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August 30, 2019

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Mail code OES04-04
Boston, Massachusetts 02109-3912
Attn: Neil Handler

Massachusetts D.E.P., CERO
8 New Bond Street
Worcester, MA 01606
Attn: David Boyer

Subject: Semi-Annual Progress Report
February 2019 – July 2019 Reporting Period
Consent Decree, IX. REPORTING, Paragraph 70

Dear Mr. Handler and Mr. Boyer,

In accordance with Section VII, paragraph 70 of the Remedial Measures of the Consent Decree (Decree) signed by Fitchburg's Mayor on June 1, 2012, this submission provides EPA and the MassDEP with a report on the City's compliance with Section VII during the preceding six months (February 2019 thru July 2019 Reporting Period) as described by Paragraph 70.

The report organization structure is formatted to separately address each relevant section, as it appears in the decree, and includes all pertinent attachments.

As requested in the February 2013 thru July 2013 Reporting Period, the City is not including a GIS map of water resources and topographic features, as the data contained therein has not changed from the original GIS mapping submission and will not likely change in the foreseeable future. In the event there are significant changes in either water resources or topography, the City shall provide GIS mapping submission reflecting those changes in that reporting period's submission with narrative explanation of said changes. Additionally, the City is also not including the "Base Map" GIS map (Map 1 of 4) of parcel & roadways data and municipal boundaries which do not change frequently. In the event there are significant changes in either property parcels divisions or roadways data (most likely due to property subdivision and development), the City shall provide GIS mapping submission reflecting those changes in that reporting period's submission with narrative explanation of said changes.

GIS maps updates, hard copies will be provided together with a printed copy of this report, via U.S. mail. GIS maps updates will also be provided with the electronic submissions (via email) of this report.

Semi-Annual Progress Report
February 2019 through July 2019 Reporting Period

A. SEWER SYSTEM

Staffing

During the reporting period, the Collection System Team was operating at a relatively reduced capacity, with a team of four operators for the majority of the reporting term, up from a team of one operator for a portion of the previous term.

With a team of four operators, two positions within the Collections team are still not filled. During the reporting period, the City decided to make the two open positions "flex positions", which means these employees will on a part-time basis assist other divisions within DPW (mostly helping the DPW Streets Division) when there are staffing needs, but will primarily (majority of working hours) be with the Collection System Team. The City currently has these two positions advertised, and plans to fill the positions by the close of the next reporting period.

In the City's Fiscal Year 2020 (July 2019 – June 2020), the City's Department of Public Works (of which Wastewater is a Division) organizationally decided to dedicate an increased share of the work time and skills set of the Wastewater Division's GIS Engineer towards helping to advance the GIS assets inventory and mapping of the City's stormwater assets. This modification will jointly help both the interests of the Wastewater Division, as well as assist in the advancement of the stormwater system GIS and MS4 Permit compliance.

Long-Term Sewer System Preventative Maintenance Plan

The City's Long-Term Sewer System Preventive Maintenance Plan, submitted in January 2012, has been distributed to all collection system operators and copies are maintained in each vehicle for quick reference. This document is a "living/breathing document", and was most recently updated and submitted to the MassDEP and the EPA in March 2017.

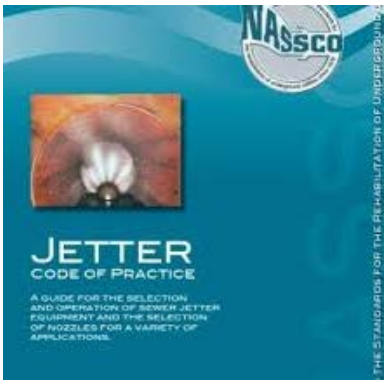
Priority Cleaning Plan

The City's Priority Cleaning Plan, submitted in January 2012, has been distributed to all collection system operators and copies are maintained in each vehicle for quick reference. This document is a "living/breathing document", and was most recently updated and submitted to the MassDEP and the EPA in March 2017.

Routine Cleaning Plan

The City's Routine Cleaning Plan, submitted in January 2012, has been distributed to all collection system operators and copies are maintained in each vehicle for quick reference. This document is a "living/breathing document", and was most recently updated and submitted to the MassDEP and the EPA in March 2017.

- As was recommended in the December 2018 EPA Audit, Wastewater has ordered a copy of NASSCO's "Jetter Code of Practice", and will utilize this resource to update our standard operating procedures and practices in sewer system jetting cleaning operations.



"Problem Area" Checks

The City has been more proactive in checking "problem areas" throughout the collections system that have a history of sewer system overflows. These areas have been checked on an approximate bi-weekly basis. It is estimated that 2 sanitary sewer overflow events have been prevented due to these checks.

Geographical Information Systems (GIS) Maps

Three maps were updated for this semi-annual report.

1.) "Combined and Separate Sewers" (Map 2 of 4): The City's sewer system is shown including combined and separated sewers along with pipe sizes and materials. Regulator manholes, combination manholes, and standard sewer manholes are also shown. Lastly, the City is close to completion of sewer rim elevations with its GPS unit. Most of the few remaining manholes to locate are buried and will continue to be uncovered in the coming reporting period season. The City has raised 45 manholes to grade during the reporting period. To date we have located 98.88-percent of all sewer manholes. These locations are shown.

2.) "Storm Drainage" (Map 3 of 4): This map depicts record drawing storm drain data including the City's current GPS shots of catch basins and drain manholes. We will continue to locate drain structures but the Wastewater Division's main concentration will be to locate all sewer related infrastructure. As part of the City's MS4 Program, a more aggressive GPS assets location survey program has begun under the DPW - Engineering Division.

4.) "Extraneous Flow Investigation, Remediation, and Capital Projects" (Map 4 of 4): This map includes sewer projects that have been accomplished within the reporting period and projects that are planned following the reporting period. During the reporting period the City conducted multiple spot repairs, raised buried sewer manhole frames and covers, and re-set manhole castings that were failing. Unless the manhole casting is in decent condition with less than 3 vent holes, or on an easement, the City replaced the casting with a new vent-less casting. The City also separated additional combination manholes. The locations of these improvements are noted on the map.

Also, contained on this "Extraneous Flow Investigation, Remediation, and Capital Improvement Projects" map (Map 4 of 4) is the City's current status of its sewer cleaning and CCTV program. Pipes are color coded based on their condition rating.

The City is working diligently to separate its combined sewers. In early 2013 the City reported 71,097 feet of combined sewer pipe in its system. As of the close of this reporting period, the City has a total remaining combined sewer length of approximately 41,242 feet.

Capacity, Management, Operation & Maintenance (CMOM) Related Activities, and GIS Maps

The collection operators continue to make progress with CCTV inspections and condition coding all 141 miles (approximate length) of sewer pipe within the City. By the close of the reporting period, the City had condition coded approximately 91.19% of its sewer system. Production has slowed somewhat on CCTV operations, as the vast majority of pipes remaining to be coded are either located within difficult to access easements, egg-shaped pipes, 6-inch diameter pipes, the main interceptor sewer, or odd-shaped brick conduits. Some of the sewers are likely never to be inspected until they are replaced, as there are no access points. Some of the uninspected sewers are small diameter force mains where a CCTV camera is too large to fit in the pipe. The City has had great progress however using outside contractors to CCTV portions of its remaining sewers through SSES or combined sewer separation work. Numerous manholes were also inspected during this reporting period. During combination manhole repair or sewer line repair operations, CCTV operations are suspended due to the staffing need for more crew members to conduct the repairs.

As the majority of the remaining sewers to be inspected are outside of the City's capabilities to inspect, the City has actively been outsourcing this work. During the reporting period, the City completed inspecting 30,250 of its 37,000 foot trunk sewer using multi-sensor inspection, starting near the West WWTF. The multi-sensor inspection included TV, Sonar, and Radar, in order to assess pipe ovality, concrete loss, and sediment depth. Data from the multi-sensor inspection will be incorporated into the Phase IV Sewer System Evaluation Study Report. The City has scheduled the remaining inspection of its trunk sewer in the next reporting period. The work conducted on the trunk sewer is known as "Phase 4" under the Sewer System Evaluation Survey Scope of Work submitted to EPA and the MassDEP in June 2016. In addition to the below tabulation of sewers cleaned and CCTV'd to date (Table No. 1), a graphical representation of the progress on this effort is also attached to this report.

TABLE No. 1

SEWER MAIN INSPECTION - TOTAL LENGTH INSPECTED JULY 31, 2019

Totals in Feet	689,649	756,288	91.19%
Totals in Miles	130.6	143.24	91.19%

The following table (Table No. 2) summarizes manhole inspections to date:

TABLE No. 2

CITY & WRIGHT-PIERCE SEWER MANHOLE INSPECTION TOTALS

Inspected by	Total Inspected	Total Manholes	Percent of Inspections Completed
City of Fitchburg	627	3,578	17.52%
Overlap (manholes inspected by both City and Consultant)	46	3,578	1.29%
Consultant	1,277	3,578	35.69%
Inspection Totals	**1,724**	**3,578**	**51.9%**

Table No. 2 above includes both City-inspected manholes, as well as past inspections performed by the City's consultant engineers that were conducted in conjunction with past and current projects, including CSS 4D, the CSO-39, 48, 11, 7 Project, SSES Phases I, II, and IV, and the Beech and Hazel Streets Sewer Separation Project. Between both the City's Engineer, and the City's in-house forces, 51.9% of manholes have been inspected. The City removed manholes inspected during the Hydraulic Model Development from the "inspected totals", as only invert elevations and pipe sizes were noted as part of the study, and not the manhole condition.

The City's past Engineering Consultants has inspected hundreds of manholes for various projects and SSES work. The City and its past Consultant have encountered some difficulty transferring the manhole inspection data from the Consultant's software to the City's GraniteNET system, however all future manhole inspections and pipe inspections conducted by consultants for the City are being conducted in a compatible format for the City's GraniteNET system. This is now a requirement for any consultant or contractor who conducts CCTV work in the City.

Global Positioning Satellite (GPS) System Update

The City is continuing to locate all of its sewer manholes, drain manholes and catch basins with its GPS unit. To date the City has located the following assets:

- 3,538 publicly-owned sewer manholes out of 3,578 (98.88% completed).
- 2,344 drain manholes (out of an unknown total).
- 3,820 catch basins (out of an unknown total).
- 205 sewer laterals
- 14 sewer clean-outs
- 997 other asset types. Other asset types typically include other types of utility manholes, services, or locations of dig-safe mark-outs.

The City's gas company, Unitil, has been CCTV'ing sewer laterals in natural gas project areas, in order to reduce damage to private sewer laterals. As part of these investigations, Unitil marks out the locations of the sewer laterals. The City has been following Unitil and locating the service laterals with the City's GPS, in order to update and improve the City's sewer system map. During the reporting period, additional laterals were marked and located by the City where Unitil gas work was being conducted.

