Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection
Western Regional Office • 436 Dwight Street, Springfield MA 01103 • 413-784-1100

Charles D. Baker
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Lieutenant Governor

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Secretary

Martin Suuberg
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September 24, 2020

Town of Buckland
Board of Selectmen
17 State Street
Buckland, MA 01338

RE: **Shelburne/Buckland**-WWM
Shelburne/Buckland WWTP
Compliance Evaluation Inspection and Conditional Infiltration and Inflow Approval for Shelburne and Buckland Sewer Systems.
Project Numbers: 268-001/076
047-076

Dear Selectmen:

On August 28, 2020, a representative from the Massachusetts Department of Environmental Protection (MassDEP or Department) conducted an inspection of the Shelburne Falls Wastewater Treatment Plant (WWTP). This report documents the findings of the inspection and represents a conditional approval for infiltration and inflow (I/I) for both the Shelburne and Buckland Sewer Systems under 314 CMR 12.00.

The effluent characteristics were compiled from the permittee's self-monitoring reports submitted from January through December 2019 and January through June of 2020. Violations for flow (12-month rolling average) were observed from January through July 2019 (seven consecutive months). MassDEP observed that the current Operation and Maintenance Manual for the WWTP has high flow Standard Operating Procedures (SOP) drafted by the Chief Operator. The high flow SOP includes flows from 430,000 to 580,000 gallons per day (GPD); 580,000 to 720,000 GPD and flows greater than 720,000 GPD. Flows greater than 720,000 GPD are not expected to meet permit limits.

Previously, Shelburne and Buckland's consulting engineer DPC Engineering (DPC) provided MassDEP with a comprehensive Phase 1 and 2 report for I/I in both the Shelburne and Buckland sewer systems. The report, titled *"Towns of Buckland and Shelburne, Massachusetts Report for the Phases 1A and 1B Infiltration and Inflow Studies and Phase 2 Asset Management System"* (Dated June 2020) was submitted in draft form, to this office, electronically on or about June 18, 2020.

DPC's Scope of Work (SOW) for both the Shelburne and Buckland sewer systems and I/I work as it relates to 314 CMR 12.00 included the following:

1. Preliminary I/I Evaluation;
2. Development of a sanitary sewer collection system map utilizing GPS coordinate locations of the existing sanitary sewer manholes;
3. Flow monitoring of the sanitary sewer collection system through the use of in-situ insertable flow meters;
4. At-grade inspections for each of the accessible manholes within the sanitary sewer system;
5. Development of an asset management database and updated GIS mapping, based on the targeted field work, to help Shelburne and Buckland prepare for future repairs and upgrades of its sewer system;
6. Preparation of a comprehensive report, summarizing the Phases 1A, 1B and 2 findings, together with the recommendations for follow up I/I SSES phases; and
7. Recommended plan for follow-up investigative field work to locate specific I/I sources and identify rehabilitation and remediation methods, as well as the development of an Asset Management Plan.

The following is a description of the Shelburne/Buckland sewer and WWTP systems (DPC Report and WWTP O&M Manual):

The Shelburne Falls Wastewater Treatment Facility is located in Buckland and serves the village of Shelburne Falls which includes portions of the towns of Buckland and Shelburne. In addition to the two villages, the Mohawk Trail Regional School on State Route 112 was connected to the sewer system in 1998 after its on-site subsurface sewage disposal system (SSDS) failed. The school district owns the pumping station and 2-inch force main with the town responsible for the maintenance of the manhole and approximately 500-feet of gravity sewer. The school's force main discharges into the Buckland side of the sewer system at a manhole at the crest of the hill on North Street. The Shelburne Falls sewer system was originally constructed in the 1900s as a combined system (both wastewater and stormwater); with sewer separation occurring in 1966 coinciding with the construction of the WWTP. More recent sewer extensions have occurred that have expanded the sewer system to its existing configuration. Collectively, the Shelburne/Buckland sewer system includes approximately 49,365 linear feet (~9.5 miles) of gravity sewer and 223 manholes. The sewer system area includes a portion of the Town of Shelburne along the east side of the Deerfield River and a portion of the Town of Buckland on the west side of the Deerfield River. All of the wastewater from the Shelburne side of the collection system flows to the Deerfield Avenue Pumping Station. From that pump station, the wastewater is pumped through a 6-inch force main across the iron bridge over the Deerfield River. The force main discharges into the gravity sewer on the Buckland side of the collection system at the intersection of State Street and Ashfield Street. The Buckland side of the collection system receives flows from the Shelburne force main, the Mohawk Trail Regional school's force main and all Buckland sewer services on the west side of the river. Wastewater then flows by gravity through a 12-inch main to the headworks of the WWTP.

The WWTP was upgraded to its current extended aeration secondary treatment system in 1974 with the reed bed sludge handling beds constructed in 1995 and UV disinfection in 2008. The WWTP is permitted to discharge 250,000 gallons per day (12 Month Rolling Annual Average) to the Deerfield River under its NPDES General Permit (MAG580002).

Table 1 provides a description of the Shelburne Buckland Sewer System by pipe diameter, length and type:

PIPE TYPE	PIPE DIAMETER	PIPE LENGTH IN FEET	PERCENT OF SYSTEM
AC	6-INCH	100	0.2
AC	8-INCH	8,619	17.5
AC	12-INCH	2,510	5.1
AC	18-INCH	1,781	3.6
PVC	6-INCH	202	0.4
PVC	8-INCH	15,940	32.3
PVC	12-INCH	3,599	7.3
PVC	15-INCH	2,220	4.5
PVC	18-INCH	875	1.8
VC	6-INCH	228	0.5
VC	8-INCH	9,241	18.7
VC	12-INCH	2,450	5.0
VC	18-INCH	1,600	3.2
	TOTALS	49,365	100.0

TABLE 1 CHARACTERISTICS OF THE SHELBURNE BUCKLAND SEWER SYSTEM

In order to comply with MassDEP regulations at 314 CMR 12.00, DPC completed a Phase 1A Preliminary I/I Analysis in 2018. The Phase 1A Project included a review of past I/I studies, historical WWTP flow data, recent I/I removal efforts, I/I removal needs and drivers, and an I/I removal cost effective analysis. DPC completed Phase 1B in the Spring of 2018 which included GIS-mapping of the sanitary sewer collection system, flow monitoring during high groundwater periods, and manhole inspections.

As noted above, in its SOW, DPC completed a review of previous I/I work on the Shelburne and Buckland sewer systems. As a former combined sewer system, Shelburne and Buckland completed an I/I analysis in 1977 with a follow-up Sanitary Sewer Evaluation Survey (SSES) in 1979. Some work in the sewer system was performed based on the results of the study, however there was no significant decrease in flows observed at the WWTP.

