



Stantec Consulting Services Inc.
5 Burlington Woods Drive Suite 210, Burlington MA 01803-4542

January 31, 2019

Attention: Todd Borci
US EPA Region I – New England
5 Post Office Square – Suite 100
Boston, MA 02109-3912

Subject: Town of Belmont
ORDER ON CONSENT Docket No. CWA-AO-R01-FY17-11
Report On Compliance

Dear Mr. Borci,

In accordance with the above referenced Order On Consent, we are submitting the following Report On Compliance (ROC) dated January 31, 2019, which describes activities conducted from August 1, 2018 through January 31, 2019 associated with the Wellington Brook and Winn's Brook areas in the Town of Belmont. These two areas are designated as sub-catchments 8 and 10, respectively. This report also includes activities associated with sub-catchments 11, 11A, 12, 15 & 15A. Refer to the November 2017 Investigation of the Winn's Brook and Wellington Brook Tributary Areas report and the January 2018 Report On Compliance report for complete figures of each sub-catchment area. Approximately 126 gallons per day (GPD) of sewage were removed from the storm drain system within this reporting period.

V.1.a ILLICIT DISCHARGES IDENTIFIED

Sub-catchment 8-1

Completed

Wet weather sampling conducted at DMH 19D055, located at the intersection of Randolph St and Bow Rd resulted an E. coli value of >20,000. In addition, toilet paper and food debris were observed in the DMH by the CCTV Contractor. Based on this information, all 28 building sewer services, upstream of DMH 19D055, were targeted for dyed water testing. Of the 28 buildings targeted, 22 buildings were dye water tested to reveal 2 indirect sources and 1 direct connection to the storm drain. #16 & #28 Randolph St were indirect sources and #71 Bow Rd was the directly connected to the storm drain. Both storm drain segments were incompletely inspected due to bends in the mainline. The inspected pipe was in fair to good condition with only a few minor cracks identified.



January 31, 2019
Mr. Todd Borci
Page 2 of 7

Reference: CWA-AO-R01-FY17-11 Report On Compliance

Planned

The direct connection to the drain, at #71 Bow Rd, will be redirected to the sewer main. The two sewer services identified as indirectly connected to the storm drain will be lined. Dyed-water testing of the 6 remaining houses upstream of DMH-19D055 at Randolph St and Bow Rd will be completed.

The Outfall sampling verification will be conducted upon completion of the repairs.

Sub-catchment 8-2

Completed

CCTV inspection of an unknown 4-inch pipe connecting to the storm drain was completed. Due to the size of this pipe, a push camera was used to inspect approximately 75' of the pipe. No defects were observed, however, the pipe origin was unable to be determined. Dyed water testing was conducted on the sewer services at #150, #156 & #164 Common St. All were connected to the sewer, but trace amounts of dye was observed in the drain when #156 was tested. The mainline sewer in this section has not been lined.

An attempt was made to redirect the 4-inch pipe into the adjacent sanitary sewer but was unsuccessful due to sewer mainline being encased in concrete and utility congestion. Additionally, the pipe was determined to be coming from Washington St, not Common St. as originally believed. It is now believed the 4" pipe is an underdrain installed during the 1911 sewer construction.

Planned

The 4" underdrain service connected to the drain manhole will be mechanically plugged and capped with a threaded cap. The mainline sewer above the underdrain will be CIPP lined in future lining projects.

Outfall verification sampling will be conducted upon completion of work.

Sub-catchment 8-5

Completed

In addition to the sewer point repair, on Homer Rd, conducted prior to the last compliance report dated July 31, 2018, two sewer segments adjacent to the storm drain and the service lateral for #12 Brettwood Rd (connects to Homer Rd sewer) were CIPP lined. Prior to the repair, an ammonia sample was taken at this location, in lieu of an E. coli sample, and registered a 3.0 mg/L. Sample results for ammonia and E. coli taken on November 9, 2018 (post repair) were 0.1 mg/L and <100 E. coli/100 mL, respectively, which indicate the source of contamination has been removed.



January 31, 2019
Mr. Todd Borci
Page 3 of 7

Reference: CWA-AO-R01-FY17-11 Report On Compliance

The sewer service for #11 Pierce Rd was also CIPP lined. E. coli sampling results before and after the repair were 16,000 E. coli/100 mL and 600 E. coli/100 mL, respectively.

An estimated 84 GPD of sewage was removed from the storm drain (20% of 210 gallons per house).

Outfall 8-5 was also sampled and registered 1,200 E. coli/ 100 mL, a significant decrease from the pre-repair sampling result of 7,400 E. coli/100 mL.

Planned

Outfall 8-5 sampling will be conducted periodically to confirm the sources of contamination have been mitigated.