Service Call Activities

The Collection Operators have been performing service calls for system users with sewer issues. Often the problem is a private matter, as sewer service laterals are private ownership (not City-owned) and the City is not responsible for blockages in private sewer laterals. Nonetheless, the City responds to all calls to determine the cause for the blockage because the cause of a problem for a service call is unknown until the City can investigate the call. Manholes in the street are inspected for surcharging. Inspection frequently includes cleaning the line where the private lateral enters blindly into the public sewer and occasionally includes CCTV'ing the line to look up the private lateral for blockages. If the issue is a private ownership issue, the City will inform the customer that a private infrastructure issue exists and the customer should call a private sewer service or plumbing company.

Following a response to a service call, the collection operators fill out a Service Call Inspection Form which is then inputted in to the City's call-logging software, "See-Click-Fix". SeeClickFix creates a record of the service call including the issue, the date and time, the name and address of the customer, the details of the request and notes on how the matter was handled. If work was performed at the site, SeeClickFix allows entry of who performed the work, and what time the work was completed. The major benefit of SeeClickFix is the ability for residents and business owners to interact with City officials. Constituents can initiate an issue, can see that the City has responded to an issue, and see when an issue is resolved. Also included in SeeClickFix is a "commenting" feature which allows residents to express additional information on an issue.

To date, our experience with the SeeClickFix system has been useful in creating an electronic tracking system of service calls.

- During the reporting period, the City modified it's SeeClickFix forms to better mimic the "***SSO Complaint Form***" and "***Service Call Inspection Report Form***" in its Emergency Response Plan.
- The City also trained its primary DPW Dispatcher on the SeeClickFix System, and has delegated entering of service call forms to the Dispatcher.

Asset Management

DPW - Wastewater Division adopted the "Asset Management" philosophy and approach to sustain levels of service, while minimizing risk of failure and the corresponding consequence of failure that could result from the failure of a City wastewater infrastructure asset. This methodology will go hand-in-hand with capital planning and financial sustainability of the Wastewater Enterprise, and will help to prioritize and focus the financial resources towards the renewal of assets.

At the end of the previous reporting period, the City received its final asset management model, built on the InfoMaster platform by Innovyze. The model will be a focal point for the City going forward in prioritizing its management and rehabilitation of the collection system. The City has implemented a Microsoft SQL Server in the reporting period in order to have the software loaded on the Wastewater Division's computers. During the reporting period, Innovyze "sunsetted" the InfoMaster platform, and updated the program to "InfoAsset". The City conducted a free upgrade to the "InfoAsset" program to the GIS Engineer's Computer during the reporting period. In the next reporting period, the City will be fully utilizing this software.

Intermittent Stream Connections to Sewer

For over five (5) years the City has attempted to gain access to 34 Highview Street, a foreclosed property, to determine if the sanitary lateral from the property was connected to a culverted stream that discharged to the sanitary system. Rehabilitation work has recently been noticed at the property, but seems to have stalled, and the City attempted to gain access to the property during the reporting period, with no success. During the reporting period, the Wastewater Division did work with the Building Department to put a hold on any building permits at the property until access is granted to the Wastewater Division for investigation.

Meter Maintenance

For the entire reporting period, the City has been maintaining its 13 flow meters located at regulator manholes throughout the reporting period. One ADS Echo ultrasonic sensor was also maintained at CSO-45. During the reporting period, the City entered into an agreement with ADS Environmental to install 10 Echo level sensors at various locations throughout the City. Typical locations for the sensor locations were combination manholes, "problem areas", and CSO regulators. It is the City's intent to purchase the Echo sensors if the demo is well received. Current deployed meters include 12 ADS Triton Flow meters and 11 ADS Echo down-looking ultrasonic meters. The table below (Table No. 3) includes the reporting period's summary of CSO overflows. The reporting period is from February 1, 2019 to July 31, 2019. In accordance with Paragraph 70, Subparagraph d. of the Consent Decree, the City recorded 89 CSO events and total overflow volume of 7,213,909 total gallons. Additional data shown in Table No. 3 includes notes on whether or not the meter was malfunctioning for a time during the reporting period. During the reporting period, the City had decent meter coverage.

TABLE No. 3

OVERFLOW DATA FOR REPORTING PERIOD FEBRUARY 1, 2019 TO JULY 31, 2019

Meter	Location	Events	Volume (Gallons)	Notes:
CSO-004	Cleghorn St. at Oak Hill Rd.	4	4, 761	Unknown volume from 2 events due to short length of event
CSO-007	Cushing St. at Riverfront Park	0	0	Regulator rehabilitation/closure starting construction Spring 2020
CSO-010	Main St. at River St.	13	1,613,000	Separation project is required to close
CSO-032	543 Main St. at Post Office	12	1,132,320	Separation project is required to close.

CSO-039	Water St. at Walnut St.	21	1,729,000	Regulator closure/sewer separation starting construction Spring 2020. Meter issues in February and early March.
CSO-041	Benson Rd. near Falulah St.	5	8,000	Upsizing pipe downstream necessary for closure
CSO-045	Main St. at Oliver/Putnam St.	16	1,349,065	New ADS Echo down-looking sensor used to estimate overflows using weir equation
CSO-048	85 Water St.	0	0	Regulator closure construction to begin Spring 2020. Reduced overflows since separating CMH upstream in 2018.
CSO-064	Water St. Easement at former "Halloween World"	11	1,182,559	Regulator on main interceptor sewer. Inflow removal upstream and sewer upsizing necessary for closure.
CSO-076	Birch St. at Heywood St.	1	3,900	Pipe undersized with high I/I in contributory area. No known combined sewer upstream.
CSO-83	Main St. at Prichard St.	6	196,065	Sewer Separation required upstream to close regulator.
	Totals	**89**	**7,213,909**	

The City has been servicing the meters on a roughly 2-month frequency to help in maintaining high data quality. Near the end of the reporting period, the meter manufacturer (ADS Environmental Services) conducted visits to all of the City's flow meters to ensure they were functioning as designed.

As stated previously, the City is conducting a trial period of ten (10) ADS Echo ('Echo') level monitors. The level monitor is very low maintenance, as it is an ultrasonic, down-looking sensor and only connects wirelessly. The Echos will allow the City to better calculate overflow volumes from various CSOs by using an automated weir equation method. They will also allow the City to stay abreast of potential problems in the collection system. The Echo meters will send alerts to the City should a meter fail, but also if a manhole is showing signs of surcharging. This will allow crews to be dispatched to potentially prevent an SSO.

During the reporting period, discussions were had with ADS in an effort to provide better public notification for CSO Events. The technology to provide accurate and instant notification of CSOs is in its infancy, leading the City to explore multiple options for better notification. During the reporting period, the City worked with FlowWorks LLC to set up a trial website of their software which can be used for public notification. The City is currently coordinating with FlowWorks and ADS to have the Triton meters "talk" with the FlowWorks website.

In addition to FlowWorks, the City also set up a new flow monitor web-based management platform, called PRISM, by ADS as part of the Echo meter demo. PRISM is the future of ADS' flow meter software. Being web-based, the City can log-in from any computer or phone and access flow meter data. The website also allows the City to set up alarms, perform data calculations, and set-up

new meter sites. During the coming year, after the demo, the City will explore using PRISM as a possible public-notification tool as new tools are continually being added to PRISM.

Post-Construction Monitoring Plan & Post-Construction Monitoring Report

In late May 2016, the City was approved to proceed with the Post-Construction Monitoring Plan (PCMP) field sampling program. The City requested and received an extension from MassDEP and EPA to extend the performance of PCMP sampling, as working hours, lab hours, and timeliness of events limits the time available to sample a wet weather event to only 4 or 5 hours a day. The City finished the final wet weather sampling within calendar 2017, and the Post-Construction Monitoring Report (PCMR) was submitted for review and approval at the end of February 2018. To date, we have not received a response from either the MassDEP or EPA.

Emergency Response Plan

The City's Emergency Response Plan, submitted in August 2011, subsequently revised in January 2012, has been distributed to all collection system operators and copies are maintained in each vehicle for quick reference. This document is a "living/breathing document", and was most recently updated and submitted to the MassDEP and the EPA in March 2017.

Hydraulic Model & Hydraulic Capacity Assessment

As required under Paragraphs 41 through 46 of the Consent Decree, the City is required to develop a hydraulic model for all pipes in the City 12-inches and larger, and for all CSOs. During the previous reporting period, the City received conditional approval of its Hydraulic Model. The model was approved based on the understanding that additional model runs and analysis would be conducted under the Capacity Assessment Report which was submitted (under separate cover) at the end of August 2018. The City is still waiting to hear from the EPA and the MassDEP on comments for the Capacity Assessment.

Sewer System Evaluation Survey

As required under Paragraphs 26 and 27 of the Consent Decree, the City was required to submit a SSES Scope of Work (SOW) for approval, to conduct an SSES in accordance with the approved SSES SOW, and to submit a SSES report for approval by EPA and MassDEP. The City submitted the draft SSES SOW before the December 31, 2015 deadline. The final SSES SOW was submitted to the MassDEP and EPA on August 12, 2016, and there were subsequent electronic correspondence between the City, Wright-Pierce and MassDEP later in the month of August 2016. However, to date, the City has received neither a formal approval, nor a conditional approval of the SSES Scope of Work. The City has proceeded forward with the phased SSES investigative work entailed in the SSES Scope of Work. The SSES Phase 1 report was submitted at the end of 2016. Comments from the MassDEP have been received and will be responded to concurrently with any comments that EPA may have. Investigative work for Phase II of the SSES has been completed, with the report likely to be submitted to the MassDEP and the EPA in the next reporting period.

As a strategic deviation, largely due to the criticality of the trunk line sewer asset, the City is prioritizing the investigative work associated with the trunk sewer line ("Phase 4" in the Scope of Work), ahead of the "Phase 3" SSES work (meter basins M06, M14, and M18). This trunk line sewer investigative work commenced during the previous reporting period as mentioned under the "CMOM" section on Page 3, and is expected to be completed during the next reporting period. As part of the project, approximately 30,500 LF of interceptor sewers ranging from 18 to 48-inches in diameter were planned for inspection using CCTV, laser, sonar, and hydrogen sulfide monitoring. In addition, 148 manholes were planned for inspection along the interceptor, including manholes along the interceptor not inspected during Phase I of the SSES. The project also includes 120 building inspections and approximately 18,500 LF of smoke testing.

During this reporting period, Weston & Sampson completed 30,250 LF of CCTV, 23,820 LF of laser, 30,250 LF of sonar, and hydrogen sulfide monitoring at 60 locations. In addition, Weston & Sampson conducted 18,500 LF of smoke testing and 152 manhole inspections. During the next reporting period, Weston & Sampson plans to conduct the building inspections and prepare the Phase 4 SSES report for the City.