Prior to DPC work, the most recent I/I evaluation was completed in 1993, which included Phase 1 flow monitoring and a Phase 2 SSES. This study was successful in determining areas with moderate infiltration and sources of possible inflow. The 1993 two-phase I/I study included continuous flow monitoring, groundwater monitoring, rainfall monitoring, manhole inspections, smoke testing, building inspections, and dyed water testing. Continuous flow monitoring was implemented for a two-month period, with flow meters installed at nine (9) locations. Flow data was used to determine peak infiltration rates and inflow. Data collected during the 1993 study indicated peak infiltration rates ranging from 1,200 GPD/IDM to 11,100 GPD/IDM. Inflow was observed in four (4) of the nine (9) drainage areas. Phase 2 work in 1993 also included twenty-four (24) manhole inspections, a majority of the findings being minor structural deficiencies, and presence of roots and debris. Smoke testing performed in three (3) of the nine (9) drainage areas identified several positive inflow sources. These positive sources were then confirmed through dye testing. Several potential inflow sources that could not be confirmed through dye testing were also identified. Building inspections were also performed on 131 homes with a total of seven (7) potential inflow sources identified. Inflow sources that were positively identified were recommended for removal.

DPC also plotted total daily flows from CY2016 through CY2018 against historic WWTP flow, rainfall data and regional groundwater levels obtained from the United States Geological Survey (USGS).
These data were then used to estimate the amount of I/I within the Shelburne Buckland sewer system.

DPC then estimated the annual I/I component of wastewater flow by comparing the average total daily wastewater flows recorded at the WWTP to the base sanitary flow. The base sanitary flow was estimated at approximately 106,000 GPD, which corresponds to the minimum total daily flows observed in August and September 2016, which was a historically dry period (MassDEP recognized drought period). The average total daily flow at the WWTP from CY2016 through CY2018 was 193,000 GPD, which when compared to the base sanitary flow of 106,000 GPD, estimates that approximately 55% of the annual wastewater flows through the WWTP are I/I.

As a component of the SOW DPC completed GIS mapping of the Shelburne Buckland sewer system in 2018. A handheld GPS was used to locate manholes. Of the 223 manholes in the sewer system, 216 were field-confirmed with the remaining seven (7) manholes not able to be located (inaccessibility or possibly being buried). Consequently, their locations were estimated based on available information. DPC GIS mapping was updated to include sanitary sewer attributes including pipe type, pipe diameter, connectivity, and flow direction.

DPC completed continuous flow monitoring in the Shelburne Buckland sewer system commencing in March 2018. As a component of the flow metering, DPC divided the sewer system into six (6) drainage areas, that meet the requirements of MassDEP's Infiltration and Inflow Guidance (i.e. less than 20,000 linear feet). Open-channel flow meters were then installed at the outlet of five (5) of the drainage areas. Flows from the sixth drainage area were evaluated using flow data from the Deerfield Avenue Pump Station. The six areas are delineated as follows:

DRAINAGE AREA NUMBER	LOCATION	VILLAGE	TOTAL LENGTH OF PIPE IN FEET
1	BRIDGE STREET	SHELBURNE	3,789
2	MECHANIC STREET	SHELBURNE	7,380
3	STATE STREET	BUCKLAND	6,373
4	CONWAY STREET	BUCKLAND	12,009
5	BIRCH ROAD	BUCKLAND	8,003
6	DEERFIELD AVENUE PUMP STATION	SHELBURNE	8,201

TABLE 2: SHELBURNE BUCKLAND SEWER SYSTEM DRAINAGE AREA DELINEATION

DPC commenced flow monitoring in the sewer system on March 3, 2018 and concluded it on June 6, 2018. During this thirteen (13)-week period, depths (inches) and velocities (feet/second) were recorded at 15-minute intervals using five (5) open-channel flow meters. Data recorded by these meters was used to determine the flow rate (GPM) at each site. Simultaneously, flow data from the WWTP was also obtained to supplement the sewer system flow monitoring data. DPC indicated that the State Street flow meter experienced difficulties early in the monitoring period due to significant grit accumulation at the metering site. Although the sewer line was flushed by the Town on two occasions, the grit was too significant to be

removed. DPC replaced the flow meter with a non-contact Hach Flo-Dar on March 23, 2018, which performed well for the remainder of the flow monitoring period.

Throughout the flow monitoring period, data from each meter was plotted against regional groundwater depths and local rainfall data. GIS was used to estimate the total length of pipe, in both linear feet and inch-diameter-miles, for each Sub-Area. Aside from using base sanitary flow, DPC also estimated infiltration using nighttime flows during dry weather and high groundwater periods. Flows were averaged from 0000 HRS. to 0600 HRS, when sanitary flows can be assumed to be minimal, over a three (3) day period of dry weather (April 22, 2018 to April 24, 2018). DPC then took average nighttime flows data and converted to a unit flow (GPD/IDM).

During the flow monitoring three (3) significant precipitation events were also utilized to measure and calculate I/I.

MassDEP guidance has established a threshold of 4,000 GPD/IDM to be used to determine if immediate follow-up investigative field work (SSES) is warranted to locate discrete sources of infiltration. The guidance does stipulate that areas that are less than 4,000 GPD/IDM must be investigated on an "on-going" basis as it is likely that given the passage of time, are likely to increase in severity. In accordance with MassDEP Guidance at TR-16 (*Guides for the Design of Wastewater Treatment Works*), a normal range of infiltration is 250 to 500 GPD/IDM for newly-installed pipe. DPC observed that the unit peak infiltration rates were moderate to elevated, with the exception of Areas 1 and 5, which exhibited low peak infiltration rates. The total peak infiltration for the six (6) drainage areas was approximately 179,340 GPD. The average daily flow through the WWTP for the same three-day period was 253,900 GPD, with the total peak infiltration accounting for approximately 71% of the total WWTP flow.

