		0	4	4.0	4100	Camera underwater
	MN3016	MN3017	Main Rd N	PolyVinyl Chloride	12	95.1											0	0			No issues
	MN3017	MN3018	Main Rd N	PolyVinyl Chloride	12	46.5											0	0			Heavy cleaning required to clear obstruction
	MN3019	MN3020	Main Rd N	PolyVinyl Chloride	8	101.6			2								2	0	2.0	2100	Large joint offset
	MN3020	MN3021	Main Rd N	PolyVinyl Chloride	8	421.6											0	0			No issues
	MN3021	MN3022	Main Rd N	PolyVinyl Chloride	8	347.5			2					2			2	2	2	2200	Sag near MN3021
	MN3023	MN3024	Main Rd N	PolyVinyl Chloride	8	164.9			2								2	0	2	2100	Crack in PVC at 248 ft
	MN3022	MN3023	Main Rd N	PolyVinyl Chloride	8	370.9											0	0			
	MN3024	MN3025	Main Rd N	PolyVinyl Chloride	8	168.8			2					2			2	2			Sag at 161.3 ft
	MN3025	MN3026	Main Rd N	PolyVinyl Chloride	8	341			6					6			6	6	2	2600	Multiple sags, high water
	MN3026	MN3027	Main Rd N	PolyVinyl Chloride	8	357.3			14					14			14	14	2	2A00	Multiple sags, high water
	MN3027	MN3028	Main Rd N	PolyVinyl Chloride	8	175.8			6					6			6	6	2	2600	Multiple sags, pipe indented from backfill
	MN3028	MN3029	Main Rd N	PolyVinyl Chloride	8	174.1											0	0			
	MN3029	MN3030	Main Rd N	PolyVinyl Chloride	8	261.8											0	0			
	MN3030	MN3031	Main Rd N	PolyVinyl Chloride	8	253.5											0	0			
	MN3031	MN3032	Main Rd N	PolyVinyl Chloride	8	254											0	0			
	MN3032	MN3033	Main Rd N	PolyVinyl Chloride	12	37.9											0	0			
	MN3033	MN3034	Main Rd N	PolyVinyl Chloride	12	152.4											0	0			
	MN3034	MN3018	Main Rd N	PolyVinyl Chloride	12	156.2									4		0	4	4	4100	High water level from Sou. PS backwater
	MN3018	SOUPS	Main Rd N	Ductile Iron Pipe	15	75.3									4		0	4	2	2200	Grease deposits
																	0	0			
		MN1001	MN1002	Main Rd N	Asbestos Cement	8	200.8										10	0	5	5200	Holes in pipe at 1.4 ft and 157 ft (concrete filled?)
		MN1002	MN1003	Main Rd N	Asbestos Cement	8	212.2								4		0	4	2	2200	Deposits/gravel/concrete, intruding tap
		MN1003	MN1004	Main Rd N	Asbestos Cement	8	193.6										0	0			Chip in pipe bell
		MN1004	MN1005	Main Rd N	Asbestos Cement	8	200.5										0	0			Patch repair
		MN1005	MN1006	Main Rd N	Asbestos Cement	8	246.7								2	3	5	5	3.3	5131	Holes in pipe, infiltration weeper, roots
		MN1006	MN1007	Main Rd N	Asbestos Cement	8	227.8								4		0	4	2	2200	Roots, chip in pipe bell, small diam. Lateral (2")
	MN1007	MN1008	Main Rd N	Asbestos Cement	8	232.5								2		5	2	3.5	5121	Holes in pipe, infiltration weeper	
	MN1008	MN1009	Main Rd N	Asbestos Cement	8	255.3			2					2		2	2	2	2200	Surface spalling	
	MN2001	MN2002	Main Rd N	PolyVinyl Chloride	8	169.2										0	0				
	MN2002	MN2003	Main Rd N	PolyVinyl Chloride	8	256.4										0	0				
	OC1000	MN2004	Old County Rd	Polyethylene	8	251.7								4	8	0	12			Infiltration runner, defective breakin tap, high water level	
	MN2004	MN2005	Main Rd N	PolyVinyl Chloride	8	303.9										0	0				
	MN2005	MN2006	Main Rd N	PolyVinyl Chloride	8	177.1										0	0				
	MN2006	MN2003	Main Rd N	PolyVinyl Chloride	8	197.9										0	0				

