



Haverhill

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Water/Wastewater Division
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April 30, 2018

Environmental Protection Agency
Water Technical Unit (OES04-3)
U.S. EPA - New England, Region 1
5 Post Office Square, Suite 100
Boston, MA 02109-3912
Ms. Joy Hilton, EPA

Subject: City of Haverhill, MA NPDES Permit #MA 0101621
Consent Decree Submittal (Civil Action No. 16-11698-IT)
Compliance Report Number 3 – July through December 2017

Dear Ms. Hilton:

Enclosed is Compliance Report No. 3 as required by Section IX.67 of the Consent Decree (CD). This report is for the July 1, 2017 through December 31, 2017 reporting period.

If you require additional information, please call me at (978) 374-2382.

Sincerely,

Robert E. Ward
Deputy DPW Director

Enclosure

cc: Chief, Environmental Enforcement Section, U.S. DOJ
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CITY OF HAVERHILL, MASSACHUSETTS

NPDES PERMIT No. MA0101621

CONSENT DECREE

(Civil Action No. 16-11698-IT, 11/10/16)

COMPLIANCE REPORT No. 3

JULY THROUGH DECEMBER 2017

APRIL 2018



CITY OF HAVERHILL, MASSACHUSETTS
NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM
PERMIT No. MA0101621
CONSENT DECREE
(Civil Action No. 16-11698-IT, 11/10/2016)
COMPLIANCE REPORT No. 3
JULY THROUGH DECEMBER 2017

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SECTION 1

INTRODUCTION

1.1 BACKGROUND

The United States Environmental Protection Agency (EPA), Massachusetts Department of Environmental Protection (MassDEP), and the City of Haverhill entered into a Consent Decree to require the City to take measures necessary to meet the requirements of the Clean Waters Act and the Massachusetts Clean Water Act, and to achieve and maintain compliance with the Small Municipal Separate Stormwater Sewer System (MS4) General Permit and the Publicly Owned Treatment Works (POTW) Permit, and all applicable federal and state regulations. The effective date of the Consent Decree is November 10, 2016.

As part of the Consent Decree, the City shall submit a Compliance Report to EPA and MassDEP for the previous six-month period, referred to as a “Reporting Period.” The bi-annual Reporting Periods run from January through June and July through December, with the Compliance Reports due on April 30th and October 31st for the previous period.

The goal of this Compliance Report is to provide the EPA and MassDEP an updated summary of the work performed by the City to achieve and maintain compliance over the course of the Reporting Period.

1.2 REPORT ORGANIZATION

The Compliance Report is divided into several sections including:

- IDDE Program
- SSO and Building/Private Party Backup Events
- Construction Site Inspection and Enforcement Program
- General Status
- Secondary Treatment Bypass
- CMOM Corrective Action Plan (Per MassDEP request)

Each section summarizes the City’s actions, activities, and events that have occurred over the previous Reporting Period in accordance with the Consent Decree.

1.3 CERTIFICATION STATEMENT

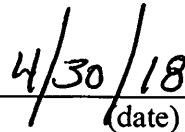
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage 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.



Robert E. Ward

Deputy DPW Director

City of Haverhill, Massachusetts


(date)

SECTION 2

IDDE PROGRAM

2.1 INTRODUCTION

The City identified and inspected 1,200 stormwater/combined sewer overflow (CSO) outfalls as part of the 2014/2015 Stormwater Outfall Inspection Report. Of those 1,200 outfalls; 104 outfalls had dry-weather flow and based on laboratory testing of dry weather flow, 31 outfalls were originally identified for further upstream investigations to determine if there are illicit connections. Based on the findings, the City established a draft schedule of prioritized inspections.

In February 2017, the City prepared the “Illicit Discharge Detection and Elimination (IDDE) Manual.” The manual identified the procedures that the City will follow to continue their comprehensive inspections of its stormwater outfalls and upstream system investigations. The IDDE Manual was amended in March 2017 to include a new section detailing the IDDE enforcement procedures that the City will undertake when an illicit connection is identified.

The revised IDDE Manual was submitted to EPA and MassDEP for approval on March 8, 2017. The City received a letter from the EPA on September 27, 2017, with comments on the Manual and a requirement for the City to respond by January 1, 2018. The City sent the reply to EPA on December 28, 2017. The City’s response letter updated the IDDE investigation and sampling protocol and included a new prioritized schedule of IDDE investigation to address EPA comments. This document can be found on the City’s Stormwater website at:

www.haverhillma.gov/departments/storm_water_program/index.php

2.2 CURRENT REVISED PRIORITY LISTING

In December 2017, the City updated its IDDE Investigation Priority list in response to EPA comments. Per the EPA request, the City updated the list of outfalls to be investigated to add the outfalls that had non-bacterial indicators of potential illicit connections. The original list of High, Medium, and Low Priority investigations did not essentially change, but the City added outfalls

requiring follow-up investigations (i.e., those outfalls the City was not able to complete investigations in the first round of inspections) and Other Priorities (based on non-bacteria results).

Table 2-1 (below) summarizes the Revised IDDE Investigation Priorities as of December 2017. There are now 39 outfalls with a High, Medium, and Low Priority; 49 Outfalls with non-bacteria indicators; and 15 outfalls requiring follow-up investigations. This list of priorities will change as the investigation progresses. It is also important to note that significant portion of these outfalls may be privately owned. As the City confirms the ownership of these outfalls, private outfall owners will be notified as the conditions warrant.

2.3 IDDE INVESTIGATION PROGRESS REPORTING

Table 2-2 shows the City's progress to date of their IDDE investigations during the reporting period (July through December 2017). Those outfalls that have been added as a priority, have been highlighted in Table 2-2.

Using GIS, the City has identified a total of 27.3 miles of storm drain piping and 2,733 drainage manholes in the tributary area upstream of the total outfalls. The identified lengths of drain pipe and number of manholes for each basin are shown in Table 2-2, as well as the number of each that have been addressed by the IDDE investigations during the reporting period. A cumulative total for the IDDE Program is also included and has been updated from the previous Compliance Reports.

Investigations by the City were performed using a bottom up approach to look for dry weather connections. Manholes and piping were investigated upstream from the outfall until the dry weather flow was no longer observed. For some outfalls, the entire inventory of pipes and manholes in that catchment area may not have been physically inspected, however, due to no observed dry weather flow, the City concludes that there are no illicit connections further upstream and is marking that catchment's investigations as 100% percent complete.

As summarized in Table 2-2, the City has currently addressed 39% and 52% of the identified drain piping and manholes, respectively. Table 2-2 lists both the upstream basin investigations that took place over the reporting period and the total to date. There was a reduction in the percentage of

Table 2-1
PRIORITIZED LIST OF OUTFALL SUB-AREA INVESTIGATIONS
(BASED ON OUTFALL INSPECTION PROGRAM)
2014/2015/2016 Dry-Weather MS4/Stormwater Outfall Inspection Program
Summary of Water Quality Testing of Dry Weather Flow at MS4/CSO Outfalls

Outfall Information					Field Inspection Information			Dry-Weather Flow Characteristics					Field Parameter Test Results							Coliform Laboratory Sampling/Analysis			
					Date	Dry Weather		Flow Description	Odor	Color	Floatables	Turbity	Sample Time	Sample Temp (F)	pH	Conduct-ivity	Ammonia (mg/l)	Surfactants (mg/l)	Chlorine (mg/l)	Sample Date for Bacteria	Previous Rainfall (Sample)	E.Coli (MPN/ 100 ml)	Entrococcus/F ecal (MPN/ 100 ml)
< 24 hours	<48 hours																						
High Priority																							
UNK0955	36"	RCP	South Main St(Dominator Plaza)	City	9/29/2014			MODERATE	NONE	CLEAR	NONE	NONE	1058	69.2	7.54	1673	0	0.5		9/21/2015	0.1" on 9/13/2015	>48,000	
MR24314	24"	RCP	Groveland Street/Water Street	City	9/2/2015			NO INFORMATION	RANCID/SO UR	BROWN, YELLOW	GREASE	CLOUDY	800	70.1	7.6	1009	0	3	0	9/9/2015	0.19" ON 8/23/15	>24,000	>24,190
PL0891	30"	RCP	Main St @ Marsh Ave	City	10/6/2014			TRICKLE	SEWERAGE	GRAY	OTHER (DEBRIS)	CLOUDY	840	50	7.36	1123	0	3		9/9/2015	0.19" ON 8/23/15	>24,000	
MR1109	12"	RCP	350 Water Street	City	10/26/2015			TRICKLE	``	NONE	NONE	NONE	930	59.3	7.31	3	0	0	0	12/10/2015	0.1" ON 12/3/15	1413.6	> 2420
UNK1767	36"	CMP	Tudor Ct	City	10/10/2014			TRICKLE	NONE	CLEAR	DEBRIS	CLEAR	1055	60.6	7.41	373	0	0.25		9/21/2015	0.1" on 9/13/2015	14,000	
UNK0951	48"	RCP	61 Brook St	City	9/29/2014			MODERATE	NONE	CLEAR	NONE	CLEAR	900	65.5	7.98	334	0	0.25		9/9/2015		4,611	
DPI10946	48"	RCP	High School	City	11/5/2015			TRICKLE	NONE	NONE	NONE	NONE	815	56.4	7.22	849	0	0.25	0	12/10/2015	0.1" ON 12/3/15	>2420	
UNK0788	24" X 24"	OTHER (ROCK)	Bradley Ave	City	9/19/2014			MODERATE	NONE	CLEAR	NONE	NONE	855	51.8	7.37	325	0	0		9/30/2014	0.01" ON 9/29/14	>2,420	
MR1141	36"	RCP	Merrimac River (River St)	City	9/23/2014			TRICKLE	NONE	CLEAR	OTHER (DIRT)	CLEAR	945	62	7.88	694	0	0.25		9/30/2014	0.01" ON 9/29/14	>2,420	
DPI1094	6' X 3'9"	RCP	Orchard Hill Rd	Private	10/7/2014			MODERATE	NONE	BROWN	OTHER (DEBRIS)	SLIGHT CLOUDINE SS	1121	61.3	6.44	292	0	0		9/9/2015	0.19" ON 8/23/15	>2419.6	
UNK1821	18"	RCP	Farrwood Dr	Private	10/31/2014			TRICKLE	NONE	CLEAR	NONE	CLEAR	955	50	8.4	435	0	0		11/5/2014	0.25" ON 11/2/14	>2,419.6	
DPO0696	12"	RCP	Pamela Lane	City	6/5/2015			MODERATE	NONE	NONE	NONE	NONE	1010	64.2	6.75	365	0	0	0	6/12/2015	0.1" ON 6/6/15	>2,419	
MR1138	36"	RCP	Merrimac River (River St)	City	9/23/2014			TRICKLE	NONE	CLEAR	OTHER (DIRT)	CLEAR	920	58.6	7.24	613	0	0		9/30/2014	0.01" ON 9/29/14	2420	
Medium Priority																							
LR1260	3'x4'	OTHER, Blocks	140 Hale Street	City	9/28/2015			NO INFORMATION	NONE	NONE	NONE	NONE	1040	69.9	7.1	927	0	0.5	0	11/4/2015	0.02" ON 11/1/15	1986.3	
WMBO759	38"	PVC	West Meadow Rd	City	10/28/2014			TRICKLE	NONE	CLEAR	NONE	CLEAR	832	48.5	5.56	1581	0	0.25		11/5/2014	0.25" ON 11/2/14	1986.3	
UNK0954	4' X 6'	OTHER (GRANIT E)	South Main St(Dominator Plaza)	City	10/7/2014			MODERATE	NONE	CLEAR	NONE	CLEAR	805	60.4	8.1	504	0	0		10/20/2014	0.02" ON 10/18/14	1299.7	
UNK1166	34"	RCP	8 Franzone Dr	Private	9/30/2014			MODERATE	NONE	CLEAR	NONE	CLEAR	850	59.5	7.25	1437	0	0		10/6/2014	0.12" ON 10/4/14	1299.7	
UNK1177	48"	RCP	Franzone Dr	City	9/30/2014			TRICKLE	NONE	CLEAR	NONE	NONE	1105	59	7.05	1537	0	0.25		10/6/2014	0.12" ON 10/4/14	1299.7	
DPI1074	24"	RCP	Amy Lynne Lane	Private	6/7/2015		X	NO INFORMATION	NONE	NONE	NONE	NONE	905	61.5	6.97	700	0	0	0	7/7/2015	0.02" ON 7/4/15	1218	
UNK1734	30"	RCP	Presidential Dr	Private	10/15/2014			MODERATE	RANCID/SO UR	BROWN	NONE	SLIGHT CLOUDINE SS	925	65.6	6.9	1722	3	0.25		10/20/2014	0.02" ON 10/18/14	1188.07	
JC1028	15"	RCP	Kali Way	Private	10/7/2014			TRICKLE	NONE	CLEAR	NONE	CLEAR	950	67.3	7.4	433	0	0		10/20/2014	0.02" ON 10/18/14	1046.2	
LR0993	16"	CMP	100 Newark Street	City	11/7/2015			MODERATE	NONE	NONE	NONE	NONE	840	59.6	6.81	765	0	0	0	12/1/2015	0.39" ON 11/28/15	1046.2	33.6
Low Priority																							
UNK1835	15"	PVC	Broadway	City	6/10/2015			NO INFORMATION	NONE	NONE	NONE	NONE	935	69	7.08	240	0	0	0	6/12/2015	0.1" ON 6/6/15	980.4	
LR1103	15"	RCP	Bennington St	City	9/10/2014			TRICKLE	NONE	CLEAR	NONE	NONE	830	68.1	7.35	683	0	0		9/16/2014	0.18" ON 9/13/14	920.8	
BZB0847	15"	RCP	Fermanagh St	City	10/20/2014			TRICKLE	NONE	CLEAR	NONE	NONE	1306	60	7.7	287	0	1		11/13/2014	0.06" ON 11/7/2014	770.1	
UNK1735	53"	RCP	Presidential Dr	Private	10/15/2014			TRICKLE	NONE	CLEAR	DEBRIS	CLEAR	1138	71	7.1	574	0	0		10/20/2014	0.02" ON 10/18/14	648.8	
MR20718	10"	RCP	1 Water Street	City	8/14/2015			NO INFORMATION	NONE	NONE	NONE	NONE	1000	78	7.99	2		0	0	8/31/2015	0.19" ON 8/23/15	556	631
MR1164	36	RCP	Water Street	City	8/25/2015				NONE	CLEAR	NONE	NONE		72.2	7.6	2	0	0	0	08/31/2015	0.19" ON 8/23/15	461	< 10
UNK0894	NA	NA	NA	Private	9/24/2014			NA	-	-	-	-	-	-	-	-	-	-	-	10/06/2015	0.12" ON 10/4/14	461	
DPO1079	24"	RCP	Amy Lynne Lane	Private	6/7/2015		X	TRICKLE	NONE	NONE	NONE	NONE	905	61.5	6.97	700	0	0	0	7/7/2015	0.02" ON 7/4/15	436	
FBO0638	12"	RCP	Hilldale Ave.	City	6/27/2015			TRICKLE	NONE	NONE	NONE	NONE	945	64.5	6.91	453	0	0	0	7/7/2015	0.02" ON 7/4/15	435.2	
UNK0668	18"	RCP	Danielle Drive	City	6/8/2015			TRICKLE	NONE	NONE	NONE	NONE	930	63.5	6.37	502	0	0	0	6/12/2015	0.1" ON 6/6/15	435.2	
PL1222	36"	RCP	West Gile St.	City	5/20/2015			NO INFORMATION	NONE	NONE	NONE	NONE	825	65.4	7	548	0	0.25	0	6/5/2015	1.38" ON 6/2/15	410.6	
UNK0661	24"	RCP		City	9/26/2014			TRICKLE	NONE		NONE	NONE		67.1	7.84	815	0	0		11/13/2014	0.06" ON 11/7/2014	365.4	
UNK1063	15"	RCP	Crystal Ct.	Private	5/26/2015			TRICKLE	NONE	NONE	NONE	NONE	1015	66	7.6	49	0	0	0	6/5/2015	1.38" ON 6/2/15	344.8	
MR32720	36"	RCP	782/775 River Street	City	11/16/2015			TRICKLE	NONE	NONE	NONE	NONE	900	57.2	7.31	7	0	0	0	12/1/2015	0.39" ON 11/28/15	325.5	
UNK0836	6'	RCP	Beechwood Drive	City	6/6/2015	X		TRICKLE	NONE	NONE	NONE	NONE	1025	57.2	7.2	385	0	0	0	7/7/2015	0.02" ON 7/4/15	325.5	

Outfall Information					Field Inspection Information			Dry-Weather Flow Characteristics					Field Parameter Test Results							Coliform Laboratory Sampling/Analysis			
					Date	Dry Weather		Flow Description	Odor	Color	Floatables	Turbity	Sample Time	Sample Temp (F)	pH	Conduct-ivity	Ammonia (mg/l)	Surfactants (mg/l)	Chlorine (mg/l)	Sample Date for Bacteria	Previous Rainfall (Sample)	E.Coli (MPN/ 100 ml)	Entrococcus/F ecal (MPN/ 100 ml)
						< 24 hours	<48 hours																
MR0982	18"	CLAY	20 Back Lane	City	10/14/2015			NO INFORMATION	NONE	NONE	NONE	NONE	1150	63.1	7.25	3	0	0	0	11/4/2015	0.02" ON 11/1/15	547.5	183.5
MR23912	8"	STEEL	120 Merrimack St	City	8/27/2015			TRICKLE	NONE	NONE	NONE	NONE	915	55.1	6.71	6	0	0	0	8/31/2015	0.19" ON 8/23/15	12.1	148
Other Priorities (based on non-bacteria results)																							
UNK1818	12"	HDPE	Farrwood Dr	Private	10/31/2014			TRICKLE	NONE	BROWN	NONE	SLIGHT CLOUDINE SS	908	48.3	7.38	78	0	0.5		11/5/2014	0.25" ON 11/2/14	181.9	
UNK0908	30"	CMP	Shelley Rd	City	9/24/2014			MODERATE	NONE	CLEAR	NONE	CLEAR	940	65.8	6.91	1631	0	0.25		10/6/2014	0.12" ON 10/4/14	143.9	
UNK0898	32"	CMP	Shelley Rd	City	9/24/2014			TRICKLE	NONE	CLEAR	NONE	CLEAR	1020	63.3	7.17	1240	0	0.25		10/6/2014	0.12" ON 10/4/14	133.4	
UNK1886	12"	HDPE	Lake Street	Private	6/5/2015			TRICKLE	NONE	NONE	NONE	NONE	900	58.2	7.51	192	0	1	0	6/18/2015	0.33" ON 6/15/15	90.9	
WMBO743	12"	CMP	Littlefield Ct.	Private	6/8/2015			TRICKLE	NONE	BROWN	NONE	NONE	905	73	5.73	1489	0	0.25	0	6/12/2015	0.1" ON 6/6/15	87.8	
UNK0907	30"	CMP		City	9/24/2014			MODERATE	NONE	BROWN	OTHER	SLIGHT CLOUDINE SS	910	61.1	7.33	1846	1.25	0.25		10/6/2014	0.12" ON 10/4/14	79.4	
UNK1888	12"	HDPE	Lake Street	Private	6/5/2015			MODERATE	NONE	NONE	NONE	NONE	900	58.2	7.51	192	0	1	0	6/18/2015	0.33" ON 6/15/15	72.3	
UNK1889	12"	HDPE	Lake Street	Private	6/5/2015			MODERATE	NONE	NONE	NONE	NONE	900	58.2	7.51	192	0	1	0	6/18/2015	0.33" ON 6/15/15	67	
MR1140	15"	RCP	River St	City	9/23/2014			TRICKLE	NONE	BROWN	OTHER	CLOUDY		42.6	8.18	484	0	0		11/13/2014	0.06" ON 11/7/2014	62.4	
UNK0953	48"	CMP	South Main St(Dominator Plaza)	City	9/29/2014			TRICKLE	NONE	CLEAR	NONE	CLEAR	1050	67.8	8.07	437	0	0.25		10/20/2014	0.02" ON 10/18/14	57.3	
LRO995	18"	RCP	Newark St	City	9/10/2014			TRICKLE	NONE	CLEAR	NONE	CLEAR	915	71.4	7.41	120	0	0.75		10/14/2014	0.18" ON 10/11/14	52	
UNK1813	12"	RCP	Farrwood Dr	Private	10/31/2014			MODERATE	NONE	CLEAR	NONE	CLEAR	1100	52.3	7.78	1066	0	0.25		11/5/2014	0.25" ON 11/2/14	52	
WMBO740	38"	HDPE	West Meadow Rd	Private	10/28/2014			SUBSTANTIAL	NONE	BROWN	NONE	CLEAR	815	47.1	6.79	270	0	0.25		11/5/2014	0.25" ON 11/2/14	47.3	
CB1710	9'X4'	RCP	Research Dr	City	11/4/2014		X	MODERATE	NONE	CLEAR	NONE	CLEAR	910	44.7	7.07	430	0	0.25		11/13/2014	0.06" ON 11/7/2014	47.3	
UNK1887	12"	HDPE	Lake Street	Private	6/5/2015			TRICKLE	NONE	NONE	NONE	NONE	900	58.2	7.51	192	0	1	0	6/18/2015	0.33" ON 6/15/15	43.5	
MR0834	48"	RCP	Merrimac River (Bradley Ave)	City	9/19/2014			MODERATE	NONE	CLEAR	NONE	NONE	831	50	7.6	295	0	0		11/13/2014	0.06" ON 11/7/2014	43.2	
CB1193	9'X4'	RCP	Research Dr	City	11/4/2014			MODERATE	NONE	CLEAR	NONE	CLEAR	910	44.7	7.07	430	0	0.25		11/13/2014	0.06" ON 11/7/2014	42.2	
WMBO739	38"	HDPE	West Meadow Rd	Private	10/28/2014			MODERATE	NONE	BROWN	NONE	CLEAR	815	47.1	6.79	270	0	0.25		11/5/2014	0.25" ON 11/2/14	35.9	
WMBO738	12"	HDPE	West Meadow Rd	Private	10/28/2014			MODERATE	NONE	BROWN	NONE	CLEAR	815	47.1	6.79	270	0	0.25		11/5/2014	0.25" ON 11/2/14	35	
UNK1020	24"	RCP		Private	9/30/2014			TRICKLE	NONE	NONE		SLIGHT CLOUDINE SS	840	44.9	7.77	301	0	0		11/13/2014	0.06" ON 11/7/2014	34.1	
UNK0883	12"	CMP		City	9/24/2014			TRICKLE	NONE	CLEAR	NONE	NONE	925	64.7	7.41	224	0	0.25		10/20/2014	0.02" ON 10/18/14	28.8	
UNK1844	18"	HDPE	97 Industrail Park (Loves)	Private	11/6/2014			MODERATE	NONE	CLEAR	NONE	CLEAR	1005	52.1	8.02	1087	0	0.25		11/13/2014	0.06" ON 11/7/2014	24.3	
WMBO742	18"	CMP	West Meadow Road	Private	6/8/2015			TRICKLE	NONE	NONE	NONE	NONE	900	65.6	6.65	4	0	0.25	0	6/12/2015	0.1" ON 6/6/15	24.3	
MR0662	18"	RCP		City	9/25/2014			TRICKLE	NONE	CLEAR	NONE	NONE	1120	65.4	7.5	475	0	0.25		10/6/2014	0.12" ON 10/4/14	23.8	
LR0963	15"	HDPE	Alvanos St	City	9/11/2014			MODERATE	NONE	CLEAR	NONE	SLIGHT CLOUDINE SS	1015	68.1	7.87	855	0	0.25		9/16/2014	0.18" ON 9/13/14	22.6	
CB1198	NA	RCP	Research Dr	City	11/4/2014			MODERATE	NONE	CLEAR	NONE	CLEAR	1003	50.2	7.06	208	0	0.25		11/13/2014	0.06" ON 11/7/2014	21.3	
MR0770	36"	RCP	Merrimac River (River St)	City	9/23/2014			TRICKLE	NONE	CLEAR	NONE	CLEAR	930	60.6	7.86	713	0	0.25		9/30/2014	0.01" ON 9/29/14	19.9	
UNK1836	36"	RCP	Computer Dr	City	11/6/2014			MODERATE	NONE	CLEAR	NONE	CLEAR	850	53.7	7.48	3	0	0.5		11/13/2014	0.06" ON 11/7/2014	18.3	
UNK1795	18"	RCP	145 Ward Hill Ave	Private	10/14/2015			TRICKLE	NONE	NONE	NONE	NONE	1105	68.7	7.27	3	0	1	0	11/4/2015	0.02" ON 11/1/15	17.9	
WMB0830	12"	CMP	West Meadow Rd	Private	10/28/2014			TRICKLE	NONE	BROWN	DEBRIS	CLOUDY	1035	56.6	7.33	389	0	0.25		11/5/2014	0.25" ON 11/2/14	9.8	
UNK1842	24"	HDPE	97 Industrail Park (Loves)	Private	11/6/2014			MODERATE	NONE	CLEAR	NONE	CLEAR	945	49.2	7.48	1244	0	0.25		11/13/2014	0.06" ON 11/7/2014	9.7	
UNK1811	18"	RCP	Farrwood Dr	Private	10/31/2014			TRICKLE	NONE	BROWN	DEBRIS	CLEAR	1126	51.6	7.35	190	0	0.25		11/5/2014	0.25" ON 11/2/14	9.6	
FP7115	12"	RCP	Brickett Ln	City	5/18/2015			NO INFORMATION	NONE	BROWN	OTHER	CLOUDY	920	56	7.4	6	0	0.5	0.25	5/22/2015	0.07" ON 5/19/15	8.4	
MR0750	12"	CLAY	Merrimac River (Route 110)	City	9/12/2014			TRICKLE	NONE	BROWN	OTHER	SLIGHT CLOUDINE SS	900	75	7.44	458	0	0		9/16/2014	0.18" ON 9/13/14	6.3	
DPI0969	15"	RCP	Diana Road	City	6/4/2015		X	MODERATE	NONE	NONE	NONE	NONE	1035	65.3	7.22	610	0	0	0.25	6/5/2015	1.38" ON 6/2/15	5.2	
DPO0657	45"	RCP	44 Sarah J Circle	City	6/9/2015			TRICKLE	NONE	NONE	NONE	SLIGHT CLOUDINE SS	925	65.4	6.94	206	0	0	0	7/7/2015	0.02" ON 7/4/15	4.1	
UNK1011	24"	RCP	Lake Street	City	6/8/2015			TRICKLE	NONE	NONE	NONE	NONE	915	59.3	6.95	794	0	0.25	0	6/12/2015	0.1" ON 6/6/15	3.1	
UNK0627	15"	RCP		City	5/21/2015			NO INFORMATION	NONE	NONE	NONE	NONE	840	64.5	6.82	791	0	0	0.25	5/22/2015	0.07" ON 5/19/15	2	
DPI0947	18"	RCP	177 Brook Street	City	10/31/2015			MODERATE	RANCID/ SOUR	NONE	NONE	NONE	800	52.3	7.4	283	0	0	0	12/10/2015	0.1" ON 12/3/15	1	
UNK1189	NA	NA	Primrose St (Dpw)	City	9/12/2014			TRICKLE	NONE	CLEAR	NONE	CLEAR	1025	64.7	7.86	343	0	0.25		9/16/2014	0.18" ON 9/13/14	<1	