DPC calculated the following infiltration rates for the six drainage areas as detailed in the table below:

DRAINAGE AREA NUMBER	LOCATION	PEAK UNIT INFILTRATION RATE (GPD/IDM)	PEAK INFILTRATION RATE IN GALLONS PER DAY
1	BRIDGE STREET	2,210	340
2	MECHANIC STREET	21,780	1,590
3	STATE STREET	65,460	5,410
4	CONWAY STREET	60,110	2,720
5	BIRCH ROAD	2,060	170
6	DEERFIELD AVENUE PUMP STATION	27,720	1,690

TABLE 3: SHELBURNE BUCKLAND SEWER SYSTEM CALCULATED I/I

Previous to the DPC Report, and as a result of MassDEP's CEI, Shelburne/Buckland updated its WWTP Operation and Maintenance Manual in 2014. The manual summarizes improvements in the sewer system since 1993 as follows:

YEAR	PROJECT TYPE	VILLAGE	STREET/LOCATION(S)
1998	SEWER REPLACEMENT	SHELBURNE	MECHANIC STREET; HIGH STREET; SEVERENCE STREET; CHURCH STREET; WATER STREET

2002	MAPLE STREET NEIGHBORHOOD IMPROVEMENTS	SHELBURNE	MAPLE STREET; HIGHLAND AVENUE; GARDNER AVENUE; WARREN AVENUE; PLEASANT STREET; MURRAY PLACE; SOUTH MAPLE STREET; GROVE STREET
2005	BRIDGE AND WATER STREETS VILLAGE INFRASTRUCTURE IMPROVEMENTS	SHELBURNE	BRIDGE STREET; WATER STREET; MECHANIC STREET
2008	MAIN STREET RECONSTRUCTION PHASE 1	SHELBURNE	MAIN STREET
2009	MAIN STREET, SHELBURNE RECONSTRUCTION PHASE 2 AND CONWAY STREET, SUMMER STREET AND SOUTH STREET, BUCKLAND IMPROVEMENTS	SHELBURNE	MAIN STREET
2009	MAIN STREET, SHELBURNE RECONSTRUCTION PHASE 2 AND CONWAY STREET, SUMMER STREET AND SOUTH STREET, BUCKLAND IMPROVEMENTS	BUCKLAND	CONWAY STREET; SUMMER STREET; SOUTH STREET
2009	MAIN STREET, SHELBURNE RECONSTRUCTION - PHASE 3 AND FRANKLIN STREET, BUCKLAND RECONSTRUCTION - PHASE 1	SHELBURNE	MAIN STREET
2009	MAIN STREET, SHELBURNE RECONSTRUCTION - PHASE 3 AND FRANKLIN STREET, BUCKLAND RECONSTRUCTION - PHASE 1	BUCKLAND	FRANKLIN STREET
2010	HOPE STREET RECONSTRUCTION AND FRANKLIN STREET RECONSTRUCTION - PHASE 2	SHELBURNE	HOPE STREET; MECHANIC STREET; WARREN COURT
2010	HOPE STREET	BUCKLAND	FRANKLIN STREET

	RECONSTRUCTION AND FRANKLIN STREET RECONSTRUCTION - PHASE 2		
2011	GROVE STREET, SHELBURNE IMPROVEMENT AND CLEMENT STREET, BUCKLAND IMPROVEMENT	SHELBURNE	GROVE STREET
2011	GROVE STREET, SHELBURNE IMPROVEMENT AND CLEMENT STREET, BUCKLAND IMPROVEMENT	BUCKLAND	CLEMENT STREET

TABLE 4: SHELBURNE BUCKLAND SEWER SYSTEM IMPROVEMENTS SINCE 1993 (2014 O&M MANUAL)

After data collection, DPC then estimated total I/I for each drainage area by subtracting the base sanitary flow from the total average daily flow for that area. DPC concluded that total unit I/I rates were found to be moderate throughout the Shelburne Buckland sewer system. The total I/I for the six areas was approximately 127,350 GPD. The average daily flow to the WWTP for the flow monitoring period was 233,730 GPD, with the total I/I accounting for 55% of the total flow.

Rain Fall Induced Infiltration (RII) and Manhole inspections were also performed during the Phase 1 and 2 work. The total RII was estimated for each drainage by subtracting the dry weather flow preceding a precipitation event from the total average daily flow for that drainage on the day following a precipitation event. During an April 16, 2018 precipitation event total unit RII rates in the Shelburne/Buckland sewer system were found to be moderate to elevated. The lone exception is drainage Area 5 (Birch Road), which exhibited low RII rates. The total RII for the six drainage areas was approximately 274,070 GPD. The average daily flow at the WWTP following the precipitation event on 4/16/2019 was 378,000 GPD, with the total RII accounting for 73% of the total flow.

DPC also used model (Guidance) storms to assess drainage areas for inflow in the Shelburne/Buckland sewer system. Inflow was observed as a quick spikes in flows during a precipitation event which presented itself in drainage areas 3 and 5.

DPC also performed manhole inspections on all accessible manholes in the sewer system. The inspections included opening manholes covers, and recording observations including type, overall depth, pipe types and diameters, condition, and any observed structural defects and/or operation and maintenance needs. DPC observed that overall, the conditions of the manholes in the Shelburne/Buckland sewer system are in fair condition. DPC observed signs of infiltration, roots, blockages, and structural defects including loose/fallen bricks and offset risers in numerous structures. A portion of the manholes could not be inspected due to not being located in the field, and accessibility issues including being paved over or sealed shut.

DPC I/I CALCULATIONS AND CONCLUSIONS:

The DPC Phase 1 I/I Study concluded that infiltration and RII is moderate to elevated throughout the Shelburne/Buckland sewer system. Infiltration rates were highest in drainage areas 3 and 4 where estimated peak unit rates ranged from 2,720 to 5,410 GPD/IDM. RII rates were also highest in drainage 3 and 4 where estimated unit RII rates ranged from 2,550 to 8,150 GPD/IDM.

During wet weather and elevated groundwater conditions, approximately 73% of total flow through the WWTP is RII. Inflow was observed to be significant in drainage areas 3 and 5.

Manhole inspections completed by DPC indicate that approximately one third of the manholes in the Shelburne Falls sewer system have serious defects. These defects ranged from light to moderate to heavy active I/I, to structural and O&M needs. Some manholes were observed to have multiple defects and overall, approximately 37% of the manholes in the sewer system are in need of attention and rehabilitation.

DPC concluded that follow up SSES work is needed in the sewer system to determine the condition of the sanitary sewer mains, and to provide recommendations where rehabilitation and/or replacement is warranted.

Concerning I/I budgeting, the DPC report also stated *"the percent of the total sewer budget associated with I/I is minimal. The main driver for I/I removal in the Sherburne Falls collection system is permit compliance"*; and *"during prolonged wet-weather periods, as seen during the Spring of 2017, and again in late 2018, the WWTP has exceeded its permitted capacity of 250,000 GPD."* [MassDEP verified through USEPA NetDMR and Integrated Compliance Information System (ICIS) databases].

DPC RECOMMENDATIONS FOR FOLLOW UP SSES WORK IN THE SHELBURNE BUCKLAND SEWER SYSTEM:

DPC is recommending recommend follow-up SSES work as follows:

- Sonar testing of the sewer system;
- Smoke testing in drainage areas 3 and 5;
- CCTV work;
- Manhole inspections on manholes that could not be located/accessed

DPC also recommends making additional updates to the Asset Management Plan and implementation plan for rehabilitation work. The rehabilitation efforts would be prioritized using the Asset Management Database. The CCTV work would be prioritized based on the results of the sonar testing and the asset management system. Pending the identification of any major structural deficiencies during the CCTV work, the most cost-effective approach is to utilize trenchless technologies that allow for in-situ rehabilitation.