Siphon Cleaning Design/Bid/Inspection Services

During Phase I of the City's SSES, significant debris buildup was identified in the City's three (3) major siphons along the interceptor leading to the Easterly Wastewater Treatment Facility. In addition, CCTV and sonar investigations also identified sewers on Airport Road with significant debris buildup. Further investigations found the remaining two siphons in the City to also have debris buildup reducing capacity and blocking flow. As a result, the City executed a Siphon Cleaning Design/Bid/Inspection Services Agreement with Weston & Sampson in July 2019. In the next reporting period, Weston & Sampson will develop contract documents for bidding for the heavy cleaning of the City's five (5) siphons. In addition, heavy cleaning of sewers 300 LF upstream and downstream of each siphon will be included as alternate bids, along with the heavy cleaning of interceptor sewers on Airport Road and Elm Street.

Combination Manholes Program

There was one qualifying rain event during the reporting period that met the criteria necessary to perform combination manhole inspections (2-inches in a 24-hour period). In addition, the City conducted checks following three other events during the reporting period. Rainfall data is recorded at the City's primary rain gage at the Department of Public Works. An additional rain gauge is maintained at the east end of the City at the Summer Street Fire Station.

During the reporting period, there were a total of 50 flow transferences to either the drain side, or sewer side of the manholes. These overflows are taking place in a total of 180 remaining combination manholes. Attachment 1 includes all combination sewer manhole checks during the reporting period in the remaining combination manholes.

The NPDES permit states that the City has two years to fix CMHs if they show evidence of transference. In the past, the City has prioritized CMHs that transfer sanitary water to the storm drain over CMHs that transfer storm drain water to the sanitary sewer. As a result, in the past the City has first prioritized those manholes that show evidence of transference to the drain side of a

manhole. In the past 4.5 years however, the City has received multiple prices for separating combination manholes. It has been determined that pricing is very unfavorable when mobilizing and demobilizing multiple times throughout the City to separate manholes. In addition, separating one manhole on a street does not solve transference issues if other combination manholes remain on the same street. Due to the aforementioned reasons, the City has been prioritizing separation of manholes based on location and concentrating in specific areas to receive better pricing, but also drastically reduce the chance for transference from a specific area.

During the reporting period, five manholes were separated during the reporting period via in-house forces. All manholes separated during the reporting period are noted on the "***Extraneous Flow Investigation, Remediation, and Capital Improvement Projects***" map (Map 4 of 4). Additional manholes are likely to be separated during the next reporting period that are not shown on the map. The City has currently budgeted over $350,000 for each of the next three fiscal years for combination manhole separation. In Table No. 4 below, during the reporting period, the following combination manholes were separated:

TABLE No. 4

CMH No.	Location
4	Albee St./Nimitz
38	Upstream from 50 Brown Ave.
316	Sawyer Passway at Hayden Pass
199	51 Theresa St.
337	61 York Ave.

The City is also continuing in negotiations with the MassDOT Highway Division, as the City is pursuing separating an additional 6 combination manholes on Lunenburg Street (Route 2A) prior to paving of the road by the state. The City planned to conduct these combination manhole separations during the previous reporting period, however prolonged discussions with MassDOT has delayed this project. The work has been delayed as MassDOT is considering increasing the drain line size in this area, conducting intersection and streetscape improvements on Lunenburg Street, and then possibly conveying ownership of the road to the City. During the reporting period, the City has attempted to reach out to MassDOT to set up an additional project meeting to discuss the issues on Lunenburg Street. A year ago, steel plates were installed in two of the combination manholes that transferred the most to prevent storm water entering the sanitary system from the drain side of the combination manhole. The remaining combination manholes on Lunenburg Street are at a high enough elevation where water will exit catch basins on the lower manholes before transferring flow over the weir walls on the remaining manholes.

In Spring 2019, the City executed an agreement with Weston & Sampson to develop contract documents for bidding with design plans for the separation of combination manholes that have shown signs of transference. During this reporting period, Weston & Sampson conducted 150 combination manhole inspections, and began creating the contract documents for City review and future use.

The City also has plans to separate additional combination manholes using DPW crews, many of the combination manholes are shallow in depth, and relatively simple for separation. In the coming reporting period the City expects to make additional progress in separating manholes. During the

reporting period, the City was much occupied raising buried sewer manholes, which delayed additional in-house progress on separating combination manholes.

- Also in the next reporting period, DPW – Wastewater Division plans to partner with the Fitchburg Housing Authority, for a project that will be bid in the Fall/Early Winter 2019, and constructed in 2020.
- Wastewater's involvement in this project will result in the construction project permanently separating 10 combination manholes in the "Green Acres" neighborhood (Normandy Road and Leyte Road).
- The Project will also be partnering with the Massachusetts Bureau of Housing Development & Construction, and the Massachusetts Department of Housing and Community Development

Status of Regulators and Outfalls

During reporting period, the City's Consultant, Weston & Sampson, continued with the design of the City's next sewer separation and rehabilitation project in the areas of CSO Regulators 039, 007, 048, and 011, for an expected 2020 construction start date. The reasoning for the targeting of these regulators is as follows:

- CSO-039 is one of the most active regulators in the City, and has a history of dry-weather overflow events due to poor regulator configuration leading to blockages. MassDOT is replacing the bridge at CSO Regulator 039's location, prompting the City to coordinate with MassDOT to close the regulator and re-route or replace the sewer suspended from the bridge.
- CSO-007 is located adjacent to the CSO-039 project area and consists of a problematic chamber configuration prone to blockages. The sewer upstream on South Street is also in very poor condition.
- CSO-048 is relatively inactive but is also located within the MassDOT Project area, prompting the City to schedule this regulator's closure.
- CSO-011 is closed, however on an approximate annual basis, basement backups occur due to combined sewer in the former CSO-011 area.

During this reporting period for the CSO project, Weston & Sampson conducted subsurface soil investigations including 38 borings and 36 probes, completed 191 manhole inspections (sanitary sewer, combined and drainage structures), developed the project's Preliminary Design Report, and created a MassDEP State Revolving Fund (SRF) Project Evaluation Form (PEF) for submittal. During the next reporting period, Weston & Sampson plans to conduct additional subsurface soil investigations, conclude the design of the project and prepare contract documents for bidding with construction to begin in Spring 2020.

During the current reporting period, the City executed a Contract with Bohler Engineering, who is the Site Engineer for the City Hall Redevelopment Project. The City Hall Project is "design-build", and started construction in Spring 2019. As part of the project, the City is separating the combined

sewers around City Hall which will remove 8 catch basins, removing a large amount of inflow from the sanitary system. In addition, roof leaders from the City Hall building and the adjacent property will be directed to the storm drain system. The City currently is in the survey portion of the project, which will consist of installing a new sewer on Boulder Drive and Wood Place to separate the sewer system.

Subsequent to DEP and EPA approval (or conditional approval) of the City's Capacity Assessment, in the next reporting period, the City intends to utilize the hydraulic model as a tool in determining how much combined sewer separation and inflow removal work is necessary for closure of each of the remaining regulators.

Sewer Connection Summary

As part of this report, the City attached a table (Attachment 2) to this report of all new sewer connections to the sewer system since 2014, which includes the type of connection and the estimated average daily flow for each connection. A list of any I/I work conducted to offset the new flows is also listed, or if an I/I fee was assessed instead.

Sewer Rate Increase

During the previous reporting period, the City developed a rate study model which incorporated estimated expenses in order to further the City's goals in regard to Consent Decree, NPDES Permit and Clean Water Act Compliance. The rate is expected to increase approximately 42% over five years, and be close to (but under) the 2% Medium Household Income threshold for the City.

On April 17th, 2018, City Council passed an Ordinance revision, amending and adopting the sewer use rates as presented in Table No. 5 below:

TABLE No. 5

Minimum Monthly Sewer Use Charges (includes usage of up to and including 300 cubic feet per month)					
Current Rate	June 1, 2018	June 1, 2019	June 1, 2020	June 1, 2021	June 1, 2022
$18.85	$20.36	$21.99	$23.53	$25.17	$26.81

Monthly Sewer Rate to be charged for usage in excess of 300 cubic feet per month						
	Current Rate	June 1, 2018	June 1, 2019	June 1, 2020	June 1, 2021	June 1, 2022
Rate per 100 cubic feet (which equals 748 gallons)	$7.30	$7.88	$8.51	$9.11	$9.75	$10.38

Monthly 'Sewer-Only' Sewer Use Charges					
Current Rate	June 1, 2018	June 1, 2019	June 1, 2020	June 1, 2021	June 1, 2022
$60.83	$65.67	$70.92	$75.92	$81.25	$86.50

B. POTW TREATMENT PLANT

Chemically Enhanced Primary Treatment (CEPT) Upgrade Project

As noted in the City's February 2017 Semi-Annual Remedial Measures reporting on this Consent Decree project, we herein and henceforth limit reporting to operational comment updates, as noted in the following paragraph.

Plant operations have maintained a continuous CEPT mode for the plant process. Wet-weather CEPT operations appear to be increasingly effective, and operations staff appear to have addressed process issues that relate to low pH. The overall compliance of the treatment operation appears to be significantly improved but the SSU Project which began on March 3, 2017 requires us to take a portion of our treatment process offline. The reduced treatment process has lowered our treatment capacity but the plant effluent quality this period remains in compliance with the interim 0.5 ppm phosphorus limit.

Secondary Systems Upgrades (SSU) Project

The SSU Project commenced in February 2017.

The City procured the renewal flood insurance policies certificates, as required by the MassDEP – Division of Municipal Services. The policies effective dates run from January 4, 2019 thru January 4, 2020. The policies were through the National Flood Insurance Program, and were for the following buildings within the Easterly Wastewater Treatment Facility:

Chlorination Building ……...…..….. Policy No. 8705863123
Blower Building ……...…. Policy No. 8705863124
Process Building & Primary Gallery ….. Policy No. 8705863125

Through the end of the current reporting period, the SSU Project has progressed to approximately 75% of Substantial Completion (and 70% of Final Completion), and the work completed represents approximately 82% of the construction contract price.

By the SSU Contract's Contract Days, the Project is to be substantially complete within 961 consecutive calendar days, on or before October 1, 2019, and is to be final complete within 1,022 consecutive calendar days, on or before December 1, 2019.

As the SSU Project progresses, we have seen substantial treatment process improvements as the new *Selector Zones* become operational. The addition of selector zones has enabled us to reduce our chemical addition of Ferric Chloride to the process trains, it has resulted in better settling in the secondary clarifiers and has improved our nutrient removal of Phosphorus and Nitrogen in the plant's final effluent.

Long-Term Preventative Maintenance Plan

The Long Term Preventative Maintenance Plan has been implemented and practices and protocols contained therein are being carried out. The system is continually being populated with new systems and equipment as work is being performed in an effort to build a completed history of maintenance procedures.

The plan is also reviewed with any new employees to insure they are familiar with the practice and procedures in the plan.