Outfall Information					Field Inspection Information			Dry-Weather Flow Characteristics					Field Parameter Test Results							Coliform Laboratory Sampling/Analysis			
					Date	Dry Weather		Flow Description	Odor	Color	Floatables	Turbity	Sample Time	Sample Temp (F)	pH	Conduct-ivity	Ammonia (mg/l)	Surfactants (mg/l)	Chlorine (mg/l)	Sample Date for Bacteria	Previous Rainfall (Sample)	E.Coli (MPN/ 100 ml)	Entrocuccus/Fecal (MPN/ 100 ml)
< 24 hours	<48 hours																						
Other Priorities (based on non-bacteria results)																							
TS0984	24"	RCP		City	5/11/2015			MODERATE	NONE	BROWN	NONE	SLIGHT CLOUDINESS	1111	62.2	6.81	76	0	0	0.25	5/22/2015	0.07" ON 5/19/15	<1	
TS0989	24"	RCP	Newton Rd	City	5/18/2015			SUBSTANTIAL	NONE	Clear	NONE	SLIGHT CLOUDINESS	1100	63.3	7.2	48	0	0	0.25	5/22/2015	0.07" ON 5/19/15	<1	
UNK1750	24"	RCP	36 Magnavista	City	5/18/2015			TRICKLE	NONE	NONE	NONE	NONE	955	64.7	7.6	574	0	0	0.25	5/22/2015	0.07" ON 5/19/15	<1	
UNK1040	24"	RCP	Gile St.	City	5/20/2015			TRICKLE	NONE	ORANGE	NONE	SLIGHT	930	63.1	7.3	877	0	0.25	0	5/22/2015	0.07" ON 5/19/15	<1	
UNK1210	12"	RCP	Brickett Ln. Hill	Private	5/21/2015			TRICKLE	NONE	NONE	NONE	NONE	830	55.9	7.44	1211	0	0.25	0.25	5/22/2015	0.07" ON 5/19/15	<1	
UNK14313	12"	RCP	Northside Condo	Private	5/22/2015			NO INFORMATION	NONE	NONE	NONE	NONE	805	57.9	6.44	413	0	0.25	0	5/22/2015	0.07" ON 5/19/15	<1	
UNK0902	40"	CMP	Shelley Rd	City	9/24/2014			MODERATE	NONE	CLEAR	OTHER (RUST)	CLEAR		62.6	7.02	1567	0	0.25					
DPI1007	54"	CMP	Kenilworth Ln	#N/A	10/10/2014			TRICKLE	NONE	CLEAR	OTHER (DIRT/DEBRIS)	CLEAR	1040	51.5	7.86	471	0	0.25					
UNK1680	15"	HDPE	Colonial Farm Road	Private	6/27/2015			TRICKLE	NONE	BROWN	NONE	NONE		66.9	6.9	238	0	0	0				
		Needs Follow-up Testing (City has attempted to make follow-up visits to these sites but there was no flow)																					
LR1119	120" X 120"	RCP	Clydedale St	City	9/17/2014			SUBSTANTIAL	NONE	CLEAR	NONE	NONE		75	7.62	1211	0	0					
UNK0848	18"	RCP	Woodrow Ave	City	5/15/2015			SUBSTANTIAL	NONE	NONE	NONE	NONE		69.3	7.38	2	0	0	0				
FBO0723	18"	RCP	Hanna Ridge Rd.	City	5/28/2015			TRICKLE	NONE	NONE	NONE	NONE		77	7.49	385	0	0	0				
UNK0860	15"	RCP	Beechwood Drive	City	6/6/2015	X		TRICKLE	NONE	CLEAR	NONE	NONE		61.5	7.49	147	0	0	0				
UNK1043	15"	RCP	Lilacwood Circle	City	6/6/2015	X		TRICKLE	NONE	CLEAR	NONE	NONE		60.4	7.02	750	0	0	0				
UNK1044	24"	RCP	Juniperwood Drive	City	6/6/2015	X		TRICKLE															
UNK0866	15"	RCP	Rosewood Drive	City	6/6/2015	X		TRICKLE															
UNK0865	24"	RCP	Rosewood Drive	City	6/6/2015	X		TRICKLE															
UNK0888	NA	NA	West Lowell Street	City	6/12/2015			MODERATE															
UNK1188	32"	RCP	Primrose Street	City	ken pipe needs to be re-inspected																		
MR38714	6"	PVC		City	3/9/2016			TRICKLE															
MR38716	60"	RCP	Merrimack River	City	3/9/2016			MODERATE															
MR38712	36"	RCP	Merrimack River	City	3/9/2016			TRICKLE															
MR38718	18"	RCP	Merrimack River	City	3/9/2016			MODERATE															
LR39512	48"	RCP	Little River	City	3/31/2016			MODERATE					1130							4/1/2016	0.7" ON 3/28/16		Fecal - 5

NOTE: Data exceeds one of the parameter thresholds that suggest it should be added to the IDDE program

Laborary Sampling Dates in Red are the samples taken with less than 48 hours of dry weather.

TABLE 2-2
SUMMARY OF IDDE INVESTIGATIONS OF SYSTEMS WITH POTENTIAL ILLICIT CONNECTIONS BY BASIN
(BASED ON OUTFALL INSPECTION PROGRAM)
2014/2015 Dry-Weather MS4/Stormwater Outfall Inspection Program
REVISED (December 2017) IDDE INVESTIGATION PRIORITIES

Basin ID	Outfall ID	Existing System Estimates		Upstream Basin Investigations				Upstream Basin Investigations			
		Length of Pipe (ft)	Number of Manholes	Pipe (ft)	Percent Completed	Manholes	Percent Completed	Pipe (ft)	Percent Completed	Manholes	Percent Completed
Buswell Brook	BZB0847	1,697	46								
Buswell Brook TOTAL		1,697	46	0	0%	0	0%	0	0%	0	0%
Creek Brook	CB1193	70	0								
	CB1198	144	1								
	CB1710	71	0								
Creek Brook Outlet TOTAL		285	1	0	0%	0	0%	0	0%	0	0%
Detention Pond Outlet	DPO0657	422	7								
	DPO0696	61	2					61	100%	2	100%
	DPO1079	37	2								
Detention Pond Outlet TOTAL		520	11	0	0%	0	0%	61	12%	2	18%
Detention Pond Inlet	DPI0946	7,421	172					7,421	100%	172	1
	DPI0947	1,360	11								
	DPI0969	1,515	10								
	DPI1007	1,634	24								
	DPI1074	694	7								
	DPI1094	22	2								
Detention Pond Inlet TOTAL		12,646	226	0	0%	0	0%	7,421	59%	172	76%
Fishing Brook	FBO0638	852	24								
Fishing Brook TOTAL		852	24	0	0%	0	0%	0	0%	0	0%
Frey's Pond	FP7115	72	1								
Frey's Pond TOTAL		72	1	0	0%	0	0%	0	0%	0	0%
Johnston's Creek	JC1028	1,397	26								
Johnston's Creek TOTAL		1,397	26	0	0%	0	0%	0	0%	0	0%
Little River	LR0952	7,268	170								
	LR0963	703	2								
	LR0993	539	8								
	LR0995	822	0								

TABLE 2-2 CONTINUED

				Current Report Period				Completed to Date			
				July 2017 to December 2017				Including this Reporting Period			
Basin ID	Outfall ID	Existing System Estimates		Upstream Basin Investigations				Upstream Basin Investigations			
		Length of Pipe (ft)	Number of Manholes	Pipe (ft)	Percent Completed	Manholes	Percent Completed	Pipe (ft)	Percent Completed	Manholes	Percent Completed
Little River	LR1103	4,418	62								
	LR1260 ¹	26,134	614	6,214	24%	146	24%	6,214	24%	146	24%
Little River TOTAL		39,884	856	0	0%	146	17%	0	0%	146	17%
Merrimack River	MR0662	210	2								
	MR0750	188	4								
	MR0770	2,980	18								
	MR0834	756	8								
	MR0982	128	6								
	MR1109	941	26								
	MR1138	289	18					289	100%	18	100%
	MR1140	90	2								
	MR1141 ¹	3,899	104					3,899	100%	104	100%
	MR1164	1,746	116					1,746	100%	116	100%
	MR20718	NA									
	MR23912	0	0								
	MR24314	541	24					541	100%	24	100%
	MR32720	NA									
Merrimack River TOTAL		11,768	328	0	0%	0	0%	6,475	55%	262	80%
Pentucket Lake	PL0891	5,463	128					5,463	100%	128	100%
	PL1222 ¹	3,292	102	65	2%	2	2%	65	2%	2	2%
Pentucket Lake TOTAL		8,755	230	65	1%	2	1%	5,528	63%	130	57%
Tilton Swamp	TS0984	52	0								
	TS0989	3,893	12								
Tilton Swamp		3,945	12	0	0%	0	0%	0	0%	0	0%
Unknown	UNK0627	254	3								
	UNK0661	410	14								
	UNK0668	854	36								
	UNK0788	869	16					869	100%	16	100%
	UNK0836	842	22								
	UNK0883	570	1								
	UNK0894	648	10								
	UNK0898	91	0								
	UNK0902	54	0								
	UNK0907	803	3								
	UNK0908	220	0								
	UNK0951	1,910	34					1,910	100%	34	100%
	UNK0953	225	0								

TABLE 2-2 CONTINUED

				Current Report Period				Completed to Date			
				July 2017 to December 2017				Including this Reporting Period			
Basin ID	Outfall ID	Existing System Estimates		Upstream Basin Investigations				Upstream Basin Investigations			
		Length of Pipe (ft)	Number of Manholes	Pipe (ft)	Percent Completed	Manholes	Percent Completed	Pipe (ft)	Percent Completed	Manholes	Percent Completed
Unknown	UNK0954	81	2								
	UNK0955	6,058	146					6,058	100%	146	100%
	UNK1011	5306	14								
	UNK1020	71	4								
	UNK1040	1,414	7								
	UNK1063	49	2								
	UNK1166 ¹	1,079	28	77	7%	2	7%	77	7%	2	7%
	UNK1177	156	4								
	UNK1188	25,926	470					25,926	100%	470	100%
	UNK1189	2,043	4								
	UNK1210	602	4								
	UNK14313	66	0								
	UNK1680	719	8								
	UNK1734 ¹	334	12								
	UNK1735	80	2								
	UNK1750	1,239	13								
	UNK1767	2,077	52					2,077	100%	52	100%
	UNK1795	567	0								
	UNK1811	27	1								
	UNK1813	942	1								
	UNK1818	652	1								
	UNK1821	336	8								
	UNK1835	761	20								
	UNK1836	1,179	12								
	UNK1842	732	4								
	UNK1844	1,071	11								
	UNK1886	20	0								
	UNK1887	20	0								
	UNK1888	21	0								
	UNK1889	21	0								
Unknown TOTAL		61,399	969	77	0%	2	0%	36,917	60%	720	74%

TABLE 2-2 CONTINUED

				Current Report Period				Completed to Date			
				July 2017 to December 2017				Including this Reporting Period			
Basin ID	Outfall ID	Existing System Estimates		Upstream Basin Investigations				Upstream Basin Investigations			
		Length of Pipe (ft)	Number of Manholes	Pipe (ft)	Percent Completed	Manholes	Percent Completed	Pipe (ft)	Percent Completed	Manholes	Percent Completed
West Meadow Brook	WMB0738	80	0								
	WMB0739	80	0								
	WMB0740	82	0								
	WMB0742	169	0								
	WMB0743	303	1								
	WMB0759	20	2								
	WMB0830	200	0								
West Meadow Brook TOTAL		934	3	0	0%	0	0%	0	0%	0	0%
GRAND TOTAL		144,154	2,733	142	0%	150	5%	56,402	39%	1,432	52%
		27.30mi.		0.03mi.				10.68mi.			

¹ Estimate Base upon
Percentage of Manholes
Inspected

Recently
Added

the City's overall IDDE investigations that was reported in Compliance Report No. 2, due to the additional outfalls and their associated drain pipes and manholes.

Over the Compliance Reporting Period (July through December 2017), the City has put in an extensive effort in updating their GIS mapping. Maps were developed showing the IDDE investigations to date, as well as including data and pertinent information for the segments investigated. As part of the public outreach program that the Wastewater Department has implemented, the updated maps and plans are shared on the City's website and can be viewed at the link provided in Section 2.1.

2.4 IDENTIFIED ILLICIT CONNECTIONS AND CURRENT RESOLUTION STATUS

The ongoing and cumulative status of the City's efforts to remove any identified illicit connections or discharges is summarized in Table 2-3.

The status of the three most recently identified illicit connections is as follows:

- Pentucket Lake Basin
 - Outfall PL1222: A section of sewer within this catchment was inspected via CCTV late in 2017, however no drain features have been inspected during the reporting period.

During this report period (July 2017 –December 2017) a great deal of time was expended documenting what was done in the prior year's IDDE investigations.
- Little River Basin
 - Outfall LR1260 is comprised of approximately 5-miles of storm drains within an urban section of the City. To date, a homeowner's sewer service was found to be leaking, and was slip-lined back on February 24, 2018. A plan showing the summary of investigations completed to date for Outfall LR1260 – Little River can be found on Page 32 of 52 in the City's response to EPA dated December 28, 2017, which can be found on the City's Stormwater Website at the link provided in Section 2-1.

- Unknown or Unnamed Basins
 - Unk1166 is a catchment area that may be located on private property, since it drains Franzone Drive, which is a private street.

**TABLE 2-3
SUMMARY OF ILLICIT DISCHARGES IDENTIFIED BY BASIN AND CURRENT STATUS
(January THRU June 2017)**

Description		Illicit Discharge/Connection Verified				Ongoing Illicit Discharge Removal Activities					Final Illicit Connection Removal Actions				Assessment: Is the City in compliance with the schedule?
CD Requirement		67.a.iii.1			67.a.iii.2	67.a.iii.7		67.a.iii.8		67.a.iii.9	67.a.iii.3	67.a.iii.4	67.a.iii.5	67.a.iii.6	
Basin ID	Outfall ID	Date Verified	Address Location	Type of Discharge ¹	Estimated Flow (gpd)	Verified: Not Removed within 60 Days	Reasons Why Not	Schedule for Removal	Reason why expedited	Legal Actions against Private Property Owners	Actions Taken (with Dates)	Date Connection Eliminated	Est. Cost of Removal	Estimated Volume Removed (gallons)	
Little River	LR1260	10/26/2017	29 Union Street	Single family broken sewer	400 gpd	not removed	gave extension	Was removed on 2/24/18						60,000 gals.	
Merrimack River	MR1164	11/19/2016	Market Basket Parking Lot	groundwater into drain	Seasonal Flow/ Not able to estimate	N/A	N/A	N/A	N/A	N/A	This dry weather flow appears to be from a groundwater discharge into the drainage system across a parking lot. Additional testing is required to confirm bacteria source is groundwater.	N/A	N/A	N/A	Yes, the City is in compliance with resolving this "illicit discharge".
	MR24314	7/27/2016	15 Groveland St., 19 Groveland St, 312 Water St	3 Single family	N/A		N/A	N/A	N/A		New gravity sewer installed on Nov 11, 2016 and 3 homes removed from drain system	11/4/2016	\$ 12,788	26,377	Yes, the City is in compliance
Pentucket Lake	PL0891	10/5/2016	Marsh Avenue	leaking sewer/ exfiltration	Not able to estimate	X	Sewer replacement costs/lengths are extensive; cost exceeds discretionary funds; new fund required in next fiscal year to complete project	Fiscal Year 2018	This connection is being removed as quickly as possible and dependent on the availability of funds within the fiscal year.	N/A	-	-	-	-	Yes, the City is in compliance. EPA and MassDEP were notified by the City via letter dated 1/5/2017, noting anticipated completion date of June 2019 due to funding constraints.
Unknown	UNK1166		Franzone Drive												
	UNK1188	12/25/2012	34 Columbia Pk., 66 Columbia Pk., 74 Columbia Pk., 80 Columbia Pk., 90-92 Columbia Pk.	5 Single family		N/A	N/A	N/A	N/A	N/A	5-house sewer services through a drain pipe that were dripping. Install a PVC sleeve through drain	6/8/2016	\$ 13,000	26,481	City is in compliance. 60 day deadline was not applicable until November 2016.
											Current Report Period Total =		\$ 25,788	52,858	
											Years 2003 Through 2015 Total =		\$ 66,758	2,511,473	
											Grand Total =		\$ 92,546	2,564,331	

¹ Type of Discharge single-family residential, multifamily residential, commercial, industrial, exfiltration from a sanitary sewer

SECTION 3

3.1 SSO AND BUILDING/PRIVATE PARTY BACKUP EVENTS

A chronological list of the sanitary sewer overflows (SSO) and building/private party backup events that occurred during this Reporting Period (July through December 2017), are shown in Table 3-1, as well as a GIS Map showing their locations in Figure 3-1.

Over the Reporting Period, there were a total of 6 reportable SSO events associated with the City's sewer collection system and are listed in Table 3-1. Five of the six reported SSO's associated with the City have occurred previously and were addressed as follows:

- SSO 17-14: CSO Maximization Program Adjusted
- SSO 17-15: Gate Controls were reprogrammed
- SSO 17-16: CSO Maximalization Program Adjusted
- SSO 17-18: City replaced 25' of sewer main
- SSO 17-20: Sewer line was flushed and added to preventative maintenance schedule

Over the Reporting Period, the calls to the City associated with building/private party backup events were determined to be blockages in service connections to a property or blockages in the internal plumbing system and not caused by conditions within the sewer collection system. These events are not required to be reported per the MassDEP SSO/Bypass Notification Form.

It is important to note that the SSO's associated with the City, are not a result of pipe capacity deficiencies. In addition, three of the five SSOs in this reporting period were associated with the optimization of the real-time controls installed for the CSO program in the City's Wet Weather Maximization and CSO Structure Modifications (contract completed in early 2017).

It is also important to note that the City is making significant progress in reducing the number of SSOs that occur in the system that are attributed to City operations. For this six-month reporting period, the City had two SSOs that were directly attributable to unanticipated collection system

conditions. The EPA reported annual average SSOs in a typical nationwide system is about 4 SSOs per 100 miles. Accordingly, Haverhill is on track to have less SSOs than the national average.

**TABLE 3-1
SANITARY SEWER OVERFLOW EVENTS
JULY THROUGH DECEMBER 2017**


SSO Ownership City or Private	CITY	CITY	CITY	CITY	CITY	CITY
MaintStar Work Order	WW00001059	WW00001100	WW00001127	WW00001116	WW00001131	WW00001191
SSO ID	SSO-17-14	SSO-17-15	SSO-17-16	SSO-17-17	SSO-17-18	SSO-17-20
SSO Address	Upper Siphon #024	Upper Siphon #024	Upper Siphon	87 Winter Street	324 North ave.	86 Twelfth ave.
Start Date/Time	7/18/2017 4:30 PM	08/23/17 01:15	09/06/17 11:52	09/6/17 12:30 PM	9/10/2017 2:15 PM	12/25/2017 4:00 PM
End Date/Time	07/18/17 4:45 PM	08/23/17 01:30	09/06/17 12:08	9/6/17 13:00 PM	9/10/17 3:15PM	12/25/17 5:00 PM
Date Reported EPA/DEP	7/19/2017	8/23/2017	9/7/2017	9/8/2017	9/13/2017	12/26/2017
Who notified	Paul Jessel	Paul Jessel	Paul Jessel	Paul Jessel	Police	Paul Jessel
Reason for occurrence	CSO MAX PROGRAM	CSO MAX PROGRAM	UNKNOWN	RAIN	DEBRIS IN SEWER MAIN	UNKNOWN
Date of last SSO occurrence	06/28/17	07/18/17	08/23/17	First Occurrence	01/05/07	07/03/13
SSO est. vol.	N/A	N/A	N/A	100	100	500
Receiving Waters if sewerage entered	MERRIMACK RIVER	MERRIMACK RIVER	MERRIMACK RIVER	N/A	FREY'S POND	DID NOT ENTER
Method Use to Estimate volume	Unknown	N/A	N/A	Visual	Visual	visual
Nearest CB location ID	None	NA	NA	CB-5550	3937	CB-9339
Distance to Nearest CB (ft.)				150	255	1750
Name of receive Water whether or not there was a release	MERRIMACK RIVER	MERRIMACK RIVER	MERRIMACK RIVER	MERRIMACK RIVER	FREY'S POND	NONE
Entered CB Yes or No	NO	NO	NO	NO	YES	NO
MEASURED TAKEN STOP SSO	Open Dry weather Gate	Manually open CSO Gate 100%	CSO gate open	Rain stopped	Replace 25 feet of sewer line	Flushing
Decontaminate	Yes Cl2 residual < 1.0	YES residual .05 mg/l	YES Less than .07	YES Less than .07	YES Less than .07	YES Less than .07
Measured taken to prevent future overflows	Adjusted CSO Max Program	Reprogrammed Gate Controls	Adjusted CSO Max Program	-	Replace Sewer Line	Add to Yearly PM list
SEWERAGE LOCATION INTO STREAM	NPDES 024	NPDES 024	Merrimack River	N/A	FP0919	NONE


Roads, surface water, and town boundaries from MassGIS. SSO and facility locations from City of Haverhill. Map produced by Wright-Pierce.


C:\M:\wright-pierce.com\wp-fs\GIS\GIS_Development\Projects\MA\Haverhill\13703_EPA-ConsentDecree\MXD\SSOs_Apr2018_11x17.mxd


Legend

SSOs

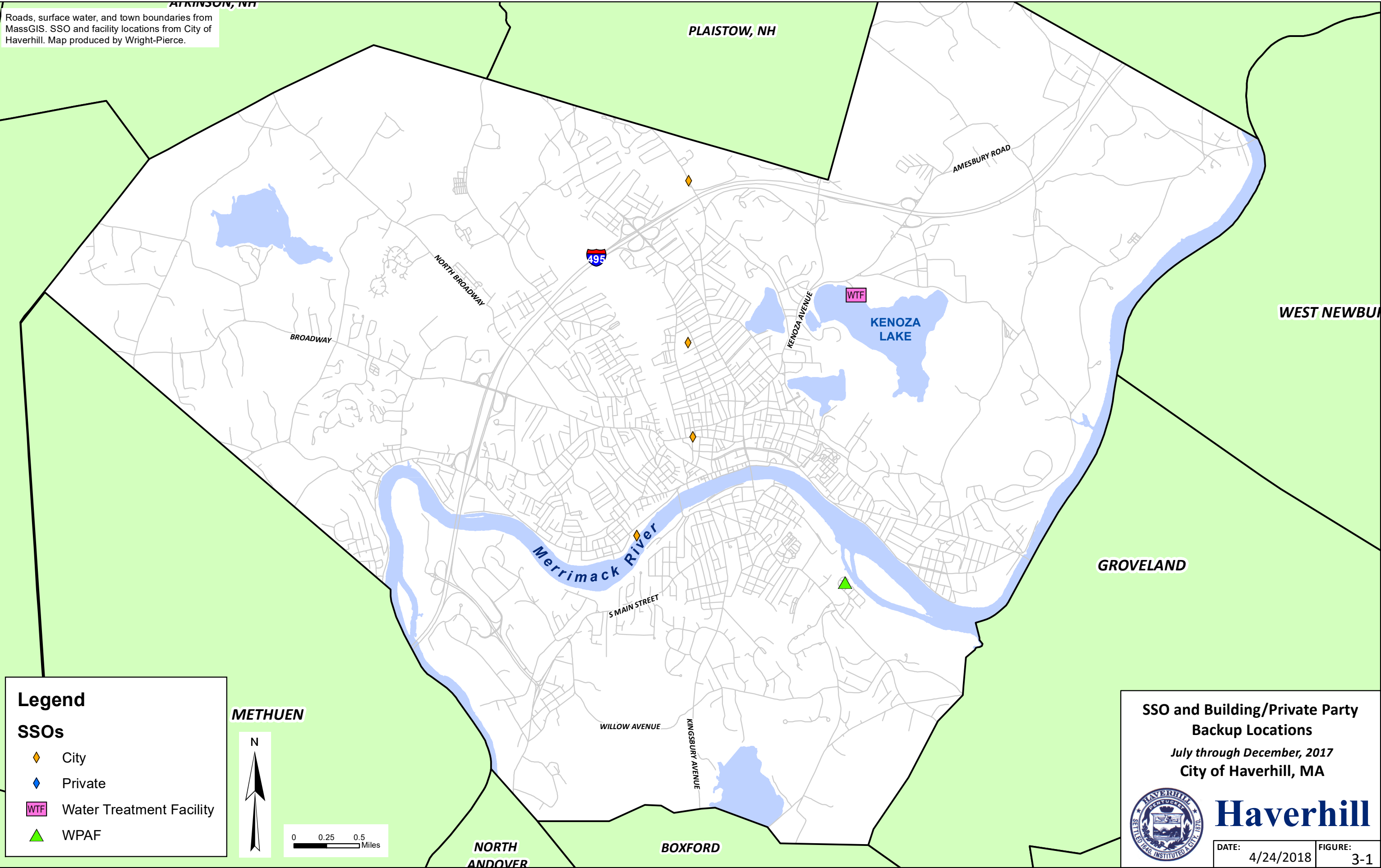
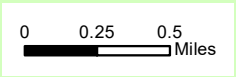
 City

 Private

 Water Treatment Facility

 WPAF

METHUEN



**SSO and Building/Private Party
Backup Locations**
July through December, 2017
City of Haverhill, MA

**Haverhill**

DATE: 4/24/2018

FIGURE: 3-1

SECTION 4

4.1 CONSTRUCTION SITE INSPECTION AND ENFORCEMENT PROGRAM

The Consent Decree states that the Construction Site Stormwater Program shall be developed and submitted for review and approval by EPA within 365 days of the Effective Date (November 10, 2016), which is November 10, 2017.

A Proposed Pre and Post Construction Stormwater Management Ordinance was sent to City Council in a letter dated November 9, 2017 for their review and adoption. As of the date of this Compliance Report, it is currently being reviewed by the Council Administration and Finance Committee.

The proposed ordinance was also sent to EPA in a letter dated November 10, 2017 for their review and approval.

SECTION 5

GENERAL STATUS

5.1 INTRODUCTION

This section summarizes the actions taken by the City of Haverhill to achieve compliance of the Consent Decree within the Reporting Period.

For the third Reporting Period (July through December 2017) there were six deliverables and/or activities due within that timeframe to achieve compliance. Those six deliverables/activities are shown in Table 5-1 below. It should be noted that response milestones to EPA and MADEP letters are not established in the Consent Decree but identified in each respective regulatory comment letter sent to the City.

