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MILLBURY, MASS

Town of Millbury
Sewer Commission Meeting

August 26, 2014

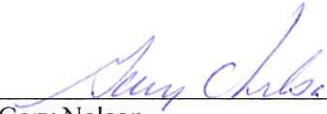
Meeting called to order at 5:00 PM

- Present:** Members: Gary Nelson, Happy Erickson
DPW Director Rob McNeil & Secretary Cindy Allard
Absent: Jeff Murawski
- Minutes:** None.
- Finances:** Sutton billing, motion by Happy to approve the Sutton Billing in the amount of \$48,671.72, 2nd by Gary, all in favor.
- Operations:** Flow info given to Commissioner for review.
Scanning project still moving ahead.
Sewer billing date change to September 19.
FYI- Frank Stachura injured his finger a few weeks ago, returning to work tomorrow.
- Invoices:** Signed- American alarm invoice needs review by Rob due to some upgrades but was signed.
- Sewer Connections:** **216 Wheelock Ave**, MidState, Motion by Happy to approve 2nd by Gary, all in favor.
Momin Drive, Commission looked at a sewer connection, Rob to review further and will advise.
- Projects:** Onsite submitted a proposal to the Commission regarding a sewer system model for the Town's collection system. It would generally consist using GIS mapping for a development of a SewerGEM model of sewer piping, manholes & pump stations to evaluate the impacts and identify any improvements or future needs(see attached).
- Betterment:** warrant was signed for \$52,500 to be liens to properties for the sewer betterments.
- Abatements:** betterment abatement for \$5,000, address 67 MacArthur Drive, was bettered on Commit #26 and Commit #38. Happy motion to approve the abatement for \$5,000, Gary 2nd, all in favor.
- Other:** read a letter regard demolish of 117 Elm St by the owner: Millbury Savings Bank.

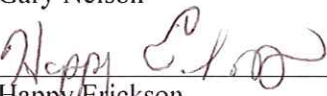
Regular meeting: 9/23/14, 10/14/14 & 10/28/14

Rules and Regulation Meeting: 09/16/2014, at 5:00 PM.

Meeting adjourned: at 5:38 PM.



Gary Nelson



Happy Erickson

Jeff Murawski



Town of Millbury DEPARTMENT OF PUBLIC WORKS

MUNICIPAL OFFICE BUILDING
127 Elm Street · MILLBURY, MA 01527-0632
Tel. 508-865-9143 · Fax: 508-865-0843
ROBERT D. McNEIL III, P.E., Director
rmcneil@townofmillbury.net

Sewer Division
Annual/Monthly Flow Report
2014

REVISED: July 22, 2014
REVISED BY: R. McNeil

Month	Total Flow (MG)	Sutton Flow (MG)	Millbury Flow (MG)	Sutton % of Total Flow
January	37.377	4.901	32.476	13.11%
February	29.310	4.028	25.282	13.74%
March	43.242	5.629	37.613	13.02%
3rd Qtr. Totals =	109.929	14.558	95.371	13.24%
April	50.773	5.799	44.974	11.42%
May	41.855	5.343	36.512	12.77%
June	31.726	4.309	27.417	13.58%
4th Qtr. Totals =	124.354	15.451	108.903	12.43%
July	29.608	4.084	25.524	13.79%
August				#DIV/0!
September				#DIV/0!
1st Qtr. Totals =	29.608	4.084	25.524	13.79%
October				#DIV/0!
November				#DIV/0!
December				#DIV/0!
2nd Qtr. Totals =	0.000	0.000	0.000	#DIV/0!
Year Totals =	263.891	34.093	229.798	12.92%

Note: Flow data generated from actual calibrated meter readings at the Millbury and Sutton Sewer Facilities.
Total Flow data is measured at the Millbury Sewer Plant's Parshall Flume meter.
Sutton Flow data is generated from actual calibrated meter readings from the Sutton Pump Station taken at the Millbury Sewer Plant.
Millbury Flow data calculated by subtracting Sutton Flow data from Total Flow data.