**ATTACHMENT 1
MAIN SUMMARY**

Project Area	Upstream MH	Downstream MH	Location	Pipe Material	Pipe Diameter	Pipe Length	Structural					Operations & Maintenance					Sum		Overall Index	Quick Rating	Notes	
							1	2	3	4	5	1	2	3	4	5	Structural	O & M				
DOT Rt. 1A Paving Project Main Road North South of Western Ave	MN3002	MN3003	Main Rd N	Vitrified Clay Pipe	8	244.2		2					20	6			2	26	2.2	322A	Several infiltration weepers, roots	
	MN3001	MN3002	Main Rd N	Vitrified Clay Pipe	8	255.2	1		12		10		1		12	4		23	17	3.1	5241	Pipe fracture, holes in pipe, roots
	MN3003	MN3004	Main Rd N	Vitrified Clay Pipe	8	262.5		8					6	16	39	4		8	65	2.3	413A	Numerous infiltration points and roots
	MN3004	MN3005	Main Rd N	PolyVinyl Chloride	8	288.1		2						2				2	2	2	2200	Sag
	MN3005	MN3006	Main Rd N	Vitrified Clay Pipe	8	42.3								26				0	26	2	2A00	Intruding services, numerous infiltration weepers
	MN3006	MN3007	Main Rd N	Vitrified Clay Pipe	8	221			6					18				6	18	2	2A00	Grease-coated lateral, attached deposits, sags
	MN3007	MN3008	Main Rd N	PolyVinyl Chloride	10	31.1												0	0			
DOT Western Ave Sidewalk Construction and Paving Project	WS1001	WS1002	Western Ave	PolyVinyl Chloride	8	420.3											0	0				
	WS1002	WS1003	Western Ave	PolyVinyl Chloride	8	423.6											0	0				
	WS1003	WS1004	Western Ave	PolyVinyl Chloride	8	382.4											0	0				
	MAY011	WS1004	Western Ave	PolyVinyl Chloride	8	67.6											0	0				
	WES001	WES002	Western Ave	PolyVinyl Chloride	8	303											0	0				
	WES002	WES003	Western Ave	PolyVinyl Chloride	8	395.8											0	0				
	WES003	WES004	Western Ave	PolyVinyl Chloride	8	298.8											0	0				
	WES004	WES005	Western Ave	PolyVinyl Chloride	8	194.5											0	0				
	WES005	WES006	Western Ave	PolyVinyl Chloride	8	173.9											0	0				
	WES006	WES007	Western Ave	PolyVinyl Chloride	8	374.3										4		0	4	4	4100	Infiltration runner at break in tap at 281 ft
WES007	WES008	Western Ave	PolyVinyl Chloride	8	243.9								2				0	2	2	2100	Infiltration weeper at break in tap at 32 ft	
WES008	WES009	Western Ave	PolyVinyl Chloride	8	167												0	0				
WES009	WES010	Western Ave	PolyVinyl Chloride	8	396.4								2				0	2	2	2100	Grease deposits	
BACTS Western Ave Reconstruction	WES011	WES012	Western Ave	Vitrified Clay Pipe	8	220.9		4	15	8	15		4				42	4	3.3	5342	Multiple pipe fractures, infiltration weepers, holes in pipe	
	WES012	WES013	Western Ave	Vitrified Clay Pipe	8	220			33	4	15		6				52	6	3.2	5341	Multiple pipe fractures, infiltration weepers, holes in pipe	
	WES013	WES014	Western Ave	Vitrified Clay Pipe	8	152.8			18		5		12				23	12	2.7	5136	Pipe cracks and fractures, large holes in pipe, lateral full of debris	
	WES014	WES015	Western Ave	Vitrified Clay Pipe	8	250.7	1	2	30	4	35		6				72	6	3.3	5741	Pipe cracks and fractures, multiple holes in pipe	
	WES015	WES016	Western Ave	Vitrified Clay Pipe	10	43.5			3	4			2				7	2	3	4131	Pipe fracture, obstacle in pipe (repaired)	
	WES016	WES017	Western Ave	Vitrified Clay Pipe	10	231.1		10	36	8	50		10				104	10	3.3	5A42	Pipe cracks and fractures, multiple holes in pipe	
	WES017	MN3007	Western Ave	Vitrified Clay Pipe	10	245.2			24	8	55		2				87	2	3.8	5A42	Pipe cracks and fractures, multiple holes in pipe	
No Project	MN1009	MN1010	Main Rd N	Asbestos Cement	8	160.1					5		4				5	4	3	5122	Hole in pipe, concrete deposits, infiltration	
	MN1010	MN1011	Main Rd N	Asbestos Cement	8	18.9	2										2	0	1	1200	Joint offset at AC/PVC connection, 22 elbows	
	MN1011	MN1012	Main Rd N	PolyVinyl Chloride	8	214.4											0	0				
	MN1012	MN1013	Main Rd N	PolyVinyl Chloride	8	335.9												0	0			
	MN1013	MN1014	Main Rd N	PolyVinyl Chloride	8	287.2		2						2				2	2			Sag
	MN1014	MN1015	Main Rd N	PolyVinyl Chloride	8	329.4												0	0			
	MN1016	MN1015	Main Rd N	PolyVinyl Chloride	8	368.3												0	0			Backfill indent on pipe
	MN1016	INT000	Main Rd N	PolyVinyl Chloride	8	55.4	1										1	0	1	1100	Joint partially separated at Fernco, outside drop	
	INT100	INT101	Main Rd N	Ductile Iron Pipe	21	254.8								12				0	12	2.9	3026	
INT101	INT102	Main Rd N	Ductile Iron Pipe	21	195								6				0	6	2.9	3F23	Surface corrosion, infiltration weeper	