Work orders generated from the City's computerized maintenance management system, MaintStar, for the outfall inspection (prefix STI) and investigations (prefix ST) programs from July through December 2017 are attached to this Compliance Report in Appendix A and B, respectively.

As previously mentioned in the Compliance Report No. 2, the City contracted with Wright-Pierce to provide engineering design, bidding, and construction phase services for the Carleton and North Avenue Pump Station Upgrades through MassDEP's CWSRF program. The project is in the final design phases with an anticipated Spring 2018 bid and early 2019 completion date.

TABLE 5-1
SUBMISSIONS WITHIN CURRENT REPORTING PERIOD

Part	Activity	Due Date	Submittal Date
Effective Date of Consent Decree (11/10/2016)			
A	IDDE		
14	Respond to EPA Comments dated September 27, 2017	1/1/2018	12/28/2017
F	CMOM Corrective Action Plan		
27	Respond to DEP Comments	10/1/2017	9/28/2017
I	GIS Map		
33	Submit best available GIS or other digital mapping of MS4 and Collection System	11/10/2017	11/10/2017
J	Construction Site Stormwater		
35	Require sediment & erosion control at Construction Sites thru ordinance	11/10/2017	Submitted to EPA on 11/10/2017 Awaiting Approval from EPA & City Council
36	Submit Construction Site inspection procedures & enforcement program	11/10/2017	
40	Conduct at least 1 inspection of each Const Site known on Date of Lodging	11/10/2017	
K	Post-Construction Stormwater Controls		
44	Require stormwater management at post-construction projects through ordinance	11/10/2017	11/10/2017; See J.35, 36, 40 comment above

5.2 ISSUES OF NONCOMPLIANCE

The City is in compliance with the requirements of this Consent Decree, with the Construction Site Stormwater Ordinance awaiting approval from EPA and City Council prior to implementation.

5.3 LOOKING AHEAD - SIX MONTH FORECAST

The anticipated future deliverables, as well as continuous related activities required under the Consent Decree for the next Reporting Period, January to June 2018, are shown in Table 5-2.

TABLE 5-2
FUTURE DELIVERABLES DURING THE PROCEEDING REPORTING PERIOD
(JANUARY THROUGH JUNE 2018)

Part	Activity	Trigger Event	# Days Due	Due Dates
			Post Trigger Event	
	Effective Date of Consent Decree	11/10/2016		
M	CSO Monitoring			
	Submit annual CSO activation report	4/30/2017	Annually	4/30/2018
N	CSO Planning & Plan Implementation			
	Resubmit Final CSO LTCP (FLTCP)	12/13/2017	-	3/30/2018; To be determined after regulatory approval of the LTCP submittal responses
IX	Compliance Reporting			
	Compliance Report No. 3	10/31/17	180	4/30/2018

SECTION 6

SECONDARY TREATMENT BYPASS

6.1 INTRODUCTION

The intent of this section is to summarize the secondary treatment bypass events that occurred at the City of Haverhill's Water Pollution Abatement Facility during the reporting period, July through December 2017.

6.2 BYPASS EVENTS

There were four secondary treatment bypass events occurring on four days during the reporting period, which are chronologically listed in Table 6-1. It is important to note the WPAF met effluent standards for those days when the secondary treatment bypass events occurred. The table provides the following information as required under the Consent Decree:

- The date(s) of the Bypass
- The date(s) when the Bypass occurred, and the rainfall totals (inches)
- The presence, or absence of snowmelt
- The total plant influent flow (MGD)
- The total secondary treatment Bypass volume (MG)
- The start/stop time for each Bypass event, and plant flows at both the start and stop of the Bypass event
- The type and number of unit operations and processes that went offline, and the reason of each
- The total gallons of septage received on each Bypass event day
- During the time of Bypass, additional operations information
 - Influent and Effluent total suspended solids
 - The mean cell residence time for each aeration tank
 - The sludge blanket depth in the secondary clarifiers
 - The mixed liquor suspended solids in the aeration tanks

**TABLE 6-1
SECONDARY TREATMENT BYPASS EVENTS**

Bypass Event	#	2017-19		2017-20		2017-21	2017-22
Date of Bypass		7/18/2017		8/18/2017		09/06/17	09/07/17
Date of Rainfall		07/18/17	07/19/17	08/18/17	08/19/17	09/06/17	09/07/17
Weather Rainfall	Inches		0.65		0.50		2.23
snow melt	(y/n)	n	n	n	n	n	n
Influent Flow	MGD	12.70	7.33	11.16	6.01	17.49	16.34
Bypass Flow Total	MG	2.10	0.00	0.14	0.00	4.46	4.80
Q, bypass start time		5:45PM		2:49PM		noon	2:00AM
Plant Flows @ Start	MGD	58		39		60	51
Q, bypass stop time		7:45PM		3:20PM		3:15PM	5:40AM
Plant Flows @ Stop	MGD	16		15		21	21
Max Influent Flow		12.91	12.15	11.45	10.58	65	11.22
Influent Septage Received	Gallons	24,005	27,635	13,220	14,000	56,800	27,555
Influent TSS	mg/L	604	584			356	204
Effluent TSS	mg/L	66.70	12.60			57.33	9.80
Aeration Basin #1							
Sludge Volume Index	ml/g	760	907	510		398	392
MLSS Lab	mg/L	1,302	1,092	1,940		2490	2,040
Mean Cell Residence Time	Days	2.47	3.44			2.77	6.06
Aeration Basin #2							
Sludge Volume Index	ml/g	853	954	496		365	428
MLSS Lab	mg/L	1,160	1,038	1,994		2,468	1,868
Mean Cell Residence Time	Days	2.37	3.38			2.76	5.87
Aeration Basin #3							
Sludge Volume Index	ml/g	660	855	400		292	455
MLSS Lab	mg/L	1500	1158	2476		3390	2176
Mean Cell Residence Time	Days	4.21	5.75			4.51	10.06
Aeration Basins Online	#	3	3	3	3	3	3
Secondary Clarifier #1							
Depth of Blanket	ft	8.0	9.0	4.0	3.0	2.0	6.0
Secondary Clarifier #2							
Depth of Blanket	ft	10.0	7.0	5.0	2.0	4.0	6.0
Secondary Clarifier #3							
Depth of Blanket	ft	7.0	7.0	4.0	3.0	3.0	5.0
Secondary Clarifiers Online	#	3	3	3	3	3	3

Note:

Gaps for requested data are due to secondary treatment bypass events occurring on a non-sampling days.
Refer to Section 6.3 regarding NOAA rainfall data.

For each Bypass Event that occurs during the Reporting Period, the corresponding monthly total suspended solids (TSS) surplus and deficit are shown below in Table 6-2.

TABLE 6-2
WPAF MONTHLY TOTAL SUSPENDED SOLIDS (TSS) SURPLUS & DEFICITS

Month/Year	Influent TSS (lbs)	Sludge Disposal (lbs)	Effluent TSS (lbs)	Surplus/Deficit (lbs)
July 2017	670,183	600,283	44,115	25,785
August 2017	481,279	580,326	17,135	-116,182
September 2017	377,673	577,790	19,313	-219,429

Additional secondary treatment bypass information is attached to this report in Appendix C.

6.3 RAINFALL DATA

The Facility's operating data is captured and recorded by the SCADA/WIMS Systems each day from 12:00 AM until 11:59 PM. The National Oceanic and Atmospheric Administration (NOAA) weather station recording procedures, require that precipitation is recorded from 7:00 AM to 6:59 AM, with the data observed on the second day. The date inconsistencies between WPAF and NOAA data result in bypass dates with no recorded rainfall until the proceeding day.

For example, a secondary treatment bypass was performed on July 18, 2017, however no rainfall was recorded for that day. 0.65-inches of rainfall did fall on July 18, 2017, but was reported on July 19, 2017, since the rain event occurred after 7:00 AM on July 8th. Similar inconsistencies in data for the secondary treatment bypass event that occurred on August 8, 2017.

SECTION 7

CMOM CORRECTIVE ACTION PLAN

7.1 INTRODUCTION

Pursuant to the Consent Decree, the City of Haverhill submitted the Capacity, Management, Operation, and Maintenance Program Assessment Corrective Action Plan (CMOM), dated February 22, 2017, to MassDEP and EPA. In their review letter dated August 3, 2017, MassDEP requested that a summary of the status of CMOM-Related corrective actions that occurred during the reporting period be including in the Compliance Reporting.

7.2 CMOM CORRECTIVE ACTIONS

The CMOM identified 28 deficiencies, their recommended corrective actions, and an implementation schedule, which are listed below in Table 7-1. Table 7-1 also provides an updated status for each corrective action.

7.3 ADDITIONAL CMOM-RELATED ACTIVITIES

In addition to the corrective activities, the City has also performed additional activities as outlined and recommended in the CMOM Program. The collection system maintenance activities that were performed from July 2017 through December 2017 (Reporting Periods 3) and their associated costs are listed in Table 7-2 below.

Table 7-1
CMOM Corrective Action Plan & Status

Action #	Deficiency	Recommended Corrective Action	Implementation Schedule	Status
1	The City does not have a formal long-term plan to mitigate SSO.	The recommendations in the Wastewater Treatment Plant & Collection System Staffing Analysis (Woodard & Curran, 2017), Collection System CIP and Sewer Inspection SOP (Wright Pierce, 2016) will serve as a long term plan to reduce the cause of SSOs, and the Pump Station Evaluation term plan to reduce the cause of SSOs	Ongoing	The City hired an additional Collection System Operator; start date 12/26/2017
2	The City does not have a comprehensive system to prioritize investigations, repairs, and rehabilitation.	Use the risk-based methods described in Appendices B and F to prioritize investigations, repairs, and rehabilitation.	Ongoing	The City has use CoF and LoF in determining to clean the Lower Siphon barrels and will do more formal documentation as projects present itself.
3	The City does not have updated job descriptions that match technical requirements for a modern collection system utility.	Update job descriptions for the revised organizational structure proposed in the Wastewater Treatment Plant & Collection System Staffing Analysis (Woodard & Curran, 2017)	Within one year after EPA approves the CMOM Action Plan	
4	Although the City training program includes some key safety training, staff would benefit from a formalized safety and technical training program.	Implement a staff training program using the guidelines outlined in Appendix C.	Within one year after EPA approves the CMOM Action Plan	
5	Although the City uses MaintStar to track customer complaints, they do not use the database to prioritize preventative maintenance.	Annually review customer complaint data using GIS to identify areas that may require further investigation.	Within one year after EPA approves the CMOM Action Plan	
6	The City lacks a comprehensive, risk based approach to maintenance planning.	Use the risk-based methods described in Appendices B and F to prioritize investigations, repairs, and rehabilitation.	Ongoing	The City has awarded a contract to clean the Lower Siphon (NPDES#013) barrels \$167,475
7	Local limits need to be updated.	Perform a local limits study and update the limits table in the ordinance (per Appendix E, Sewer Ordinance Review).	Within one year after EPA approves the CMOM Action Plan	
8	The City needs to improve implementation and enforcement of their Sewer Use Ordinance (SUO).	Improve implementation and enforcement of the SUO. Begin mapping Food Service Establishments in GIS and building database of grease trap inspectional data.	Within one year after EPA approves the CMOM Action Plan	An excel database of all Food Service Establishments has been created. The City has hired an engineering firm to conduct all Food Service Establishment Inspections. The City is looking into the best software to manage these inspections such as LinkoFOG or GIS/MaintStar.
9	The City should update recordkeeping pertaining to private systems.	Input private lift stations into CMMS to track issues & contact information.	Within three months after EPA approves the CMOM Action Plan	
10	The City does not have a finalized version of their capital improvement plan – which will include pump station upgrades, collection system rehabilitation, and WWTP upgrades.	The City should finalize their CIP and appropriate funds as necessary.	Within three months after EPA approves the CMOM Action Plan	
11	The City does not have a finalized version of their capital improvement plan – which will include pump station upgrades, collection system rehabilitation, and WWTP upgrades.	The City should finalize their CIP and appropriate funds as necessary.	Within three months after EPA approves the CMOM Action Plan	
12	The City has not verified that other air relief valves do not exist. Maintenance of air relief valves has not been performed historically.	Review record drawings and inspect force main routes to confirm location of air relief valves. If located, enter in GIS and schedule routine maintenance in CMMS.	Within one year after EPA approves the CMOM Action Plan	
13	The City does not have a standard procedure for maintaining safety training records.	The City will utilize their CMMS program to organize safety training records.	Within one year after EPA approves the CMOM Action Plan	The City is utilizing their MaintStar along with problem code training.
14	The City has a general emergency response plan (ERP). The Division recently completed an ERP for responding to SSOs. The Division lacks ERP for other collection system emergencies.	Develop ERP for collections-specific emergencies, in particular those affecting critical assets. For example, there should be an SOP for providing backup power to pump stations during a system-wide power outage.	Within one year after EPA approves the CMOM Action Plan	SOP For Generators completed
15	The City does not have formal emergency response training.	Implement a program for training and practicing emergency response.	Within one year after EPA approves the CMOM Action Plan	

Action #	Deficiency	Recommended Corrective Action	Implementation Schedule	Status
16	The City has a hydraulic model for interceptors and CSOs, but there is no city-wide hydraulic model.	Although developing a comprehensive hydraulic model is not a high priority, Woodard & Curran recommends building out the model as required to address capacity issues and plan for new development as the need arises.	As Needed	
17	The City does not have adequate staff to perform sufficient preventative maintenance on all 36 pump stations part of the collection system.	Follow the recommendations of the Wastewater Treatment Plant & Collection System Staffing Analysis (Woodard & Curran, 2017) to assign sufficient resources to keep up with required maintenance.	Within one year after EPA approves the CMOM Action Plan	The City hired an additional Collection System Operator; start date 12/26/2017
18	Although there is generally sufficient redundancy of pumps and level controls, some stations require specific upgrades related to redundancy.	The City will utilize the recommendations of the Pump Station Evaluation (Wright Pierce, 2016) to evaluate future rehabilitation. The City is planning for Carleton Street PS and North Ave PS to be in construction by EOY 2019.	Ongoing	North Avenue and Carleton Street Pump Stations are currently in design; with an estimated construction completion by EOY 2018.
19	Not all pump stations have communication ability. Lack of communication at pump stations has contributed to SSOs.	The City will utilize the recommendations of the SCADA Study (Woodard & Curran, 2011) and Pump Station Evaluation (Wright Pierce, 2016) to evaluate communication improvements.	Ongoing	City has selected the use of Mission RTU for communication.
20	11 pump stations do not have working backup power, though most of these have connections for a portable generator or are small enough to pump out.	The City will utilize the recommendations of the SCADA Study (Woodard & Curran, 2011) and Pump Station Evaluation (Wright Pierce, 2016) to evaluate emergency power improvements. Develop an ERP to address a system-wide power outage including monitoring fuel supplies, mobilizing portable generators, and pumping out with trucks.	Ongoing ERP for system wide power outage will be developed within three months after EPA approves the CMOM Action Plan	Complete
21	There is currently no schedule for cleaning sewer lines on a system-wide basis.	The City will utilize a 20-year plan to inspect all sewer pipes calculated to have a consequence of failure value ≥ 3 (approximately 57% of system). See the Collection System CIP (Appendix B) for additional information.	Will begin to implement program within six months after EPA approves the CMOM Action Plan	
22	The City does not have a dedicated location for offloading and dewatering sewer cleanings. The City does not have an enclosed location for storage of their sewer maintenance vehicles.	The City will purchase a dewatering dumpster for sewer cleanings. The City will construct a facility for storage of sewer maintenance vehicles.	Within three years after EPA approves the CMOM Action Plan	
23	The City does not have a list of assets located on right-of-ways. The City has also not developed an SOP for maintenance of right-of-ways and easements.	Identify off-street assets using GIS. Schedule preventative maintenance for maintaining accessibility in CMMS. Develop SOPs for specific easements as necessary, including contacting property owners to obtain keys, etc.	Within two years after EPA approves the CMOM Action Plan	
24	There is no systematic program for uncovering manholes that have been paved over.	Develop an SOP which includes: <ul style="list-style-type: none"> • Identification of paved over manholes as part of routine inspections • Add paved-over manholes to GIS. • Adding work orders to CMMS for raising paved-over manholes. 	Within two years after EPA approves the CMOM Action Plan	
25	Although the City has identified areas with high measured inflow, building inspections have not been performed.	The City will perform trial building inspections to a sample of 10% of buildings located in Areas 14 & 23 Infiltration and Inflow Report (CDM Smith, 2011). Sample brochures will be sent out to buildings where inspections are not successfully completed.	Within two years after EPA approves the CMOM Action Plan	
26	The City lacks public education materials associated with roof leaders and sump pumps.	The City will consider using a public education campaign to inform residents of proper plumbing in areas of separated sewer.	Within one year after EPA approves the CMOM Action Plan	
27	The City lacks public education materials associated with roof leaders and sump pumps.	The City will consider using a public education campaign to inform residents of proper plumbing in areas of separated sewer.	Within one year after EPA approves the CMOM Action Plan	
28	The City does not have a system-wide manhole inspection program.	Perform manhole inspections using NASSCO Level 1 MACP. Prioritize and schedule using the risk-based approach described in Appendices B and F rehabilitation. The City plans to complete manhole inspections while performing pipe inspections.	Will begin to implement program within six months after EPA approves the CMOM Action Plan	

TABLE 7-2
CMOM-RELATED ACTIVITIES THAT OCCURRED
DURING REPORTING PERIOD 3
(JULY 2017 THROUGH DECEMBER 2017)

Month	Project	Costs
July	Pond Street @ Central Street: Installed 2 SMH	\$8,000
	Cottage Place @ South Central: Install SMH	\$4,000
	Elm Street: Installed SMH	\$4,000
	Groveland Street: Replaced 30-ft of 8-In Sewer Main	\$4,714
	Winnekenni Easement Road Repair	\$3,000
	Winnekenni Easement Root Removal: Approximately 3,656 feet	\$52,366
September	North Avenue: Sewer Repair 30 feet of 8-in PVC	\$5,000
October	Hamilton Avenue: Sewer Repair 8-in PVC	\$5,000
December	Clydesdale Lift Station	\$1,900
	Hoyt Road: Replaced RACO Telephone Dialer	\$1,900
Total Spent During Reporting Period		\$89,880

APPENDIX A



Storm Generic Inspection

INSPECTION# STI0001293

Type DISCHARGE POINT

1/12/2018

Sub Type 0 Description BROADWAY	ID UNK1835 Permit Cross Street
Location Ref.	Map ID
Map Sheet	

Notes
Recommendations
No Flow

Inspection Type _____ Weather _____ Overall Condition _____	Adm Sys. _____ Activity _____ Rating _____
--	---

PK UDF1 _____ PK UDF2 _____ PK UDF3 _____ PK UDF4 _____ Inspection <input checked="" type="radio"/> Passed <input type="radio"/> Failed	PK UDF5 _____ PK UDF6 _____ PK UDF7 _____ PK UDF8 _____ REF ERM# _____
--	---

Seq	Date	Type	Code / Description	Hr min	Pay Type	Qty	Unit	Activity Location
1	10/18/17 14:41	labor	BARO001 - BARON BRETT	0:15	REG			
2	10/18/17 14:42	labor	MARI001 - Marinez Samuel A	0:15	REG			
3	10/18/17 14:42	labor	ROSA001 - Rosario Pedro	0:15	REG			
4	10/18/17 14:42	equip	VEH-S8 - 2004 S8 FORD 250 4X4	0:15				
5	10/18/17 14:42	equip	VEH-S13 - 2013 F350 4X4	:15				

:

:

:

Inspector Signature _____

Date _____

 Print Name BARON BRETT



Storm Generic Inspection

INSPECTION# STI0001294

Type DISCHARGE POINT

1/12/2018

Sub Type 0		ID UNK1680
Description Cross Country CROSS COUNTRY		Permit Cross Street
Location Ref.	Map ID 2B-3034	Map Sheet

Notes
Recommendations
No Flow

Inspection Type _____	Adm Sys. _____
Weather _____	Activity _____
Overall Condition _____	Rating _____

PK UDF1 _____	PK UDF5 _____
PK UDF2 _____	PK UDF6 _____
PK UDF3 _____	PK UDF7 _____
PK UDF4 _____	PK UDF8 _____
Inspection <input checked="" type="radio"/> Passed <input type="radio"/> Failed	REF ERM# _____

Seq	Date	Type	Code / Description	Hr min	Pay Type	Qty	Unit	Activity Location
1	10/18/17 14:43	labor	BARO001 - BARON BRETT	0:15	REG			
2	10/18/17 14:43	labor	MARI001 - Marinez Samuel A	0:15	REG			
3	10/18/17 14:43	labor	ROSA001 - Rosario Pedro	0:15	REG			
4	10/18/17 14:43	equip	VEH-S8 - 2004 S8 FORD 250 4X4	0:15				
5	10/18/17 14:43	equip	VEH-S13 - 2013 F350 4X4	0:15				

:

:

:

Inspector Signature _____

Date _____

 Print Name BARON BRETT



Catch Basin Inspection

INSPECTION# STI0001295

1/12/2018

Type	ID	CB-2868	Permit
Description	BROOK ST	Cross Street	
BROOK ST		Map ID	Map Sheet
	Location Ref.		

Notes

THIS IS PART OF OUTFALL DPI0945
COULD NOT FIND OUTFALL

Recommendations

Inspection Type	_____	Inspection	<input checked="" type="radio"/> Passed <input type="radio"/> Failed
Weather	_____	Vegetation	_____
Cleaning Type	_____	Odor	_____
Maintenance	_____	Color	_____
Surface Type	_____	Clarity	_____
Inlet Condition	_____	Floatables	_____
Outlet Condition	_____	Biological	_____
Debris Type	_____	Overall Condition	_____
Debris Depth	_____	Rating	_____

WS UDF1	_____	WS UDF5	_____
WS UDF2	_____	WS UDF6	_____
WS UDF3	_____	WS UDF7	_____
WS UDF4	_____	WS UDF8	_____
		REF ERM#	_____

Seq	Date	Type	Code / Description	Hr min	Pay Type	Qty	Unit	Activity Location
1	10/18/17 13:23	labor	BARO001 - BARON BRETT	0:15	REG			
2	10/18/17 13:23	labor	MARI001 - Marinez Samuel A	0:15	REG			
3	10/18/17 13:23	labor	ROSA001 - Rosario Pedro	0:15	REG			
4	10/18/17 13:23	equip	VEH-S8 - 2004 S8 FORD 250 4X4	0:15				
5	10/18/17 13:23	equip	VEH-S13 - 2013 F350 4X4	0:15				

Inspector Signature _____ Date 00/00/00

Print Name BARON BRETT

Manhole Inspection

INSPECTION# STI0001296

Type 2	ID DMH-8844	Permit	Cross Street
Description DMH-8844		Map ID	Map Sheet
Location Ref.			

REF ERM#

Inspection ☒ Passed ☐ Failed

Recommendations

Notes

This is part of Outfall LR0979

Could Not Find

General

Status	Location	Interior	Weather
Pavement Condition	Overall Depth		Recent Weather
Rating			

Cover

Material type	Type	Fit	Secured
Condition	Ponding	Tub liner	Defect Qty
Depth (in)	Diam. (in)		No. of Holes
Defect Location			

Frame

Material type	Condition	Offset	Defect Qty
Frame Type	Seal	Grade Ring(s)	I/I
Cover Opening (in)		Cover Depth (in)	
Defect Location			

Chimney

Material type	Condition	Seal	Defect Qty
I/I	Depth (in)		Diameter (in)
Defect Location			

Cone

Material type	Condition	Shape	Defect Qty
I/I	Construction	Face Length (in)	Top Dia (in)
Defect Location			

Barrel

Material type	Condition	Dia (in)	I/I	Defect Qty
Defect Location				

Bench

Material type	Condition	I/I
Surch. Evidence	Overflow	Defect Qty
Defect Location		

Channel

Material type	Condition	Defect Qty	I/I
Surch. Evidence	Overflow		Flow Depth
Defect Location			

Steps

Material type	Condition	Surcharge Evidence
Step No.		Defect Qty
Defect Location		

Comments

Seq	Date	Type	Code / Description	Hr	mm	Pay Type	Qty	Unit	Activity Location
1	10/18/17 13:23	labor	BARO001 - BARON BRETT	0	15	REG			
2	10/18/17 13:23	labor	MARI001 - Martinez Samuel A	0	15	REG			

Inspector Signature _____ Date 10/30/17

Print Name BARON BRETT

<u>Seq</u>	<u>Date</u>	<u>Type</u>	<u>Code / Description</u>	<u>Hr</u> <u>mm</u>	<u>Pay Type</u>	<u>Qty</u>	<u>Unit</u>	<u>Activity Location</u>
3	10/18/17 13:23	labor	ROSA001 - Rosario Pedro	0:15	REG			
4	10/18/17 13:23	equip	VEH-S13 - 2013 F350 4X4	0:15				
5	10/18/17 13:23	equip	VEH-S8 - 2004 S8 FORD 250 4X4	0:15				

Inspector Signature _____ Date 10/30/17
Print Name BARON BRETT



Catch Basin Inspection

INSPECTION# STI0001297

1/12/2018

Type	ID	CB-3516	Permit	
Description	GILE ST		Cross Street	
GILE ST			Map ID	
	Location Ref.			Map Sheet

Notes

THIS IS PART OF OUTFALL UNK1135
COULD NOT FIND OUTFALL

Recommendations

Inspection Type		Inspection	<input checked="" type="radio"/> Passed	<input type="radio"/> Failed
Weather		Vegetation		
Cleaning Type		Odor		
Maintenance		Color		
Surface Type		Clarity		
Inlet Condition		Floatables		
Outlet Condition		Biological		
Debris Type		Overall Condition		
Debris Depth		Rating		

WS UDF1		WS UDF5	
WS UDF2		WS UDF6	
WS UDF3		WS UDF7	
WS UDF4		WS UDF8	
		REF ERM#	

Seq	Date	Type	Code / Description	Hr:min	Pay Type	Qty	Unit	Activity Location
1	10/18/17 13:23	labor	BARO001 - BARON BRETT	0:15	REG			
2	10/18/17 13:23	labor	MARI001 - Marinez Samuel A	0:15	REG			
3	10/18/17 13:23	labor	ROSA001 - Rosario Pedro	0:15	REG			
4	10/18/17 13:23	equip	VEH-S8 - 2004 S8 FORD 250 4X4	0:15				
5	10/18/17 13:23	equip	VEH-S13 - 2013 F350 4X4	0:15				

Inspector Signature _____ Date 00/00/00

Print Name BARON BRETT



Catch Basin Inspection

INSPECTION# STI0001298

1/12/2018

Type	ID	CB-3511
Description	GILE ST	Permit
GILES ST		Cross Street
	Location Ref.	Map ID
		Map Sheet