DPC proposed Phases 3 and 4 SSES work over the next four (4) years as follows:

Phase 3

- Locate and uncover remaining manholes. Perform manhole inspections on the manholes that could not be accessed during Phase 1 and 2 work;

- Conduct sonar testing of all sanitary sewers within the sewer system. Rate each individual sanitary sewer segment and note whether any obstructions may be present within the pipe. Update the asset management and GIS systems accordingly;
- Conduct smoke testing in drainage areas 3 and 5, where inflow was observed
- Conduct closed circuit television (CCTV) inspections of all gravity sewer mains in the sewer system to identify structural defects and sources of I/I. Piping with the lowest sonar results will be prioritized;
- Update the asset management and GIS systems accordingly; and
- Field Work, Summary, Annual, Report and Asset Management Database Updates. Update the Asset Management Database based on the results of the additional field work. Update the multi-year implementation plan accordingly.

Phase 4

- Manhole rehabilitation;
- Pipeline rehabilitation; and
- Pipeline replacement.

DPC recommended commencing work on Phase 3 investigatory work in FY21 with completion in FY24. Phase 4 rehabilitation work on the infrastructure would be completed concurrently with the Phase 3 work and or potentially on a longer schedule depending on what deficiencies are found.

MASSDEP CONDITIONAL APPROVAL:

Despite previous work in its sewer system as outlined above, it is evident that I/I continues to be an issue in the Shelburne Buckland sewer system.

Additionally, of concern to this office are the noted structural issues in manholes and accumulation of grit (potential lack of maintenance (CMOM)) in the sewer system.

During this inspection MassDEP reviewed the current Operation and Maintenance (O&M) Manual for the WWTP. Currently, staff at the WWTP are responsible for the day to day operations at the WWTP, pumping station inspections reed bed (sludge) operations and the maintenance of the sewer system. During MassDEP's 2010 inspection a staffing plan for Shelburne Buckland was completed for the all wastewater operations. The staffing calculation was completed using MassDEP guidance and the tally sheets from the New England Interstate Water Pollution Control Commission (NEIWPCC). A summary of the calculations indicates that the minimal staffing for the Shelburne/Buckland WWTP equated to a total of 2.2. Typically, MassDEP will round this fractional number to the next higher number; in this case 3. MassDEP provided a copy of the NEIWPCC tally sheets to Shelburne's Chief Operator on or about September 1, 2020. As Table 7 in the NEIWPCC tally sheets do not provide for a number for hours spent on inspecting pump stations or amount of time for sewer system maintenance, it is MassDEP's conclusion that the required staffing for the Shelburne Buckland WWTP and sewer system may be higher.

As Shelburne and Buckland are likely aware, in addition to the requirements in 314 CMR 12.00, Part I.C.1 of the Shelburne/Buckland NPDES Permit requires maintenance of proper staffing for the sewer system per 40 CFR 122.

With this correspondence, MassDEP requires that Shelburne and Buckland review the information previously provided in the NEIWPCC staffing sheets and provide this office with a proposed staffing level for both the WWTP and the sewer system. **MassDEP requires that the proposed staffing plan be submitted to this office not later than December 31, 2020. The staffing plan shall include all the considerations of MassDEP's CMOM checklist outlined below.** MassDEP may review and comment on the proposed draft staffing plan under a separate cover letter.

MassDEP has observed that the DPC Report is currently in Draft form and has not been finalized. The Chief Operator indicated that he intends to add institutionalized information and data to the report given his tenure in his position. The findings of the report (i.e. flow monitoring data and manhole observations, etc.) are not disputed and the Chief Operator indicated that the report will be finalized by not later than November 30, 2020. As part of the final document, MassDEP requires that the following information be included:

- An updated sewer collection system map that includes the following:
    - Call outs of the previous work completed in the sewer system identified in the 1977 and 1979 reports, and as outlined in the 2014 O&M Manual;
    - All sanitary sewer lines and related manholes;
    - The location of all private sewer systems (to include the Mohawk Trail Regional School);
    - The location of all private pump stations (including the school);
    - The location of former combined sewer outfalls;
    - All combined sewer lines, related manholes, and catch basins (if not removed as part of the 1993 study);
    - All combined sewer regulators and any known or suspected connections between the sanitary system and the stormwater system;
    - All outfalls, including the treatment plant outfall(s), CSOs, and any known or suspected SSOs, including stormwater outfalls that are connected to combination or sewer manholes;
    - All pump stations and force mains;
    - The wastewater treatment facility;
    - All surface waters (labeled);
    - Other major appurtenances such as inverted siphons and air release valves;
    - A numbering system which uniquely identifies manholes, catch basins, overflow points, regulators and outfalls;
    - The scale and a north arrow; and
    - The pipe diameter, date of installation, type of material, distance between manholes, interconnections with sewer systems owned by other entities, and the direction of flow.

- Progress on I/I removal from the 1993 study especially sources of inflow positively identified.
- Details on the previously delineated drainage areas for the 1993 study (9) as they compare to the DPC report (6).

MassDEP requires that a final copy of the DPC report be submitted to this office by not later than December 31, 2020.

During the inspection, MassDEP provided a copy of its CMOM checklist. As a component of this conditional approval, MassDEP requires that Shelburne Buckland complete the CMOM checklist and submit it to this office by not later than December 31, 2020. A copy has been provided with this correspondence for reference. For any issues that may be identified as deficient ("ACT"), as part of its response to this conditional approval, Shelburne Buckland shall provide any actions it intends to take in response to the noted deficiencies identified in the checklist.

MassDEP's most recent I/I Guidance specify that although identifiable I/I that is below recommended thresholds; needs evaluation at some point.

Additionally, neither the I/I Guidance nor MassDEP regulations at 314 CMR 12.00 provide a "cost effective" means for inflow; consequently, it is MassDEP's position that all identified inflow must be removed.

Moreover, the referenced Guidance also specifies that although calculated infiltration rates in drainage areas that do not exceed the recommended infiltration rate in gallons per day per inch mile of pipe (4,000); these drainage areas will often still yield cost-effective I/I removal work, and must be included as a later phased element of the overall I/I abatement program.

Given the limited capacity of the WWTP and observed permit excursions during the wetter periods of the year, MassDEP requires that Shelburne and Buckland provide a construction schedule to implement the recommendations of the DPC report by not later than March 31, 2021. Should the final DPC report (required for submittal on the same day) differ from the submitted draft significantly (i.e. reduction of work under Phase 3 SSES work or otherwise), Shelburne and Buckland shall indicate such in its proposal.