**ATTACHMENT 2
MANHOLE SUMMARY**



CLIENT Town of Hampden
PROJECT Sanitary Sewer Inspection Review

1 MERCHANTS PLAZA
SUITE 501
BANGOR, MAINE 04401
TEL.(207) 945-5105

DESIGNED BY KMC DATE 01/09/2018
CHECKED BY _____ DATE _____
PROJECT NO. 0213302.17

Project Area	Manhole Number	Location	In Pavement	Grade to Invert Depth (ft)	Structural Rating					Operations & Maintenance Rating					Sum	Overall	Manhole Rating	LoF	Condition Notes			
					1	2	3	4	5	1	2	3	4	5						Structural	O & M	
DOT Rt. 1A Reconstruction and Bridge Replacement 2018/19	MN3008	Main Road North at Western Ave	Yes	9.7	3						7					3	7	10	1.0	2.0	Precast, installed in 2014, infiltration stain at joint	
	MN3009	Main Road North	Yes	8.33	3						5	2				3	7	10	1.1	2.1	Precast, installed in 2014, infiltration weeper at grade ring joint	
	MN3010	Main Road North	Yes	10.17	3						6					3	6	9	1.0	1.9	Precast, installed in 2014, infiltration stain at joint	
	MN3011	Main Road North	Yes	7.58	3						6					3	6	9	1.0	1.9	Precast, installed in 2014, infiltration stain at joint	
	MN3012	Main Road North at Elm Street	Yes	7.83	3						7					3	7	10	1.0	2.0	Precast, installed in 2014	
	MN3013	Main Road North	No	5.5	3						8					3	8	11	1.0	2.0	Precast, installed in 2014	
	MN3014	Main Road North	No	4.25	3						6					3	6	9	1.0	1.9	Precast, installed in 2014	
	MN3015	Main Road North at CSO PS	No	7.41	3						7					3	7	10	1.0	2.0	Precast with inlet from 12" Interceptor and CSO PS	
	MN3016	Main Road North at CSO PS	No	5.5	3						6					3	6	9	1.0	1.9	Precast with inlet from CSO tank overflow	
	MN3017	Main Road North	No	3.83	3						6					3	6	9	1.0	1.9	Precast	
	MN3018	Main Road North at Sou. PS	No	4.91	3						6					3	6	9	1.0	1.9	Precast, inlet to Sou. PS	
	MN3019	Main Road North																				Not inspected
	MN3020	Main Road North	No	8.17	3						6					3	6	9	1.0	1.9	Precast, installed in 2006	
	MN3021	Main Road North	No	7.08	3						6					3	6	9	1.0	1.9	Precast, installed in 2006	
	MN3022	Main Road North	Yes	7.91	3						6					3	6	9	1.0	1.9	Precast, installed in 2006	
	MN3023	Main Road North	No	7.08	3	4					5					7	5	12	1.2	2.2	Precast, installed in 2006, cracked barrel section	
	MN3024	Main Road North at _____	No	8.17	3						8					3	8	11	1.0	2.0	Precast, installed in 2006	
	MN3025	Main Road North	Yes	10.33	3						5					3	5	8	1.0	1.8	Precast, installed in 2006	
	MN3026	Main Road North	Yes	12	3						5					3	5	8	1.0	1.8	Precast, installed in 2006	
	MN3027	Main Road North	Yes	9.75	3						5					3	5	8	1.0	1.8	Precast, installed in 2006	
	MN3028	Main Road North	No	8.42	3						5					3	5	8	1.0	1.8	Precast, installed in 2006	
	MN3029	Main Road North	Yes	8.17	3						6					3	6	9	1.0	1.9	Precast, installed in 2006, misaligned inlet/channel	
	MN3030	Main Road North	Yes	7.83	3						5					3	5	8	1.0	1.8	Precast, installed in 2006	
	MN3031	Main Road North	Yes	7.17	3						5					3	5	8	1.0	1.8	Precast, installed in 2006	
	MN3032	Main Road North	No	7	3						6					3	6	9	1.0	1.9	Precast, installed in 2006	
	MN3033	Main Road North	No	10	3						7					3	7	10	1.0	2.0	Precast, installed in 2006, 4 way 12"	
	MN3034	Main Road North	No	3.17	3		3				6					6	6	12	1.2	3.1	Precast, installed in 2006, frame offset	
	MN1001	Main Road North at Old County Road	No													0	0	0				Not inspected
	MN1002	Main Road North	No	6.9	3		3				6					6	6	12	1.2	3.1		Barrel block, small break in pipe invert opening
	MN1003	Main Road North	No	6	3						6					3	6	9	1.0	1.9		Barrel block, poor invert condition
	MN1004	Main Road North	No	5.5	3		3				6					6	6	12	1.2	3.1		Barrel block, missing mortar, poor invert condition
	MN1005	Main Road North	No	6	4		3	4			6					11	6	17	1.4	4.1		Offset frame, barrel block, missing mortar, poor invert condition
	MN1006	Main Road North	No	6	3						6					3	6	9	1.0	1.9		Barrel block, missing mortar, break in pipe invert
	MN1007	Main Road North	No	6.3	3		3				6					6	6	12	1.2	3.1		Barrel block, missing mortar, break in pipe invert
MN1008	Main Road North at Carriage Lane	No	7.58	4			4			7	2				8	9	17	1.3	4.1		Barrel block, missing mortar, break in pipe invert	
MN2001	Main Road North	No	5.67	3						5					3	5	8	1.0	1.8		Precast	
MN2002	Main Road North	Yes	6.67	3						6					3	6	9	1.0	1.9		Precast	
MN2003	Main Road North	Yes	6.75	3						7	2		5		3	14	17	1.4	5.1		Precast, leaking insert cover	
MN2004	Main Road North	No	6.9	3						6					3	6	9	1.0	1.9		Precast	
MN2005	Main Road North	No	6	3						7					3	7	10	1.0	2.0		Precast, debris on shelf and in invert from 4" lateral	
MN2006	Main Road North at Frances Drive	No	7.4	3						6					3	6	9	1.0	1.9		Precast, roots from bottom joint, poorly formed invert from Frances Drive	
OC1000	Old County Road	Yes	5.08	3					5	6					8	6	14	1.4	5.1		Precast, installed in 2015, frame offset	