Notes

THIS IS PART OF OUTFALL DPI1134
COULD NOT FIND OUTFALL

Recommendations

Inspection Type	_____	Inspection	<input checked="" type="radio"/> Passed	<input type="radio"/> Failed
Weather	_____	Vegetation	_____	
Cleaning Type	_____	Odor	_____	
Maintenance	_____	Color	_____	
Surface Type	_____	Clarity	_____	
Inlet Condition	_____	Floatables	_____	
Outlet Condition	_____	Biological	_____	
Debris Type	_____	Overall Condition	_____	
Debris Depth	_____	Rating	_____	

WS UDF1	_____	WS UDF5	_____
WS UDF2	_____	WS UDF6	_____
WS UDF3	_____	WS UDF7	_____
WS UDF4	_____	WS UDF8	_____
		REF ERM#	_____

Seq	Date	Type	Code / Description	Hr min	Pay Type	Qty	Unit	Activity Location
1	10/18/17 13:23	labor	BARO001 - BARON BRETT	0:15	REG			
2	10/18/17 13:23	labor	MARI001 - Marinez Samuel A	0:15	REG			
3	10/18/17 13:23	labor	ROSA001 - Rosario Pedro	0:15	REG			
4	10/18/17 13:23	equip	VEH-S8 - 2004 S8 FORD 250 4X4	0:15				
5	10/18/17 13:23	equip	VEH-S13 - 2013 F350 4X4	0:15				

Inspector Signature _____ Date 00/00/00

Print Name BARON BRETT



Storm Generic Inspection

INSPECTION# STI0001299

Type DISCHARGE POINT

1/12/2018

Sub Type 0	ID MR1138	
Description Cross Country CROSS COUNTRY	Permit Cross Street	
Location Ref.	Map ID 11484	Map Sheet

NotesFLOW see attached E. coli results 980.4 MPN/100 ML**Recommendations**

Inspection Type _____	Adm Sys. _____
Weather _____	Activity _____
Overall Condition _____	Rating _____

PK UDF1 _____	PK UDF5 _____
PK UDF2 _____	PK UDF6 _____
PK UDF3 _____	PK UDF7 _____
PK UDF4 _____	PK UDF8 _____
Inspection <input type="radio"/> Passed <input checked="" type="radio"/> Failed	REF ERM# _____

Seq	Date	Type	Code / Description	Hr min	Pay Type	Qty	Unit	Activity Location
1	10/20/17 14:43	labor	BARO001 - BARON BRETT	0:15	REG			
2	10/20/17 14:43	labor	MARI001 - Marinez Samuel A	0:15	REG			
3	10/20/17 14:43	labor	ROSA001 - Rosario Pedro	0:15	REG			
4	10/20/17 14:43	equip	VEH-S8 - 2004 S8 FORD 250 4X4	0:15				
5	10/20/17 14:43	equip	VEH-S13 - 2013 F350 4X4	0:15				

Inspector Signature _____

Print Name BARON BRETT

Date _____



Storm Generic Inspection

INSPECTION# STI0001300

Type DISCHARGE POINT

1/12/2018

Sub Type 0	ID UNK0951	
Description Cross Country CROSS COUNTRY	Permit Cross Street	
Location Ref.	Map ID 9161	Map Sheet

NotesE.coli >2400 MPN/100ml Enterococci 721 MPN/100ml**Recommendations**

Inspection Type _____	Adm Sys. _____
Weather _____	Activity _____
Overall Condition _____	Rating _____

PK UDF1 _____	PK UDF5 _____
PK UDF2 _____	PK UDF6 _____
PK UDF3 _____	PK UDF7 _____
PK UDF4 _____	PK UDF8 _____
Inspection <input type="radio"/> Passed <input checked="" type="radio"/> Failed	REF ERM# _____

Seq	Date	Type	Code / Description	Hr min	Pay Type	Qty	Unit	Activity Location
1	10/20/17 14:43	labor	BARO001 - BARON BRETT	0:15	REG			
2	10/20/17 14:43	labor	MARI001 - Marinez Samuel A	0:15	REG			
3	10/20/17 14:43	labor	ROSA001 - Rosario Pedro	0:15	REG			
4	10/20/17 14:43	equip	VEH-S13 - 2013 F350 4X4	0:15				
5	10/20/17 14:43	equip	VEH-S8 - 2004 S8 FORD 250 4X4	0:15				

Inspector Signature _____

Print Name BARON BRETT

Date _____

Manhole Inspection

INSPECTION# STI0001284

Type 2	ID DMH-59	Permit	Map Sheet
Description PARSONAGE HILL RD	Cross Street	Map ID 11825	
PARSONAGE HILL RD	Location Ref.		

REF ERM#

Inspection Passed ☒ Failed ☐

Recommendations

Notes

NO FLOW
This is part of Outfall FBO0723

General

Status _____	Location _____	Interior _____	Weather _____
Pavement Condition _____	Overall Depth _____		Recent Weather _____
Rating _____			

Cover

Material type _____	Type _____	Fit _____	Secured _____
Condition _____	Ponding _____	Tub liner _____	Defect Qty _____
Depth (in) _____	Diam. (in) _____		No. of Holes _____
Defect Location _____			

Frame

Material type _____	Condition _____	Offset _____	Defect Qty _____
Frame Type _____	Seal _____	Grade Ring(s) _____	I/I _____
Cover Opening (in) _____		Cover Depth (in) _____	
Defect Location _____			

Chimney

Material type _____	Condition _____	Seal _____	Defect Qty _____
I/I _____	Depth (in) _____		Diameter (in) _____
Defect Location _____			

Cone

Material type _____	Condition _____	Shape _____	Defect Qty _____
I/I _____	Construction _____	Face Length (in) _____	Top Dia (in) _____
Defect Location _____			

Barrel

Material type _____	Condition _____	Dia (in) _____	I/I _____	Defect Qty _____
Defect Location _____				

Bench

Material type _____	Condition _____	I/I _____
Surch. Evidence _____	Overflow _____	Defect Qty _____
Defect Location _____		

Channel

Material type _____	Condition _____	Defect Qty _____	I/I _____
Surch. Evidence _____	Overflow _____		Flow Depth _____
Defect Location _____			

Steps

Material type _____	Condition _____	Surcharge Evidence _____
Step No. _____		Defect Qty _____
Defect Location _____		

Comments

Seq	Date	Type	Code / Description	Hr/min	Pay Type	Qty	Unit	Activity Location
1	10/18/17 13:23	labor	BARO001 - BARON BRETT	0:15	REG			
2	10/18/17 13:23	labor	MARI001 - Martinez Samuel A	0:15	REG			

Inspector Signature _____ Date 10/18/17

Print Name BARON BRETT

<u>Seq</u>	<u>Date</u>	<u>Type</u>	<u>Code / Description</u>	<u>Hr</u> <u>mm</u>	<u>Pay Type</u>	<u>Qty</u>	<u>Unit</u>	<u>Activity Location</u>
3	10/18/17 13:23	labor	ROSA001 - Rosario Pedro	0:15	REG			
4	10/18/17 13:23	equip	VEH-S13 - 2013 F350 4X4	0:15				
5	10/18/17 13:23	equip	VEH-S8 - 2004 S8 FORD 250 4X4	0:15				

Inspector Signature _____ Date 10/18/17
 Print Name BARON BRETT

Manhole Inspection

INSPECTION# STI0001285

Type 2	ID DMH-263	Permit	
Description ROSEWOOD DR		Cross Street	
ROSEWOOD DR		Map ID 2B-1740	Map Sheet
Location Ref.			

REF ERM#

Inspection Passed ☒ Failed ☐

Recommendations

Notes

NO FLOW
This is part of Outfall UNK 0865

General

Status _____	Location _____	Interior _____	Weather _____
Pavement Condition _____	Overall Depth _____		Recent Weather _____
Rating _____			

Cover

Material type _____	Type _____	Fit _____	Secured _____
Condition _____	Ponding _____	Tub liner _____	Defect Qty _____
Depth (in) _____	Diam. (in) _____		No. of Holes _____
Defect Location _____			

Frame

Material type _____	Condition _____	Offset _____	Defect Qty _____
Frame Type _____	Seal _____	Grade Ring(s) _____	I/I _____
Cover Opening (in) _____		Cover Depth (in) _____	
Defect Location _____			

Chimney

Material type _____	Condition _____	Seal _____	Defect Qty _____
I/I _____	Depth (in) _____		Diameter (in) _____
Defect Location _____			

Cone

Material type _____	Condition _____	Shape _____	Defect Qty _____
I/I _____	Construction _____	Face Length (in) _____	Top Dia (in) _____
Defect Location _____			

Barrel

Material type _____	Condition _____	Dia (in) _____	I/I _____	Defect Qty _____
Defect Location _____				

Bench

Material type _____	Condition _____	I/I _____
Surch. Evidence _____	Overflow _____	Defect Qty _____
Defect Location _____		

Channel

Material type _____	Condition _____	Defect Qty _____	I/I _____
Surch. Evidence _____	Overflow _____		Flow Depth _____
Defect Location _____			

Steps

Material type _____		Surcharge Evidence _____
Step No. _____	Condition _____	Defect Qty _____
Defect Location _____		

Comments

Seq	Date	Type	Code / Description	Hr/min	Pay Type	Qty	Unit	Activity Location
1	10/18/17 13:23	labor	BARO001 - BARON BRETT	0:15	REG			
2	10/18/17 13:23	labor	MARI001 - Martinez Samuel A	0:15	REG			

Inspector Signature _____ Date 10/18/17

Print Name BARON BRETT

<u>Seq</u>	<u>Date</u>	<u>Type</u>	<u>Code / Description</u>	<u>Hr</u> <u>mm</u>	<u>Pay Type</u>	<u>Qty</u>	<u>Unit</u>	<u>Activity Location</u>
3	10/18/17 13:23	labor	ROSA001 - Rosario Pedro	0:15	REG			
4	10/18/17 13:23	equip	VEH-S8 - 2004 S8 FORD 250 4X4	0:15				
5	10/18/17 13:23	equip	VEH-S13 - 2013 F350 4X4	0:15				

Inspector Signature _____ Date 10/18/17
 Print Name BARON BRETT

Manhole Inspection

INSPECTION# STI0001286

Type 2	ID DMH-265	Permit	Cross Street
Description ROSEWOOD DR			
ROSEWOOD DR	Location Ref.	Map ID 2B-1740	Map Sheet

REF ERM#

Inspection Passed ☒ Failed ☐

Recommendations

Notes

NO FLOW
This is part of Outfall UNK0866

General

Status _____	Location _____	Interior _____	Weather _____
Pavement Condition _____	Overall Depth _____		Recent Weather _____
Rating _____			

Cover

Material type _____	Type _____	Fit _____	Secured _____
Condition _____	Ponding _____	Tub liner _____	Defect Qty _____
Depth (in) _____	Diam. (in) _____		No. of Holes _____
Defect Location _____			

Frame

Material type _____	Condition _____	Offset _____	Defect Qty _____
Frame Type _____	Seal _____	Grade Ring(s) _____	I/I _____
Cover Opening (in) _____		Cover Depth (in) _____	
Defect Location _____			

Chimney

Material type _____	Condition _____	Seal _____	Defect Qty _____
I/I _____	Depth (in) _____		Diameter (in) _____
Defect Location _____			

Cone

Material type _____	Condition _____	Shape _____	Defect Qty _____
I/I _____	Construction _____	Face Length (in) _____	Top Dia (in) _____
Defect Location _____			

Barrel

Material type _____	Condition _____	Dia (in) _____	I/I _____	Defect Qty _____
Defect Location _____				

Bench

Material type _____	Condition _____	I/I _____
Surch. Evidence _____	Overflow _____	Defect Qty _____
Defect Location _____		

Channel

Material type _____	Condition _____	Defect Qty _____	I/I _____
Surch. Evidence _____	Overflow _____		Flow Depth _____
Defect Location _____			

Steps

Material type _____	Condition _____	Surcharge Evidence _____
Step No. _____		Defect Qty _____
Defect Location _____		

Comments

Seq	Date	Type	Code / Description	Hr/min	Pay Type	Qty	Unit	Activity Location
1	10/18/17 13:23	labor	BARO001 - BARON BRETT	0:15	REG			
2	10/18/17 13:23	labor	MARI001 - Martinez Samuel A	0:15	REG			

Inspector Signature _____ Date 10/18/17

Print Name BARON BRETT

<u>Seq</u>	<u>Date</u>	<u>Type</u>	<u>Code / Description</u>	<u>Hr</u> <u>mm</u>	<u>Pay Type</u>	<u>Qty</u>	<u>Unit</u>	<u>Activity Location</u>
3	10/18/17 13:23	labor	ROSA001 - Rosario Pedro	0:15	REG			
4	10/18/17 13:23	equip	VEH-S13 - 2013 F350 4X4	0:15				
5	10/18/17 13:23	equip	VEH-S8 - 2004 S8 FORD 250 4X4	0:15				

Inspector Signature _____ Date 10/18/17
Print Name BARON BRETT



Storm Generic Inspection

INSPECTION# STI0001287

Type DISCHARGE POINT

1/12/2018

Sub Type 0		ID UNK1113
Description DOGWOOD CIR DOGWOOD CIR		Permit Cross Street
Location Ref.	Map ID 2B-1740	Map Sheet

Notes

E Coli results 10.6 MPN/100 mL Surfactants .05 mg/LEAI LABS

Recommendations

Inspection Type _____	Adm Sys. _____
Weather _____	Activity _____
Overall Condition _____	Rating _____

PK UDF1 _____	PK UDF5 _____
PK UDF2 _____	PK UDF6 _____
PK UDF3 _____	PK UDF7 _____
PK UDF4 _____	PK UDF8 _____
Inspection <input checked="" type="radio"/> Passed <input type="radio"/> Failed	REF ERM# _____

Seq	Date	Type	Code / Description	Hr min	Pay Type	Qty	Unit	Activity Location
1	10/18/17 14:43	labor	BARO001 - BARON BRETT	0:15	REG			
2	10/18/17 14:43	labor	MARI001 - Marinez Samuel A	0:15	REG			
3	10/18/17 14:43	labor	ROSA001 - Rosario Pedro	0:15	REG			
4	10/18/17 14:43	equip	VEH-S13 - 2013 F350 4X4	0:15				
5	10/18/17 14:43	equip	VEH-S8 - 2004 S8 FORD 250 4X4	0:15				

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Inspector Signature _____

 Print Name BARON BRETT

Date _____

Manhole Inspection INSPECTION# STI0001288

Type 2	ID	DMH-949	Permit	Cross Street	Map Sheet
Description DOGWOOD CIR SOUTH MAIN ST					
Location Ref.		Map ID 7825			

REF ERM#

Inspection ☒ Passed ☐ Failed

Recommendations

Notes

NO FLOWThis is part of Outfall UNK 0860

General

Status _____	Location _____	Interior _____	Weather _____
Pavement Condition _____	Overall Depth _____		Recent Weather _____
Rating _____			

Cover

Material type _____	Type _____	Fit _____	Secured _____
Condition _____	Ponding _____	Tub liner _____	Defect Qty _____
Depth (in) _____	Diam. (in) _____		No. of Holes _____
Defect Location _____			

Frame

Material type _____	Condition _____	Offset _____	Defect Qty _____
Frame Type _____	Seal _____	Grade Ring(s) _____	I/I _____
Cover Opening (in) _____		Cover Depth (in) _____	
Defect Location _____			

Chimney

Material type _____	Condition _____	Seal _____	Defect Qty _____
I/I _____	Depth (in) _____		Diameter (in) _____
Defect Location _____			

Cone

Material type _____	Condition _____	Shape _____	Defect Qty _____
I/I _____	Construction _____	Face Length (in) _____	Top Dia (in) _____
Defect Location _____			

Barrel

Material type _____	Condition _____	Dia (in) _____	I/I _____	Defect Qty _____
Defect Location _____				

Bench

Material type _____	Condition _____	I/I _____
Surch. Evidence _____	Overflow _____	Defect Qty _____
Defect Location _____		

Channel

Material type _____	Condition _____	Defect Qty _____	I/I _____
Surch. Evidence _____	Overflow _____		Flow Depth _____
Defect Location _____			

Steps

Material type _____	Condition _____	Surcharge Evidence _____
Step No. _____		Defect Qty _____
Defect Location _____		

Comments

Seq	Date	Type	Code / Description	Hr	mm	Pay Type	Qty	Unit	Activity Location
1	10/18/17 13:23	labor	BARO001 - BARON BRETT	0	15	REG			
2	10/18/17 13:23	labor	MARI001 - Martinez Samuel A	0	15	REG			

Inspector Signature _____ Date 10/18/17

Print Name BARON BRETT

<u>Seq</u>	<u>Date</u>	<u>Type</u>	<u>Code / Description</u>	<u>Hr</u> <u>mm</u>	<u>Pay Type</u>	<u>Qty</u>	<u>Unit</u>	<u>Activity Location</u>
3	10/18/17 13:23	labor	ROSA001 - Rosario Pedro	0:15	REG			
4	10/18/17 13:23	equip	VEH-S13 - 2013 F350 4X4	0:15				
5	10/18/17 13:23	equip	VEH-S8 - 2004 S8 FORD 250 4X4	0:15				

Inspector Signature _____ Date 10/18/17
 Print Name BARON BRETT

Manhole Inspection INSPECTION# STI0001289

Type 2	ID DMH-1022	Permit	Map Sheet
Description Cross Country	Cross Street		
CROSS COUNTRY	Map ID 12952		
Location Ref.			

REF ERM#

Inspection ☒ Passed ☐ Failed

Recommendations

Notes

NO FLOWThis is part of Outfall UNK1043

General

Status	Location	Interior	Weather
Pavement Condition	Overall Depth		Recent Weather
Rating			

Cover

Material type	Type	Fit	Secured
Condition	Ponding	Tub liner	Defect Qty
Depth (in)	Diam. (in)		No. of Holes
Defect Location			

Frame

Material type	Condition	Offset	Defect Qty
Frame Type	Seal	Grade Ring(s)	I/I
Cover Opening (in)		Cover Depth (in)	
Defect Location			

Chimney

Material type	Condition	Seal	Defect Qty
I/I	Depth (in)		Diameter (in)
Defect Location			

Cone

Material type	Condition	Shape	Defect Qty
I/I	Construction	Face Length (in)	Top Dia (in)
Defect Location			

Barrel

Material type	Condition	Dia (in)	I/I	Defect Qty
Defect Location				

Bench

Material type	Condition	I/I
Surch. Evidence	Overflow	Defect Qty
Defect Location		

Channel

Material type	Condition	Defect Qty	I/I
Surch. Evidence	Overflow		Flow Depth
Defect Location			

Steps

Material type	Condition	Surcharge Evidence
Step No.		Defect Qty
Defect Location		

Comments

Seq	Date	Type	Code / Description	Hr:min	Pay Type	Qty	Unit	Activity Location
1	10/18/17 13:23	labor	BARO001 - BARON BRETT	0:15	REG			
2	10/18/17 13:23	labor	ROSA001 - Rosario Pedro	0:15	REG			

Inspector Signature _____ Date 10/18/17

Print Name BARON BRETT

<u>Seq</u>	<u>Date</u>	<u>Type</u>	<u>Code / Description</u>	<u>Hr</u> <u>mm</u>	<u>Pay Type</u>	<u>Qty</u>	<u>Unit</u>	<u>Activity Location</u>
3	10/18/17 13:23	labor	MARI001 - Martinez Samuel A	0:15	REG			
4	10/18/17 13:23	equip	VEH-S13 - 2013 F350 4X4	0:15				
5	10/18/17 13:23	equip	VEH-S8 - 2004 S8 FORD 250 4X4	0:15				

Inspector Signature _____ Date 10/18/17
 Print Name BARON BRETT



Storm Generic Inspection

INSPECTION# STI0001290

Type DISCHARGE POINT

1/12/2018

Sub Type 0		ID UNK1044
Description Cross Country CROSS COUNTRY		Permit Cross Street
Location Ref.	Map ID 2B-1705	Map Sheet

Notes
Recommendations
NO FLOW

Inspection Type _____	Adm Sys. _____
Weather _____	Activity _____
Overall Condition _____	Rating _____

PK UDF1 _____	PK UDF5 _____
PK UDF2 _____	PK UDF6 _____
PK UDF3 _____	PK UDF7 _____
PK UDF4 _____	PK UDF8 _____
Inspection <input checked="" type="radio"/> Passed <input type="radio"/> Failed	REF ERM# _____

Seq	Date	Type	Code / Description	Hr min	Pay Type	Qty	Unit	Activity Location
1	10/18/17 13:23	labor	BARO001 - BARON BRETT	0:15	REG			
2	10/18/17 13:23	labor	MARI001 - Marinez Samuel A	0:15	REG			
3	10/18/17 13:23	labor	ROSA001 - Rosario Pedro	0:15	REG			
4	10/18/17 13:23	equip	VEH-S13 - 2013 F350 4X4	0:15				
5	10/18/17 13:23	equip	VEH-S8 - 2004 S8 FORD 250 4X4	1:00				

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Inspector Signature _____

Date _____

 Print Name BARON BRETT

Manhole Inspection

INSPECTION# STI0001291

Type 2	ID DMH-8368	Permit	Map Sheet
Description VALE ST	Cross Street		
VALE ST	Map ID		
Location Ref.			

REF ERM#

Inspection ☒ Passed ☐ Failed

Recommendations

Notes

NO FLOW
This is part of Outfall UNK10712

General

Status _____	Location _____	Interior _____	Weather _____
Pavement Condition _____	Overall Depth _____		Recent Weather _____
Rating _____			

Cover

Material type _____	Type _____	Fit _____	Secured _____
Condition _____	Ponding _____	Tub liner _____	Defect Qty _____
Depth (in) _____	Diam. (in) _____		No. of Holes _____
Defect Location _____			

Frame

Material type _____	Condition _____	Offset _____	Defect Qty _____
Frame Type _____	Seal _____	Grade Ring(s) _____	I/I _____
Cover Opening (in) _____		Cover Depth (in) _____	
Defect Location _____			

Chimney

Material type _____	Condition _____	Seal _____	Defect Qty _____
I/I _____	Depth (in) _____		Diameter (in) _____
Defect Location _____			

Cone

Material type _____	Condition _____	Shape _____	Defect Qty _____
I/I _____	Construction _____	Face Length (in) _____	Top Dia (in) _____
Defect Location _____			

Barrel

Material type _____	Condition _____	Dia (in) _____	I/I _____	Defect Qty _____
Defect Location _____				

Bench

Material type _____	Condition _____	I/I _____
Surch. Evidence _____	Overflow _____	Defect Qty _____
Defect Location _____		

Channel

Material type _____	Condition _____	Defect Qty _____	I/I _____
Surch. Evidence _____	Overflow _____		Flow Depth _____
Defect Location _____			

Steps

Material type _____	Condition _____	Surcharge Evidence _____
Step No. _____		Defect Qty _____
Defect Location _____		

Comments

Seq	Date	Type	Code / Description	Hr/min	Pay Type	Qty	Unit	Activity Location
1	10/18/17 13:23	labor	BARO001 - BARON BRETT	0:15	REG			
2	10/18/17 13:23	labor	MARI001 - Martinez Samuel A	0:15	REG			

Inspector Signature _____ Date 10/30/17

Print Name BARON BRETT

<u>Seq</u>	<u>Date</u>	<u>Type</u>	<u>Code / Description</u>	<u>Hr</u> <u>mm</u>	<u>Pay Type</u>	<u>Qty</u>	<u>Unit</u>	<u>Activity Location</u>
3	10/18/17 13:23	labor	ROSA001 - Rosario Pedro	0:15	REG			
4	10/18/17 13:23	equip	VEH-S8 - 2004 S8 FORD 250 4X4	0:15				
5	10/18/17 13:23	equip	VEH-S13 - 2013 F350 4X4	0:15				

Inspector Signature _____ Date 10/30/17
Print Name BARON BRETT



Storm Generic Inspection

INSPECTION# STI0001292

Type DISCHARGE POINT

1/12/2018

Sub Type 0		ID LR39512
Description Hilldale Avenue		Permit
		Cross Street
Location Ref.	Map ID	Map Sheet

Notes

Recommendations

No Flow

Inspection Type _____	Adm Sys. _____
Weather _____	Activity _____
Overall Condition _____	Rating _____

PK UDF1 _____	PK UDF5 _____
PK UDF2 _____	PK UDF6 _____
PK UDF3 _____	PK UDF7 _____
PK UDF4 _____	PK UDF8 _____
Inspection <input checked="" type="radio"/> Passed <input type="radio"/> Failed	REF ERM# _____

Seq	Date	Type	Code / Description	Hr min	Pay Type	Qty	Unit	Activity Location
1	10/18/17 14:43	labor	BARO001 - BARON BRETT	0:15	REG			
2	10/18/17 14:43	labor	MARI001 - Marinez Samuel A	0:15	REG			
3	10/18/17 14:43	labor	ROSA001 - Rosario Pedro	0:15	REG			
4	10/18/17 14:43	equip	VEH-S8 - 2004 S8 FORD 250 4X4	0:15				
5	10/18/17 14:43	equip	VEH-S13 - 2013 F350 4X4	0:15				

:

:


:

Inspector Signature _____

Date _____

 Print Name BARON BRETT

APPENDIX B

 W/O # ST00001150	ADM Sys.	Activity STORMWATER STORMWATER UTILITY	Priority 10
Issued 06/29/17 07:15	Target 06/29/17 07:15	Assign to SHAW001	Approv. By JESS001
Closed 00/00/00 00:00	W/O Type CM	Shaw David W	Jessel Paul J

Acc. No.	Proj. No.	Map ID	Map Sheet
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Customer Info			
First Name	Last Name	Phone1 - - -	Phone2 - - -
Cross Street		Comments	
Complaint			
Problem Address		<input type="checkbox"/> Use Customer Address	WReq. #
Location Description		Notes	

wo_udf1

wo_udf2

wo_udf3

wo_udf4

wo_udf5

wo_udf6

Futher Action ☐

Claim Filed ☐

State Problem ☐

Customer Problem ☐
Task Descr/Complaint: Investigation: UNK 1734

Action Taken:

6/15/2017- Went upstream to the next DMH. Looked for yet could not locate DMH 6919 nor DMH 6931. Need to return with camera and locator to find these DMH's.
Will return to gather samples 6/19/2017, depending on weather.

Supervisor Notes:

6/16/2017- DMH 6916 (marked in green) needs to be raised to grade. Could not locate DMH 6931, need camera with locator.


6/19/2017- Sampled DMH 6925, Zeb entered manhole to collect sample (clear) from DMH 9078 upstream (burried). Catch basins dry.
-SMH 6901 smaped by Zeb from DMH upstream. Catch basin is dry (not flowiing) however a line is running into said catch basin's pipe (CB4809). Strong oder detected. Zeb collected sample from this intercepting pipe (cloudy). CB 4809 no flow, CB 9175 no flow.
DMH 6909 entered by Zeb to sample (clear), CB 9204 no flow. CB 4829 is flowing, sample collected (clear).
CB8655 is missing (does not exist)
DMH 6911 flowing, Zeb collected sample(clear). CB 4826 no flow. DMH6911 needs repair. Missing fram and cover. Photos taken on iPad.