Preventative maintenance work completed between February 1, 2019 and July 31, 2019 included:

February 2019

- Odor Control Panel: replaced backup battery.
- 2016 Ford Escape: lubrication service.
- Odor Control Room: replaced floor drain lines and traps.
- Bar Screens: repaired wear areas on buckets.
- Fournier Press #1: repaired spray bars.
- West Plant Elevator: State Safety inspection.
- West Plant Chemical Building: repaired sump pump.
- Aerzen Blower #2: First regular preventative maintenance service.
- Facilities Buildings (East & West Plants): performed quarterly safety inspection.
- Blend Tank Room: reconditioning (ongoing).
- Completed 55 "Preventative Maintenance" Work Orders, and 12 "Demand" Work Orders.

March 2019

- Limitorque Actuated Valves: serviced all actuators.
- Duall Odor Control: replaced motor bearings and added shaft grounding ring.
- CEPT Building: replaced grating in front of polymer system.
- Blower Building: repaired leak in roof.
- Bar Screens: inspected and ordered parts for channel sprockets.
- Water Main: water service line feeding the East Plant failed near the river (repaired).
- Sodium Bisulfite Line to the Chlorine Contact Chamber: leak in line was discovered and the leak was bypassed (temporary solution; leak to be permanently repaired in the SSU Project).
- Headworks Boiler: repaired boiler controls and replaced fan.
- Blend Tank Room: reconditioning (ongoing).
- Completed 59 "Preventative Maintenance" Work Orders, and 27 "Demand" Work Orders.

April 2019

- Primary Basin #2: replaced cross collector drive chain.
- Gravity Belt Thickener #2: replaced alignment paddle.
- Headworks Odor Control Fan: replaced belts.
- Blended Sludge Pump #2: replaced 4" discharge valve.
- Primary Basin #1: replaced cross collector drive chain.
- Primary Sludge Transfer Pump #1: repaired automatic oiler.

- Blend Tank Room: reconditioning (ongoing).
- Secondary 1st Stage Invent Mixers: performed venting service.
- Completed 68 "Preventative Maintenance" Work Orders, and 15 "Demand" Work Orders.

May 2019

- Fournier Press Polymer Feed Pump #1: rebuilt pump.
- Fournier Press Polymer Feed Pump #2: replaced mechanical seal.
- Blended Sludge Pump #2: replaced motor bearings.
- Boiler Room: replaced condensate pumps' mechanical seals, and 1 motor.
- Sodium Bisulfite: repaired leaking union on tubing line.
- Duall Odor Control: repaired leaking hypochlorite line.
- Fournier Press SC-1 Conveyor: replaced conveyor screw and liners.
- Gravity Thickeners 1 & 2: pumped out Gravity Thickeners due to high torque.
- West Plant: replaced 70 feet of 13,800V power transmission line.
- Blend Tank Room: reconditioning (ongoing).
- Completed 67 "Preventative Maintenance" Work Orders, and 9 "Demand" Work Orders.

June 2019

- Blend Tank Room Reconditioning: completed.
- Boiler Room: replaced sight glass.
- Primary Basin #3: replaced wear shoes and inspected basin (need to replace flights).
- Primary Sludge Grinder #1: opened, inspected, and remove debris.
- East & West Plant Backflow Preventers: bi-annual testing.
- Facilities Buildings (East & West Plants): semi-annual roof Inspection completed.
- 2nd Stage Secondary Clarifiers: jetted the skimming's lines.
- Completed 65 "Preventative Maintenance" Work Orders, and 9 "Demand" Work Orders.

July 2019

- Blower Building Aerzen Blower #2: performed preventative maintenance service.
- Blower Building: removed and cleaned vent screens.
- Wet Well Tank Drain Pump: inspected and cleared debris from pump.
- Blower Building Aerzen Blower #1: troubleshot a "No Run" condition; replaced a blown fan fuse.
- Collections Jetter/Vactor Truck: welded patch on inlet suction to tank.
- Aerzen Blowers #3 & #4: first preventative maintenance service performed.
- CEPT Tempered Water Tank: replaced safety valve.
- Duall Odor Control: replaced sodium hypochlorite & sodium hydroxide check valves.
- CEPT Sodium Hypochlorite Transfer Pump: identified pulsation dampener leaks (repair parts are on order).
- Primary Basin #2: replaced all wear shoes, and replaced 11 flights.
- 2nd Stage Eaton Auto Strainer: Remove and repair element.
- Completed 66 "Preventative Maintenance" Work Orders, and 22 "Demand" Work Orders.

Other accomplishments of note include:

- Completed Reconditioning of Blend Tank Room, including floor painting, drain repairs, etc.
- Incinerator Roof Replacement: 90% complete.

- Administration Wing & Process Wing Exterior Residing: 90% complete.
- Secondary 1st Stage and Primary Building Roofs Replacement: completed.

Looking forward to the coming six months, the City plans to:

East Plant

- Primary Basin Gear Reducers: project materials are anticipated to be delivered in mid-August, and are planned to be installed before year end.
- Primary Basins: replace longitudinal flights, cross collector head shaft and corner shaft assemblies.
- Fournier Press Conveyor SC-4: replace liners.
- East Plant's "Lab and Control Room Upgrades" design contract to be executed.
- Secondary Systems Upgrades (SSU) Project (started in February 2017) is anticipated to reach Final Completion before year end.

Anaerobic Digestion Facility Feasibility Study, for Siting at the Westerly Wastewater Treatment Facility.

To date, Wastewater has continued to be unable to attain a decision consensus from the City, concerning willingness to pursue this long-term treatment sludge residuals management alternative, and the initiative has been "back-burnered". However, there has been sustained interest in the prospective project within the City, and from energy service performance contractor representatives and private development investors interested in exploring Fitchburg as a location to site an anaerobic digestion facility. Additionally, Wastewater has continued to explore alternative approaches that may enable long-term sustainability and costs control with technologies such as low-temperature sludge drying in order to reduce volume and weight, provide disinfection of sludge, and to produce stabilized sludge residuals that are suitable for beneficial reutilization, diverting this treatment byproduct material away from solid waste landfill disposal or incineration disposition pathways.

On a related front, the City and the Town of Westminster are continuing to pursue an expansion of the jointly owned "Fitchburg/Westminster Landfill". An expansion of the landfill's volumetric capacity will correspondingly also extend the landfill's useful life, however such an expansion will only allow a finite term extension, and will not be a long-term, sustainable management practice for the disposal of wastewater treatment sludge residuals. As a result, the DPW – Wastewater Division continues to work with the Mayor's Office, the City's Community Development Office, and the Purchasing Department Office to pursue opportunities for a long-term, sustainable solution for the wastewater treatment sludge residuals and useful repurposing and revitalizing the underutilized Westerly Wastewater Treatment Plant property.

In the previous reporting period, the Fitchburg Community Development Department submitted a MassDevelopment Technical Assistance Grant application for pursuing a Request For Proposals/Request for Qualifications Development and Process Management for the repurposing of the existing Westerly Wastewater Treatment Facility, for development of an Anaerobic Digestion Facility on the property. Unfortunately, the City did not receive MassDevelopment Technical Assistance Grant funding.

However, continued support on the City's part in pursuing anaerobic digestion facility, has led to a potential partnership with the local utility gas & electric service provider, and in the next reporting period (in mid-September 2019) the City will meet with key leadership officers with the local utility gas & electric service provider to discuss the prospective anaerobic digestion facility.

City Ordinance Revisions

In the previous reporting period, on October 10, 2017, the City executed a professional services task with on-call engineering firm, Arcadis, for assistance in reviewing and updated City Ordinances (specifically Chapter 147 – Sewers, and Chapter 154 – Stormwater Management and Erosion Control). The scope also included assistance for development of "Sewer Use Rules & Regulations" to better assist the DPW- Wastewater Division in the POTW & Collection System operation & management, and regulation of sewer system users.

- In the reporting period, City Council voted to pass (implement) the updated City Code ("ordinance").

In July 2016, the City executed a professional service task with on-call engineering firm, Wright-Pierce, to develop technically-based local limits for implementation into the City's Industrial Pretreatment Program for protection of the sewer collection system, the wastewater treatment plant, and City workers. In the previous reporting period (August 2018 – January 2019), the City submitted the final Local Limits Report to USEPA Region 1 for review and approval (submitted August 27th, 2018) to the Office of the EPA Region 1 Industrial Pretreatment Coordinator. Subsequent review discussions with EPA Industrial Pretreatment led to revisions and resubmission of the Local Limits Report.

In the next reporting period, the following ordinance updating milestones are projected:

- The ordinance's corresponding "Sewer Rules & Regulations" will be submitted to City's Water/Wastewater Commission for review and approval.
- The final, revised "Development of Industrial Pretreatment Technically-Based Local Limits" report (dated August 2019) to USEPA Region 1 for review and approval (submitted August 30th, 2019) to the Office of the EPA Region 1 Industrial Pretreatment Coordinator. Once approved, Wastewater will submit another Ordinance update to City Council for implementation of updated local limits into the City Code, Chapter 147 – Sewers.

Wet-Weather Operations

The City has not introduced any septage or other high strength side streams not associated with plant operations during times that any portion of the flow was bypassing the secondary treatment system, or during times when a secondary system bypass was likely to occur within two hours. We are continuing this practice as required, and will conduct periodic review sessions with plant staff to ensure all personnel are aware of wet weather operational procedures. The Secondary System Upgrade (SSU) Project began on March 3, 2017. The project requires us to take a portion of our treatment process offline for construction upgrades. This first phase of this project has been

completed with the installation of selector zones within the 1st Stage Aeration Tanks (Side 1 and Side 2) on March 14th, 2018. The second phase of the project required us to take 2nd Stage, Side 1 Aeration Tank and Clarifier offline, and this was accomplished on March 16th, 2018 and was completed on October 2, 2018. The third phase of selector zone installation began on October 4, 2018 in 2nd Stage Side 2, and was completed on June 19th 2019. The fourth phase of the project required us to revisit 1st Stage, Side 1 Clarifier for unfinished repair work and this began on June 21st, 2019. The reduced treatment process has continued to lower our treatment capacity.

Since the implementation of the State Point Analysis system, developed by Wright-Pierce, plant operations have seen reductions in the length of time of secondary system bypasses, reduction in E. Coli violations, and reductions in both BOD and TSS violations of the NPDES permit.

C. WASTEWATER MANAGEMENT PLAN

In accordance with the Consent Decree, a first draft of the City's *Wastewater Management Plan* (WWMP) was submitted to the EPA and the MassDEP on May 15, 2019 for review and approval. This plan lays the framework for the City to come into compliance with the Federal Clean Water Act and the terms of the Consent Decree.

The WWMP is required by the Consent Decree to include facility upgrades required to meet seasonal total phosphorus concentration-based limits and collection system upgrades necessary to meet federal water quality standards for combined sewer overflows (CSOs). As part of the WWMP, a CSO Long-Term Control Plan (LTCP) was created in accordance with EPA's Combined Sewer Overflows Guidance for Long-Term Control Plan, EPA's Coordinating CSO Long-Term Planning with Water Quality Standards Reviews, MassDEP's Guidance for Abatement of Pollution from CSO Discharges, and other relevant state and federal CSO guidance reports.