**ATTACHMENT 2
MANHOLE SUMMARY**

Project Area	Manhole Number	Location	In Pavement	Grade to Invert Depth (ft)	Structural Rating					Operations & Maintenance Rating					Sum		Manhole Rating	LoF	Condition Notes	
					1	2	3	4	5	1	2	3	4	5	Structural	O & M				Overall
DOT Rt. 1A Paving Project Main Road North, South of Western Ave	MN3001	Main Road North																	Not inspected	
	MN3002	Main Road North	Yes	7.67	3				4						7	6	13	1.3	4.1	Brick manhole, fractured grade ring
	MN3003	Main Road North at Weatherbee School	Yes	9.75	3										3	10	13	1.2	2.2	Brick manhole, infiltration weepers, gravel deposits on bench, lateral inlet without drop
	MN3004	Main Road North	Yes	7.33	3			3							6	8	14	1.3	3.1	Brick manhole, displaced brick in grade ring, gravel deposits on bench
	MN3005	Main Road North	Yes	6.9	3										3	6	9	1.0	1.9	Brick manhole, gravel deposits on bench
	MN3006	Main Road North	Yes	8.17	3										7	2	9	1.1	2.1	Brick manhole, infiltration weeper at joint, 4" lateral without drop pipe
	MN3007	Main Road North																		Not inspected
MDOT Western Ave Sidewalk Construction and Paving Project	MAY011	Western Ave at Mayo Road	No	8.4	3	4									7	5	12	1.2	2.2	Precast, surface damage to concrete barrel sections, possible H2S issue
	WS1001	Western Ave	No	6	3										7		10	1.0	2.0	Precast, Mayo PS discharge, may be mislabeled, should be WES1001?
	WS1002	Western Ave	No	8.08	3										6		9	1.0	1.9	Precast, Two unsupported pipe drop laterals
	WS1003	Western Ave	No	7.41	2										7	2	11	1.1	2.1	Precast
	WS1004	Western Ave	Yes	10.75	3										7		10	1.0	2.0	Precast
	WES1001	Western Ave	No	4.5	3										6		9	1.0	1.9	Precast
	WES1002	Western Ave	No	6.17	2				4						6	2	14	1.4	4.1	Precast. Broken cover
	WES1003	Western Ave	Yes	7.5	1			3							6	2	15	1.5	3.2	Break in pipe invert, invert/bench modified
	WES1004	Western Ave	No	6.83	3										6		9	1.0	1.9	Precast
	WES1005	Western Ave	No	5.83	3										7		10	1.0	2.0	Precast, incorrectly labeled pipe sizes???
	WES1006														0	0	0			Not inspected
	WES1007														0	0	0			Not inspected
	WES1008	Western Ave	No	6.58	3										6	2	11	1.1	2.1	Precast, infiltration weeper at joint, cut in invert
WES1009	Western Ave	No	11.75	3										7		10	1.0	2.0	Precast, unusual invert	
WES1010																			Not inspected	
BACTS Western Ave Reconstruction	WES1011	Western Ave	Yes	6	3			3							7		13	1.2	3.1	Brick manhole, issue with chimney
	WES1012	Western Ave	Yes	6.33	3	8									7		18	1.3	2.4	Brick manhole, cracks in barrel, infiltration stain
	WES1013	Western Ave	Yes	7.41	3										6		9	1.0	1.9	Brick manhole
	WES1014	Western Ave	Yes	6.75	3										5		8	1.0	1.8	Brick manhole