8/1/2017 75 Degrees F
7:20 Sampled DMH 9081, from upstream DMH. Every other line is dry.
7:30 Sampled DMH 6904 from upstream manhole (A, cloudy) and inlet from building #7 (clear)
(B), All other lines are dry.
8:00 DMH 6926 sampled (clear) , from flow at DMH 6927. All other lines dry.
recomend camera work
820 CB 8660 sampled (clear)
CB 8660, 1 line in and 1 line out (direction of building #133)

Waiting of lab results

8/7/2017- 72 Degrees F, Cloudy
DMH 6927 dry
Could not get to CB 4813 dur to parked car
Informed Forrest Acers of buried structures (DMH 6931 & DMH 6916), both need to be raised

8/14/2017

	W/O # ST00001150	ADM Sys.	Activity STORMWATER STORMWATER UTILITY	Priority 10
Issued 06/29/17 07:15	Target 06/29/17 07:15	Assign to SHAW001	Approv. By JESS001	
Closed 00/00/00 00:00	W/O Type CM	Shaw David W	Jessel Paul J	

8/11/2017

Sample from DMH 6909 to SMH 6901, all other lines dry. Sampling to prevent cross-contamination.

Duplicate assets

Date inputs with descriptions within the ellipsis

UNK1734

DMH-6934

DMH-6925

CB-4851

DMH-9079

CB-8651

CB-8652

DMH-9080

CB-8658

6/13/2017- Added pipe size changes to GIS

-Preliminary inspection. Need to return for samples

6/14/2017- DMH inspection reports taken. Given to engineering (James).

Sampled: DMH 9081, DMH 6925, CB8660 (from 134 Evergreen Drive). Need to be retaken.

6/15/2017- Added new line and point to GIS from DMH6904.

Used camera in DMH6904 to locate structure 48' up the line from newly added 12" pipe.

6/16/2017- Camera line from CB 4821 (25') to DMH6916 in order to locate.

Located DMH 6916, marked out in green.

Tried digging by hand but too deep. Surrounded by poison ivy.

6/19/2017 Sampled collected from: DMH6925, DMH6901 (from DMH upstream and CB 4809's odorous unknown connection), DMH 6909, CB 4829, DMH 6911.

Leave as this is an investigation

E. coli results 1188.07 MPN/ 100 m/s

From the MS4 field Book input check Assets below

See attached Fecal lab results


See attached Fecal results below.

Problem

MS4

STORM WATER OUTFALL

Seq	Date	Type	Code / Description	Hr:mm	Pay Type	Qty	Unit	Activity Location
1	06/13/17 00:00	labor	DAY001 - Day Zebulun	3:00	REG			
2	06/13/17 00:00	labor	BARO001 - BARON BRETT	3:00	REG			
3	06/13/17 00:00	equip	VEH-S13 - 2013 F350 4X4	3:00				
4	06/14/17 00:00	equip	VEH-S14 - 2014 F350 4X4	5:00				
5	06/14/17 00:00	equip	VEH-S13 - 2013 F350 4X4	5:00				
6	06/14/17 00:00	labor	MARI001 - Martinez Samuel A	5:00	REG			
7	06/14/17 00:00	labor	ROSA001 - Rosario Pedro	5:00	REG			
8	06/14/17 00:00	labor	DAY001 - Day Zebulun	5:00	REG			
9	06/14/17 00:00	labor	BARO001 - BARON BRETT	5:00	REG			
10	06/15/17 00:00	labor	DAY001 - Day Zebulun	4:00	REG			
11	06/15/17 00:00	labor	BARO001 - BARON BRETT	4:00	REG			
12	06/15/17 00:00	equip	VEH-S13 - 2013 F350 4X4	4:00				

	W/O # ST00001150	ADM Sys.	Activity STORMWATER STORMWATER UTILITY	Priority 10
Issued 06/29/17 07:15	Target 06/29/17 07:15	Assign to SHAW001	Approv. By JESS001	
Closed 00/00/00 00:00	W/O Type CM	Shaw David W	Jessel Paul J	

Seq	Date	Type	Code / Description	Hrmm	Pay Type	Qty	Unit	Activity Location
13	06/16/17 00:00	equip	VEH-S13 - 2013 F350 4X4	4:00				
14	06/16/17 00:00	labor	BARO001 - BARON BRETT	4:00	REG			
15	06/16/17 00:00	labor	DAY001 - Day Zebulun	4:00	REG			
16	06/19/17 00:00	labor	MARI001 - Marinez Samuel A	2:00	REG			
17	06/19/17 00:00	labor	DAY001 - Day Zebulun	2:00	REG			
18	06/19/17 00:00	labor	BARO001 - BARON BRETT	2:00	REG			
19	06/19/17 00:00	equip	VEH-S13 - 2013 F350 4X4	2:00				
20	06/19/17 00:00	equip	VEH-S3 - 1/2 Ton 2004 Ford F150	2:00				
21	08/01/17 00:00	equip	VEH-S13 - 2013 F350 4X4	2:00				
22	08/01/17 00:00	equip	VEH-S12 - 2004 F 250 4X4	2:00				
23	08/01/17 00:00	labor	DAY001 - Day Zebulun	2:00	REG			
24	08/01/17 00:00	labor	BARO001 - BARON BRETT	2:00	REG			
25	08/01/17 00:00	labor	BECK001 - Beckwith Derek	2:00	REG			
26	08/07/17 00:00	labor	BARO001 - BARON BRETT	2:00	REG			
27	08/07/17 00:00	labor	DAY001 - Day Zebulun	2:00	REG			
28	08/07/17 00:00	labor	BARO001 - BARON BRETT	1:00	REG			
29	08/07/17 00:00	labor	MARI001 - Marinez Samuel A	1:00	REG			
30	08/07/17 00:00	equip	VEH-S13 - 2013 F350 4X4	2:00				
31	08/07/17 00:00	equip	VEH-S13 - 2013 F350 4X4	1:00				

Seq	Asset Type	Asset Id	Rating	Asset Descr	Cst Shr	%	Block #	Street / Cross Street / City ,State Zip
1	CBASIN	CB-4808	.00	PRESIDENTIAL DR	1.00	2.56		PRESIDENTIAL DR
2	CBASIN	CB-4809	.00	PRESIDENTIAL DR	1.00	2.56		PRESIDENTIAL DR
3	CBASIN	CB-4813	.00	Cross Country	1.00	2.56		CROSS COUNTRY
4	CBASIN	CB-4821	.00	Cross Country	1.00	2.56		CROSS COUNTRY
5	CBASIN	CB-4822	.00	EVERGREEN DR	1.00	2.56		EVERGREEN DR
6	CBASIN	CB-4823	.00	EVERGREEN DR	1.00	2.56		EVERGREEN DR
7	CBASIN	CB-4825	.00	Cross Country	1.00	2.56		CROSS COUNTRY
8	CBASIN	CB-4826	.00	Cross Country	1.00	2.56		CROSS COUNTRY
9	CBASIN	CB-4827	.00	Cross Country	1.00	2.56		CROSS COUNTRY
10	CBASIN	CB-4828	.00	Cross Country	1.00	2.56		CROSS COUNTRY
11	CBASIN	CB-4829	.00	PRESIDENTIAL DR	1.00	2.56		PRESIDENTIAL DR
12	CBASIN	CB-4830	.00	Cross Country	1.00	2.56		CROSS COUNTRY
13	CBASIN	CB-4851	.00	PRESIDENTIAL DR	1.00	2.56		PRESIDENTIAL DR
14	CBASIN	CB-4852	.00	PRESIDENTIAL DR	1.00	2.56		PRESIDENTIAL DR
15	CBASIN	CB-8651	.00	PRESIDENTIAL DR	1.00	2.56		
16	CBASIN	CB-8652	.00	PRESIDENTIAL DR	1.00	2.56		
17	CBASIN	CB-8653	.00	PRESIDENTIAL DR	1.00	2.56		
18	CBASIN	CB-8654	.00	PRESIDENTIAL DR	1.00	2.56		
19	CBASIN	CB-8655	.00	PRESIDENTIAL DR	1.00	2.56		
20	CBASIN	CB-8658	.00	EVERGREEN DR	1.00	2.56		
21	CBASIN	CB-8659	.00	EVERGREEN DR	1.00	2.56		
22	CBASIN	CB-8660	.00	Cross Country	1.00	2.56		
23	CBASIN	CB-9175	.00	CROSS COUNTRY	1.00	2.56		
24	CBASIN	CB-9204	.00	PARKING LOT	1.00	2.56		
25	MANHOLE	DMH-6901	.00	PRESIDENTIAL DR	1.00	2.56		PRESIDENTIAL DR
26	MANHOLE	DMH-6904	.00	EVERGREEN DR	1.00	2.56		EVERGREEN DR
27	MANHOLE	DMH-6909	.00	PRESIDENTIAL DR	1.00	2.56		PRESIDENTIAL DR
28	MANHOLE	DMH-6911	.00	Cross Country	1.00	2.56		CROSS COUNTRY




MaintStar Storm Work Order

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1/16/2018

Created By BBARON

 W/O # ST00001150	ADM Sys.	Activity STORMWATER STORMWATER UTILITY	Priority 10
Issued 06/29/17 07:15	Target 06/29/17 07:15	Assign to SHAW001	Approv. By JESS001
Closed 00/00/00 00:00	W/O Type CM	Shaw David W	Jessel Paul J

<u>Seq</u>	<u>Asset Type</u>	<u>Asset Id</u>	<u>Rating</u>	<u>Asset Descr</u>	<u>Cst Slr</u>	<u>%</u>	<u>Block #</u>	<u>Street / Cross Street / City ,State Zip</u>
29	MANHOLE	DMH-6916	.00	Cross Country	1.00	2.56		CROSS COUNTRY
30	MANHOLE	DMH-6925	.00	PRESIDENTIAL DR	1.00	2.56		PRESIDENTIAL DR
31	MANHOLE	DMH-6926	.00	FOREST ACRES DR	1.00	2.56		FOREST ACRES DR
32	MANHOLE	DMH-6927	.00	FOREST ACRES DR	1.00	2.56		FOREST ACRES DR
33	MANHOLE	DMH-6931	.00	Cross Country	1.00	2.56		CROSS COUNTRY
34	MANHOLE	DMH-6934	.00	PRESIDENTIAL DR	1.00	2.56		PRESIDENTIAL DR
35	MANHOLE	DMH-9078	.00	PRESIDENTIAL DR	1.00	2.56		PRESIDENTIAL DR
36	MANHOLE	DMH-9079	.00	PRESIDENTIAL DR	1.00	2.56		PRESIDENTIAL DR
37	MANHOLE	DMH-9080	.00	PRESIDENTIAL DR	1.00	2.56		PRESIDENTIAL DR / / Haverhill, MA 01835
38	MANHOLE	DMH-9081	.00	EVERGREEN DR	1.00	2.56		EVERGREEN DR
39	GE: DISCHARGE	UNK1734	.00	PRESIDENTIAL DR	1.00	2.56		

Labor Cost \$1,185.86

Material Cost \$0.00

Equipment Cost \$640.00

Contractors Cost \$0.00

Misc. Cost \$0.00

Total W/O Cost \$1,825.86


Print Name _____ Signature _____ Date ____/____/____ ☐



MaintStar Storm Work Order

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1/16/2018

Created By

 W/O # ST00000193	ADM Sys.	Activity STORMWATER STORMWATER UTILITY	Priority 10
Issued 01/30/15 10:54	Target 01/30/15 10:54	Assign to SHAW001	Approv. By JESS001
Closed 07/01/16 18:36	W/O Type CM	Shaw David W	Jessel Paul J

Acc. No.	Proj. No.	Map ID	Map Sheet
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Customer Info			
First Name	Last Name	Phone1 - - -	Phone2 - - -
Cross Street		Comments	
Complaint			
Problem Address <input type="checkbox"/> Use Customer Address		Cross Street	WReq. #
Location Description		Notes	

wo_udf1 wo_udf2 wo_udf3 wo_udf4 wo_udf5
wo_udf6 Futher Action ☐ Claim Filed ☐ State Problem ☐ Customer Problem ☐

Task Descr/Complaint: Investigation DPI 1094

Action Taken: See attached picture of this culvert very small catchment

Supervisor Notes: Resampled on 11-4-15 E.coli results 39.9 MPN/100 ml
PASSED

ENTEROCOCCI RESULTS 8-30-17: 135.4 MPN/100mL (EAI LABS)
Leave as this is a investigation
E.coli results >2,419.6 MPN/100mls
From the MS4 feild Book input check Assets below

Problem

MS4 STORM WATER OUTFALL

Action

506 INVESTIGATION

Seq	Date	Type	Code / Description	Hr:mm	Pay Type	Qty	Unit	Activity Location
1	08/30/17 00:00	labor	BARO001 - BARON BRETT	0:15	REG			
2	08/30/17 00:00	labor	MARI001 - Marinez Samuel A	0:15	REG			
3	08/30/17 00:00	labor	DAY001 - Day Zebulun	0:15	REG			
4	08/30/17 00:00	equip	VEH-S13 - 2013 F350 4X4	0:15				

Seq	Asset Type	Asset Id	Rating	Asset Descr	Cst Shr	%	Block #	Street / Cross Street / City ,State Zip
1	GE: DISCHARGE	DPI1094	.00	CROSS COUNTRY	1.00			CROSS COUNTRY

Labor Cost	\$15.40	Material Cost	\$0.00	Equipment Cost	\$5.00
Contractors Cost	\$0.00	Misc. Cost	\$0.00	Total W/O Cost	\$20.40


Print Name _____ Signature _____ Date ____/____/____ ☐



MaintStar Storm Work Order

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1/16/2018

Created By

 W/O # ST00000196	ADM Sys.	Activity STORMWATER STORMWATER UTILITY	Priority 10
Issued 01/30/15 10:59	Target 01/30/15 10:59	Assign to SHAW001	Approv. By JESS001
Closed 00/00/00 00:00	W/O Type CM	Shaw David W	Jessel Paul J

Acc. No.	Proj. No.	Map ID	Map Sheet
-----------------	------------------	---------------	------------------

Customer Info			
First Name	Last Name	Phone1 - - -	Phone2 - - -
Cross Street			
Complaint		Comments	
<div></div>		<div></div>	
Problem Address	<input type="checkbox"/> Use Customer Address	Cross Street	WReq. #
Location Description		Notes	
<div></div>		<div></div>	

wo_udf1 wo_udf2 wo_udf3 wo_udf4 wo_udf5
wo_udf6 Futher Action ☐ Claim Filed ☐ State Problem ☐ Customer Problem ☐

Task Descr/Complaint: Investigation MR1141

Action Taken: Attached Files:
Field Engineer notes

Supervisor Notes: GIS Map
Fecal Lab results
Some CCTV Reports

See atatched Fecal Lab results

E Coli Results 8-30-17 (EAI LABS): >2419.6 MPN/100mL

leave as this is an investigation

E.coil results >2,400 MPN/100mls

From the MS4 field Book input check Assets below

file called MR1141-DMH5806 TWICE failed and samples were taken from two different directions

Problem

MS4 STORM WATER OUTFALL

Action

506 INVESTIGATION

Seq	Date	Type	Code / Description	Hrmm	Pay Type	Qty	Unit	Activity Location
1	10/11/16 04:40	labor	MARI001 - Marinez Samuel A	1:00	REG			MS4 INVEST
2	10/11/16 00:00	labor	DAY001 - Day Zebulun	1:00	REG			MS4 INVEST
3	10/11/16 00:00	labor	ROSA001 - Rosario Pedro	1:00	REG			MS4 INVEST
4	10/11/16 00:00	labor	BECK001 - Beckwith Derek	1:00	REG			MS4 INVEST
5	10/11/16 00:00	equip	VEH-S13 - 2013 F350 4X4	1:00				MS4 INVEST
6	10/11/16 00:00	equip	VEH-S14 - 2014 F350 4X4	1:00				MS4 INVEST
7	08/29/16 00:00	labor	MARI001 - Marinez Samuel A	2:00	REG			MS4 INVEST
8	08/29/16 00:00	labor	DAY001 - Day Zebulun	2:00	REG			MS4 INVEST
9	08/29/16 00:00	equip	VEH-S13 - 2013 F350 4X4	2:00				MS4 INVEST
10	11/28/16 00:00	labor	MARI001 - Marinez Samuel A	2:00	REG			MS4 INVEST
11	11/28/16 00:00	labor	DAY001 - Day Zebulun	2:00	REG			MS4 INVEST



MaintStar Storm Work Order

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1/16/2018

Created By

W/O # ST00000196	ADM Sys.	Activity STORMWATER STORMWATER UTILITY	Priority 10
Issued 01/30/15 10:59	Target 01/30/15 10:59	Assign to SHAW001	Approv. By JESS001
Closed 00/00/00 00:00	W/O Type CM	Shaw David W	Jessel Paul J

Seq	Date	Type	Code / Description	Hrmm	Pay Type	Qty	Unit	Activity Location
12	11/28/16 00:00	labor	BECK001 - Beckwith Derek	2:00	REG			MS4 INVEST
13	11/28/16 00:00	equip	VEH-S13 - 2013 F350 4X4	2:00				MS4 INVEST
14	11/28/16 00:00	equip	VEH-S14 - 2014 F350 4X4	2:00				MS4 INVEST
15	11/29/16 00:00	labor	MARI001 - Marinez Samuel A	2:00	REG			MS4 INVEST
16	11/29/16 00:00	labor	DAY001 - Day Zebulun	2:00	REG			MS4 INVEST
17	11/29/16 00:00	labor	BECK001 - Beckwith Derek	2:00	REG			MS4 INVEST
18	11/29/16 00:00	equip	VEH-S14 - 2014 F350 4X4	2:00				MS4 INVEST
19	11/29/16 00:00	equip	VEH-S13 - 2013 F350 4X4	2:00				MS4 INVEST
20	07/06/17 00:00	equip	VEH-S13 - 2013 F350 4X4	1:00				MS4 INVEST
21	07/06/17 00:00	labor	DAY001 - Day Zebulun	1:00	REG			MS4 INVEST
22	07/06/17 00:00	labor	MARI001 - Marinez Samuel A	1:00	REG			MS4 INVEST
23	08/30/17 00:00	labor	BARO001 - BARON BRETT	0:15	REG			MS4 INVEST
24	08/30/17 00:00	labor	DAY001 - Day Zebulun	0:15	REG			MS4 INVEST
25	08/30/17 00:00	equip	VEH-S13 - 2013 F350 4X4	0:15				MS4 INVEST

Seq	Asset Type	Asset Id	Rating	Asset Descr	Cst Shl	%	Block #	Street / Cross Street / City ,State Zip
1	CBASIN	CB-2482	.00	CHEEVER ST	1.00	3.85		CHEEVER ST
2	CBASIN	CB-2483	.00	CHEEVER ST	1.00	3.85		CHEEVER ST
3	CBASIN	CB-4303	.00	RIVER ST	1.00	3.85		RIVER ST
4	CBASIN	CB-4304	.00	NIAGARA ST	1.00	3.85		NIAGARA ST
5	CBASIN	CB-4305	.00	NIAGARA ST	1.00	3.85		NIAGARA ST
6	CBASIN	CB-586	.00	CLIFFE AVE	1.00	3.85		CLIFFE AVE
7	CBASIN	CB-587	.00	CLIFFE AVE	1.00	3.85		CLIFFE AVE
8	CBASIN	CB-6342	.00	JULIAN ST	1.00	3.85		
9	CBASIN	CB-6343	.00	JULIAN ST	1.00	3.85		
10	CBASIN	CB-6345	.00	CHEEVER ST	1.00	3.85		
11	CBASIN	CB-6346	.00	CHEEVER ST	1.00	3.85		
12	CBASIN	CB-6347	.00	CHEEVER ST	1.00	3.85		
13	MANHOLE	DMH-212	.00	WORCESTER ST	1.00	3.85		WORCESTER ST
14	MANHOLE	DMH-213	.00	WORCESTER ST	1.00	3.85		WORCESTER ST
15	MANHOLE	DMH-54	.00	RIVER ST	1.00	3.85		RIVER ST
16	MANHOLE	DMH-55	.00	CLIFFE AVE	1.00	3.85		CLIFFE AVE
17	MANHOLE	DMH-56	.00	CLIFFE AVE	1.00	3.85		CLIFFE AVE
18	MANHOLE	DMH-57	.00	CLIFFE AVE	1.00	3.85		CLIFFE AVE
19	MANHOLE	DMH-58	.00	WORCESTER ST	1.00	3.85		WORCESTER ST
20	MANHOLE	DMH-5801	.00	RIVER ST	1.00	3.85		RIVER ST
21	MANHOLE	DMH-5802	.00	RIVER ST	1.00	3.85		RIVER ST
22	MANHOLE	DMH-5805	.00	Cross Country	1.00	3.85		CROSS COUNTRY
23	MANHOLE	DMH-5806	.00	RIVER ST	1.00	3.85		RIVER ST
24	MANHOLE	DMH-7881	.00	JULIAN ST	1.00	3.85		JULIAN ST
25	MANHOLE	DMH-7885	.00	CHEEVER ST	1.00	3.85		CHEEVER ST
26	GE: DISCHARGE	MR1141	.00	CROSS COUNTRY	1.00	3.85		CROSS COUNTRY

Labor Cost	\$544.76	Material Cost	\$0.00	Equipment Cost	\$265.00
Contractors Cost	\$0.00	Misc. Cost	\$0.00	Total W/O Cost	\$809.76


Print Name _____ Signature _____ Date ____/____/____ ☐



MaintStar Storm Work Order

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1/16/2018

Created By

 W/O # ST00000197	ADM Sys.	Activity STORMWATER STORMWATER UTILITY	Priority 10
Issued 01/30/15 11:00	Target 01/30/15 11:00	Assign to SHAW001	Approv. By JESS001
Closed 00/00/00 00:00	W/O Type CM	Shaw David W	Jessel Paul J

Acc. No.	Proj. No.	Map ID	Map Sheet
-----------------	------------------	---------------	------------------

Customer Info			
First Name	Last Name	Phone1 - - -	Phone2 - - -
Cross Street			
Comments			
Complaint			
Problem Address		<input type="checkbox"/> Use Customer Address	WReq. #
Cross Street			
Location Description		Notes	

wo_udf1

wo_udf2

wo_udf3

wo_udf4

wo_udf5

wo_udf6

Futher Action ☐

Claim Filed ☐

State Problem ☐

Customer Problem ☐

Task Descr/Complaint: Investigation MR1138

Action Taken: Attached Files:
Field Engineer notes

Supervisor Notes: GIS Map
Fecal Lab results

VIDEO LINKS IN:
STI 1302, STI 1303

10/20/17
Sample
MR 1138 at 8 AM
Temp: 13.7 C, 56.6 F
pH: 7.41
Specific Conductivity: 979
Chlorine: 0
Ammonia: 0
Surfactants: 0


CB's: 4311, 4312, 4297 NO FLOW

ALL flow is coming from the hill

Sample
DMH 5804 at 8:02 AM
Temp: 13.9 C, 57.0 F
pH: 7.65
Specific Conductivity: 956
Chlorine: 0
Ammonia: 0
Surfactants: 0

Complete

Created By

	WIO # ST00000197	ADM Sys.	Activity STORMWATER STORMWATER UTILITY	Priority 10
Issued 01/30/15 11:00	Target 01/30/15 11:00	Assign to SHAW001	Approv. By JESS001	
Closed 00/00/00 00:00	W/O Type CM	Shaw David W	Jessel Paul J	

Sample

DMH 5803 at 8:07 AM

Temp: 14.4 C, 57.9 F

pH: 7.08

Specific Conductivity: 940

Chlorine: 0

Ammonia: 0

Surfactants: 0

Sample

Culvert Inlet behind 747 River St (Flow from Brook) at 8:20 AM

Temp: 14.6 C, 58.3 F

pH: 7.25

Specific Conductivity: 910

Chlorine: 0

Ammonia: 0

Surfactants: 0

Depth to inverts taken

Confined entry (X2)

CCTV sewer segments

SMH-5825 - SMH 5790

SMH 5825 - SMH 5783

E Coli Results 8-30-17 (EAI LABS): 2419.6 MPN/100mL

Leave as this is an investigation

E.coli results >2,419.6 MPN/100mls

From the MS4 field Book input check Assets below

Fecal results file called MR1138-DMH5803 747 River Street both came back as 500 MPN/100mls

Problem

MS4 STORM WATER OUTFALL

Action

506 INVESTIGATION

Seq	Date	Type	Code / Description	Hr:mm	Pay Type	Qty	Unit	Activity Location
1	10/11/16 00:00	labor	MARI001 - Marinez Samuel A	1:00	REG			MS4 INVEST
2	10/11/16 00:00	labor	DAY001 - Day Zebulun	1:00	REG			MS4 INVEST
3	10/11/16 00:00	labor	ROSA001 - Rosario Pedro	1:00	REG			MS4 INVEST
4	10/11/16 00:00	labor	BECK001 - Beckwith Derek	1:00	REG			MS4 INVEST
5	10/11/16 00:00	equip	VEH-S13 - 2013 F350 4X4	1:00				MS4 INVEST
6	10/11/16 00:00	equip	VEH-S14 - 2014 F350 4X4	1:00				MS4 INVEST
7	10/20/16 00:00	labor	DAY001 - Day Zebulun	0:30	REG			MS4 INVEST
8	10/20/16 00:00	labor	ROSA001 - Rosario Pedro	0:30	REG			MS4 INVEST
9	10/20/16 00:00	labor	BECK001 - Beckwith Derek	0:30	REG			MS4 INVEST
10	10/20/16 00:00	equip	VEH-S13 - 2013 F350 4X4	0:30				MS4 INVEST
11	10/20/16 00:00	equip	VEH-S14 - 2014 F350 4X4	0:30				MS4 INVEST
12	11/29/16 00:00	labor	MARI001 - Marinez Samuel A	1:00	REG			MS4 INVEST
13	11/29/16 00:00	labor	DAY001 - Day Zebulun	1:00	REG			MS4 INVEST
14	11/29/16 00:00	labor	ROSA001 - Rosario Pedro	1:00	REG			MS4 INVEST
15	11/29/16 00:00	labor	BECK001 - Beckwith Derek	1:00	REG			MS4 INVEST
16	11/29/16 00:00	equip	VEH-S13 - 2013 F350 4X4	1:00				MS4 INVEST
17	11/29/16 00:00	equip	VEH-S14 - 2014 F350 4X4	1:00				MS4 INVEST




MaintStar Storm Work Order

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1/16/2018

Created By

 W/O # ST00000197	ADM Sys.	Activity STORMWATER STORMWATER UTILITY	Priority 10
Issued 01/30/15 11:00	Target 01/30/15 11:00	Assign to SHAW001	Approv. By JESS001
Closed 00/00/00 00:00	W/O Type CM	Shaw David W	Jessel Paul J