Sub-catchment 8-6 (Figures 1 & 2)

Completed

Maple St

Previous CCTV inspection of an unknown 6" pipe connecting to the storm drain along Maple St utilized a push camera and was able to inspect approximately 66' of pipe, where the camera could not proceed further due to a bend in the pipe. Follow-up CCTV inspection was attempted with a track camera this period, however the inspection was unsuccessful due to a bend at 5 ft (toward sewer). The pipe origin remains unknown.

The sewer mainline at Bartlett Ave flowing east at Maple St is the only unlined mainline in the vicinity. This section was dyed-water flooded and the 6" pipe was monitored with no dye observed. Three of the first four houses upstream of this service were also dyed-water tested and no dye was observed from the drain service. The remaining service at #-3/5 Jonathan St was attempted on January 25, 2019 but was unable to be completed due to surcharged conditions of the sewer system on Bartlett Ave. The surcharge conditions were likely induced by a rain event the prior day along with warmer temperatures causing significant snow melt.

Upon review of plan and profile information as well as the approximate elevations of the 6" pipe and the existing sewer identified in the field, the drain service may be an underdrain.

Bartlett Ave

CCTV inspection was completed for the Bartlett Ave 12" storm drain from the previous sampling hit to Vincent Ave. The pipe is in overall fair condition with minor cracks throughout and one location of moderate fractured pipe with evidence of infiltration. Four services were identified as connected to this section of storm drain and have corresponding CB's at each location. E. coli sample results on 11/9/18 were <100 E. coli/100 mL, compared to the sample taken on 7/27/17 of 12,750 E. coli/100 mL.



January 31, 2019
Mr. Todd Borci
Page 4 of 7

Reference: CWA-AO-R01-FY17-11 Report On Compliance

Trapelo Rd

Approximately 950 LF of the 1,150 LF of storm drain on the north side gutter line of Trapelo Rd between Slade St and Williston Rd was CCTV inspected. The sewer main is located in the sidewalk. Only one drain service was identified in the direction of the sewer main and did not appear to be a sewer service. From review of the Town's plan and profiles, the 15" storm drain is approximately 2-3 ft below the sewer. The 6" sewer main has been lined in prior contracts.

Planned

Maple St

The Town is further examining their records to identify the 6" drain service and where it originates from. If determined to be an underdrain, the pipe will be plugged. Additional dyed-water testing may be conducted pending information obtained from the Town.

Bartlett Ave

Four services identified connected to the 12" storm drain in Bartlett Ave will be further investigated by dyed-water testing the adjacent sewer house services. Due to surcharging conditions on Bartlett Ave, lining the sewer in future lining contracts will be evaluated.

Trapelo Rd

Adding additional storm drain manholes on the 15" drain on Trapelo Rd and CIPP lining the mainline will be evaluated and included in future lining contracts.

Outfall and tributary sampling will continue to be monitored to further pinpoint the sources of contamination.

Sub-catchment 10-2 (Figure 3)

Completed

Sewer service laterals for #37, #43 and #49 Hoitt Rd have been CIPP lined from the mainline to the building foundation. Follow up sampling was conducted and the E. coli results for pre and post repairs were >20,000 E. coli/100 mL and 2,700 E. coli/100 mL, respectively. Ammonia results dropped from 4.0 ppm to 0.4 ppm.

An estimated 42 GPD of sewage was removed from the storm drain (20% of 210 gallons per house).

Planned

The Outfall sampling will continue to be monitored to confirm residual contamination is flushed out over time.



January 31, 2019
Mr. Todd Borci
Page 5 of 7

Reference: CWA-AO-R01-FY17-11 Report On Compliance

Outfall Areas 11, 11A & 12

Completed

Evaluated the 235 LF of sewer mainline and 20 service laterals that were previously CCTV inspected.

Planned

Further investigations will be conducted to complete the design of sewer rehabilitation in the Oliver Rd area. Follow-up sampling will be conducted upon completion of work.

Spy Pond Outfalls – Outfall Areas 15 & 15A

Outfall Area 15

Completed

Samples were collected at Outfall 15 and at 2 additional locations within the tributary. Sample 15-1, located at Brighton St and Simmons Ave flowing from Brighton St north of Simmons Ave, had elevated levels of E. coli (12,400 E. coli/100 mL). Sample 15-1 is the most upstream sample and would impact downstream samples. Based on those results, the 10 houses adjacent to the contaminated storm drain were targeted for dyed-water testing. Seven of the 10 houses have been dyed-water tested with one direct sewer connection to the storm drain identified at #364 Brighton St.

Planned

The direct sewer connection to the storm drain will be designed for removal and completed this Winter. The 3 remaining buildings to be dyed-water tested will be completed. Outfall verification sampling will be conducted upon completion of work.