	WES1015	Western Ave at Dewey St	Yes	7.91	3			6							5	3	17	1.5	3.3	Brick manhole, large fractures in wall, missing brick, unusual invert in from Dewey
	WES1016	Western Ave																		Not inspected
	WES1017	Western Ave	Yes	7.83	3			6							7		16	1.3	3.2	Brick manhole, large fractures in wall, missing brick
	WES1017A	Western Ave at Main Road North	Yes	7.33	3										6		9	1.0	1.9	Brick manhole
No project	MN1009	Main Road North	No	7	3										7		10	1.0	2.0	Concrete riser cone over barrel block, break in pipe invert
	MN1010	Main Road North at Mountain View Drive	No	7.08	4			3							6	4	17	1.3	3.1	Barrel block, missing mortar, break in pipe invert, poor invert condition, infiltration weeper
	MN1011	Main Road North	Yes	7.4	3										7		10	1.0	2.0	Precast, installed in 2009
	MN1012	Main Road North at Hillside Drive	Yes	8.4	3										6		9	1.0	1.9	Precast, installed in 2009
	MN1013	Main Road North	Yes	7.4	3										6		9	1.0	1.9	Precast, installed in 2009
	MN1014	Main Road North	Yes	7.4	3										6		9	1.0	1.9	Precast, installed in 2009
	MN1015	Main Road North	Yes	7.17	3										6		9	1.0	1.9	Precast, installed in 2009
	MN1016	Main Road North at Patterson Street	Yes	7.75	3										7		10	1.0	2.0	Precast, installed in 2009
No Project	INT000	Main Road North at Patterson St.	No	16.5	3										8		11	1.0	2.0	Precast
	INT100	Main Road North	No	5.4	3										5		8	1.0	1.8	Precast
	INT101	Main Road North	Yes	9.08	3										6		9	1.0	1.9	Precast
	INT102	Main Road North	Yes	10	3										6		9	1.0	1.9	Precast



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TOWN OF HAMPDEN - SANITARY SEWER REPLACEMENT

ATTACHMENT 3

WESTERN AVE - BACTS RECONSTRUCTION PROJECT

OPINION OF PROBABLE COST

January 2018

Bid Item	Description	Unit	Estimated Quantity	Unit Price	Value
OPINION OF PROBABLE COST					
1	Administration	LS	1	\$ 28,000	\$ 28,000
2	Excavation of Unsuitable Materials	CY	50 *	\$ 50	\$ 2,500
3	Select Backfill	CY	50 *	\$ 50	\$ 2,500
4	Rock Excavation	CY	50 *	\$ 200	\$ 10,000
5	Pavement Repair - Town Roads, Driveways & Sidewalks	SY	700	\$ 80	\$ 56,000
6	Pavement Repair - State Roads, Driveways & Sidewalks	SY	1,300	\$ 120	\$ 156,000
7	Open Cut Main Replacement - Western Avenue	LF	1,370	\$ 150	\$ 205,500
8	Open Cut Main Replacement - Dewey Street	LF	400	\$ 150	\$ 60,000
9	Four Foot Diameter Pre-Cast Manhole - Western Avenue	EA	8	\$ 6,000	\$ 48,000
10	Four Foot Diameter Pre-Cast Manhole - Dewey Street	EA	1	\$ 6,000	\$ 6,000
Total Estimated project cost					\$580,000
15% Contingency					\$87,000
15% Admin, Engineering & Construction Admin Services					\$87,000
Total + Contingency					\$754,000