Seq	Date	Type	Code / Description	Hrmm	Pay Type	Qty	Unit	Activity Location
18	12/05/16 00:00	labor	MARI001 - Marinez Samuel A	4:00	REG			MS4 INVEST
19	12/05/16 00:00	labor	DAY001 - Day Zebulun	4:00	REG			MS4 INVEST
20	12/05/16 00:00	labor	ROSA001 - Rosario Pedro	4:00	REG			MS4 INVEST
21	12/05/16 00:00	labor	BECK001 - Beckwith Derek	4:00	REG			MS4 INVEST
22	12/05/16 00:00	equip	VEH-S13 - 2013 F350 4X4	4:00				MS4 INVEST
23	12/05/16 00:00	equip	VEH-S14 - 2014 F350 4X4	4:00				MS4 INVEST
24	12/05/16 00:00	ctr	BMCCorp - BMC Corp.			4.00		MS4 INVEST
25	12/05/16 00:00	ctr	HPD - HAVERHILL POLICE DEPARTMENT			4.00		MS4 INVEST
26	10/20/17 00:00	labor	BECK001 - Beckwith Derek	1:15	REG			MS4 INVEST
27	10/20/17 00:00	labor	BARO001 - BARON BRETT	1:15	REG			MS4 INVEST
28	10/20/17 00:00	labor	DAY001 - Day Zebulun	1:15	REG			MS4 INVEST
29	10/20/17 00:00	labor	MARI001 - Marinez Samuel A	1:15	REG			MS4 INVEST
30	10/20/17 00:00	equip	VEH-S14 - 2014 F350 4X4	1:15				MS4 INVEST
31	10/20/17 00:00	equip	VEH-S81 - FORD F250 4X4	1:15				MS4 INVEST
32	10/20/17 00:00	equip	VEH-S13 - 2013 F350 4X4	1:15				MS4 INVEST

Seq	Asset Type	Asset Id	Rating	Asset Descr	Cst Slr	%	Block #	Street / Cross Street / City, State Zip
1	CBASIN	CB-4297	.00	RIVER ST	1.00	14.29		RIVER ST
2	CBASIN	CB-4311	.00	RIVER ST	1.00	14.29		RIVER ST
3	CBASIN	CB-4312	.00	RIVER ST	1.00	14.29		RIVER ST
4	MANHOLE	DMH-5784	.00	NAPLES RD	1.00	14.29		NAPLES RD
5	MANHOLE	DMH-5803	.00	Cross Country	1.00	14.29		CROSS COUNTRY
6	MANHOLE	DMH-5804	.00	RIVER ST	1.00	14.29		RIVER ST
7	GE: DISCHARGE	MR1138	.00	CROSS COUNTRY	1.00	14.29		CROSS COUNTRY

Labor Cost	\$726.68	Material Cost	\$0.00	Equipment Cost	\$335.00
Contractors Cost	\$168.00	Misc. Cost	\$0.00	Total W/O Cost	\$1,229.68

Print Name _____ Signature _____ Date ____/____/____ ☐




MaintStar Storm Work Order

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1/16/2018

Created By

 W/O # ST00000199	ADM Sys.	Activity STORMWATER STORMWATER UTILITY	Priority 10
Issued 01/30/15 11:02	Target 01/30/15 11:02	Assign to SHAN001	Approv. By JESS001
Closed 00/00/00 00:00	W/O Type CM	Shanahan Thomas M	Jessel Paul J

Acc. No.	Proj. No.	Map ID	Map Sheet
-----------------	------------------	---------------	------------------

Customer Info			
First Name	Last Name	Phone1 - - -	Phone2 - - -
Cross Street			
Complaint		Comments	
<input type="text"/>		<input type="text"/>	
Problem Address	<input type="checkbox"/> Use Customer Address	Cross Street	WReq. #
Location Description		Notes	
<input type="text"/>		<input type="text"/>	

wo_udf1

wo_udf2

wo_udf3

wo_udf4

wo_udf5

wo_udf6

Futher Action ☐Claim Filed ☐State Problem ☐Customer Problem ☐**Task Descr/Complaint:** Investigation UNK0951**Action Taken:****Supervisor Notes:**

Attached Files:

Field Engineer notes

GIS Map

Fecal Lab results

Some CCTV Rep

Video Files in:

STI: 1304, 1305

6/22/17 Sunny 80 degrees F

Sampled DMH-728 and UNK 0951

Waiting on results for further actions

10/20/17

Sample (TWO SAMPLES)

UNK 0951 at 9:20 AM

70 Brook St

Temp: 13.9 C, 57.0 F

pH: 7.39

Specific Conductivity: 497

Chlorine: 0

Ammonia: 0

Surfactants: 0

Dye tested 70 Brook St. and confirmed connection to SMH 2240 (on Woodcock Ave)

Sample (TWO SAMPLES)

DMH 728 at 9:40 AM

Temp: 13.9 C, 57.0 F


pH: 7.28

Specific Conductivity: 487

Chlorine: 0

Ammonia: 0

Created By

	W/O # ST00000199	ADM Sys.	Activity STORMWATER STORMWATER UTILITY	Priority 10
Issued 01/30/15 11:02	Target 01/30/15 11:02	Assign to SHAN001	Approv. By JESS001	
Closed 00/00/00 00:00	W/O Type CM	Shanahan Thomas M	Jessel Paul J	

Ammonia: 0
Surfactants: 0
NOTE: Raccoon footprints found in the pipe. Picture taken and attached

Sample (TWO SAMPLES)
70 Altamont St at 10:00 AM (Inlet Pipe labled (A))
Temp: 14.7 C, 58.5 F
pH: 7.00
Specific Conductivity: 746
Chlorine: 0
Ammonia: 0
Surfactants: 0

Need to return for a dye test at 73 Altamont Ave.

Sample (TWO SAMPLES)
CB 7686 at 10:33 AM
Temp: 17.0 C, 62.6 F
pH: 7.02
Specific Conductivity: 459
Chlorine: 0
Ammonia: 0
Surfactants: 0

Confined entry (X2)

No substantial flow coming into inlet pipe @ 70 Altamont st. Awaiting further orders.

E Coli Results 8-30-17 (EAI LABS):>2419.6MPN/100mL

Leave as this is an investigation
E.coli results >2,419.6 MPN/100mls
From the MS4 feild Book input check Assets below

Problem

MS4 STORM WATER OUTFALL

Action

506 INVESTIGATION

Seq	Date	Type	Code / Description	Hr:mm	Pay Type	Qty	Unit	Activity Location
1	07/22/16 00:00	labor	MARI001 - Marinez Samuel A	1:30	REG			MS4 INVEST
2	07/22/16 00:00	labor	DAY001 - Day Zebulun	1:30	REG			MS4 INVEST
3	07/22/16 00:00	labor	BECK001 - Beckwith Derek	1:30	REG			MS4 INVEST
4	07/22/16 00:00	equip	VEH-S13 - 2013 F350 4X4	1:30				MS4 INVEST
5	07/22/16 00:00	equip	VEH-S14 - 2014 F350 4X4	1:30				MS4 INVEST
6	06/22/17 07:00	equip	VEH-S13 - 2013 F350 4X4	2:00				MS4 INVEST
7	06/22/17 07:00	labor	DAY001 - Day Zebulun	2:00	REG			MS4 INVEST
8	06/22/17 07:00	labor	BARO001 - BARON BRETT	2:00	REG			MS4 INVEST
9	10/20/17 07:00	labor	BECK001 - Beckwith Derek	1:45	REG			MS4 INVEST
10	10/20/17 07:00	labor	BARO001 - BARON BRETT	1:45	REG			MS4 INVEST
11	10/20/17 07:00	labor	MARI001 - Marinez Samuel A	1:45	REG			MS4 INVEST
12	10/20/17 07:00	labor	DAY001 - Day Zebulun	1:45	REG			MS4 INVEST
13	10/20/17 07:00	equip	VEH-S13 - 2013 F350 4X4	1:45				MS4 INVEST
14	10/20/17 07:00	equip	VEH-S14 - 2014 F350 4X4	1:45				MS4 INVEST
15	10/20/17 07:00	equip	VEH-S81 - FORD F250 4X4	1:45				MS4 INVEST
16	08/30/17 07:00	equip	VEH-S13 - 2013 F350 4X4	0:15				MS4 INVEST



MaintStar Storm Work Order

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1/16/2018

Created By



W/O # ST00000199

ADM Sys.

Activity STORMWATER

Priority 10

STORMWATER UTILITY

Issued 01/30/15 11:02

Target 01/30/15 11:02

Assign to SHAN001

Approv. By JESS001

Closed 00/00/00 00:00

W/O Type CM

Shanahan Thomas M

Jessel Paul J

<u>Seq</u>	<u>Date</u>	<u>Type</u>	<u>Code / Description</u>	<u>Hrmm</u>	<u>Pay Type</u>	<u>Qty</u>	<u>Unit</u>	<u>Activity Location</u>
17	08/30/17 07:00	labor	BARO001 - BARON BRETT	0:15	REG			MS4 INVEST
18	08/30/17 07:00	labor	DAY001 - Day Zebulun	0:15	REG			MS4 INVEST

<u>Seq</u>	<u>Asset Type</u>	<u>Asset Id</u>	<u>Rating</u>	<u>Asset Descr</u>	<u>Cst Shr</u>	<u>%</u>	<u>Block #</u>	<u>Street / Cross Street / City, State Zip</u>
1	CBASIN	CB-3046	.00	ALTAMONT ST	1.00	25.00		ALTAMONT ST
2	MANHOLE	DMH-4636	.00	BROOK ST	1.00	25.00		BROOK ST
3	MANHOLE	DMH-728	.00	BROOK ST	1.00	25.00		BROOK ST
4	GE: DISCHARGE	UNK0951	.00	CROSS COUNTRY	1.00	25.00		CROSS COUNTRY

Labor Cost \$338.10

Material Cost \$0.00

Equipment Cost \$210.00

Contractors Cost \$0.00

Misc. Cost \$0.00

Total W/O Cost \$548.10


Print Name _____ Signature _____ Date ____/____/____ ☐



MaintStar Storm Work Order

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1/16/2018

Created By

 W/O # ST00000200	ADM Sys.	Activity STORMWATER STORMWATER UTILITY	Priority 10
Issued 01/30/15 11:03	Target 01/30/15 11:03	Assign to SHAW001	Approv. By JESS001
Closed 00/00/00 00:00	W/O Type CM	Shaw David W	Jessel Paul J

Acc. No.	Proj. No.	Map ID	Map Sheet
-----------------	------------------	---------------	------------------

Customer Info			
First Name	Last Name	Phone1 - - -	Phone2 - - -
Cross Street		Comments	
Complaint			
Problem Address		Cross Street	WReq. #
<input type="checkbox"/> Use Customer Address			
Location Description		Notes	

wo_udf1 wo_udf2 wo_udf3 wo_udf4 wo_udf5
wo_udf6 Futher Action ☐ Claim Filed ☐ State Problem ☒ Customer Problem ☐

Task Descr/Complaint: Investigation UNK0955
Action Taken: The comment field is just an example to place data from a field test kit
Supervisor Notes: Attached Files:
Field Engineer notes
GIS Map
Fecal Lab results
Some CCTV Reports

Video Files in:
STI:1301

DMH7542 needs to be raised to grade

E Coli Results 8-30-17 (EAI LABS): 2419.6
Leave as this is an investigation
E.coil results >2,419.6 MPN/100mls
From the MS4 field Book input check Assets
below
fecal results 17 pages see attachment page 12 ID CB4839 cam back Negative

Problem

MS4 STORM WATER OUTFALL

Action

506 INVESTIGATION

Seq	Date	Type	Code / Description	Hr:mm	Pay Type	Qty	Unit	Activity Location
1	10/13/16 00:00	labor	MARI001 - Marinez Samuel A	8:00	REG			MS4 INVEST
2	10/13/16 00:00	labor	DAY001 - Day Zebulun	8:00	REG			MS4 INVEST
3	10/13/16 00:00	labor	BECK001 - Beckwith Derek	8:00	REG			MS4 INVEST
4	10/13/16 00:00	labor	ROSA001 - Rosario Pedro	8:00	REG			MS4 INVEST
5	10/13/16 00:00	equip	VEH-S13 - 2013 F350 4X4	8:00				MS4 INVEST
6	10/13/16 00:00	equip	VEH-S14 - 2014 F350 4X4	8:00				MS4 INVEST




MaintStar Storm Work Order

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1/16/2018

Created By

	W/O # ST00000200	ADM Sys.	Activity STORMWATER STORMWATER UTILITY	Priority 10
Issued 01/30/15 11:03	Target 01/30/15 11:03	Assign to SHAW001	Approv. By JESS001	
Closed 00/00/00 00:00	W/O Type CM	Shaw David W	Jessel Paul J	

Seq	Date	Type	Code / Description	Hrmm	Pay Type	Qty	Unit	Activity Location
7	10/13/16 00:00	ctr	HPD - HAVERHILL POLICE DEPARTMENT			8.00		MS4 INVEST
8	10/14/16 00:00	labor	MARI001 - Marinez Samuel A	8:00	REG			MS4 INVEST
9	10/14/16 00:00	labor	DAY001 - Day Zebulun	8:00	REG			MS4 INVEST
10	10/14/16 00:00	labor	ROSA001 - Rosario Pedro	8:00	REG			MS4 INVEST
11	10/14/16 00:00	labor	BECK001 - Beckwith Derek	8:00	REG			MS4 INVEST
12	10/14/16 00:00	equip	VEH-S13 - 2013 F350 4X4	8:00				MS4 INVEST
13	10/14/16 00:00	equip	VEH-S14 - 2014 F350 4X4	8:00				MS4 INVEST
14	10/17/16 00:00	labor	MARI001 - Marinez Samuel A	8:00	REG			MS4 INVEST
15	10/17/16 00:00	labor	DAY001 - Day Zebulun	8:00	REG			MS4 INVEST
16	10/17/16 00:00	labor	ROSA001 - Rosario Pedro	8:00	REG			MS4 INVEST
17	10/17/16 00:00	labor	BECK001 - Beckwith Derek	8:00	REG			MS4 INVEST
18	10/17/16 00:00	equip	VEH-S13 - 2013 F350 4X4	8:00				MS4 INVEST
19	10/17/16 00:00	equip	VEH-S14 - 2014 F350 4X4	8:00				MS4 INVEST
20	10/18/16 00:00	labor	MARI001 - Marinez Samuel A	8:00	REG			MS4 INVEST
21	10/18/16 00:00	labor	DAY001 - Day Zebulun	8:00	REG			MS4 INVEST
22	10/18/16 00:00	labor	ROSA001 - Rosario Pedro	8:00	REG			MS4 INVEST
23	10/18/16 00:00	labor	BECK001 - Beckwith Derek	8:00	REG			MS4 INVEST
24	10/18/16 00:00	equip	VEH-S13 - 2013 F350 4X4	8:00				MS4 INVEST
25	10/18/16 00:00	equip	VEH-S14 - 2014 F350 4X4	8:00				MS4 INVEST
26	10/19/16 00:00	labor	MARI001 - Marinez Samuel A	8:00	REG			MS4 INVEST
27	10/19/16 00:00	labor	DAY001 - Day Zebulun	8:00	REG			MS4 INVEST
28	10/19/16 00:00	labor	BECK001 - Beckwith Derek	8:00	REG			MS4 INVEST
29	10/19/16 00:00	labor	ROSA001 - Rosario Pedro	8:00	REG			MS4 INVEST
30	10/19/16 00:00	equip	VEH-S13 - 2013 F350 4X4	8:00				MS4 INVEST
31	10/19/16 00:00	equip	VEH-S14 - 2014 F350 4X4	8:00				MS4 INVEST
32	10/20/16 00:00	labor	MARI001 - Marinez Samuel A	8:00	REG			MS4 INVEST
33	10/20/16 00:00	labor	DAY001 - Day Zebulun	8:00	REG			MS4 INVEST
34	10/20/16 00:00	labor	ROSA001 - Rosario Pedro	8:00	REG			MS4 INVEST
35	10/20/16 00:00	labor	BECK001 - Beckwith Derek	8:00	REG			MS4 INVEST
42	10/20/16 00:00	equip	VEH-S13 - 2013 F350 4X4	8:00				MS4 INVEST
43	10/20/16 00:00	equip	VEH-S14 - 2014 F350 4X4	8:00				MS4 INVEST
44	10/26/16 00:00	labor	MARI001 - Marinez Samuel A	8:00	REG			MS4 INVEST
45	10/26/16 00:00	labor	DAY001 - Day Zebulun	8:00	REG			MS4 INVEST
46	10/26/16 00:00	equip	VEH-S13 - 2013 F350 4X4	8:00				MS4 INVEST
47	10/26/16 00:00	ctr	BMCCorp - BMC Corp.			8.00		MS4 INVEST
48	10/26/16 00:00	ctr	HPD - HAVERHILL POLICE DEPARTMENT			8.00		MS4 INVEST
49	11/28/16 00:00	labor	MARI001 - Marinez Samuel A	1:00	REG			MS4 INVEST
50	11/28/16 00:00	labor	DAY001 - Day Zebulun	1:00	REG			MS4 INVEST
51	11/28/16 00:00	equip	VEH-S13 - 2013 F350 4X4	1:00				MS4 INVEST
52	07/06/17 00:00	equip	VEH-S13 - 2013 F350 4X4	2:00				MS4 INVEST
53	07/06/17 00:00	labor	DAY001 - Day Zebulun	2:00	REG			MS4 INVEST
54	07/06/17 00:00	labor	MARI001 - Marinez Samuel A	2:00	REG			MS4 INVEST
55	08/30/17 00:00	labor	BARO001 - BARON BRETT	0:15	REG			MS4 INVEST
56	08/30/17 00:00	labor	DAY001 - Day Zebulun	0:15	REG			MS4 INVEST
57	08/30/17 00:00	equip	VEH-S13 - 2013 F350 4X4	0:15				MS4 INVEST

Seq	Asset Type	Asset Id	Rating	Asset Descr	Cst Shr	%	Block #	Street / Cross Street / City ,State Zip
1	CBASIN	CB-1473	.00	SOUTH MAIN ST	1.00	2.22		SOUTH MAIN ST
2	CBASIN	CB-3624	.00	SOUTH MAIN ST	1.00	2.22		SOUTH MAIN ST
3	CBASIN	CB-3625	.00	SOUTH MAIN ST	1.00	2.22		SOUTH MAIN ST
4	CBASIN	CB-4839	.00	FOREST ACRES DR	1.00	2.22		FOREST ACRES DR
5	CBASIN	CB-5874	.00	SOUTH MAIN ST	1.00	2.22		SOUTH MAIN ST




MaintStar Storm Work Order

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Created By

 W/O # ST00000200	ADM Sys.	Activity STORMWATER STORMWATER UTILITY	Priority 10
Issued 01/30/15 11:03	Target 01/30/15 11:03	Assign to SHAW001	Approv. By JESS001
Closed 00/00/00 00:00	W/O Type CM	Shaw David W	Jessel Paul J

Seq	Asset Type	Asset Id	Rating	Asset Descr	Cst Slr	%	Block #	Street / Cross Street / City ,State Zip
6	CBASIN	CB-5875	.00	SOUTH MAIN ST	1.00	2.22		SOUTH MAIN ST
7	CBASIN	CB-5877	.00	SOUTH MAIN ST	1.00	2.22		SOUTH MAIN ST
8	CBASIN	CB-9136	.00	SOUTH MAIN ST	1.00	2.22		
9	CBASIN	CB-9137	.00	SOUTH MAIN ST	1.00	2.22		
10	CBASIN	CB-9158	.00	PARKING LOT	1.00	2.22		
11	CBASIN	CB-9159	.00	CROSS COUNTRY	1.00	2.22		
12	CBASIN	CB-9160	.00		1.00	2.22		
13	CBASIN	CB-9161	.00	CROSS COUNTRY	1.00	2.22		
14	CBASIN	CB-9162	.00	CROSS COUNTRY	1.00	2.22		
15	MANHOLE	DMH-1194	.00	Cross Country	1.00	2.22		CROSS COUNTRY
16	MANHOLE	DMH-6917	.00	FOREST ACRES DR	1.00	2.22		FOREST ACRES DR
17	MANHOLE	DMH-6918	.00	FOREST ACRES DR	1.00	2.22		FOREST ACRES DR
18	MANHOLE	DMH-6919	.00	FOREST ACRES DR	1.00	2.22		FOREST ACRES DR
19	MANHOLE	DMH-6920	.00	FOREST ACRES DR	1.00	2.22		FOREST ACRES DR
20	MANHOLE	DMH-6921	.00	FOREST ACRES DR	1.00	2.22		FOREST ACRES DR
21	MANHOLE	DMH-6922	.00	FOREST ACRES DR	1.00	2.22		FOREST ACRES DR
22	MANHOLE	DMH-6923	.00	FOREST ACRES DR	1.00	2.22		FOREST ACRES DR
23	MANHOLE	DMH-6924	.00	FOREST ACRES DR	1.00	2.22		FOREST ACRES DR
24	MANHOLE	DMH-7271	.00	SOUTH MAIN ST	1.00	2.22		SOUTH MAIN ST
25	MANHOLE	DMH-7543	.00	SOUTH MAIN ST	1.00	2.22		SOUTH MAIN ST
26	MANHOLE	DMH-7544	.00	SOUTH MAIN ST	1.00	2.22		SOUTH MAIN ST
27	MANHOLE	DMH-7545	.00	SOUTH MAIN ST	1.00	2.22		SOUTH MAIN ST
28	MANHOLE	DMH-7546	.00	SOUTH MAIN ST	1.00	2.22		SOUTH MAIN ST
29	MANHOLE	DMH-7547	.00	FOREST ACRES DR	1.00	2.22		FOREST ACRES DR
30	MANHOLE	DMH-7548	.00	FOREST ACRES DR	1.00	2.22		FOREST ACRES DR
31	MANHOLE	DMH-7549	.00	SOUTH MAIN ST	1.00	2.22		SOUTH MAIN ST
32	MANHOLE	DMH-7551	.00	SOUTH MAIN ST	1.00	2.22		SOUTH MAIN ST
33	MANHOLE	DMH-7552	.00	SOUTH MAIN ST	1.00	2.22		SOUTH MAIN ST
34	MANHOLE	DMH-804	.00	SOUTH MAIN ST	1.00	2.22		SOUTH MAIN ST
35	MANHOLE	DMH-9370	.00		1.00	2.22		
36	MANHOLE	DMH-9374	.00	SOUTH MAIN ST	1.00	2.22		SOUTH MAIN ST
37	MANHOLE	DMH-9376	.00	SOUTH MAIN ST	1.00	2.22		SOUTH MAIN ST
38	MANHOLE	DMH-9385	.00	CROSS COUNTRY	1.00	2.22		CROSS COUNTRY
39	MANHOLE	DMH-9386	.00	FOREST ACRES DR	1.00	2.22		FOREST ACRES DR
40	MANHOLE	DMH-9388	.00	SOUTH MAIN ST	1.00	2.22		SOUTH MAIN ST
41	MANHOLE	DMH-9390	.00	FOREST ACRES DR	1.00	2.22		FOREST ACRES DR
42	MANHOLE	DMH-945	.00	SOUTH MAIN ST	1.00	2.22		SOUTH MAIN ST
43	MANHOLE	DMH-946	.00	SOUTH MAIN ST	1.00	2.22		SOUTH MAIN ST
44	MANHOLE	DMH-947	.00	SOUTH MAIN ST	1.00	2.22		SOUTH MAIN ST
45	GE: DISCHARGE	UNK0955	.00	CROSS COUNTRY	1.00	2.22		CROSS COUNTRY

Labor Cost	\$5,234.97	Material Cost	\$0.00	Equipment Cost	\$2,145.00
Contractors Cost	\$672.00	Misc. Cost	\$0.00	Total W/O Cost	\$8,051.97


Print Name _____ Signature _____ Date ____/____/____ ☐



MaintStar Storm Work Order

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1/16/2018

Created By

 W/O # ST00000201	ADM Sys.	Activity STORMWATER STORMWATER UTILITY	Priority 10
Issued 01/30/15 11:05	Target 01/30/15 11:05	Assign to SHAW001	Approv. By JESS001
Closed 00/00/00 00:00	W/O Type CM	Shaw David W	Jessel Paul J

Acc. No.	Proj. No.	Map ID	Map Sheet
-----------------	------------------	---------------	------------------

Customer Info			
First Name	Last Name	Phone1 - - -	Phone2 - - -
Cross Street		Comments	
Complaint			
Problem Address <input type="checkbox"/> Use Customer Address		Cross Street	WReq. #
Location Description		Notes	

wo_udf1 wo_udf2 wo_udf3 wo_udf4 wo_udf5
wo_udf6 Futher Action ☐ Claim Filed ☐ State Problem ☐ Customer Problem ☐

Task Descr/Complaint: Investigation UNK1166

Supervisor Notes:

8/9/2017
9:30 AM Sample taken from UNK 1166 (clear, 81 total fecal count, pass)

Two other outfalls, both not flowing (New: UNK51712 and UNK 51713)

* GIS editing * - added lines
9:475 AM Sampled CB 9130 (clear). Flow coming from CB 1795 (1180 total fecal present, fail)

Leave as this is an investagation
E.coli results 1299.7 MPN/100mls
From the MS4 field Book input check Assets below

Problem

MS4 STORM WATER OUTFALL

Action

506 INVESTIGATION

Seq	Date	Type	Code / Description	Hr:mm	Pay Type	Qty	Unit	Activity Location
1	08/14/17 00:00	equip	VEH-S13 - 2013 F350 4X4	1:00				
2	08/14/17 00:00	equip	VEH-S3 - 1/2 Ton 2004 Ford F150	1:00				
3	08/14/17 00:00	labor	MARI001 - Marinez Samuel A	1:00	REG			
4	08/14/17 00:00	labor	BARO001 - BARON BRETT	1:00	REG			
5	08/14/17 00:00	labor	DAY001 - Day Zebulun	1:00	REG			

Seq	Asset Type	Asset Id	Rating	Asset Descr	Cst Shr	%	Block #	Street / Cross Street / City ,State Zip
1	CBASIN	CB-9130	.00	JOHN ST	1.00	50.00		
2	GE: DISCHARGE	UNK1166	.00	CROSS COUNTRY	1.00	50.00		CROSS COUNTRY

Labor Cost \$61.58	Material Cost \$0.00	Equipment Cost \$40.00
Contractors Cost \$0.00	Misc. Cost \$0.00	Total W/O Cost \$101.58

Print Name

Signature

Date / /






MaintStar Storm Work Order

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1/16/2018

Created By

 W/O # ST00000202	ADM Sys.	Activity STORMWATER STORMWATER UTILITY	Priority 10
Issued 01/30/15 11:06	Target 01/30/15 11:06	Assign to SHAW001	Approv. By JESS001
Closed 00/00/00 00:00	W/O Type CM	Shaw David W	Jessel Paul J

Acc. No.	Proj. No.	Map ID	Map Sheet
-----------------	------------------	---------------	------------------