Please also be aware that although MassDEP is amenable to extending the deadlines for compliance with its regulations at 314 CMR 3.00 and 314 CMR 12.00 through an enforceable order (i.e. ACO), it cannot make compliance with the regulatory requirement contingent upon Town authorization of funding for the work required to meet the regulations.

The following was also noted during the inspection:

The O&M and material disposal from the reed bed harvest was discussed. Currently the material is trucked off site and landfilled at significant expense to the towns. Given the stabilization process and process for pathogen reduction (freeze thaw), it is recommended that Shelburne and Buckland assess obtaining a Type 1 or 2 Biosolid under MassDEP regulations at 310 CMR 32.00 for the material.

The inspector discussed submittals required at 314 CMR 12.00 for sewer connections, generator testing, pump station inspections and chlorine alarms with the Chief Operator. Currently, they are submitted electronically under NetDMR. Although this process can continue, MassDEP reminds Shelburne/Buckland that NetDMR is a federal database which may cause confusion in establishing if required state regulation material was submitted in a timely fashion. MassDEP recommends that material required under 314 CMR 12.00 be submitted directly to the state (electronically or otherwise) rather than NetDMR.

MassDEP will address the flow violations under a separate cover letter.

Thank you for your time and attention in these matters. If there are any questions regarding this report please contact Dan Kurpaska at 413-755-2274.

Sincerely,

This final document copy is being provided to you electronically by the Department of Environmental Protection. A signed copy of this document is on file at the DEP office listed on the letterhead.

Matthew J. Sokop, P.E.
Section Chief, Wastewater Management
Bureau of Water Resources

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Enclosure: Inspection Report, CMOM Checklist

cc: WERO: File (2)

ecc: WERO: Electronic file,
Dan Fleuriel (sfwwtf@town.buckland.ma.us)
Town of Shelburne Board of Selectmen (townadmin@townofshelburnema.gov)

COMPLIANCE EVALUATION REPORT
REPORT ON OPERATIONS AND MAINTENANCE OF WASTEWATER TREATMENT PLANT

DATE: 8-28-2020

I. PERMITTEE INFORMATION

Facility Name: Shelburne Falls WWTP Telephone Number: 413-625-2300

Facility Address: 16 Gardner Falls Road, Buckland Number: MAG580002

Permittee: Town of Buckland Receiving Water/Classification: Deerfield River Class B

Expiration Date: 6 July 2016

II. GENERAL FACILITY INFORMATION

	Design Loading	Current Loading
FLOW (Gallons Per Day)	250,000 (Average Daily) 1,500,000 (Peak)	212,000 (annual average) 792,000 (January 2019)
BOD (lbs/day)	460	293 (annual average)
TSS (lbs/day)	460	302 (annual average)

Collection System: Former Combined System separated in 1966.

Infiltration/Inflow: Studies: Conducted 2018 by DPC Engineering per 314 CMR 12.00, AMP Generated Phase 3 and 4 SSES work proposed in AMP to correct RII, Inflow and Infiltration issues observed in sewer system.

Pretreatment: Submitted: N/A Approved: _____ Implemented: _____

MAJOR CONTRIBUTING INDUSTRIES (With Pretreatment) Yes _____ No _____

Mayhew Steel formerly on the sewer system. Closed and consolidated operations in Turners Falls facility. Had a pH adjustment system at the facility and was regulated under sewer use ordinances.

Microbrewery (Highwater Brewery State Street) currently on the system. Not currently regulated. Brews one time per week.

III. PLANT OPERATIONS AND MAINTENANCE UNIT OPERATIONS

	YES	NO	COMMENTS
Identification system for all equipment	X		
Nameplate information centralized	X		
Preventative maintenance system verifiable	X		
Manufacturer's O & M specifications	X		
Equipment history records	X		

Equipment work orders	X		
Orderly area for spare parts	X		
Spare parts inventory system	X		

IV. BUDGET & PERSONNEL

Budget is reviewed on an annual basis with sewer rates set accordingly. Given the regulatory requirements for I/I investigation and removal MassDEP recommended that thought be given to enhancing the line item budget for this account.

PERSONNEL:

Total on Site: 1 Total Certified: 2 Day Shift Operators: 2

Dan Fleuriel Grade 4M;
Matthew Ahearn Grade 3M

Day Shift: Monday Through Friday 0700 to 1530:
Weekends and Holidays: 1 Operator 2 Hours covering WWTP and Sewer System

Collection System Maintenance: WWTP personnel perform all maintenance on the collection system. Deerfield Street Pump Station pumps all wastewater from the Shelburne side of the Deerfield River to the WWTP.

DWPC recommended staffing level analysis performed: Yes XX (2010 2.2 = 3FTE)
Calculation sheets provided to Chief Operator and Town Administrator September 2020.

Summary Narrative & Recommendations

Inspector: Dan Kurpaska
Personnel Interviewed: Dan Fleuriel (Chief Operator)
Type of Treatment: Extended Aeration

RATING CODES: S=Satisfactory U=Unsatisfactory M=Marginal IN=In operation OUT=Out of Operation

		RATING	TYPE	COMMENTS
GENERAL				
	Housekeeping	S		All areas satisfactory. Plant neat and clean.
	Potable water supply protection	S		¾-inch town water line and RPZ
	Safety features	S		Handrails in place and secure
	Receives septage	N/A		Provisions at the plant but not routinely taken. Tank has a capacity of 3,000 gallons.
	Off-site alarm system	S		Detectoguard. High Water In Operations Building Basement; Low Aeration Tank Air; High Flow Rate; Power Failure

		RATING	TYPE	COMMENTS
PRELIMINARY TREATMENT				
	Maintenance of collection systems	M		As noted in the DPC report. Manholes have defects some grit build up in sewer system
	Pump station	S		Single Pump Station Deerfield Street. All flow from Shelburne side of river. Checked daily. Private pump station from Mohawk Trail Regional School. Owned by school district.
	Bar screens	S		Influent coarse and Fine Screens. After the coarse bar screen, the influent channel splits, directing wastewater to either an influent comminutor or a fine bar screen. Coarse and fine bar screens are manually raked as necessary to remove material. Screenings are dried adjacent to the screens and disposed of in a landfill. SOP as outlined below.
	Comminutor	OUT		The comminutor can be operated on a continuous basis. But is not typically used. Current SOP is to use the bar rack due to the cost of maintaining the comminutor.
	Influent Pumps			Gravity influent.
	Grit chamber	S		Aerated grit chamber 7,500 gallon capacity. Also serves to receive RAS. Blowers used for this are the same as the aeration tanks. Manually cleaned daily and taken down one time per year for cleaning
	Disposal of grit	S		Landfill
PRIMARY TREATMENT		N/A		
	Settling Tanks	N/A		
SECONDARY TREATMENT				
	Aeration Tanks	S		2 of 2 158,000 gallons each 12-feet deep. DO manually adjusted (blower speed) by operator based on daily samples. SOP for high flows includes a bypass by configuring the splitter box between the tanks. At very