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TOWN OF HAMPDEN - SANITARY SEWER REPLACEMENT

ATTACHMENT 4

MAIN ROAD NORTH - SOUTH OF WESTERN AVE (REMAINING PORTION OF PRIORITY AREA #4)

OPINION OF PROBABLE COST

January 2018

Bid Item	Description	Unit	Estimated Quantity	Unit Price	Value
OPINION OF PROBABLE COST					
1	Administration	LS	1	\$ 24,000	\$ 24,000
2	Excavation of Unsuitable Materials	CY	50 *	\$ 50	\$ 2,500
3	Select Backfill	CY	50 *	\$ 50	\$ 2,500
4	Rock Excavation	CY	50 *	\$ 200	\$ 10,000
5	Pavement Repair - Town Roads, Driveways & Sidewalks	SY	200	\$ 80	\$ 16,000
6	Pavement Repair - State Roads, Driveways & Sidewalks	SY	1,500	\$ 120	\$ 180,000
7	Asphalt Curb	LF	960	\$ 12	\$ 11,600
8	Open Cut Main Replacement	LF	1,320	\$ 150	\$ 198,000
9	Four Foot Diameter Pre-Cast Manhole	EA	7	\$ 6,000	\$ 42,000
Total Estimated project cost					\$487,000
15% Contingency					\$74,000
15% Admin, Engineering & Construction Services					\$74,000
Total + Contingency					\$635,000

* Indeterminate Quantity



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TOWN OF HAMPDEN - SANITARY SEWER REPLACEMENT

ATTACHMENT 5

MAIN ROAD NORTH - MDOT ROUTE 1A RECONSTRUCTION PROJECT

OPINION OF PROBABLE COST

January 2018

Bid Item	Description	Unit	Estimated Quantity	Unit Price	Value
OPINION OF PROBABLE COST					
1	Administration	LS	1	\$ 31,000	\$ 31,000
2	Excavation of Unsuitable Materials	CY	50 *	\$ 50	\$ 3,000
3	Select Backfill	CY	50 *	\$ 50	\$ 3,000
4	Rock Excavation	CY	50 *	\$ 200	\$ 10,000
5	Pavement Repair - Town Roads, Driveways & Sidewalks	SY	200	\$ 80	\$ 16,000
6	Pavement Repair - State Roads, Driveways & Sidewalks	SY	100	\$ 120	\$ 12,000
7	Open Cut Main Replacement	LF	20	\$ 150	\$ 3,000
8	Trenchless Main Replacement	LF	1,950	\$ 90	\$ 176,000
9	Four Foot Diameter Pre-Cast Manhole	EA	10	\$ 6,000	\$ 60,000
10	Manhole grade adjustment	EA	30	\$ 800	\$ 24,000
Total Estimated project cost					\$340,000
15% Contingency					\$51,000
15% Admin, Engineering & Construction Services					\$51,000
Total + Contingency					\$442,000



Angus Jennings <townmanager@hampdenmaine.gov>

Upcoming Rate Increase

1 message

Jamie Holyoke <jholyoke@tds.net>
To: Angus Jennings <townmanager@hampdenmaine.gov>

Tue, Jan 23, 2018 at 11:02 AM

Angus,

my Board has instructed me to convey to you that we are intending on going for a rate increase in July of this year.

With the upcoming water main replacement on the Main Road between Cottage Street and Western Ave intersection, our Pump Station upgrade at our 202 location in preparation for MRC/ Fiberight, our Emergency Backup Well, and the Grist Mill Project in which we will be installing new water main across the bridge we are going to have to raise the rates to cover the cost of this bond.

We are not sure of the increase amount as of yet but our CPA is working on generating that number.

Our goal is to keep this increase below 10%.

Attached will be some budget numbers that our consultants have generated for us to use as a guideline.

Hopefully bid prices will come in lower than estimates.

Please contact me with any questions.

We wanted to get this to you as soon as we could for your budgeting purposes.