Millbury Sewer Pump Station
 131 Providence Street
 Millbury, MA 01527

Annual/Monthly Sewer Flow Data Report
 July 2014

Day	Total Flow (MG)	Sutton Flow (MG)	Millbury Flow (MG)	Temp. (°F)	Precipitation (inches)
1	0.918	0.132	0.786	74	0
2	0.923	0.136	0.787	75	0.03
3	0.954	0.132	0.822	76	0.57
4	1.107	0.149	0.958	72	1.36
5	0.981	0.123	0.858	63	0
6	0.951	0.123	0.828	62	0
7	0.967	0.139	0.828	70	0.08
8	0.998	0.138	0.860	75	0
9	0.964	0.145	0.819	75	0
10	0.961	0.134	0.827	67	0
11	0.978	0.133	0.845	68	0
12	0.909	0.131	0.778	65	0
13	0.958	0.131	0.827	70	0.17
14	0.981	0.141	0.840	73	0.58
15	0.965	0.141	0.824	73	0.37
16	0.961	0.131	0.830	73	0.01
17	0.913	0.132	0.781	64	0
18	0.953	0.131	0.822	62	0
19	0.953	0.121	0.832	62	0
20	0.991	0.132	0.859	62	0
21	0.989	0.135	0.854	62	0
22	0.944	0.131	0.813	66	0
23	0.967	0.134	0.833	74	0.04
24	0.949	0.133	0.816	72	0
25	0.952	0.128	0.824	62	0
26	0.898	0.121	0.777	63	0
27	1.026	0.127	0.899	71	0.3
28	0.956	0.128	0.828	70	0.08
29	0.879	0.127	0.752	66	0
30	0.848	0.124	0.724	60	0
31	0.914	0.121	0.793	60	0

Day	Total Flow (MG)	Sutton Flow (MG)	Millbury Flow (MG)	Temp. (°F)	Precipitation (inches)
Total =	29.608	4.084	25.524	2107	3.59
Average Daily =	0.955	0.132	0.823	67.968	0.116
High =	1.107	0.149	0.958	76	1.36
Low =	0.848	0.121	0.724	60	0

Note: All data readings taken by staff at 7:00 AM daily

*Sutton meter calibration by CAL Electronic & Mechanical on 7/21/14



Onsite Engineering, Inc.

Water, Wastewater and Stormwater Specialists

August 15, 2014

Mr. Robert D. McNeil, III, P.E.
Department of Public Works Director
Town of Millbury
Department of Public Works
127 Elm Street
Millbury, MA 01527

Re: Proposal for Engineering Services
Sewer System Model and Report

Dear Mr. McNeil:

Onsite Engineering is pleased to submit this proposal for engineering services and not to exceed fee for the development of a sewer system model for the Town's collection system. The project generally consists of utilizing existing GIS sewer mapping information to develop a SewerGEM base model of the sewer system piping, manholes and pump stations. Upon completion of the base model, projected expansions and flows will be inputted to evaluate the impacts and identify any necessary improvements to accommodate future sewer needs.

As we have discussed, the practical uses of a sewer model are many. The model, once completed, will allow the assessment of the collection system's capacity under various flow scenarios; assessment of capacity related issues, such as overflows, bypasses, backups, etc.; determination of how system expansions or development expansions might affect the overall operation of the system; and examination of the effects before and after rehabilitation or system improvements.

We have prepared this scope and fee based upon our discussions with you and the Sewer Department Staff, our understanding of the sewer system, the availability of the existing GIS map and information and our experience with sewer and water system modeling. To complete the project as described, we propose a not to exceed fee of Thirty Two Thousand Three Hundred Dollars (\$32,300.00).

We look forward to the potential opportunity to work with you on this important project. If you have any questions or require additional information, please feel free to contact us regarding this proposal.

*Mr. Robert D. McNeil, III, P.E., Director
Millbury Department of Public Works*

*August 15, 2014
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Sincerely,

Onsite Engineering, Inc.



David C. Formato, P.E.
President

Enclosure



Onsite Engineering, Inc.