		RATING	TYPE	COMMENTS
				high flow rates, if the flow rate into the splitter box exceeds the flow rate out of the primary and secondary openings, grit chamber effluent will overflow the splitter box and be directed to the final clarifiers (secondary treatment bypass). Fine bubble diffusers. Two 15-HP blowers in the blower building adjacent to the north aeration tank. Either blower is capable of providing adequate air for both aeration tanks and the aerated grit chamber. Blower speed is adjusted manually through the variable frequency drives (VFDs) for the blowers, located in the control room in the operations building. Manual butterfly valves are used to control the proportion of air flowing to the aerated grit chamber and each aeration tank.
	Secondary Clarifiers	S		2 of 2 square 8-feet deep. Chain and flight sludge and scum collection. 2 of 2 sludge pumps used as either RAS or WAS. RAS to aerated grit chamber; WAS to Aerobic Digester. Scum manually removed to scum tank. Scum piped to grit chamber.
	Return Sludge Pumps	S		2 of 2 (RAS; WAS)
SLUDGE PROCESS				
	Sludge/Scum pumps	N/A		Return Pumps (2 of 2) used as RAS or WAS.
	Aerobic Digester/Sludge Holding Tank	S		1 of 1 53,000 gallons aerated using a dedicated blower adjacent to the digester. 25 to 30,000 gallons of solids wasted to reed beds every 2 to 3 weeks. Hydrated lime is added to the digester in order to maintain pH in the 7.0 SIU range.
	Reed Beds (Disposal of sludge)	S		Sludge is removed from the sludge holding tank and

		RATING	TYPE	COMMENTS
				pumped to the on-site Reed Beds. Reed beds are allowed to freeze thaw then reeds are cut and mixed with the material. Harvested material is then trucked off site for disposal. The underdrain system for Reed Bed #1 (the lower reed bed (5,500 ft2) includes a sump that is pumped out by float-controlled sump pumps to the influent channel. Reed Beds #2 and #3 (the upper reed beds 3,250 ft2 each) have free draining under-drain systems which allow filtrate to drain by gravity to Reed Bed #1. Filtrate valves on Reed Beds #2 and #3 are typically kept closed unless standing water above the solids surface is observed.
	Chemicals	S		Hydrated lime for sweetening the digester
	Sand Drying Beds	OUT		Located in a greenhouse on the northwest corner of the site. The drying beds were previously used as an alternative to the reed beds for sludge drying prior to landfill disposal. Removed from service when the reed beds were constructed in 1993 and 1995 to replace the sand drying beds. The drying beds have not been used since the reed beds were constructed. Greenhouse enclosure is currently used for miscellaneous storage.
DISINFECTION				
	UV Disinfection	S		WWTP can use either UV or Sodium Hypochlorite. Typically the UV is used. Installed in the lower chamber allowing the use of the upstream as a “polishing clarifier”. Solids build up in the upper contact chamber

		RATING	TYPE	COMMENTS
				cleaned every 2 to 3 weeks using a submersible pump. UV installed in 2008 in one of the former chlorine contact chambers. Designed for 1.5 MGD using all 8 modules. Typically only 3 are used to achieve effective kills. Intensity alarm to indicate crystal cleaning or bulb replacement.
	Sodium Hypochlorite	OUT		55 gallon drums with positive displacement pump. Manually controlled and not flow paced. A chlorine residual analyzer is located downstream of the hypochlorite injection point that is used to automatically shut down the hypochlorite pump if the chlorine residual exceeds a pre-set level, and then restart the pumps once the chlorine residual has fallen below another pre-set level.
	Chlorine Contact Chamber	S		2 of 2 in use. Upper and lower. UV in lower; upper used as a flow through tank or when hypochlorite is in use.
	De-chlorination	N/A		
OTHER				
	Flow meter and recorder	S		Effluent ultrasonic flow meter in Parshall Flume. Located between secondaries and the chlorine contact chambers. Calibrated yearly as required. Maximum recording is 1.45 MGD.
	Plant Water System	S		From secondary clarifiers with an interconnection to the Shelburne Falls Fire district PWS. Booster pumps for plant water system. Cross connection devices tested by the Shelburne Falls Fire District 2 times per year as required.
	Records	S		At least 3 years in storage. Records.
	Lab controls	S		SOP and QA/QC plan

		RATING	TYPE	COMMENTS
				developed in 2008.
	Sample Preservation	S		Refrigerated sampler. Pace to flow.
	Standby Generator	S		95 kW Diesel. Will operate the entire WWTP.
	Monthly Reports	M		Recommended submittal of state reports electronically to avoid submittal to federal NetDMR.
	Effluent Appearance	S		Free of solids and sheen.

Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

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Charles D. Baker
Governor

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Lieutenant Governor

Kathleen A. Theoharides
Secretary

Martin Suuberg
Commissioner

Wastewater Collection System CMOM Program Self-Assessment Checklist

Name of your System:_____

Date of Self-Assessment:_____

Put an "A" in the final column for an issue you intend to address with future action, or leave blank if you have evaluated your program as sufficient.

I. General Information – Collection System Description

I	Question	Response	*Act
1	How many people are served by your wastewater collection system?		
2	What is the number of service connections to your collection system? How many: Manholes? Pump stations? Feet (or miles) of sewer? Force mains? Siphons?		
3	What is the age of your system (e.g., 30% over 30 years, 20% over 50 years, etc.)?		
4	What type(s) of collection system map is/are available and what percent of the system is mapped by each method (e.g., paper only, paper scanned into electronic, digitized, interactive GIS, etc.)? When was the map(s) last updated?		
5	If you have a systematic numbering and identification method/system established to identify sewer system manhole, sewer lines, and other items (pump stations, etc.), please describe.		
6	Are "as-built" plans (record drawings) or maps available and used by field crews in the office and in the field?		
7	Describe the type of asset management (AM) system you use (e.g. card catalog, spreadsheets, AM software program, etc.)		

II. Continuing Sewer Assessment Plan

II	Question	Response	*Act
1	Under what conditions, if any, does the collection system overflow? Does it overflow during wet and/or dry weather? Has your system had problems with: □ hydraulic issues, □ debris, □ roots, □ Fats, Oils & Grease (FOG), □ vandalism blockages resulting in manhole overflows, □ basement backups, □ other (specify)? Describe your system's history of structural collapses, and PS or force main failures.		
2	How many SSOs have occurred in each of the last three calendar years? What is the most frequent cause?		
3	Of those SSOs, how many basement backups occurred in each of the last three calendar years? How are they documented?		
4	What is the ratio of peak wet-weather flow to average dry-weather flow at the wastewater treatment plant (or municipal boundary for satellite collection systems)?		
5	What short-term measures have been implemented or plan to be implemented to mitigate the overflows? If actions are planned, when will they be implemented?		
6	What long-term measures have been implemented or plan to be implemented to mitigate the overflows? If actions are planned, when will they be implemented?		
7	Describe your preventive maintenance program; how do you track it (e.g., card files, electronically, with specific software)?		
8	How do you prioritize investigations, repairs and rehabilitation? What critical and priority problem areas are addressed more frequently than the remainder of your system? How frequently are these areas evaluated?		
9	Are septage haulers required to declare the origin of their "load"? Are records of these declarations maintained? Do any of the declarations provide evidence of SSOs?		