Outfall Area 15A

Completed

Samples were collected at Outfall 15A and at 6 locations within the tributary. Sample 15A-7, the most upstream sample, had an E. coli sample of 10,000 E. coli/100 ml, which encompasses the neighborhood of Knox St and Bellington St. The drain at this location was identified lower in elevation than the sewer based on Town records. A 6" service connected at DMH 50D027 also had elevated levels of E. coli.

The sewer main was dyed-water flooded upstream of Sample 15A-7 to the identified dry DMH at Knox St and Bellington St. No dye was observed in the storm drain

Planned

The sewer and storm drain upstream of Sample 15A-7 and within the Knox St neighborhood will be CCTV inspected along with the miscellaneous 6" service connected to 50D027. House inspection/dyed-water testing will be evaluated upon review of the CCTV inspections.

Design with community in mind



January 31, 2019
Mr. Todd Borci
Page 6 of 7

Reference: CWA-AO-R01-FY17-11 Report On Compliance

V.1.b SSO EVENTS

See attached Table 1. Table 1 is a list of blockages reported to the Town and were removed. None of the blockages resulted in an SSO.

V.1.c ILLICIT DISCHARGE AND SSO EVENT MAP

See attached Figures 1 & 2 Illicit Discharge and SSO Event Maps.

V.1.d CMOM-PROGRAM SELF-ASSESSMENT & CORRECTIVE ACTION PLAN ACTIVITIES

Activities undertaken this period include:

Section II. Continuing Sewer Assessment Plan: Item 9 - The Town is required to identify the origin of each load to be disposed of at the DPW Yard. As of November 2018, the Town is no longer allowing septage haulers to access the Town yard.

Section III. B. Collection System Management: Training, and Section IV. C. Collection System Operation: Safety - The Department of Public Works provides operations and equipment training to department staff. DPW is actively working to identify outside facilities and instructors in order to implement a safety training program.

Section III. E. Collection System Management: SSO Notification Program, Items 1 and 2 - The Department of Public Works is in receipt of the Massachusetts Department of Environmental Protection Sanitary Sewer Overflow (SSO)/Bypass Notification Form and the department is prepared to meet all reporting requirements when required to do so.

Section IV. D. Collection System Management: SSO Notification Program, Item 3 - The Department of Public Works provides to all sewer department staff an emergency response plan for SSO events. Regular staff training sessions are being programmed to ensure that new hires and current staff are prepared to respond to an SSO event.

V.1.e ADDITIONAL ACTIVITIES FOR ACHIEVING COMPLIANCE

Refer to the Part V.1.a.

V.1.f PROPOSED CHANGES TO REMEDIAL MEASURES

None.



January 31, 2019
Mr. Todd Borci
Page 7 of 7

Reference: CWA-AO-R01-FY17-11 Report On Compliance

V.1.g IDENTIFICATION OF ALL PLANS, REPORTS, AND OTHER SUBMISSIONS REQUIRED

The sampling report for Outfalls 15 and 15A was submitted concurrent with this compliance report.

V.1.h PLANS FOLLOWING THE REPORTING DEADLINES

Refer to the Part V.1.a.

V.1.i IDENTIFICATION OF NONCOMPLIANCE OF THE ORDER

None.

WORK COMPLETED TO DATE

Below is a summary of work completed to date:

- 12 Brettwood Road – Indirect sewer service connection - Lined
- Homer Rd Sewer 17S021-17S020 – Indirect connection, broken pipe - Replaced/Lined
- 11 Pierce Road – Indirect sewer service connection - Lined
- 37 Hoitt Road – Indirect sewer service connection - Lined
- 43 Hoitt Road – Potential indirect sewer service connection - Lined
- 49 Hoitt Road – Potential indirect sewer service connection - Lined

Please contact me if you have any questions regarding the information contained in this report.

Regards,
STANTEC CONSULTING SERVICES INC.

A handwritten signature in blue ink, appearing to read "Justin D. Gould".

Justin D. Gould, P.E.
Senior Associate
Phone: (781) 221-1083
Justin.Gould@stantec.com

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TABLE 1
SANITARY SEWER OVERFLOW EVENTS