Estimated costs for sewer separation projects and CSO Control Alternatives were analyzed to determine their extent of social and economic impact on the community. Based on the findings of these steps, recommendations were formulated for the City's approach for future CSO mitigation. In addition, recommendations for improvements to the Easterly WWTF were created based on current loads and projected requirements of the City's next NPDES Permit. These tasks were incorporated into the CSO LTCP.

The Consent Decree's WWMP Remedial Measure also stipulates (via Para. 55.a) that, in developing the WWMP, the City is encouraged to consider evaluating potential Best Management Practices, including the use of all appropriate "green infrastructure" and "low-impact development" techniques currently available to reduce inflow.

WPI Students Team, "Interactive Qualifying Project" (or, "IQP"), Spring 2018

Within the Spring 2018 reporting period, the City (DPW - Wastewater Division, DPW - Engineering Division, and the Fitchburg Public Schools) collaborated with Worcester Polytechnic Institute (WPI) on a WPI undergraduate students project. The WPI Students project team developed an environmental education program consisting of a Student Workbook and complementary Educator Resource Guide. First and foremost, these materials improved the City of Fitchburg's compliance with the MS4 Permit's first minimum control measure, Public Education and Outreach. Together the Student Workbook and

Educator Guide combine interdisciplinary learning and hands-on, outdoor activities to instill environmental stewardship among Fitchburg's younger generations. These project deliverables will continue to be a resource to the Fitchburg Public Schools in their Science, Technology Engineering and Math curriculum, to educate Fitchburg youth in environmental education, including subjects that relate to "green infrastructure".

In addition, in the course of the project, the WPI Students project team also engaged with the Fitchburg High School's Envirothon Team (High School A.P. Science Students) to produce a short educational video, titled "Runoff Randy and the Rain Wranglers", which can be viewed on YouTube at: https://youtu.be/pUpjm0b7YJ4 .

The WPI Students project team also participated in the Boys & Girls Club of Fitchburg and Leominster's Fifth Annual "Central Massachusetts Science Festival", that was held on April 14th, 2018. At the Science Festival, the WPI Students project team had a presentation booth, and focused their activities on stormwater runoff and pollution prevention education.

The students team's project culminated in a project presentation to the Fitchburg Public Schools Committee on April 23, 2018, and the students team's project had a good article written and published in the local newspaper (Sentinel & Enterprise) in an article that ran on April 7, 2018, titled "WPI Students' Stormwater Project to Help Fitchburg".

This project was a great success, and also served to create and strengthen networking bonds between City Departments, the Nashua River Watershed Association, the Fitchburg Conservation Commission, which will help future efforts on the "green infrastructure" development and implementation front.

In the next reporting period, DPW - Wastewater Division will explore an opportunity to partner again with the Fitchburg Public Schools to site and install a "green infrastructure" learning laboratory that can work with the FPS STEM curricula program for Fitchburg students.

Fitchburg City 'Rain Barrels Program', 2018 & 2019

In the Spring 2018 reporting period, the City (collaboration between the DPW - Wastewater Division, DPW - Engineering Division, and the Fitchburg Conservation Commission) reported launching a 'Rain Barrels Program'. The City partnered with the 'Great American Rain Barrel Company' to facilitate a program where residents can purchase rain barrels to harvest rainwater runoff from rooftops for beneficial use in irrigating the private property where the runoff was captured, thereby diverting this runoff from the MS4 system, and promoting the infiltration and bioattenuation of the runoff.

In the program's inaugural year, the collaborating City partners offered the rain barrels at discounted purchase pricing, and sold a total of 118 rain barrels, which were distributed to the purchasers in early June 2018. The City partners were pleased with the success of the program's inaugural year, and continued the program in the Spring of 2019. In the Program's 2nd year, 53 rain barrels were sold. The vendor provided a display/demonstration rain barrel to a local school (McKay Arts Academy, a Pre-K to 8th Grade School) for educational purposes for school children. Additionally, the vendor

provided a second display/demonstration rain barrel to the City, for City use in promoting the Rain Barrels Program, in advance of the Program's third year in 2020.

This 'Rain Barrels Program' will also be a key development and networking tool to help grow 'green infrastructure' in the City into other forms that will serve to help attenuate and infiltrate stormwater runoff on private properties, helping to prevent that water from entering into and adversely affecting both the City's sewer system and the hydraulic loading to the WWTF that is associated with wet weather events.

City Ordinances & "Green Infrastructure"

As noted previously in this report, the development of updated City Ordinances will help to facilitate and encourage the implementation of "green infrastructure" and "low-impact development" techniques. As this City initiative develops, the City's DPW – Wastewater Division will have a key participating and leadership role in this program, which will also involve a number of other program partners from within the City departments and offices, but also with private partners and stakeholders from the community.

Early efforts partnering with Fitchburg Conservation Commission, Fitchburg Public Schools, Fitchburg State University (etc.) have established the foundation for interdepartmental partnering, and public outreach and engagement.

D. ILLICIT CONNECTIONS

During the period, the City did not identify any additional illicit connections to the drainage system. The City did however, identify numerous sump pumps or other illicit inflow sources to the sanitary system as part of its trunk sewer investigation work and CSO design work. The City is currently assessing the viability of removing these inflow sources

Going forward, in the course of ongoing and periodic repeat CCTV work, any suspected illicit connections will be identified for further investigation, to confirm or rule out as an illicit connection. If determined to be illicit connections, the area infrastructure will be reviewed and evaluated for the feasibility of redirecting confirmed illicit connections.

E. INTERIM PHOSPHORUS LIMITS

The City has been complying with the interim phosphorus limits contained in Attachment 9b of the Consent Decree and have had a 12-month rolling phosphorus average of 0.5 ppm, which is equal to the interim phosphorus limit of 0.5 ppm. The City attributes the sustained compliance during our reduced treatment capacity, with respect to interim phosphorus limits compliance, to contributions from the CEPT primary treatment improvements, the State Point system, and the hard work of the plant operations and maintenance personnel.

VIII. SUPPLEMENTAL ENVIRONMENTAL PROJECT (SEP)

No SEP activities took place during the reporting period. Grow-in environmental conditions of the Summer and Fall months of 2018 have continued to be very favorable. Wastewater asserts the project has been a success, and has received the WPA Form 8B – Certificate of Compliance closeout documents for the SEP's Order of Conditions from the Fitchburg Conservation Commission. During the reporting period, Wastewater recorded the WPA Form 8B at the Worcester North Registry of Deeds.

Stabilized Brook Bank, Facing North
(Photo taken 8/24/2018).

Stabilized Brook Bank, Facing South
(Photo taken 8/24/2018).

EPA/MassDEP Inspection Activities

In December 2018, the EPA and MassDEP conducted an inspection of the City's Sewer System Operations. During the inspection, some deficiencies were noted in the Division's daily operations. The largest deficiencies seemed to be a lack of separation of combination manholes, SSO tracking, and a computerized daily work system. During the reporting period, the City made numerous improvements to its processes, as listed below:

- As noted previously in this report, the City has increased Collection System Operations staffing up to four Sewer Operators, and in the next reporting period, the City will continue to pursue increased staffing of the Collection System Operations team that will also dynamically provide support to fellow DPW Divisions.
- The "SeeClickFix" System was updated to provide much better tracking of SSOs, and an ability to put more detailed information into the system regarding SSOs. An example of the log generated in SeeClickFix (Attachment 3) is attached to the report.
- The City will be reviewing sewer cleaning procedures and practices, and incorporating any beneficial practices into standard operating procedures from NASSCO's "Jetter Code of Practice".
- The City executed a contract with its consultant to design separation on 150 combination manholes, as noted in previous sections.
- The City has been using a Microsoft-Word based searchable document to track all daily activities. In the next reporting period, the City will be exploring more formal Computerized Management Maintenance Systems in conjunction with DPW. The City attempted to use SeeClickFix for work order tracking, however it is time consuming and not well suited to the City's needs.

- The City promptly implemented new signage at the City's remaining CSO outfalls.
- In the next reporting period (in late September 2019), by way of a change order to the Secondary Systems Upgrades Project at the East Plant, the City will be implementing protective measures to help prevent accidental discharges of septage from entering into the catch basin in near proximity to the septage receiving station.

If there are any comments or questions regarding the above subject please contact the undersigned at (978) 345-9622.