Customer Info			
First Name	Last Name	Phone1 - - -	Phone2 - - -
Cross Street		Comments	
Complaint			
Problem Address <input type="checkbox"/> Use Customer Address		Cross Street	WReq. #
Location Description		Notes	

wo_udf1 wo_udf2 wo_udf3 wo_udf4 wo_udf5
wo_udf6 Futher Action ☐ Claim Filed ☐ State Problem ☒ Customer Problem ☐

Task Descr/Complaint: Investigation PL0891
Action Taken: Attached Files:
Supervisor Notes: Field Engineer notes
GIS Map
Fecal Lab results
Some CCTV Reports
Probable cost spreadsheet

Minimal Stormwater infrastrucure was survey as the sewer was broken at the invert, into the 4-inch underdrain.
CCTV work:
SMH2190 SMH2189 SMH2187 SMH2184 SMH7800 SMH2188 SMH2181 SMH2182 SMH2183 SMH2186
SMH2185

Leave as this is an investigation
E.coli results >2,419.6 MPN/100mls
From the MS4 feild Book input check Assets below

Problem


MS4 STORM WATER OUTFALL

Action

506 INVESTIGATION

Seq	Date	Type	Code / Description	Hr:mm	Pay Type	Qty	Unit	Activity Location
1	07/22/16 00:00	labor	DAY001 - Day Zebulun	0:30	REG			MS4 INVEST
2	07/22/16 00:00	labor	BECK001 - Beckwith Derek	0:30	REG			MS4 INVEST
3	07/22/16 00:00	equip	VEH-S14 - 2014 F350 4X4	0:30				MS4 INVEST
4	09/21/16 00:00	labor	MARI001 - Martinez Samuel A	4:00	REG			MS4 INVEST
5	09/21/16 00:00	labor	DAY001 - Day Zebulun	4:00	REG			MS4 INVEST
6	09/21/16 00:00	labor	ROSA001 - Rosario Pedro	4:00	REG			MS4 INVEST
7	09/21/16 00:00	labor	BECK001 - Beckwith Derek	4:00	REG			MS4 INVEST
8	09/21/16 00:00	equip	VEH-S13 - 2013 F350 4X4	4:00				MS4 INVEST
9	09/21/16 00:00	equip	VEH-S14 - 2014 F350 4X4	4:00				MS4 INVEST
10	09/21/16 00:00	ctr	BMCCorp - BMC Corp.			4.00		MS4 INVEST
11	09/21/16 00:00	ctr	HPD - HAVERHILL POLICE DEPARTMENT			4.00		MS4 INVEST

Created By

 W/O # ST00000202	ADM Sys.	Activity STORMWATER STORMWATER UTILITY	Priority 10
Issued 01/30/15 11:06	Target 01/30/15 11:06	Assign to SHAW001	Approv. By JESS001
Closed 00/00/00 00:00	W/O Type CM	Shaw David W	Jessel Paul J

Seq	Date	Type	Code / Description	Hrmm	Pay Type	Qty	Unit	Activity Location
12	09/28/16 00:00	labor	DAY001 - Day Zebulun	2:00	REG			MS4 INVEST
13	09/28/16 00:00	labor	ROSA001 - Rosario Pedro	2:00	REG			MS4 INVEST
14	09/28/16 00:00	equip	VEH-S14 - 2014 F350 4X4	2:00				MS4 INVEST
15	10/03/16 00:00	labor	MARI001 - Marinez Samuel A	4:00	REG			MS4 INVEST
16	10/03/16 00:00	labor	DAY001 - Day Zebulun	4:00	REG			MS4 INVEST
17	10/03/16 00:00	labor	ROSA001 - Rosario Pedro	4:00	REG			MS4 INVEST
18	10/03/16 00:00	labor	BECK001 - Beckwith Derek	4:00	REG			MS4 INVEST
19	10/03/16 00:00	equip	VEH-S13 - 2013 F350 4X4	4:00				MS4 INVEST
20	10/03/16 00:00	equip	VEH-S14 - 2014 F350 4X4	4:00				MS4 INVEST
21	10/05/16 00:00	labor	MARI001 - Marinez Samuel A	8:00	REG			MS4 INVEST
22	10/05/16 00:00	labor	DAY001 - Day Zebulun	8:00	REG			MS4 INVEST
23	10/05/16 00:00	labor	ROSA001 - Rosario Pedro	8:00	REG			MS4 INVEST
24	10/05/16 00:00	labor	BECK001 - Beckwith Derek	8:00	REG			MS4 INVEST
25	10/05/16 00:00	equip	VEH-S13 - 2013 F350 4X4	8:00				MS4 INVEST
26	10/05/16 00:00	equip	VEH-S14 - 2014 F350 4X4	8:00				MS4 INVEST
27	10/05/16 00:00	ctr	DiaqleEnt - Rooter-Man / Daiqle Enterprise			8.00		MS4 INVEST
28	10/05/16 00:00	ctr	BMCCorp - BMC Corp.			8.00		MS4 INVEST
29	10/05/16 00:00	ctr	HPD - HAVERHILL POLICE DEPARTMENT			8.00		MS4 INVEST
30	10/05/16 00:00	equip	VEH-S11 - 2004 SEWER JET MACHINE	8:00				MS4 INVEST
31	07/06/17 00:00	equip	VEH-S13 - 2013 F350 4X4	1:00				MS4 INVEST
32	07/06/17 00:00	labor	DAY001 - Day Zebulun	1:00	REG			MS4 INVEST
33	07/06/17 00:00	labor	MARI001 - Marinez Samuel A	1:00	REG			MS4 INVEST


Seq	Asset Type	Asset Id	Rating	Asset Descr	Cst Slr	%	Block #	Street / Cross Street / City ,State Zip
1	CBASIN	CB-1526	.00	MAIN ST	1.00	4.00		MAIN ST
2	CBASIN	CB-1527	.00	MAIN ST	1.00	4.00		MAIN ST
3	CBASIN	CB-1528	.00	MAIN ST	1.00	4.00		MAIN ST
4	CBASIN	CB-2758	.00	OXFORD ST	1.00	4.00		OXFORD ST
5	CBASIN	CB-290	.00	OXFORD ST	1.00	4.00		OXFORD ST
6	CBASIN	CB-291	.00	MAIN ST	1.00	4.00		MAIN ST
7	CBASIN	CB-3318	.00	MAIN ST	1.00	4.00		MAIN ST
8	CBASIN	CB-6285	.00	OXFORD ST	1.00	4.00		
9	CBASIN	CB-6291	.00	SAGAMORE ST	1.00	4.00		
10	CBASIN	CB-6292	.00	SAGAMORE ST	1.00	4.00		
11	CBASIN	CB-6294	.00	OXFORD ST	1.00	4.00		
12	CBASIN	CB-7337	.00	Cross Country	1.00	4.00		
13	MANHOLE	DMH-45	.00	MARSH AVE	1.00	4.00		MARSH AVE
14	MANHOLE	DMH-46	.00	NORTH AVE	1.00	4.00		NORTH AVE
15	MANHOLE	DMH-47	.00	MARSH AVE	1.00	4.00		MARSH AVE
16	MANHOLE	DMH-48	.00	MARSH AVE	1.00	4.00		MARSH AVE
17	MANHOLE	DMH-4976	.00	OXFORD ST	1.00	4.00		OXFORD ST
18	MANHOLE	DMH-4979	.00	MAIN ST	1.00	4.00		MAIN ST
19	MANHOLE	DMH-583	.00	MARSH AVE	1.00	4.00		MARSH AVE
20	MANHOLE	DMH-584	.00	MAIN ST	1.00	4.00		MAIN ST
21	MANHOLE	DMH-585	.00	MARSH AVE	1.00	4.00		MARSH AVE
22	MANHOLE	DMH-7891	.00	MAIN ST	1.00	4.00		MAIN ST
23	MANHOLE	DMH-8486	.00	NORTH AVE	1.00	4.00		NORTH AVE
24	MANHOLE	DMH-967	.00	MAIN ST	1.00	4.00		MAIN ST
25	GE: DISCHARGE	PL0891	.00	CROSS COUNTRY	1.00	4.00		CROSS COUNTRY



MaintStar Storm Work Order

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Created By

	W/O # ST00000202	ADM Sys.	Activity STORMWATER STORMWATER UTILITY	Priority 10
Issued 01/30/15 11:06	Target 01/30/15 11:06	Assign to SHAW001	Approv. By JESS001	
Closed 00/00/00 00:00	W/O Type CM	Shaw David W	Jessel Paul J	

Labor Cost	\$1,732.50	Material Cost	\$0.00	Equipment Cost	\$958.00
Contractors Cost	\$504.00	Misc. Cost	\$0.00	Total W/O Cost	\$3,194.50

Print Name _____ Signature _____ Date ____/____/____ ☐




MaintStar Storm Work Order

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1/16/2018

Created By

 W/O # ST00000207	ADM Sys.	Activity STORMWATER STORMWATER UTILITY	Priority 10
Issued 01/30/15 11:13	Target 01/30/15 11:13	Assign to SHAW001	Approv. By JESS001
Closed 00/00/00 00:00	W/O Type CM	Shaw David W	Jessel Paul J

Acc. No.	Proj. No.	Map ID	Map Sheet
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Customer Info			
First Name	Last Name	Phone1 - - -	Phone2 - - -
Cross Street			
Complaint		Comments	
<input type="text"/>		<input type="text"/>	
Problem Address	<input type="checkbox"/> Use Customer Address	Cross Street	WReq. #
Location Description		Notes	
<input type="text"/>		<input type="text"/>	

wo_udf1

wo_udf2

wo_udf3

wo_udf4

wo_udf5

wo_udf6

Futher Action ☐Claim Filed ☐State Problem ☐Customer Problem ☐**Task Descr/Complaint:** Investigation UNK1767**Action Taken:****Supervisor Notes:**

Attached Files:

Field Engineer notes

GIS Map

Fecal Lab results

Some CCTV Reports

CCTV WORK 11-15-2017

VIDEOS IN WWI348-354

SMH-5526:SMH-5168 WWI#348

SMH-5169:SMH-5526 WWI#349

SMH-3011:SMH-3007 WWI#350

SMH-3007:SMH-3006 WWI#351

SMH-3006:SMH-3003 WWI#352

SMH-3003:SMH-5169 WWI#353

SMH-3003:SMH-3004 WWI#354

11-9-2017

FECAL RESULTS:

50 Sherwood Drive (L) CB 2028: TNC fail

50 Sherwood Drive (R) CB 2028: L-1

50 Sherwood dye tested, tied into sewer

47 Sherwod Drive CB 2029: L-1

7/18/16

Flow from CB 1574 to DMH 702 is due to infultation (creac) 68.5 upstream.

Proved by CCTV on 7/27/16

CCTV work :

DMH-702 to CB-1574

DMH-702 to DMH-774




MaintStar Storm Work Order

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1/16/2018

Created By

 W/O # ST00000207	ADM Sys.	Activity STORMWATER STORMWATER UTILITY	Priority 10
Issued 01/30/15 11:13	Target 01/30/15 11:13	Assign to SHAW001	Approv. By JESS001
Closed 00/00/00 00:00	W/O Type CM	Shaw David W	Jessel Paul J

DMH-774 to DMH-773
SMH-3011 to SMH-3007
SMH-3007 to SMH-3003
SMH-3003 to SMH-3004
SMH-3003 to SMH-5169
SMH-5169 to SMH-5526
SMH-5526 to SMH-5168

Note :

Secondary crew took depth to invert of sewer structures on Sherwood Drive and Kenilworth Ln

Leave as this is an investigation
E.Coli results >2,419.6 MPN/100mls
From the MS4 feild Book input check Assets below

ROOTER-MAN - REQ# 1803237 / PO#

BMC - REQ# 1803238 / PO#

Problem

MS4 STORM WATER OUTFALL

Action

506 INVESTIGATION

Seq	Date	Type	Code / Description	Hrmm	Pay Type	Qty	Unit	Activity Location
2	07/18/16 00:00	labor	MARI001 - Marinez Samuel A	2:00	REG			MS4 INVEST
3	07/18/16 00:00	labor	DAY001 - Day Zebulun	2:00	REG			MS4 INVEST
4	07/18/16 00:00	labor	ROSA001 - Rosario Pedro	2:00	REG			MS4 INVEST
5	07/18/16 00:00	labor	BECK001 - Beckwith Derek	2:00	REG			MS4 INVEST
6	07/18/16 00:00	equip	VEH-S13 - 2013 F350 4X4	2:00				MS4 INVEST
7	07/18/16 00:00	equip	VEH-S14 - 2014 F350 4X4	2:00				MS4 INVEST
8	07/27/16 00:00	labor	MARI001 - Marinez Samuel A	1:00	REG			MS4 INVEST
9	07/27/16 00:00	labor	DAY001 - Day Zebulun	1:00	REG			MS4 INVEST
10	07/27/16 00:00	equip	VEH-S13 - 2013 F350 4X4	1:00				MS4 INVEST
11	07/27/16 00:00	ctr	BMCCorp - BMC Corp.			1.00		MS4 INVEST
12	07/27/16 00:00	ctr	HPD - HAVERHILL POLICE DEPARTMENT			1.00		MS4 INVEST
13	07/27/16 00:00	labor	ROSA001 - Rosario Pedro	4:00	REG			MS4 INVEST
14	07/27/16 00:00	labor	BECK001 - Beckwith Derek	4:00	REG			MS4 INVEST
15	07/27/16 00:00	equip	VEH-S14 - 2014 F350 4X4	4:00				MS4 INVEST
16	10/05/16 00:00	labor	MARI001 - Marinez Samuel A	4:00	REG			MS4 INVEST
17	10/05/16 00:00	labor	DAY001 - Day Zebulun	4:00	REG			MS4 INVEST
18	10/05/16 00:00	labor	ROSA001 - Rosario Pedro	4:00	REG			MS4 INVEST
19	10/05/16 00:00	labor	BECK001 - Beckwith Derek	4:00	REG			MS4 INVEST
20	10/05/16 00:00	equip	VEH-S13 - 2013 F350 4X4	4:00				MS4 INVEST
21	10/05/16 00:00	equip	VEH-S14 - 2014 F350 4X4	4:00				MS4 INVEST
22	10/05/16 00:00	ctr	DiaqleEnt - Rooter-Man / Daiqle Enterprise			4.00		MS4 INVEST
23	11/15/17 00:00	labor	MARI001 - Marinez Samuel A	8:00	REG			MS4 INVEST
24	11/15/17 00:00	labor	DAY001 - Day Zebulun	8:00	REG			MS4 INVEST
25	11/15/17 00:00	equip	VEH-S13 - 2013 F350 4X4	8:00				MS4 INVEST
26	11/15/17 00:00	equip	VEH-S11 - 2004 SEWER JET MACHINE	8:00				MS4 INVEST
27	11/15/17 00:00	ctr	BMCCorp - BMC Corp.			8.00		MS4 INVEST
28	11/15/17 00:00	ctr	DiaqleEnt - Rooter-Man / Daiqle Enterprise			8.00		MS4 INVEST


Seq	Asset Type	Asset Id	Rating	Asset Descr	Cst Slr	%	Block #	Street / Cross Street / City ,State Zip
1	CBASIN	CB-1073	.00	SHERWOOD DR	1.00	7.69		SHERWOOD DR
2	CBASIN	CB-1074	.00	SHERWOOD DR	1.00	7.69		SHERWOOD DR



MaintStar Storm Work Order

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Created By

 W/O # ST00000207	ADM Sys.	Activity STORMWATER STORMWATER UTILITY	Priority 10
Issued 01/30/15 11:13	Target 01/30/15 11:13	Assign to SHAW001	Approv. By JESS001
Closed 00/00/00 00:00	W/O Type CM	Shaw David W	Jessel Paul J

<u>Seq</u>	<u>Asset Type</u>	<u>Asset Id</u>	<u>Rating</u>	<u>Asset Descr</u>	<u>Cst Slr</u>	<u>%</u>	<u>Block #</u>	<u>Street / Cross Street / City ,State Zip</u>
3	CBASIN	CB-1075	.00	SHERWOOD DR	1.00	7.69		SHERWOOD DR
4	CBASIN	CB-1076	.00	SHERWOOD DR	1.00	7.69		SHERWOOD DR
5	CBASIN	CB-1574	.00	KENILWORTH LN	1.00	7.69		KENILWORTH LN
6	CBASIN	CB-1575	.00	KENILWORTH LN	1.00	7.69		KENILWORTH LN
7	CBASIN	CB-3028	.00	SHERWOOD DR	1.00	7.69		SHERWOOD DR
8	CBASIN	CB-3029	.00	SHERWOOD DR	1.00	7.69		SHERWOOD DR
9	MANHOLE	DMH-702	.00	SHERWOOD DR	1.00	7.69		SHERWOOD DR
10	MANHOLE	DMH-773	.00	SHERWOOD DR	1.00	7.69		SHERWOOD DR
11	MANHOLE	DMH-774	.00	SHERWOOD DR	1.00	7.69		SHERWOOD DR
12	MANHOLE	DMH-999	.00	STELYANI DR	1.00	7.69		STELYANI DR
13	GE: DISCHARGE	UNK1767	.00	Cross Country	1.00	7.69		

Labor Cost	\$1,223.00	Material Cost	\$0.00	Equipment Cost	\$748.00
Contractors Cost	\$42.00	Misc. Cost	\$0.00	Total W/O Cost	\$2,013.00


Print Name _____ Signature _____ Date ____/____/____ ☐



MaintStar Storm Work Order

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1/16/2018

Created By

 W/O # ST00000337	ADM Sys.	Activity STORMWATER STORMWATER UTILITY	Priority 10
Issued 07/22/15 00:00	Target 07/22/15 00:00	Assign to SHAW001	Approv. By JESS001
Closed 00/00/00 00:00	W/O Type	Shaw David W	Jessel Paul J

Acc. No.	Proj. No.	Map ID	Map Sheet
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Customer Info			
First Name	Last Name	Phone1 - - -	Phone2 - - -
Cross Street			
Comments			
Complaint			
Problem Address <input type="checkbox"/> Use Customer Address		Cross Street	WReq. #
Location Description		Notes	

wo_udf1 wo_udf2 wo_udf3 wo_udf4 wo_udf5
wo_udf6 Futher Action ☐ Claim Filed ☐ State Problem ☐ Customer Problem ☐

Task Descr/Complaint: INVESTAGATE UNK0788

Action Taken:

Supervisor Notes:

Attached Files:

Field Engineer notes

GIS Map

Fecal Lab results

Some CCTV Reports

Probable cost spreadsheet

DMH-43 needs to be raised.

CCTV all the way to DMH-43 from CB-537 with no signs of infiltration.

DMH-42 doesn't exist.

NOTE:

Segment cctv can't be added to assets

E Coli Results 8-30-17 (EAI LABS):34.6 MPN/100 ml

2419.6 MPN/100mls

Fecal lab results file called UNK0788-784 W lowell Ave came back with 400 MPN/100 mls

Problem

MS4 STORM WATER OUTFALL

Action

506 INVESTIGATION

Seq	Date	Type	Code / Description	Hours	Pay Type	Qty	Unit	Activity Location
1	07/25/16 00:00	labor	MARI001 - Marinez Samuel A	4:00	REG			
2	07/25/16 00:00	labor	DAY001 - Day Zebulun	4:00	REG			
3	07/25/16 00:00	equip	VEH-S13 - 2013 F350 4X4	4:00				
4	07/27/16 00:00	labor	MARI001 - Marinez Samuel A	2:00	REG			
5	07/27/16 00:00	labor	DAY001 - Day Zebulun	2:00	REG			
6	07/27/16 00:00	equip	VEH-S13 - 2013 F350 4X4	2:00				
7	07/27/16 00:00	ctr	BMCCorp - BMC Corp.			2.00		
8	07/27/16 00:00	ctr	HPD - HAVERHILL POLICE DEPARTMENT			2.00		
9	08/30/17 00:00	equip	VEH-S13 - 2013 F350 4X4	0:15				




MaintStar Storm Work Order

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Created By

	W/O # ST00000337	ADM Sys.	Activity STORMWATER STORMWATER UTILITY	Priority 10
Issued 07/22/15 00:00	Target 07/22/15 00:00	Assign to SHAW001	Approv. By JESS001	
Closed 00/00/00 00:00	W/O Type	Shaw David W	Jessel Paul J	

<u>Seq</u>	<u>Date</u>	<u>Type</u>	<u>Code / Description</u>	<u>Hr:mm</u>	<u>Pay Type</u>	<u>Qty</u>	<u>Unit</u>	<u>Activity Location</u>
10	08/30/17 00:00	labor	BARO001 - BARON BRETT	0:15	REG			
11	08/30/17 00:00	labor	DAY001 - Day Zebulun	0:15	REG			

<u>Seq</u>	<u>Asset Type</u>	<u>Asset Id</u>	<u>Rating</u>	<u>Asset Descr</u>	<u>Cst Shr</u>	<u>%</u>	<u>Block #</u>	<u>Street / Cross Street / City, State Zip</u>
1	CBASIN	CB-537	.00	WEST LOWELL AVE	1.00	25.00		WEST LOWELL AVE
2	CBASIN	CB-538	.00	WEST LOWELL AVE	1.00	25.00		WEST LOWELL AVE
3	MANHOLE	DMH-43	.00	WEST LOWELL AVE	1.00	25.00		WEST LOWELL AVE
4	GE: DISCHARGE	UNK0788	.00	WEST LOWELL AVE	1.00	25.00		WEST LOWELL AVE

Labor Cost	\$306.59	Material Cost	\$0.00	Equipment Cost	\$125.00
Contractors Cost	\$84.00	Misc. Cost	\$0.00	Total W/O Cost	\$515.59

Print Name _____ Signature _____ Date ____/____/____ ☐




MaintStar Storm Work Order

Page 1 of 6

1/16/2018

Created By

 W/O # ST00000444	ADM Sys.	Activity STORMWATER STORMWATER UTILITY	Priority 10
Issued 11/18/15 00:00	Target 11/18/15 00:00	Assign to SHAW001	Approv. By JESS001
Closed 00/00/00 00:00	W/O Type	Shaw David W	Jessel Paul J

Acc. No.	Proj. No.	Map ID	Map Sheet
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Customer Info			
First Name	Last Name	Phone1 - - -	Phone2 - - -
Cross Street		Comments	
Complaint			
<input type="checkbox"/> Use Customer Address		Cross Street	WReq. #
Location Description		Notes	

wo_udf1

wo_udf2

wo_udf3

wo_udf4

wo_udf5

wo_udf6

Futher Action ☐Claim Filed ☐State Problem ☐Customer Problem ☐**Task Descr/Complaint:** INVESTIGATE LR1260**Action Taken:**

8/7/2017

Supervisor Notes:

St. James school, 6 Cottage St.
Recommend camera work at CB 6075 & CB 6074
GIS Editing

8/9/2017 Notes:

DMH 5712 Paved over

(2) Samples taken from DMH 5711

10:25 am (A) From 6" pipe from building back side of 140 Hale St. (0 result)

10:30 am (B) From 36" pipe upstream running under building (69,000 result)

8/14/2017

8:05 AM Sample taken from DMH 5715 (clear) flow coming from DMH 5714

7:55 AM Sample taken from DMH 5714 (clear)

Looked for DMH 5713 in the parking lot of Joseph's, marked with paint (green)

8:30 Sample from CB 4262 (clear) on Primrose St.

8/22/2017

Flow investigation, 1 sample, GIS editing

CB's:2343,525,524, dry

Line from 6th ave, dry (36" RCP)

DMH463 has flow from upstream DMH (NOTE: should sample)

CB's 520 & 519, dry

Flow to DMH 25 is coming in from 5th Ave.