Thanks,

Jamie

Projects to be completed in 2018.pdf
1332K

Estimated DWSRF Project Costs

Public Water System Name:		PWSID #ME0090660
Total Project DWSRF Loan Requested:	\$367,000	Cost Breakdown
1. Development (Include a brief description of each contract)		
	<i>Contract 1</i>	\$250,000
	<i>Contract 2</i>	
	<i>Contract 3</i>	
2. Preliminary Expenses		
3. Land & Rights		
4. Legal and Administration		\$5,000
5. Engineering		
	<i>Administration</i>	\$10,000
	<i>Design</i>	\$22,000
	<i>Inspections</i>	\$22,000
	<i>Other Services</i>	\$10,000
6. Bond Counsel and any Short Term Interest & Financing Expense		\$5,000
7. Equipment and Miscellaneous		\$5,000
8. Contingency		\$33,000
	<i>Subtotal:</i>	\$362,000
9. DWP Project Management Fee (1% of subtotal)*		\$3,620
TOTAL ESTIMATED PROJECT COST		\$365,620
Applications to or known commitments of funds available from other agencies:		
<i>Agency</i>	<i>Loan or Grant</i>	<i>Committed (Y/N)</i>
		<i>Amount</i>
<i>Estimate Prepared By: Annaleis Hafford, P. E. Olver Associates Inc.</i>		<i>Title: Vice-President</i>
<i>Date: September 30, 2016</i>		<i>Phone: 223-2232</i>



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HAMPDEN WATER DISTRICT
Main Road North Watermain Replacement Project - Phase 3
Opinion of Probable Cost
December 13, 2017

No.	Description	Unit	Estimated Quantity	Unit Price	Value	
1	Administrative (5% of Construction Cost)	LS	1	\$9,900.00	\$9,900.00	
2	Rock Excavation	CY	100 *	\$185.00	\$18,500.00	
3	Excavation Below Normal Grade	CY	100 *	\$35.00	\$3,500.00	
4	Select Backfill	CY	100 *	\$25.00	\$2,500.00	
5	Concrete Core Demolition and Replacement	SY	75	\$100.00	\$7,500.00	
6	12" Class 52 DI Water Main	LF	885	\$120.00	\$106,200.00	
7	6" Gate Valve	EA	1	\$1,500.00	\$1,500.00	
8	Hydrants	EA	2	\$4,000.00	\$8,000.00	
9	1" Type K Copper Water Service	LF	155	\$90.00	\$13,950.00	
10	1" Curb Stops	EA	7	\$400.00	\$2,800.00	
11	Temporary Water	LS	1	\$7,000.00	\$7,000.00	
12	Bituminous Pavement Repair - Town Roads and Driveways	SY	85	\$45.00	\$3,825.00	
13	Bituminous Pavement Repair - State Roads	SY	75	\$65.00	\$4,875.00	
14	Sidewalk Repair	SY	45	\$30.00	\$1,350.00	
15	Bituminous Curbing	LF	50	\$20.00	\$1,000.00	
16	Reset Granite Curbing	LF	30	\$40.00	\$1,200.00	
17	Excavate and Dispose of Contaminated Soil	CY	100 *	\$100.00	\$10,000.00	
18	Testing Allowance	LS	1	\$2,500.00	\$2,500.00	
CONSTRUCTION TOTAL					\$206,000.00	
Engineering Design, Permitting, Bidding and Construction Administration (10%)					\$20,700.00	
* Indeterminate quantity used for bid comparison.					Contingency (15%)	\$31,000.00
					Construction Total	\$257,800.00



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HAMPDEN WATER DISTRICT
Grist Mill Bridge Replacement Utility Crossing
Opinion of Probable Cost
December 13, 2017

No.	Description	Unit	Estimated Quantity	Unit Price	Value	
1	Administrative (5% of Construction Cost)	LS	1	\$6,200.00	\$6,200.00	
2	Rock Excavation	CY	50 *	\$185.00	\$9,250.00	
3	Excavation Below Normal Grade	CY	50 *	\$35.00	\$1,750.00	
4	Select Backfill	CY	25 *	\$25.00	\$625.00	
5	12" Class 52 DI Water Main	LF	315	\$120.00	\$37,800.00	
6	8" Class 52 DI Water Main	LF	160	\$90.00	\$14,400.00	
7	Provide Grist Mill Bridge Crossing	LS	1	\$30,000.00	\$30,000.00	
8	12" Gate Valve	EA	3	\$2,500.00	\$7,500.00	
9	8" Gate Valve	EA	2	\$1,200.00	\$2,400.00	
10	Hydrants	EA	1	\$4,500.00	\$4,500.00	
11	1" Type K Copper Water Service	LF	130	\$90.00	\$11,700.00	
12	Bituminous Pavement Repair - Town Roads and Driveways	SY	26	\$45.00	\$1,170.00	
13	Testing Allowance	LS	1	\$2,500.00	\$2,500.00	
CONSTRUCTION SUBTOTAL					\$129,795.00	
Engineering Design, Bidding and Construction Administration (10%)					\$13,000.00	
* Indeterminate quantity used for bid comparison.					Contingency (15%)	\$19,500.00
					Construction Total	\$162,295.00