Sincerely,

FITCHBURG DPW, WASTEWATER DIVISION

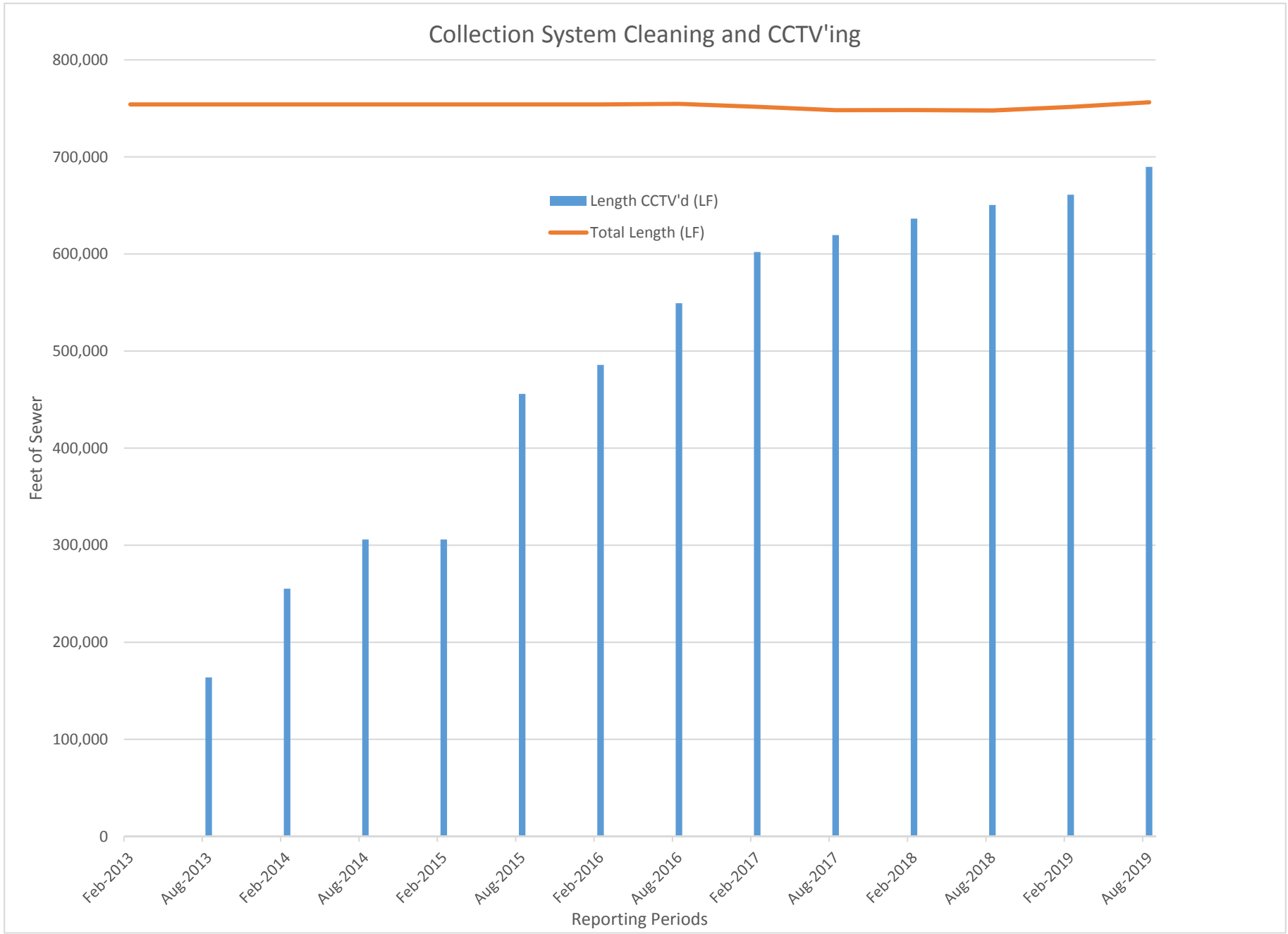
Jeffrey A. Murawski

Jeffrey A. Murawski, P.E.
Fitchburg DPW Deputy Commissioner of Wastewater

Electronic & Hard Copy:	Neil Handler, USEPA, Region 1 Office David Boyer, MassDEP, Central Region Office
Electronic copy: (Transmittal letter only)	Chief, Environmental Enforcement Section, DOJ Susan M. Poswistilo, Assistant U.S. Attorney Michael Wagner, U.S.E.P.A. Louis Dundin, Assistant Attorney General, Massachusetts AG
Electronic copy:	Nicolas H. Bosonetto, P.E., Fitchburg Commissioner of Public Works Anthony Maressa, P.E., Sewer System Manager Vincent Pusateri, II, Fitchburg City Solicitor Mary A. Delaney, Fitchburg Chief Procurement Officer Nicholas J. Ericson, P.E., Fitchburg DPW Civil Engineer

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Jeffrey A. Murawski, P.E., DPW Deputy Commissioner Wastewater


Collection System Cleaning and CCTV'ing
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
Feet of Sewer
Length CCTV'd (LF)
Total Length (LF)
Feb-2013
Aug-2013
Feb-2014
Aug-2014
Feb-2015
Aug-2015
Feb-2016
Aug-2016
Feb-2017
Aug-2017
Feb-2018
Aug-2018
Feb-2019
Aug-2019
Reporting Periods

Attachment 1 - Combination manhole inspections during reporting period on remaining CMHs

			Rain Date: 7/22/19-7/23/19 Rainfall: 3.08"		Rain Date: 4/26/19 Rainfall: 1.61"		Rain Date: 4/22/19 Rainfall: 1.04"		Rain Date: 4/15/19 Rainfall: 1.6"	
Sub Watershed	**CMH#**	**CMH Location**	**BLOCK IN DRAIN**	**BLOCK IN SEWER**	**BLOCK IN DRAIN**	**BLOCK IN SEWER**	**BLOCK IN DRAIN**	**BLOCK IN SEWER**	**BLOCK IN DRAIN**	**BLOCK IN SEWER**
1	3	Albee St/Belli								
1	5	Albee St/Krysiak Ave Intersection		1						
1	6	399 Albee St							1	
1	7	219 Albee St		1			1			
1	8	364 Albee St		1						
1	40	Canton Street/Valley St Place Easement								
1	42	Canton Street, 50 N of Romano								
1	86	27 Krysiak	1							
1	87	56 Krysiak		1						
1	91	Leyte/98 Normandy								
1	92	Leyte/Normandy								1
1	93	37 Leyte								1
1	94	18 Leyte								
1	95	52 Leyte								
1	96	66 Leyte								
1	340	Courtyard between 23 and 1 Leyte							1	
1	125	26 Nimitz		1					1	
1	126	Normandy Rd/Office Entrance								
1	127	Normandy Rd/Office Parking Lot					1		1	
1	129	62 Normandy Rd								
1	131	123 Normandy								
1	155	Romano/Canton		1						
1	156	37 Romano								
1	167	33 St Paul St								
1	325	56 St. Peter St								
1	221	762 Water St								1
1	222	792 Water St	1							
1	341	824 Water Street		1		1				1
1	224	Water/100 N of Duckmill		1		1				1
1	307	73 Valley St								
1	308	95 Valley St								
1	309	Easement First CMH								
1	310	Easement Second CMH at Rock								
1	313	49 Valley St								1
3	18	22 Beekman								
3	239	38 Birch St								
3	55	76 Everett St								
3	56	Everett St/Maplecrest Ave Intersection								
3	231	Fairbanks St/Everett St Intersection								
3	57	44 Fairbanks St								
3	58	Fairbanks St/Maplecrest Ave Intersection								
3	235	21 Fairbanks St								
3	169	Salem/St Anthony Church								
3	347	Salem St @ Birch St (10' north on Salem)								
3	232	Birch St @ Salem St Intersection								
3	172	Salem St/Beekman St Intersection								

Attachment 1 - Combination manhole inspections during reporting period on remaining CMHs

			Rain Date: 7/22/19-7/23/19 Rainfall: 3.08"		Rain Date: 4/26/19 Rainfall: 1.61"		Rain Date: 4/22/19 Rainfall: 1.04"		Rain Date: 4/15/19 Rainfall: 1.6"	
Sub Watershed	**CMH#**	**CMH Location**	**BLOCK IN DRAIN**	**BLOCK IN SEWER**	**BLOCK IN DRAIN**	**BLOCK IN SEWER**	**BLOCK IN DRAIN**	**BLOCK IN SEWER**	**BLOCK IN DRAIN**	**BLOCK IN SEWER**
3	173	65 Sawyer Passway (Quality Fab)								
3	187	South St/Everett St Intersection								
4	51	Elm St/Marshall Dr Intersection								
4	53	Elm/Mattson								
4	117	Marshall St/Dr								
4	338	491 Main Street (On Oliver St @ Main)								
5	39	Caldwell St/Arlington St Intersection								
5	146	25 Read St								
5	329	166 Ashburnham Hill Road								
5	330	130 Ashburnham Hill Road								
5	331	100 Ashburnham Hill Road								
5	332	88 Ashburnham Hill Road								
5	333	36 Ashburnham Hill Road								
5	334	115 Arlington Street								
9	214	Cascade/Plain								
9	314	Cascade/Overland							1	
9	322	Westminster/Overland								
9	226	Westminster St/Princeton Rd Intersection								
9	227	Westminster St/Eureka St Intersection								1
9	342	Westminster St at Cascade St							1	
11	29	Berry St/Hardy Pass Intersection								
11	106	Lunenburg/Berry								
11	107	Lunenburg/Perkins								
11	108	Lunenburg St/Garland St Intersection								
11	109	185 Lunenburg St/Oakland St Intersection								
11	110	Lunenburg/Redman Pl/171								
11	236	Lunenburg St/Linwood Ave Intersection								
11	112	37 Mack								
11	113	49 Mack								
12	37	Downstream from 50 Brown Ave								
12	76	Highland Ave/Brown Ave Intersection								
12	98	Lincoln St/Rogers Ave Intersection		1						
12	99	320 Lincoln St								

Attachment 1 - Combination manhole inspections during reporting period on remaining CMHs

			Rain Date: 7/22/19-7/23/19 Rainfall: 3.08"		Rain Date: 4/26/19 Rainfall: 1.61"		Rain Date: 4/22/19 Rainfall: 1.04"		Rain Date: 4/15/19 Rainfall: 1.6"	
Sub Watershed	CMH#	CMH Location	BLOCK IN DRAIN	BLOCK IN SEWER	BLOCK IN DRAIN	BLOCK IN SEWER	BLOCK IN DRAIN	BLOCK IN SEWER	BLOCK IN DRAIN	BLOCK IN SEWER
12	147	Rogers Ave/Highland Ave Intersection								
12	148	Rogers Ave/Brown Ave Intersection								
12	233	32 Rogers Ave								
13	32	436 Blossom St								
13	33	Blossom/Crescent		1		1				
13	242	Blossom St/Ryefield Rd Intersection								
13	141	Osgood/Longwood								
13	320	Blossom at Ross								
13	158	91 Ryefield								
13	159	45 Ryefield								
13	339	30 Ryefield / Wendell Rd Intersection								
14	238	Pearl/Charlton								
14	348	100 Edlee Street								
14	317	640 Pearl		1				1	1	
15	207	Townsend St/Normal Rd Intersection								
15	210	67 Townsend St								
15	211	91 Townsend St								1
15	304	31 Townsend St								
18	61	Forest Hill Rd/J Keating Rd Intersection		1						
18	62	Forest/Paulsons								
18	63	Forest Hill Rd/Forest Pk Intersection								
18	64	Forest Hill Rd/Forest Hill Ave								
18	315	21 Forest Park							1	
18	73	Henry St/Rainville Ave Intersection								
18	74*	Henry St/Mountain Ave Intersection								
18	75	Henry St/Marion Ave Intersection								
18	118	22 Marion St								
18	144	31 Putnam Pk								1
18	145	61 Putnam								
18	149	42 Rainville Ave								
18	150	68 Rainville								
18	189	500 Old South St								
18	190	480 Old South St								1
18	191	Old South St/St. Peter St Intersection								
18	192	Old South/Heywood								
19	151	182 Rollstone								
19	152	Rollstone/100' Fr Shattuck								
19	153	Rollstone/Bruce 50 Downhill								
20	241	377 Beech St								
20	12	Beech/Alden								
20	13	429 Beech St								
20	14	Beech/Delisle								
20	15	490 Beech								
20	16	Beech/Legros								
20	17	Beech/200 From Franklin								
20	142	Parker/Thurston								

Attachment 1 - Combination manhole inspections during reporting period on remaining CMHs