*Scope of Services
Sewer System Model
Millbury, Massachusetts*

1. Obtain recent and relevant reports, data, maps and studies associated with the existing sewer system and planned expansions or upgrades. Existing reports and maps that will be made available for this project include the updated Comprehensive Wastewater Management Plan (CWMP); Master Planning reports that identify projected areas of sewer system expansion and projected sewer system flows; the GIS sewer system map and as-built plans for any parcels within the area of interest not shown on the existing map; water use data; and recent infiltration/inflow studies and reports.

2. Develop sewer base model using SewerGEMs software. The base model will include main trunk line piping, manholes and pump stations with up to 500 pipe sections. Upgradient flows and loads for individual cul-de-sacs or subdivisions may be input into the model as a single node at the nearest point of connection at the modeler's discretion. In order to develop the sewer base model the following sub-tasks will be required:
 - Import system data into modeling software utilizing the Town's existing GIS sewer system map. Primary system components shall include gravity pipes, connecting manholes and pump stations and pressure mains with up to 500 pipe sections. We have assumed that the existing GIS sewer system map accurately reflects the present operating system, including; pipe diameters, lengths, materials and manhole sizes, locations, and pipe invert and rim elevations.
 - Obtain and enter hydraulic properties including pipe roughness coefficients, pump curves and flow data for sewer pump stations. Data sources for these properties will include manufacturer specifications, literature values, and pump station O&M manuals. We have assumed that field testing will not be required.
 - Obtain and enter existing sanitary flows (dry weather) including minimum, maximum and mean daily flows based on metering data and operator input.
 - Obtain and enter inflow and infiltration (wet weather) data including the estimated infiltration rate for each pipe segment or sub-basin, locations of inflows and estimated quantities of inflow based on previous reports and studies that the Town has available.
 - Obtain and enter operational data including settings for pump operation, setting of flow-control structures and control strategies based on operations records and operator input.



3. Utilizing data from existing studies and reports, obtain calibration data including system depth and rate of flow information at various locations throughout the system. Verify the accuracy of the base model utilizing the calibration data. Identify to Town additional areas in which calibration data may be required and assist the Town in their efforts to collect the depth and rate of flow data in these areas.
4. Meet with Town and its staff to review operations and maintenance practices and to identify areas with known issues such as leaks, infiltration/inflow, back-ups or overflows. Develop list of areas requiring improvements.
5. Utilizing the Town's Master Plan or other documents, determine population projections and projected water/sewer system demands through a 20-year planning horizon.
6. Conduct a review of recommended improvements and areas of sewer expansion identified in previous sewer reports, planning documents, and Owner input and develop list of priority improvements.
7. Utilizing the base model, assess the ability of the existing sewer system and pump stations to meet existing and projected sewer flows through a 20-year planning horizon. The model will be used to identify pipe sections and pump stations that are at or near capacity under a given flow condition. Based upon the sewer model simulations develop list of sewer system improvements required to meet existing and /or projected flows.
8. Develop a rating system for prioritization of improvements and meet with Owner/Operator to assign ratings to each identified improvement.
9. Develop a prioritized plan of improvements based on compilation of information collected in Tasks No. 4, 6, and 7 and the ratings developed in Task No. 8. Prepare a summary table providing estimate of probable construction cost to implement each improvement.
10. Prepare and submit four copies of draft letter report including updated sewer model map and recommended improvements map.
11. Meet with the Board of Sewer Commissioners to review the letter report. Make edits to report based upon input received from BOSC and Operators.

12. Provide four hard copies of the final letter report and associated maps along with a PDF version.

Exclusions

- On ground survey to determine/verify rim and invert elevations of manholes.
- Closed camera video inspections, smoke testing, etc., of sewage collection system and/or field work related to assessing the capacity of the sewer system under inflow/inflow conditions.
- Installation of flow meters to determine flow rates/volumes in the collection system.
- Comprehensive evaluation of the physical condition of the individual pump stations in the system. Evaluation of the pump stations is limited to their ability to adequately handle existing and projected sewage flows.