Maine Department of Environmental Protection

NON-COMPLIANCE/DISCHARGE INCIDENT REPORT

Facility: Souadabscook Pump Station Municipality: Town of Hampden, Maine

Date of Incident/Exceedence: January 13, 2018

Verbal Notification Date: 1.13.18 To Whom: Clarissa Trasko-left message

Caller: Sean Currier Phone #: 207-478-8396

Parameter/Pollutant Quantity and Concentration of Release/Exceedence (include test results):

None Taken.

Specific Location and Duration of Release/Exceedence:

Manhole in front of the Souadabscook Pump Station in middle of round-about driveway and wet well of pump station. Once the CSO tanks were full and discharging, the system was overwhelmed and the SSO happened at the previously stated manhole and wet well. The flow was noticed at approximately 9am and subsided by approximately 1pm.

Observed Environmental Effects:

None observed.

Describe specifically what happened, when, and why (include all details, and use additional pages if needed, including maps, diagrams as necessary):

Due to above normal temperature, significant rainfall and substantial snow pack loss, the sewer system was overwhelmed. CSO tanks were filled and the system overflowed at 140 Main Road North. Sewage drained toward the Souadabscook stream from the manhole and wet well after filtering through a grass area.

Remedial Actions Taken and Times When Taken:

Allen's and Frost Septic were called immediately and pumped the Souadabscook pump station wet well until approximately 6:30pm on January 13, 2018.

Specific Measures Needed to Prevent Recurrence:

Implementation Schedule:

Table with 2 columns: Action Item Description, Projected Completion Date. Includes 'Prepared By: Sean Currier' and 'Date: 1.16.18'.

Non-compliance/Discharge Incident Report Form

The Discharge Incident Report Form can be used by treatment facility personnel to notify the Department when any licensed parameter has been exceeded or when reporting combined sewer overflow related dry weather overflows (DWO's), bypasses, sanitary sewer overflows (SSO's), spills from facility premises to surface waters, or other incidents which violate license conditions as per Chapter 523 Rules regarding "Waste Discharge License Conditions." This form is not mandatory, but if you choose not to use it, be sure that the form or letter you do use includes all the information that this one does.

As per Chapter 523 "Waste Discharge License Conditions," the permittee shall report any non-compliance which may endanger health or the environment orally within 24 hours followed up by a written submission within 5 days of the time the permittee became aware of the circumstances. The following shall also be included as information which must be reported within 24 hours:

- any unanticipated bypass which exceeds any effluent limitation in the permit [including sanitary sewer overflows (SSO's) and dry weather overflows (DWO's) from CSO discharge points]
- any upset which exceeds any effluent limitation in the permit
- violation of a maximum daily discharge limitation for any of the pollutants listed by the Department in the permit

LOCATION



Photo 1



Photo 2



Photo 3



Photo 4



January 12, 2018

Town Of Hampden

Members of the Infrastructure Committee

1311 Kennebec Road

Hampden, Maine 04444

Members,

Town of Hampden
RECEIVED

JAN 16 2018

Office of the
Town Manager

I am writing to obtain some information. I would also like to request that the Kennebec Road from the Newburgh town line to the Mayo road (5.8 miles) receive the same salting attention as the Town proper. I have lived on the Kennebec Road for approximately 68 years. With each passing year, the dirt (so called sand) gets dirtier (higher % -200). After a snow event, the road turns to mud until it dries and turns to a dust storm. The dust enters everything from our home to our lungs along with the chipped windshields from the stones that are in the dirt. One only has to drive down the road to see the results on the snow.

Questions I would like answers to:

What is the cost per mile for salt?

Is the cost to apply sand several times taken into the equation of differential of sand/salt?

Has an investigation of the additional salt required to treat sand that is high in % -200 been done?

Has there been an environmental assessment as to the effects of the dirt to the waters along the Kennebec Road?

As for the need to sand the hills (only two) for traction, with proper snow removal and the modern vehicles of today, I don't see it as a problem.

Has the Public Works Department a cost or tracking program that can tell how much each section of road is costing in respect to plowing, sanding, spring clean-up, ditching, grading off the shoulders, ect. These are all real costs and need to be charged accordingly. With the size of the crew we have at PW and the number of vehicles registered to the Town, maybe some efficiency in operations could pay for the salt required.

Respectfully Submitted,


Roland Fogg