			Rain Date: 7/22/19-7/23/19 Rainfall: 3.08"		Rain Date: 4/26/19 Rainfall: 1.61"		Rain Date: 4/22/19 Rainfall: 1.04"		Rain Date: 4/15/19 Rainfall: 1.6"	
Sub Watershed	**CMH#**	**CMH Location**	**BLOCK IN DRAIN**	**BLOCK IN SEWER**	**BLOCK IN DRAIN**	**BLOCK IN SEWER**	**BLOCK IN DRAIN**	**BLOCK IN SEWER**	**BLOCK IN DRAIN**	**BLOCK IN SEWER**
20	143	Parker/Thurston								
20	228	184 Woodland St								
20	230	Woodland St/Alden St Intersection								
20	344	167 Woodland Street								
20	345	100 Saint Camille St					1			
21	44	26 Chabot Drive		1						1
21	115	427 Madison								
21	116	Madison/Cemetery								
21	123	44 Miami St	1							
22	46	Clearview Ave/Foch Ave Intersection								
22	48	174 Columbus								
22	49	152 Columbus								
22	78	Hope St/Fredette St Intersection								
22	79	Hurd/St Andrew								
22	80	60 Hurd St								
22	81	94 Hurd St								
22	88	150 Legros								
22	119	39 Maryland Ave								
22	124	Newtonville/Foch								
22	133	Oak Hill Rd/Exeter St Intersection								
22	134	Oak Hill Rd/Hurd St Intersection								
22	135	Oak Hill/Mcdonald								
22	138	Oak Hill/Daniels 30 feet uphill.								
22	318	Oak Hill/Jeanette								
22	139	541 Oak Hill Road							1	
22	140	570 Oak Hill							1	
22	157	43 Ronald Ave								
22	160	St. Joseph St/Pratt Rd Intersection								
22	161	St Joseph/Delisle								

Attachment 1 - Combination manhole inspections during reporting period on remaining CMHs

			Rain Date: 7/22/19-7/23/19 Rainfall: 3.08"		Rain Date: 4/26/19 Rainfall: 1.61"		Rain Date: 4/22/19 Rainfall: 1.04"		Rain Date: 4/15/19 Rainfall: 1.6"	
Sub Watershed	**CMH#**	**CMH Location**	**BLOCK IN DRAIN**	**BLOCK IN SEWER**	**BLOCK IN DRAIN**	**BLOCK IN SEWER**	**BLOCK IN DRAIN**	**BLOCK IN SEWER**	**BLOCK IN DRAIN**	**BLOCK IN SEWER**
22	162	St Joseph/St Andrew								
22	163	St Joseph/Legros								
22	164	153 St Joseph								
22	165	210 St. Joseph St								
22	166	282 St Joseph St								
22	195	Theresa St/St. Andrew St Intersection								1
22	196	Theresa/Legros								
22	197	Theresa/Deslisle		1						
22	198	Theresa St/Hope St Intersection								
22	200	21 Theresa St						1		
22	201	80 Theresa St		1						
22	203	143 Theresa								
22	204	192 Theresa St								
22	302	Newtonville/Oak Hill								
22	335	24 York Avenue								
22	336	44 York Avenue								
22	346	240 Fairmount (off pavement on other side of street in gutter)								
22	343	Ronald St at Theresa St					1			
23	9	97 Appleton Circle								
23	10	79 Appleton Circle								
23	11	97,105,108 Appleton								
23	59	Fairmount/Leroy								
23	89	Leroy St/Clearview Ave Intersection								
23	90	Leroy St/Newtonville Ave Intersection								
23	300	59 Appleton Circle								
23	301	80 Appleton Circle								1
		Totals	3	15	0	3	4	2	10	13

ATTACHMENT 2: New Sewer Connections

2014 to Present

PIN	Date Issued	Parcel ID	Street #	Street	Occupancy Type	Building Type	Units*	Average Daily Flow (GPD)
WW-18-3	4/26/2018	31 53 0	0	MT VERNON ST	Residential	One or Two Family Dwelling	4	440
WW-18-5	6/20/2018	192 9 3	69	BENSON ST	Commercial Industrial	Commercial	4	600
WW-18-8	7/23/2018	105 32 0	27	BAGLEY AV	Residential Single and Two Family	Single Family	3	330
WW-18-12	10/19/2018	92 30 A	55	BOURQUE TR	Residential Single and Two Family	One or Two Family Dwelling	4	440
WW-18-14	10/23/2018	306 17 14	157	TIBBETT CR	Residential Single and Two Family	One or Two Family Dwelling	3	330
WW-18-11	11/16/2018	81 70 0	100	ELIZABETH ST	Municipal Building and Public Schools	Single Family	3	330
WW-18-15	12/13/2018	120R 162	85	DAMON RD	Residential Single and Two Family	Pot Land	3	330
WW-17-1	3/27/2017	69R 8 0	1341	RINDGE RD	Residential	One or Two Family Dwelling	2	220
WW-17-9	7/20/2017	139 5 2	356	CANTON ST	Residential	Single Family	3	330
WW-17-11	8/1/2017	185 18 0	85	KENNEDY AV	Residential	Single Family	3	330
WW-17-13	8/11/2017	228 10 0	1100	WESTMINSTER HILL RD	Residential	Single Family	3	330
WW-17-14	12/27/2017	13 41 2	308	LINCOLN ST	Residential	Devel Land	2	220
WW-17-15	12/27/2017	13 41 0	78	HOLMAN ST	Residential	Devel Land	2	220
WW-16-2	4/25/2016	228 1 28	47	FLICKER DR	Residential	Pot Land	3	330
WW-16-4	5/25/2016	S19 49 2	291	PEARL HILL RD	Residential	Devel Land	3	330
WW-16-5	6/2/2016	274 4 0	487	PRINCETON RD	Commercial	Gas Sales	4	300
WW-16-6	6/2/2016	77 36 0	3	PRATT ST	Residential	Multifamily 3+	7	770
WW-16-7	6/9/2016	228 1 26	51	FLICKER DR	Residential	Pot Land	3	330
WW-16-10	8/16/2016	78 54 A	172	PRATT ST	Residential	Single Family	2	1000
WW-16-12	10/31/2016	35 15 0	288	LUNENBURG ST	Commercial	Auto Sales/S	Remodel	Remodel
WW-16-16	11/9/2016	121 13 0	186	ALBEE ST	Residential	Single Family	3	330
WW-16-18	11/21/2016	239 10 5	180	ROOSEVELT ST	Residential	One or Two Family Dwelling	3	330
WW-15-1	2/10/2015	229 1 17	15	DOWNY CR	Residential	Pot Land	3	330
WW-15-3	4/21/2015	229 1 14	18	DOWNY CR	Residential	Pot Land	3	330
WW-15-4	5/1/2015	306 10 52	156	TIBBETT CR	Residential	Devel Land	3	330
WW-15-5	5/15/2015	228 1 24	16	FLICKER DR	Residential	Pot Land	3	330
WW-15-6	6/5/2015	109 16 0	79	LANCASTER ST	Residential	Single Family	3	330
WW-15-7	6/22/2015	228 1 30	31	FLICKER DR	Residential	Pot Land	3	330
WW-15-8	7/2/2015	228 1 31	21	FLICKER DR	Residential	One or Two Family Dwelling	4	440
WW-15-9	7/20/2015	228 1 31	21	FLICKER DR	Residential	Pot Land	4	440
WW-15-10	7/31/2015	228 1 27	49	FLICKER DR	Residential	Pot Land	3	330
WW-15-11	8/13/2015	228 1 29	45	FLICKER DR	Residential	Pot Land	3	330
WW-15-12	8/24/2015	228 1 25	50	FLICKER DR	Residential	Pot Land	3	330
WW-15-13	9/14/2015	55 66 0	255	MAIN ST	Commercial	Gen Office	Not Built	Not Built
WW-15-15	11/3/2015	120R 16 0	0	DAMON RD	Residential	Pot Land	3	330
WW-15-18	11/23/2015	202 46 0	80	MINNEAPOLIS AV	Residential	Pot Land	3	330
WW-14-7	6/6/2014	118 12 0	44	FOREST HILL RD	Residential	Pot Land	3	330
WW-14-8	6/6/2014	229 1 20	82	PARKER HILL DR	Residential	One or Two Family Dwelling	3	330
WW-14-9	6/13/2014	53 24 7	11	WILLARD ST	Residential	Pot Land	3	330
WW-14-11	7/22/2014	201 14 0	298	ASHBY STATE RD	Residential	Single Family	2	220
WW-14-16	8/27/2014	229 1 15	20	DOWNY CR	Residential	Pot Land	3	330
WW-14-19	8/28/2014	7 28 7	85	ETHIER ST	Residential	Single Family	3	330
WW-14-20	10/15/2014	185 9 0	51	SWAN AV	Residential	Single Family	3	330
WW-14-21	10/20/2014	7 28 6	87	ETHIER ST	Residential	One or Two Family Dwelling	3	330
WW-14-22	10/22/2014	7 28 6	87	ETHIER ST	Residential	One or Two Family Dwelling	3	330
WW-14-23	10/27/2014	121 13 0	186	ALBEE ST	Residential	Pot Land	3	330
WW-14-24	10/27/2014	229 1 16	19	DOWNY CR	Residential	Pot Land	3	330
WW-14-25	11/10/2014	306 11 53	172	TIBBETT CR	Residential	Devel Land	3	330
WW-14-12	11/19/2014	34 80 0	49-51	OAKLAND ST	Residential	One or Two Family Dwelling	3	330
WW-14-2	11/19/2014	34 81 0	41-43	OAKLAND ST	Residential	Single Family	3	330
WW-14-3	11/19/2014	34 81 0	41-43	OAKLAND ST	Residential	Single Family	3	330
WW-14-26	11/21/2014	224 21 0	16	SUNRISE AV	Residential	Devel Land	3	330
WW-14-28	12/2/2014	115 9 0	117 129	THERESA ST	Residential	One or Two Family Dwelling	6	660

*Units are based on 310 CMR 15.203 requirements per unit type

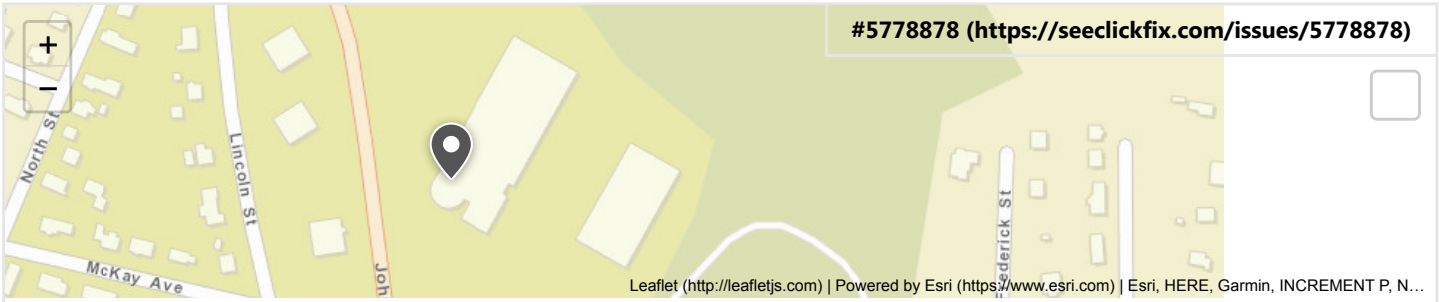
ATTACHMENT 3

SeeClickFix – Example SSO Log

This is a private request and can only be viewed by the reporter and users on your account.