III.A. Collection System Management Organizational Structure

III.A	Question	Response	*Act
1	Do you have an organizational chart that shows the overall personnel structure for collection system operations, including operation and maintenance staff? Please attach your chart.		
2	For which jobs do you have up-to-date job descriptions that delineate responsibilities and authority for each position?		
3	How many staff members are dedicated to collection system maintenance? Of those, how many are responsible for any other duties, (e.g., road repair or maintenance, O&M of the storm water collection system)? If so, describe other duties.		
4	Are there any collection system maintenance position vacancies? How long has the position(s) been vacant?		
5	For which, if any, maintenance activities do you use an outside contractor?		
6	Describe any group purchase contracts you participate in.		

III.B. Collection System Management: Training

III.B	Question	Response	*Act
1	What types of training are provided to staff?		
2	Is training provided in the following areas: general safety, routine line maintenance, confined space entry, MSDS, lockout/tagout, biologic hazards, traffic control, record keeping, electrical and instrumentation, pipe repair, public relations, SSO/emergency response, pump station operations and maintenance, trench/shoring, other (describe)?		
3	Which training requirements are mandatory for key employees?		
4	How many collection system employees are certified (e.g. NEWEA certification program) and at what grade are they certified?		

III.C. Collection System Management: Communication and Customer Service

III.C	Question	Response	*Act
1	Describe your public education/outreach programs (e.g., for user rates, FOG, extraneous flow, SSOs etc.)		
2	What are the most common collection system complaints? How many complaints have you received in each of the past three calendar years?		
3	Are formal procedures in place to evaluate and respond to complaints?		
4	How are complaint records maintained (i.e., computerized)? How are complaints tied to emergency response and operations and maintenance programs?		

III.D. Collection System Management: Management Information Systems

III.D	Question	Response	*Act
1	How do you manage collection system information? (Commercial software package, spreadsheets, data bases, SCADA, etc). What information and functions are managed electronically?		
2	What procedures are used to track and plan collection system maintenance activities?		
3	Who is responsible for establishing maintenance priorities? What records are maintained for each piece of mechanical equipment within the collection system?		
4	What is the backlog for various types of work orders?		
5	How do you track emergencies and your response to emergencies? How do you link emergency responses to your maintenance activities?		

6	What written policies/protocols do you have for managing and tracking the following information: complaint work orders, scheduled work orders, customer service, scheduled preventative maintenance, scheduled inspections, sewer system inventory, safety incidents, emergency responses, scheduled monitoring/sampling, compliance/overflow tracking, equipment/tools tracking, parts inventory?		

III.E. Collection System Management: SSO Notification Program

III.E	Question	Response	*Act
1	What are your procedures, including time frames, for notifying state agencies, health agencies, regulatory authorities, and the drinking water authorities of overflow events?		
2	Do you use the state standard form for recording/reporting overflow events? If not, provide a sample copy of the form that is used.		

III.F. Collection System Management: Legal Authority

III.F	Question	Response	*Act
1	Are discharges to the sewer regulated by a sewer use ordinance (SUO)? Does the SUO contain procedures for controlling and enforcing the following: □ FOG; □ Infiltration/ Inflow (I/I); □ building structures over the sewer lines; □ storm water connections to sanitary lines; □ defects in service laterals located on private property; □ sump pumps?		
2	Who is responsible for enforcing various aspects of the SUO? Does this party communicate with your department on a regular basis?		
3	Summarize any SUO enforcement actions/activities that have occurred in the last three calendar years.		

4	Do you have a program to control FOG entering the collection system? If so, which of the following does it include: □ permits, □ inspection □ enforcement? Are commercial grease traps inspected regularly and who is responsible for conducting inspections?		
5	Is there an ordinance dealing with storm water connections or requirements to remove storm water connections?		
6	Does the collection system receive flow from satellite communities? Which communities? How are flows from these satellite communities regulated? Are satellite flow capacity issues periodically reviewed?		
7	Does the collection system receive flow from private collection systems? If yes, how is flow from these private sources regulated? How are overflows dealt with? Provide details, including contact information for these private systems.		

IV.A. Collection System Operation: Financing

IV.A	Question	Response	*Act
1	Has an enterprise (or other) fund been established and what does it include: wastewater collection and treatment operations; collection system maintenance; long-term infrastructure improvements; etc.? Are the funds sufficient to properly fund future system needs?		
2	How are rates calculated (have you done a rate analysis)? What is the current sewer charge rate? When was it last increased? How much was the increase?		
3	What is your O&M budget?		
4	If an enterprise fund has not been established, how are collection system maintenance operations funded?		
5	Does a Capital Improvement Plan (CIP) that provides for system repair/replacement on a prioritized basis exist? What is the collection system's average annual CIP budget?		

6	How do you account for the value of your system infrastructure for the Government Accounting Standards Board standard 34 (GASB 34)?		

IV.B. Collection System Operation: Hydrogen Sulfide Monitoring and Control

IV.B	Question	Response	*Act
1	Are odors a frequent source of complaints? How many have been received in the last calendar year?		
2	Do you have a hydrogen sulfide problem, and if so, do you have corrosion control programs? What are the major elements of the program?		
3	Does your system contain air relief valves at the high points of the force main system? How often are they inspected? How often are they exercised?		

IV.C. Collection System Operation: Safety

IV.C	Question	Response	*Act
1	Do you have a formal Safety Training Program? How do you maintain safety training records?		
2	Which of the following equipment items are available and in adequate supply: □ rubber/disposable gloves; □ confined space ventilation equipment; □ hard hats, □ safety glasses, □ rubber boots; □ antibacterial soap and first aid kit; □ tripods or non-entry rescue equipment; □ fire extinguishers; □ equipment to enter manholes; □ portable crane/hoist; □ atmospheric testing equipment and gas detectors; □ oxygen sensors; □ H2S monitors; □ full body harness; □ protective clothing; □ traffic/public access control equipment; □ 5-minute escape breathing devices; □ life preservers for lagoons; □ safety buoy at activated sludge plants; □ fiberglass or wooden ladders for electrical work; □ respirators and/or self-contained breathing apparatus; □ methane gas or OVA analyzer; □ LEL metering?		