7-31-18 to 12-31-18 Total Stoppage

Date by Month	ADDRESS	Date	RESULTS
July 2018			
106	Shaw Rd	7/31/2018	Flushed service with flusher
August 2018			
180-182	Beech St	8/20/2018	12-16' mega roots
182	Beech St	8/23/2018	60' pushed out
241	Channing Rd	8/12/2018	18' paper
29	Channing Rd	8/7/2018	No access cap cemented over
89	Chilton St	8/20/2018	Pushed out 30' also flushed service
	Concord Ave @ Louise Rd	8/14/2018	Main line
113	Cushing Ave	8/7/2018	No stoppage rodded 60'
31	Falmouth St	8/30/2018	Bagged line flushed
22	Fletcher Rd	8/20/2018	Grease & paper flushed
11-13	Hurd Rd	8/28/2018	Rodded Service roots @ 24-40'
101-103	Lewis Rd	8/7/2018	36' pushed out
45	Longmeadow Rd	8/26/2018	30' paper rodded & bagged line grease & paper
17	Maple St	8/18/2018	Bagged & cleared
64-66	Marlboro St	8/1/2018	Internal cap is broken bottom of pipe is broken
66-72	Pond St	8/31/2018	Internal
19	Sharpe Rd	8/10/2018	No access

Date by Month	ADDRESS	Date	RESULTS
106	Shaw Rd	8/1/2018	Flushed service with flusher
191	Trapelo Rd	8/12/2018	6' roots
40	Westlund Rd	8/11/2018	30' flushed from manhole
117	White St	8/23/2018	Rodded from manhole in driveway 50' in towards house roots
88	Winn St	8/21/2018	18' push out
September 201			
		9/19/2018	
569	Belmont St	9/27/2018	flushed out from manhole in street
583	Belmot St	9/27/2018	roots from 12' from manhole and driveway
16	Birch Hill Rd	9/24/2018	18" Grease/Rodded from manhole in yard to house
11	Brookside Ave	9/19/2018	Internal Sink Blockage
223	Channing Rd	9/14/2018	NO ACCESS
241	Channing Rd	9/10/2018	18' Paper
29	Channing Rd	9/10/2018	Blew out with flusher
96	Clark St	9/16/2018	Internal
10	Frost Rd	9/16/2018	18'+24' Roots
40	Greybirch Park	9/21/2018	12' roots
95	Hull St	9/4/2018	6' roots
62	Newton St	9/6/2018	Water Dept broke pipe
108	Rutledge Rd	9/29/2018	rodded pushed out @ 100'

Date by Month	ADDRESS	Date	RESULTS
217	Slade St	9/16/2018	24' pushed out
35	Staunton Rd	9/16/2018	12' Roots
49	Trowbridge St	9/26/2018	"Chimney" was blocked/ flushed out
123	Winter St	9/22/2018	flushed from manhole 30'
October 2018			
20	Cambridge St	10/5/2018	Bagged the line
139	Dean St	10/22/2018	Paper bagged line+flushed
15	Goden St	10/12/2018	12+24' Roots
99	Hittinger St	10/23/2018	Internal
4	Howard St	10/24/2018	Flushed out
16	Ivy Rd	10/4/2018	18' pushed out
16	Leslie Rd	10/28/2018	24' roots
43	Oak Ave	10/8/2018	Bagged the line
87	Sherman St	10/4/2018	Rodded-megapaper/ need to camera line
38-40	Wiley Rd	10/24/2018	Bagged a lot of grease
1-3	Winslow Rd	10/27/2018	Rodded 60' Internal
123	Winter St	10/4/2018	flushes from manhole 25'
November 201			
32	Alma Ave	11/17/2018	24' pushed
36	Audrey Rd	11/16/2018	24' roots

Date by Month	ADDRESS	Date	RESULTS
36	Audrey Rd	11/26/2018	Rodded line 48' roots
733	Belmont St	11/4/2018	Flushed manhole
733	Belmont St	11/26/2018	Blew out with flusher
34	Birch Hill Rd	11/18/2018	No Access
241	Channing Rd	11/23/2018	30' Pushed out when 66'
27	Channing Rd	11/2/2018	Unable to clear line, contractor needed
22	Flett Rd	11/21/2018	No Access
4	Gorham Rd	11/19/2018	flushed, bagged, rotted
20	Horne Rd	11/4/2018	18' roots and paper
38	Poplar St	11/24/2018	6-12' Roots
19	Prospect St	11/19/2018	36' roots
49-51	Slade St	11/29/2018	roots @ 12'
26	Springvalley Rd	11/1/2018	Rodded MH to house 12' roots
70B	Thomas St	11/23/2018	84' roots
229-231	Trapelo Rd	11/9/2018	36' roots
9	VanNess Rd	11/24/2018	30' roots
225	White St	11/5/2018	bagged and flushed, grease in line
December 201			
4	Hoitt Rd	12/26/2018	jetted out with flusher
4	Howard St	12/16/2018	Bagged line, pushed out paper

Date by Month	ADDRESS	Date	RESULTS
11	Jeanette Ave	12/30/2018	flushed main line
336	Payson Rd	12/19/2018	15 and 36" paper, flushed line
17	Poplar St	12/3/2018	mainline
368	Trapelo Rd	12/5/2018	No Access/need plumber