Archived

Change Status



42.594822, -71.7848505 Edit Location

Sewage Issue (INTERNAL)

Created Date:
04/30/2019 9:51 AM

1000 John Fitch Hwy Fitchburg, MA, 01420, USA

Details

manhole spilling sewerage all over parking lot

Secondary Questions

Resident's phone number (if further follow up is needed).
No Answer Given
Name of caller
John Bergeron
Time call was received:
2019-04-13T11:10:00-04:00
Time City Responded:
2019-04-13T12:00:00-04:00
Is the issue one of the following (select one)?
Sewage spilling from manhole
What type of issue/property was this on?
City responsibility
Cause of SSO (write details in closing comments, i.e. sag in pipe/pieces of pipe missing, offset joint, etc.):
Debris in line
Final discharge location of SSO (put address and water body name in comments):
Ground/Infiltrated
Time SSO Event Ended
2019-04-13T12:30:00-04:00
What was the estimated overflow volume in gallons? If the number is unknown, please put "0". Must obtain a volume if City-issue.
2500

0 2

Request Information

Reporter:
Fitchburg,MaCollaborativeNeighbor (https://seeclickfix.com/users/1287439) | Registered User

anonymouscaller+351@seeclickfix.com

Report Method:
Phone

Keyed by:
Anthony Maressa

Category:
Sewage Issue (INTERNAL) Recategorize

Assigned to:
Carl Johnson Assign

Due Date: Change Due Date

Priority:
Normal Prioritize

(https://seeclickfix.com/accounts/351/pr

Subscribers

Subscribe

There are currently no subscribers.

Status Log

Opened:	04/30/2019 9:51 AM
Closed:	04/30/2019 9:52 AM

Work Orders

New Work Order

Comments

All | Public Only | Internal Only

Fitchburg,MaCollaborativeNeighbor (https://seeclickfix.com/users/1287439) | Registered User
Opened

manhole spilling sewerage all over parking lot

04/30/2019 9:51 AM

Anthony Maressa (https://seeclickfix.com/users/1368768) | Verified Official
Closed

Carl and bob jetted line and removed pieces of asphalt. upstream manhole has a collapsing frame and cover, pieces of asphalt from winter plowing entered sewer by dislodging of cover. Will reset cover. According to video, pipe is in great condition.

04/30/2019 9:52 AM

Anthony Maressa (https://seeclickfix.com/users/1368768) | Verified Official
Assignment

Anthony Maressa assigned this issue to Carl Johnson

04/30/2019 9:54 AM

Anthony Maressa (https://crm.seeclickfix.com/users/1368768) | Verified Official **Edit**
Internal Comment

Casting was replaced on 4/31/2019

08/23/2019 11:03 AM

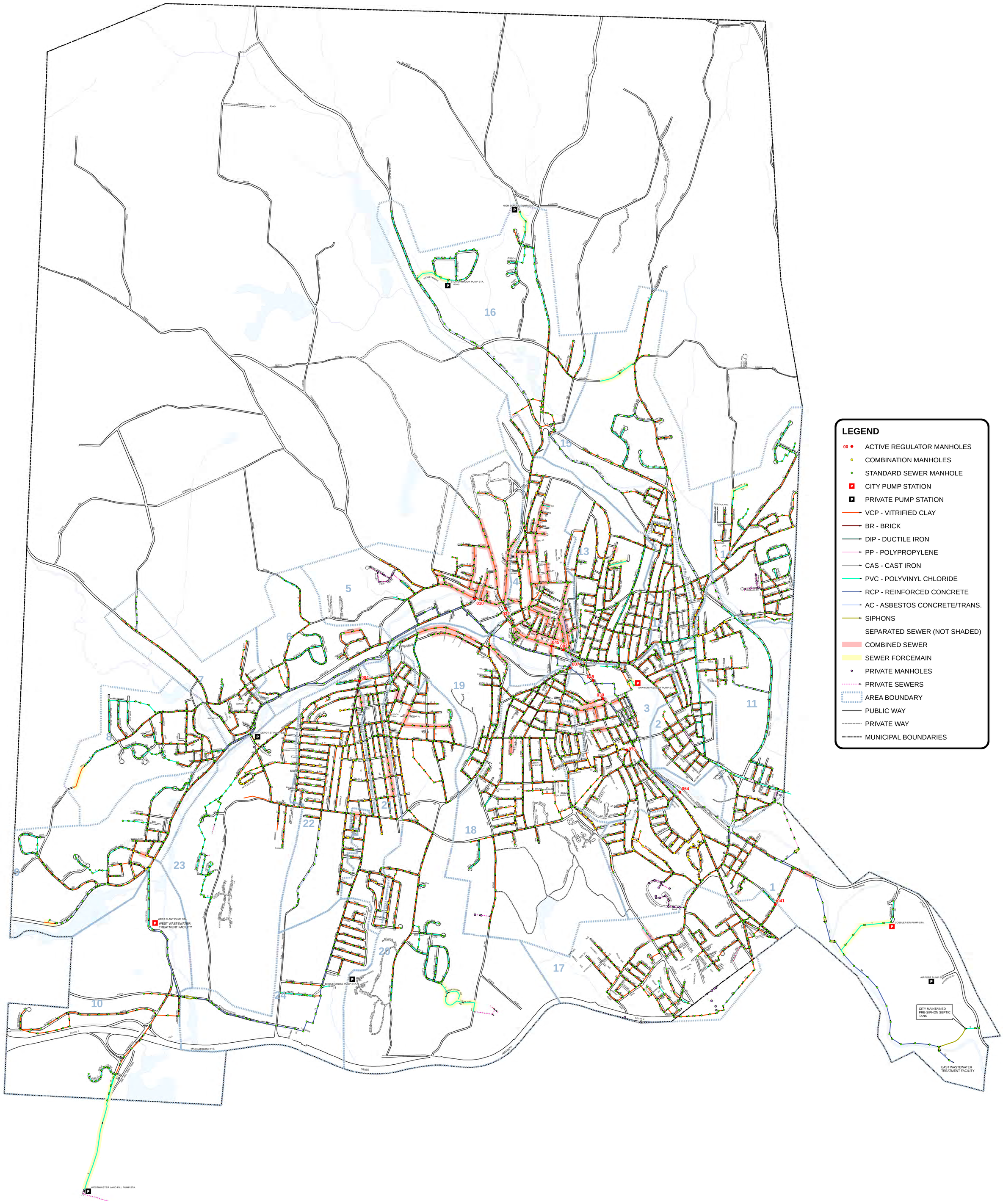
Insert Prepared Content

Add an internal comment...

Add a Photo

Public **Internal**

Post



City of Fitchburg, Massachusetts

COMBINED AND SEPARATE SEWERS

SEWER MATERIAL AND SIZE

MAP 2 OF 4

August 1, 2019

NORTH

0 0.25 0.5 1 1.5 2 Miles

SCALE: 1 INCH = 1,000 FEET

Prepared by:
The City of Fitchburg Massachusetts,Wastewater, GIS Engineer.

Author: kdupont

Path: C:\GIS Maps\Consent Decree\2019-08 Semi Annual Report\Map_2of4_Infrastructure_1_Sewer.mxd

LEGEND

STORMWATER FEATURES

- DRAIN MANHOLES
- CATCH BASINS
- STORM DRAINS

OTHER DATA

- ROADWAYS
- WATER FEATURES
- MUNICIPAL BOUNDARIES

City of Fitchburg, Massachusetts

STORM DRAINAGE

MAP 3 OF 4

August 1, 2019

NORTH

0 0.25 0.5 1 1.5 2 Miles

SCALE: 1 INCH = 1,000 FEET

Prepared by:
The City of Fitchburg Massachusetts,Wastewater, GIS Engineer.

Author: kdupont

Path: C:\GIS Maps\Consent Decree\2019-08 Semi Annual Report\Map_3of4_Infrastructure_2_Drainage.mxd

ASHBY

ASHBURNHAM

WESTMINSTER

LUNENBURG

LEOMINSTER

M13

REMOVE (2) CATCH BASINS FROM SANITARY SYSTEM. INSTALL NEW STORM DRAIN.

ON-GOING DESIGN OF SEWER SEPARATION AT CITY HALL IN PREPARATION FOR RENOVATIONS

SPOT REPAIR AT 68 HIGHVIEW ST. FOR BACK-UP PREVENTION

PLYMOUTH ST. REPLACED 20' OF COLLAPSED SEWER

ON-GOING DESIGN FOR FORMER CSO 011 AREA COMBINED SEWER SEPARATION.

ON-GOING DESIGN FOR CSO-039 AREA SEPARATION & CSO-048 & CSO-007 CLOSURES

SEWER SPOT REPAIR FOR SSO PREVENTION

WATER ST./REG. 039 REPLACED 12' OF SEWER TO HELP PREVENT DRY WEATHER OVERFLOWS

TRUNK SEWER MULTI-SENSOR INSPECTION

CLEAN AND CCTV SIPHON

CLEAN AND CCTV (4) SIPHONS

ON-GOING EAST WASTEWATER TREATMENT PLANT. SECONDARY SYSTEMS UPGRADE

004 010 032 045 007 048 039 076 064 041

LEGEND

CCTV'D & GRADED SEWERS

- 0 - NO DEFECTS
- 1 - EXCELLENT
- 2 - GOOD
- 3 - FAIR
- 4 - POOR
- 5 - FAIL
- NOT GRADED

PROJECTS

- WORK DURING CURRENT REPORTING PERIOD
- (....) DESCRIPTION OF WORK DURING CURRENT REPORTING PERIOD
- WORK PROPOSED FOLLOWING REPORTING PERIOD
- (....) DESCRIPTION OF WORK FOLLOWING REPORTING PERIOD

MANHOLES RAISED/ADJUSTED

- BURIED MANHOLE RAISED TO GRADE
- MANHOLE ADJUSTED TO GRADE

COMBINATION MANHOLES (CMH)

- EXISTING CMH
- CMH SEPARATED DURING CURRENT PERIOD

ACTIVE REGULATORS

- REGULATOR 004
- REGULATOR 007
- REGULATOR 010
- REGULATOR 032
- REGULATOR 039
- REGULATOR 041
- REGULATOR 045
- REGULATOR 048
- REGULATOR 064
- REGULATOR 076
- REGULATOR 083

City of Fitchburg, Massachusetts

EXTRANEOUS FLOW INVESTIGATION, REMEDIATION, AND CAPITAL PROJECTS MAP 4 OF 4

August 1, 2019

NORTH

0 0.25 0.5 1 1.5 2 Miles

SCALE: 1 INCH = 1,000 FEET

Prepared by:
The City of Fitchburg Massachusetts,Wastewater, GIS Engineer.

Author: kdupont

Path: C:\GIS Maps\Consent Decree\2019-08 Semi Annual Report\Map_4of4_Extraneous_Flow.mxd