IV.D. Collection System Operation: Emergency Preparedness and Response

IV.D	Question	Response	*Act
1	Do you have a written collection system emergency response plan? When was the plan last updated? What departments are included in your emergency planning?		
2	Which of the following issues are considered: □ vulnerable points in the system, □ severe natural events (see also Section VII, below), □ failure of critical system components, □ vandalism or other third party events (specify), □ other types of incidents (specify)?		
3	How do you train staff to respond to emergency situations? Where are responsibilities detailed for personnel who respond to emergencies?		
4	How many emergency calls have you had in the past calendar year?		

IV.E. Collection System Operation: Engineering – Capacity

IV.E	Question	Response	*Act
1	How do you evaluate the capacity of your system and what capacity issues have you identified, if any? What is your plan to remedy the identified capacity issues?		
2	What procedures do you use to determine whether the capacity of existing gravity sewer system, pump stations and force mains are adequate for new connections? Who does this evaluation?		
3	Do you charge hookup fees for new development and if so, how are they calculated?		
4	Do you have a hydraulic model of your collection system? Is it used to predict the effects of system remediation and new connections?		

IV.F. Collection System Operation: Pump Stations - Inspection

IV.F	Question	Response	*Act
1	How many pump stations are in the system? How often are pump stations inspected? How many are privately owned, and how are they inspected? Do you use an inspection checklist?		
2	Is there sufficient redundancy of equipment at all pump stations?		

3	How are pump stations monitored? If a SCADA system is used, what parameters are monitored?		
4	How many pump station/force main failures have you had in each of the last three years? Who responds to pump station/force main failures and overflows? How are the responders notified?		
5	How many pump stations are equipped with backup power sources? How many require portable generators? How many portable generators does your system own? Explain how the portable generators will be deployed during a system-wide electrical outage.		
6	Are operation logs maintained for all pump stations? Are the lead, lag, and backup pumps rotated regularly?		
7	Is there a procedure to modify pump operations (manually, or automatically), during wet weather to increase in-line storage of wet weather flows? If so, describe.		

V.A. Equipment and Collection System Maintenance: Sewer Cleaning

V.A	Question	Response	*Act
1	What is your schedule for cleaning sewer lines on a system-wide basis? At this frequency, how long will it take to clean the system? How are sewer cleaning efforts documented?		
2	How many linear miles of the collection system were cleaned in each of the past 3 calendar years?		
3	How do you identify sewer line segments that have chronic problems and should be cleaned more frequently? Is a list of these areas maintained and cleaning frequencies established?		
4	Approximately, how many collection system blockages have occurred during the last calendar year, and what were the causes?		
5	Has the number of blockages increased, decreased, or stayed the same over the past five years?		

6	What equipment is available to clean sewers? Is any type of cleaning contracted to other parties? If yes, under what circumstances?		
7	Do you have a root control program? Describe its critical components.		
8	Is your current CMOM plan written? If so, how does it compare with NEIWPCC Guidance?		

V.B. Equipment and Collection System Maintenance: Maintenance Right-of-Way

V.B	Question	Response	*Act
1	Is scheduled maintenance performed on Rights-of-Way and Easements? At what frequency? How many manholes in easement areas cannot be located?		
2	Are road paving projects coordinated with the collection system operators? Have manholes been paved over? How many manholes in paved areas cannot be located? Describe any systems in place for locating and raising manholes that have been paved over.		

V.C. Equipment and Collection System Maintenance: Parts Inventory

V.C	Question	Response	*Act
1	Do you have a central location for the storage of spare parts?		
2	How have critical spare parts been identified?		
3	How to you determine if adequate supplies on hand? Has an inventory tracking system been implemented?		

VI.A. SSES: System Assessment

VI.A	Question	Response	*Act
1	Do POTW flow records or prior I/I or SSES programs indicate the presence of public/private inflow sources or sump pumps? Please Explain.		
2	If problems are related to I/I, has a Sewer System Evaluation Survey (SSES) been conducted? When? What is the status of the recommendations?		

3	Do you have a program to identify and eliminate sources of I/I into the system including private service laterals and illegal connections? If so, describe.		
4	Have private residences been inspected for sump pumps and roof leader connections?		
5	Are inspections to identify illicit connections conducted during the property transfer process?		
6	How many sump pumps and roof leaders have been identified? How many have been removed?		
7	Have follow-up homeowner inspections been conducted?		
8	What incentive programs exist to encourage residences to disconnect roof leaders & sump pumps? (i.e. matching funds, etc.)		
9	What disincentive programs exist to encourage residences to disconnect roof leaders & sump pumps? (i.e. fines, surcharges)		

VI.B. SSES: Manhole Inspection

VI.B	Question	Response	*Act
1	Do you have a manhole inspection and assessment program?		
2	Has a formal manhole inspection checklist been developed?		
3	How many manholes were inspected during the past calendar year?		

VII. Flood Resilience

VII	Question	Response	*Act
1	Have you prepared plans and procedures for responding to extreme weather events that may result in flooding and loss of power? Have you reviewed the report “Preparing for Extreme Weather at Wastewater Utilities: Strategies and Tips,” published by the New England Interstate Water Pollution Control Commission (NEIWPCC) in September 2016?		

2	Do you have sewer lines that are within a flood area displayed in the Flood Insurance Rate Maps (FIRMs) published by the Federal Emergency Management Agency (FEMA)? What types of flood areas? Do the manholes on these sewer lines have water-tight manhole covers?		
3	Are any of your pump stations located within FEMA FIRM flood areas? What types of flood areas? Have you implemented any structural measures to provide flood resilience?		
4	Are upgrades or expansions being considered for any pump stations located within FEMA FIRM flood areas? Have you considered flood risk mitigation measures such as those listed in Section 1.2.1.h of the 2016 revision of Technical Report #16 Guides for the Design of Wastewater Treatment Works (TR-16) published by NEIWPCC in your designs?		
5	Are any of your treatment plant facilities located within FEMA FIRM flood areas? What types of flood areas? Have you implemented any structural measures to provide flood resilience?		
6	Are upgrades or expansions being considered for any treatment plant facilities located within FEMA FIRM flood areas? Have you considered flood risk mitigation measures such as those listed in Section 1.2.1.h of TR-16 in your designs?		

VIII. Energy Use

VIII	Question	Response	*Act
1	What is your annual energy cost for operating your system? For which pieces of equipment do you track energy use?		
2	Have you upgraded any of your pumps and motors to more energy efficient models? If so, please describe.		
3	Have you performed an energy audit in the past three years?		

4	Where do you use the most energy (fuel, electricity) in operating your collection system?		

IX. Other Actions

IX	Question	Response	*Act
1	Describe any other actions that you plan to take to improve your CMOM Program that are not discussed above.		