CB's 523,522,521, dry

SAMPLED: DMH 26 is flowing (TNTC, fail)

DMH 889 is flowing from upstream DMH

CB's 4262, 4263, 4264

Created By

	W/O # ST00000444	ADM Sys.	Activity STORMWATER STORMWATER UTILITY	Priority 10
Issued	11/18/15 00:00	Target 11/18/15 00:00	Assign to SHAW001	Approv. By JESS001
Closed	00/00/00 00:00	W/O Type	Shaw David W	Jessel Paul J

CB's 1342, 1343, dry
DMH 890 flowing from upstera DMH
CB's 1344, 1345 dry
DMH 7775, DMH 891, flowing
CB 6101, dry
** Changed line for CB1346 going to DMH 7775** **GIS editing**
Adding line to CB 6101 to DMH7775
CB's 1348, 1347, 1346, 1349, dry
DMH's 7791, 7792 dry
DMH4981, lowered flow up 5th Ave, very light flow coming from DMH 695 (Union Ave)
CB's 1061, 1065, 6102, 6103, dry
CB's 6102, 6103 go to SMH 3654
DMH 696 flowing
GIS editing to connect DMH968 to DMH 7775
4th and Union: CB's 1064, 1529, dry
CB's 296, 297, 295, dry
DMH 969 flowing


8/29/2017
Flow investigation
CB 2344, flowing (should sample)
CB's, 3188, 6095, 6094, no flow
CB 2424, flowing (should sample)
DMH 7973, flowing (should sample)
CB 6169, flowing (should sample)
DMH7974, no flow
DMH 466, flowing (should sample twice because of different inlet sources)

8/30/2017
Two samples taken from DMH 466
(A) From 8th Ave (0 fecal)
(B) Upstream primrose (TNTC) *Note: Strong smell of detergent*

8/31/2017
Sampled DMH 7973, 8th Ave (clear) coming from CB 6169 (Result: 0 fecal)
CB 5175, flowing. Can not sample since the chimney is too deep
CB's 6092, 6093, dry
* GIS editing connecting CB's above
CB 2428, flow continues running up primrose only
DMH 1228, dry
CB's 3565, 3979, 3566, 3249, dry
(Camera work needed to determine flow origin between DMH 1228 & CB 2428 on primrose.
DMH 468 (30") on 9th Ave does NOT connect right at CB 2428 (Need camera work)
Light flow coming up 6th Ave at DMH 464 (looks of paper found). Could not sample due to lack of flow.
Continued up 6th Ave...
DMH 1322, dry
CB's 3655, 3654, dry
(Camera work needed for DMH 1322 & DMH 464)
Continued on 5th Ave...
Sample at DMH 25 (clear), flow coming from DMH 889 5th Ave (Results=TNTC)
*Added new DMH and line at 135 Primrose St. Line connects to CB 6133
(Need camera near DMH to find out where the pipe goes)
New DMH and CB 6133, dry
DMH 467, dry
CB's 235, 2434, 2432, 2433, dry
Sample at DMH 889 (clear) flow from upstream 5th Ave (Results: TNTC)

9/5/2017

Created By

	W/O # ST00000444	ADM Sys.	Activity STORMWATER STORMWATER UTILITY	Priority 10
Issued	11/18/15 00:00	Target	11/18/15 00:00	Assign to SHAW001
Closed	00/00/00 00:00	W/O Type	Shaw David W	Approv. By JESS001 Jessel Paul J

Sample taken at DMH 890 looks clear (Result: 22,000)
CB's 1344,1345,1346,1347,1348,1349,dry
Sample from DMH 7775 looks clear (Result: TNTC)
Sample from DMH 891 (5th and Franklin) looks clear (Result: 24,000)
Sample from DMH 4981 (union and 5th) looks clear (Result: TNTC)
Upstream is bricked but still flows.
6' up, broken pipe (Pictures on iPad)
Possible sewer connection from CB 296 to DMH 4981 (29-31 Union St)
Positive dye test from the home (video on iPad of dye test)
4' into basin seems to be the connection.
CB 296, nothing flowing into it upstream DMH 4980, dry
CB's 297,295, dry
DMH 7792,7791, dry

9/27/2017

CB 1065 No Flow
CB 1066 No Flow
CB 1061 No Flow
DMH695 flowing from DMH 696
Sampled DMH 695 (64,000)
CB 1064 No Flow
CB 1529 No Flow
SampledDMH696 (TNC)
Sampled DMH 968 (TNC)
CB 1530 No flow
DMH 777 No Flow
Sampled DMH 969 TNC
CB 1063 No Flow
CB 1062 No Flow
Sampled DMH 2852 (TNC)
CB 1542, CB 1546, CB

This is the Outfall into Little river by Joseph's Past on Primrose Street. This is a very large catchment area

SEE WORD FILE ATTACHED

E. coli 1986.3 MPN/100ml
See attached E.coli report
*Dumpster Runoff from Joseph's Pasta on Hale St drains to CBs in that area. They were informed that they need to fix this problem.
Letter sent to owner of 29 Union Street notifying that their service needs to be repaired on October 26, 2017, see attached

Problem

MS4 STORM WATER OUTFALL

Action

506 INVESTIGATION

Seq	Date	Type	Code / Description	Hr:mm	Pay Type	Qty	Unit	Activity Location
1	08/09/17 00:00	labor	BARO001 - BARON BRETT	2:00	REG			
2	08/09/17 00:00	labor	DAY001 - Day Zebulun	2:00	REG			
3	08/09/17 00:00	labor	MARI001 - Martinez Samuel A	2:00	REG			
4	08/09/17 00:00	equip	VEH-S3 - 1/2 Ton 2004 Ford F150	2:00				
5	08/09/17 00:00	equip	VEH-S13 - 2013 F350 4X4	2:00				
6	08/14/17 00:00	equip	VEH-S13 - 2013 F350 4X4	4:00				
7	08/14/17 00:00	equip	VEH-S8 - 2004 S8 FORD 250 4X4	4:00				




MaintStar Storm Work Order

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1/16/2018


Created By

	W/O # ST00000444	ADM Sys.	Activity STORMWATER STORMWATER UTILITY	Priority 10
Issued 11/18/15 00:00	Target 11/18/15 00:00	Assign to SHAW001	Approv. By JESS001	
Closed 00/00/00 00:00	W/O Type	Shaw David W	Jessel Paul J	

Seq	Date	Type	Code / Description	Hrmm	Pay Type	Qty	Unit	Activity Location
8	08/14/17 00:00	labor	BARO001 - BARON BRETT	4:00	REG			
9	08/14/17 00:00	labor	BECK001 - Beckwith Derek	4:00	REG			
10	08/14/17 00:00	labor	DAY001 - Day Zebulun	4:00	REG			
11	08/14/17 00:00	labor	ROSA001 - Rosario Pedro	4:00	REG			
12	08/07/17 00:00	labor	BARO001 - BARON BRETT	3:00	REG			
13	08/07/17 00:00	labor	DAY001 - Day Zebulun	3:00	REG			
14	08/07/17 00:00	labor	MARI001 - Marinez Samuel A	3:00	REG			
15	08/07/17 00:00	equip	VEH-S13 - 2013 F350 4X4	3:00				
16	08/07/17 00:00	equip	VEH-S11 - 2004 SEWER JET MACHINE	3:00				
17	08/22/17 00:00	equip	VEH-S13 - 2013 F350 4X4	5:00				
18	08/22/17 00:00	labor	BARO001 - BARON BRETT	5:00	REG			
19	08/22/17 00:00	labor	DAY001 - Day Zebulun	5:00	REG			
20	08/29/17 00:00	labor	DAY001 - Day Zebulun	2:00	REG			
21	08/29/17 00:00	labor	MARI001 - Marinez Samuel A	2:00	REG			
22	08/29/17 00:00	equip	VEH-S13 - 2013 F350 4X4	2:00				
23	08/30/17 00:00	equip	VEH-S13 - 2013 F350 4X4	3:00				
24	08/30/17 00:00	labor	BARO001 - BARON BRETT	3:00	REG			
25	08/30/17 00:00	labor	DAY001 - Day Zebulun	3:00	REG			
26	08/31/17 00:00	labor	BARO001 - BARON BRETT	3:00	REG			
27	08/31/17 00:00	labor	DAY001 - Day Zebulun	3:00	REG			
28	08/31/17 00:00	equip	VEH-S13 - 2013 F350 4X4	3:00				
29	09/05/17 00:00	equip	VEH-S13 - 2013 F350 4X4	2:30				
30	09/05/17 00:00	equip	VEH-S3 - 1/2 Ton 2004 Ford F150	2:30				
31	09/05/17 00:00	labor	DAY001 - Day Zebulun	2:30	REG			
32	09/05/17 00:00	labor	MARI001 - Marinez Samuel A	2:30	REG			
33	09/05/17 00:00	labor	BARO001 - BARON BRETT	2:30	REG			
34	09/27/17 00:00	labor	BARO001 - BARON BRETT	2:00	REG			
35	09/27/17 00:00	labor	DAY001 - Day Zebulun	2:00	REG			
36	09/27/17 00:00	labor	MARI001 - Marinez Samuel A	2:00	REG			
37	09/27/17 00:00	equip	VEH-S13 - 2013 F350 4X4	2:00				
38	09/27/17 00:00	equip	VEH-S3 - 1/2 Ton 2004 Ford F150	2:00				

Seq	Asset Type	Asset Id	Rating	Asset Descr	Cst Shl	%	Block #	Street / Cross Street / City ,State Zip
1	CBASIN	CB-1061	.00	UNION ST	1.00	1.12		UNION ST
2	CBASIN	CB-1062	.00	FOURTH AVE	1.00	1.12		FOURTH AVE
3	CBASIN	CB-1063	.00	FOURTH AVE	1.00	1.12		FOURTH AVE
4	CBASIN	CB-1064	.00	UNION ST	1.00	1.12		UNION ST
5	CBASIN	CB-1065	.00	UNION ST	1.00	1.12		UNION ST
6	CBASIN	CB-1066	.00	UNION ST	1.00	1.12		UNION ST
7	CBASIN	CB-1342	.00	FIFTH AVE	1.00	1.12		FIFTH AVE
8	CBASIN	CB-1343	.00	FIFTH AVE	1.00	1.12		FIFTH AVE
9	CBASIN	CB-1344	.00	FIFTH AVE	1.00	1.12		FIFTH AVE
10	CBASIN	CB-1345	.00	FIFTH AVE	1.00	1.12		FIFTH AVE
11	CBASIN	CB-1346	.00	FRANKLIN ST	1.00	1.12		FRANKLIN ST
12	CBASIN	CB-1347	.00	FRANKLIN ST	1.00	1.12		FRANKLIN ST
13	CBASIN	CB-1348	.00	FIFTH AVE	1.00	1.12		FIFTH AVE
14	CBASIN	CB-1349	.00	FIFTH AVE	1.00	1.12		FIFTH AVE
15	CBASIN	CB-1529	.00	FOURTH AVE	1.00	1.12		FOURTH AVE
16	CBASIN	CB-1530	.00	NICHOLS ST	1.00	1.12		NICHOLS ST
17	CBASIN	CB-1531	.00	AUBURN ST	1.00	1.12		AUBURN ST

Created By

	W/O # ST00000444	ADM Sys.	Activity STORMWATER STORMWATER UTILITY	Priority 10
Issued 11/18/15 00:00	Target 11/18/15 00:00	Assign to SHAW001	Approv. By JESS001	
Closed 00/00/00 00:00	W/O Type	Shaw David W	Jessel Paul J	


<u>Seq</u>	<u>Asset Type</u>	<u>Asset Id</u>	<u>Rating</u>	<u>Asset Descr</u>	<u>Cst Slr</u>	<u>%</u>	<u>Block #</u>	<u>Street / Cross Street / City ,State Zip</u>
18	CBASIN	CB-1534	.00	FOURTH AVE	1.00	1.12		FOURTH AVE
19	CBASIN	CB-1542	.00	CEDAR ST	1.00	1.12		CEDAR ST
20	CBASIN	CB-1543	.00	FOURTH AVE	1.00	1.12		FOURTH AVE
21	CBASIN	CB-1544	.00	FOURTH AVE	1.00	1.12		FOURTH AVE
22	CBASIN	CB-1545	.00	CEDAR ST	1.00	1.12		CEDAR ST
23	CBASIN	CB-1546	.00	CEDAR ST	1.00	1.12		CEDAR ST
24	CBASIN	CB-2343	.00	PRIMROSE ST	1.00	1.12		PRIMROSE ST
25	CBASIN	CB-2344	.00	PRIMROSE ST	1.00	1.12		PRIMROSE ST
26	CBASIN	CB-2424	.00	PRIMROSE ST	1.00	1.12		PRIMROSE ST
27	CBASIN	CB-2428	.00	PRIMROSE ST	1.00	1.12		PRIMROSE ST
28	CBASIN	CB-2432	.00	YORK ST	1.00	1.12		YORK ST
29	CBASIN	CB-2433	.00	PRIMROSE ST	1.00	1.12		PRIMROSE ST
30	CBASIN	CB-2434	.00	YORK ST	1.00	1.12		YORK ST
31	CBASIN	CB-2435	.00	PRIMROSE ST	1.00	1.12		PRIMROSE ST
32	CBASIN	CB-295	.00	UNION ST	1.00	1.12		UNION ST
33	CBASIN	CB-296	.00	FIFTH AVE	1.00	1.12		FIFTH AVE
34	CBASIN	CB-297	.00	FIFTH AVE	1.00	1.12		FIFTH AVE
35	CBASIN	CB-3188	.00	PRIMROSE ST	1.00	1.12		PRIMROSE ST
36	CBASIN	CB-3249	.00	PRIMROSE ST	1.00	1.12		PRIMROSE ST
37	CBASIN	CB-3565	.00	NORFOLK ST	1.00	1.12		NORFOLK ST
38	CBASIN	CB-3566	.00	PRIMROSE ST	1.00	1.12		PRIMROSE ST
39	CBASIN	CB-3654	.00	SIXTH AVE	1.00	1.12		SIXTH AVE
40	CBASIN	CB-3655	.00	SIXTH AVE	1.00	1.12		SIXTH AVE
41	CBASIN	CB-3979	.00	NORFOLK ST	1.00	1.12		NORFOLK ST
42	CBASIN	CB-4262	.00	PRIMROSE ST	1.00	1.12		PRIMROSE ST
43	CBASIN	CB-5175	.00	PRIMROSE ST	1.00	1.12		PRIMROSE ST
44	CBASIN	CB-519	.00	PRIMROSE ST	1.00	1.12		PRIMROSE ST
45	CBASIN	CB-520	.00	PRIMROSE ST	1.00	1.12		PRIMROSE ST
46	CBASIN	CB-521	.00	FIFTH AVE	1.00	1.12		FIFTH AVE
47	CBASIN	CB-522	.00	FIFTH AVE	1.00	1.12		FIFTH AVE
48	CBASIN	CB-523	.00	PRIMROSE ST	1.00	1.12		PRIMROSE ST
49	CBASIN	CB-524	.00	SIXTH AVE	1.00	1.12		SIXTH AVE
50	CBASIN	CB-525	.00	SIXTH AVE	1.00	1.12		SIXTH AVE
51	CBASIN	CB-6092	.00	BURKE ST	1.00	1.12		
52	CBASIN	CB-6093	.00	BURKE ST	1.00	1.12		
53	CBASIN	CB-6094	.00	EIGHTH AVE	1.00	1.12		
54	CBASIN	CB-6095	.00	EIGHTH AVE	1.00	1.12		
55	CBASIN	CB-6101	.00	FRANKLIN ST	1.00	1.12		
56	CBASIN	CB-6102	.00	NORTH ST	1.00	1.12		
57	CBASIN	CB-6103	.00	NORTH ST	1.00	1.12		
58	CBASIN	CB-6133	.00	PRIMROSE ST	1.00	1.12		
59	CBASIN	CB-6169	.00	Cross Country	1.00	1.12		
60	MANHOLE	DMH-1228	.00	PRIMROSE ST	1.00	1.12		PRIMROSE ST
61	MANHOLE	DMH-1322	.00	SIXTH AVE	1.00	1.12		SIXTH AVE
62	MANHOLE	DMH-25	.00	PRIMROSE ST	1.00	1.12		PRIMROSE ST
63	MANHOLE	DMH-26	.00	PRIMROSE ST	1.00	1.12		PRIMROSE ST



MaintStar Storm Work Order

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1/16/2018

Created By

 W/O # ST00000444	ADM Sys.	Activity STORMWATER STORMWATER UTILITY	Priority 10
Issued 11/18/15 00:00	Target 11/18/15 00:00	Assign to SHAW001	Approv. By JESS001
Closed 00/00/00 00:00	W/O Type	Shaw David W	Jessel Paul J

<u>Seq</u>	<u>Asset Type</u>	<u>Asset Id</u>	<u>Rating</u>	<u>Asset Descr</u>	<u>Cst Slur</u>	<u>%</u>	<u>Block #</u>	<u>Street / Cross Street / City ,State Zip</u>
64	MANHOLE	DMH-2852	.00	CEDAR ST	1.00	1.12		CEDAR ST
65	MANHOLE	DMH-463	.00	PRIMROSE ST	1.00	1.12		PRIMROSE ST
66	MANHOLE	DMH-464	.00	PRIMROSE ST	1.00	1.12		PRIMROSE ST
67	MANHOLE	DMH-466	.00	PRIMROSE ST	1.00	1.12		PRIMROSE ST
68	MANHOLE	DMH-467	.00	PRIMROSE ST	1.00	1.12		PRIMROSE ST
69	MANHOLE	DMH-4981	.00	FIFTH AVE	1.00	1.12		FIFTH AVE
70	MANHOLE	DMH-5711	.00	Cross Country	1.00	1.12		CROSS COUNTRY
71	MANHOLE	DMH-5712	.00	Cross Country	1.00	1.12		CROSS COUNTRY
72	MANHOLE	DMH-5714	.00	HALE ST	1.00	1.12		HALE ST
73	MANHOLE	DMH-5715	.00	HALE ST	1.00	1.12		HALE ST
74	MANHOLE	DMH-695	.00	UNION ST	1.00	1.12		UNION ST
75	MANHOLE	DMH-696	.00	FOURTH AVE	1.00	1.12		FOURTH AVE
76	MANHOLE	DMH-7775	.00	FIFTH AVE	1.00	1.12		FIFTH AVE
77	MANHOLE	DMH-7777	.00	NICHOLS ST	1.00	1.12		NICHOLS ST
78	MANHOLE	DMH-7791	.00	UNION ST	1.00	1.12		UNION ST
79	MANHOLE	DMH-7792	.00	FIFTH AVE	1.00	1.12		FIFTH AVE
80	MANHOLE	DMH-7973	.00	EIGHTH AVE	1.00	1.12		EIGHTH AVE
81	MANHOLE	DMH-7974	.00	EIGHTH AVE	1.00	1.12		EIGHTH AVE
82	MANHOLE	DMH-889	.00	FIFTH AVE	1.00	1.12		FIFTH AVE
83	MANHOLE	DMH-890	.00	FIFTH AVE	1.00	1.12		FIFTH AVE
84	MANHOLE	DMH-891	.00	FIFTH AVE	1.00	1.12		FIFTH AVE
85	MANHOLE	DMH-968	.00	FOURTH AVE	1.00	1.12		FOURTH AVE
86	MANHOLE	DMH-969	.00	FOURTH AVE	1.00	1.12		FOURTH AVE
87	MANHOLE	DMH-970	.00	FOURTH AVE	1.00	1.12		FOURTH AVE
88	MANHOLE	DMH-974	.00	FOURTH AVE	1.00	1.12		FOURTH AVE
89	GE: DISCHARGE	LR1260	.00	Cross Country	1.00	1.12		CROSS COUNTRY

Labor Cost \$1,422.19

Material Cost \$0.00

Equipment Cost \$833.00


Contractors Cost \$0.00

Misc. Cost \$0.00

Total W/O Cost \$2,255.19

Print Name _____ Signature _____ Date ____/____/____ ☐

Created By

 W/O # ST00000491	ADM Sys.	Activity STORMWATER STORMWATER UTILITY	Priority 10
Issued 12/16/15 00:00	Target 12/16/15 00:00	Assign to SHAW001	Approv. By JESS001
Closed 00/00/00 00:00	W/O Type	Shaw David W	Jessel Paul J

Acc. No.	Proj. No.	Map ID	Map Sheet
-----------------	------------------	---------------	------------------

Customer Info			
First Name	Last Name	Phone1 - - -	Phone2 - - -
Cross Street		Comments	
Complaint			
Problem Address		<input type="checkbox"/> Use Customer Address	WReq. #
Location Description		Notes	

wo_udf1 wo_udf2 wo_udf3 wo_udf4 wo_udf5
 wo_udf6 **Futher Action** ☒ **Claim Filed** ☐ **State Problem** ☐ **Customer Problem** ☐

Task Descr/Complaint: Investigate DPI0946

Action Taken: Attached Files:
Field Engineer notes

Supervisor Notes: GIS Map
Fecal Lab results
Some CCTV Reports

8/2/17
Sample taken from outfall DPI 0946
Brook St @ Highschool
Pass (9)

8/7/2017
1 PM sampled DPI 0946, sample was clear.
Waiting on lab resluts
Pass (160)

8/10/2017
2:02 PM Sample DPI 0946, clear (results, very low fecal present)

E.coli sampled on 8/30/17 >2,419 failed

E Coli Results 8-30-17 (EAI LABS): >2419.3 MPN/100 mL

E.coil >2419.6MPN/100 ml
See attached E.coli results

Problem

MS4 STORM WATER OUTFALL

Action

506 INVESTIGATION


Seq	Date	Type	Code / Description	Hr:mm	Pay Type	Qty	Unit	Activity Location
1	08/24/16 00:00	labor	MARI001 - Marinez Samuel A	8:00	REG			
2	08/24/16 00:00	labor	DAY001 - Day Zebulun	8:00	REG			



MaintStar Storm Work Order


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1/16/2018

Created By

	W/O # ST00000491	ADM Sys.	Activity STORMWATER STORMWATER UTILITY	Priority 10
Issued 12/16/15 00:00	Target 12/16/15 00:00	Assign to SHAW001	Approv. By JESS001	
Closed 00/00/00 00:00	W/O Type	Shaw David W	Jessel Paul J	


<u>Seq</u>	<u>Date</u>	<u>Type</u>	<u>Code / Description</u>	<u>Hrmm</u>	<u>Pay Type</u>	<u>Qty</u>	<u>Unit</u>	<u>Activity Location</u>
3	08/24/16 00:00	equip	VEH-S13 - 2013 F350 4X4	8:00				
4	08/25/16 00:00	labor	MARI001 - Marinez Samuel A	8:00	REG			
5	08/25/16 00:00	labor	DAY001 - Day Zebulun	8:00	REG			
6	08/25/16 00:00	equip	VEH-S13 - 2013 F350 4X4	8:00				
7	08/26/16 00:00	labor	MARI001 - Marinez Samuel A	8:00	REG			
8	08/26/16 00:00	labor	DAY001 - Day Zebulun	8:00	REG			
9	08/26/16 00:00	equip	VEH-S13 - 2013 F350 4X4	8:00				
10	08/29/16 00:00	labor	DAY001 - Day Zebulun	8:00	REG			
11	08/29/16 00:00	labor	MARI001 - Marinez Samuel A	8:00	REG			
12	08/29/16 00:00	equip	VEH-S13 - 2013 F350 4X4	8:00				
13	09/12/16 00:00	labor	DAY001 - Day Zebulun	4:00	REG			
14	08/12/16 00:00	labor	MARI001 - Marinez Samuel A	4:00	REG			
15	09/12/16 00:00	equip	VEH-S13 - 2013 F350 4X4	4:00				
16	09/12/16 00:00	labor	BECK001 - Beckwith Derek	4:00	REG			
17	09/12/16 00:00	labor	ROSA001 - Rosario Pedro	4:00	REG			
18	09/12/16 00:00	equip	VEH-S14 - 2014 F350 4X4	4:00				
19	09/13/16 00:00	labor	MARI001 - Marinez Samuel A	8:00	REG			
20	09/13/16 00:00	labor	DAY001 - Day Zebulun	8:00	REG			
21	09/13/16 00:00	equip	VEH-S13 - 2013 F350 4X4	8:00				
22	09/13/16 00:00	equip	VEH-S11 - 2004 SEWER JET MACHINE	8:00				
23	09/14/16 00:00	labor	MARI001 - Marinez Samuel A	8:00	REG			
24	09/14/16 00:00	labor	DAY001 - Day Zebulun	8:00	REG			
25	09/14/16 00:00	equip	VEH-S13 - 2013 F350 4X4	8:00				
26	09/15/16 00:00	labor	DAY001 - Day Zebulun	8:00	REG			
27	09/15/16 00:00	labor	MARI001 - Marinez Samuel A	8:00	REG			
28	09/15/16 00:00	equip	VEH-S11 - 2004 SEWER JET MACHINE	8:00				
29	09/15/16 00:00	equip	VEH-S13 - 2013 F350 4X4	8:00				
30	09/21/16 00:00	labor	DAY001 - Day Zebulun	8:00	REG			
31	09/21/16 00:00	labor	MARI001 - Marinez Samuel A	8:00	REG			
32	09/21/16 00:00	ctr	BMCCorp - BMC Corp.			1.00		
33	09/21/16 00:00	equip	VEH-S13 - 2013 F350 4X4	8:00				
34	08/30/16 00:00	labor	DAY001 - Day Zebulun	8:00	REG			
35	08/30/16 00:00	labor	MARI001 - Marinez Samuel A	8:00	REG			
36	08/30/16 00:00	equip	VEH-S13 - 2013 F350 4X4	8:00				
37	08/31/16 00:00	labor	MARI001 - Marinez Samuel A	8:00	REG			
38	08/31/16 00:00	labor	BECK001 - Beckwith Derek	8:00	REG			
39	08/31/16 00:00	labor	DAY001 - Day Zebulun	8:00	REG			
40	08/31/16 00:00	equip	VEH-S13 - 2013 F350 4X4	8:00				
41	08/31/16 00:00	equip	VEH-H113 - 1986 CASE BACKHOE	8:00				
42	08/31/16 00:00	equip	VEH-S11 - 2004 SEWER JET MACHINE	8:00				
43	08/02/17 00:00	equip	VEH-S13 - 2013 F350 4X4	1:00				
44	08/02/17 00:00	labor	DAY001 - Day Zebulun	1:00	REG			
45	08/02/17 00:00	labor	BARO001 - BARON BRETT	1:00	REG			
46	08/07/17 00:00	labor	BARO001 - BARON BRETT	1:00	REG			
47	08/07/17 00:00	labor	MARI001 - Marinez Samuel A	1:00	REG			
48	08/07/17 00:00	equip	VEH-S13 - 2013 F350 4X4	1:00				
49	08/10/17 00:00	equip	VEH-S8 - 2004 S8 FORD 250 4X4	0:30				
50	08/10/17 00:00	labor	BECK001 - Beckwith Derek	0:30	REG			
51	08/10/17 00:00	labor	ROSA001 - Rosario Pedro	0:30	REG			
52	08/30/17 00:00	labor	BARO001 - BARON BRETT	0:15	REG			
53	08/30/17 00:00	labor	DAY001 - Day Zebulun	0:15	REG			
54	08/30/17 00:00	equip	VEH-S13 - 2013 F350 4X4	0:15				

Created By

	W/O # ST00000491	ADM Sys.	Activity STORMWATER STORMWATER UTILITY	Priority 10
Issued 12/16/15 00:00	Target 12/16/15 00:00	Assign to SHAW001	Approv. By JESS001	
Closed 00/00/00 00:00	W/O Type	Shaw David W	Jessel Paul J	

<u>Seq</u>	<u>Asset Type</u>	<u>Asset Id</u>	<u>Rating</u>	<u>Asset Descr</u>	<u>Cst Slr</u>	<u>%</u>	<u>Block #</u>	<u>Street / Cross Street / City ,State Zip</u>
1	CBASIN	CB-7247	.00	MONUMENT ST	1.00	0.73		
2	CBASIN	CB-7248	.00	Cross Country	1.00	0.73		
3	CBASIN	CB-7249	.00	Cross Country	1.00	0.73		
4	CBASIN	CB-7250	.00	Cross Country	1.00	0.73		
5	CBASIN	CB-7450	.00	Cross Country	1.00	0.73		
6	CBASIN	CB-7454	.00	CROSS COUNTRY	1.00	0.73		
7	CBASIN	CB-7455	.00	CROSS COUNTRY	1.00	0.73		
8	CBASIN	CB-7483	.00	Cross Country	1.00	0.73		
9	CBASIN	CB-8975	.00	CROSS COUNTRY	1.00	0.73		
10	CBASIN	CB-8976	.00	CROSS COUNTRY	1.00	0.73		
11	CBASIN	CB-8977	.00	CROSS COUNTRY	1.00	0.73		
12	CBASIN	CB-8978	.00	CROSS COUNTRY	1.00	0.73		
13	STORMPIPE	CB-8978:DMH-926	.00	CROSS COUNTRY	1.00	0.73		CROSS COUNTRY
14	CBASIN	CB-8979	.00	PARKING LOT	1.00	0.73		
15	CBASIN	CB-8980	.00	PARKING LOT	1.00	0.73		
16	CBASIN	CB-8981	.00	PARKING LOT	1.00	0.73		
17	CBASIN	CB-8982	.00	PARKING LOT	1.00	0.73		
18	CBASIN	CB-8983	.00	PARKING LOT	1.00	0.73		
19	CBASIN	CB-8984	.00	CROSS COUNTRY	1.00	0.73		
20	CBASIN	CB-8985	.00	CROSS COUNTRY	1.00	0.73		
21	CBASIN	CB-8986	.00	PARKING LOT	1.00	0.73		
22	CBASIN	CB-8987	.00	PARKING LOT	1.00	0.73		
23	CBASIN	CB-8988	.00	CROSS COUNTRY	1.00	0.73		
24	CBASIN	CB-8989	.00	CROSS COUNTRY	1.00	0.73		
25	CBASIN	CB-8990	.00	CROSS COUNTRY	1.00	0.73		
26	CBASIN	CB-8991	.00	CROSS COUNTRY	1.00	0.73		
27	CBASIN	CB-8992	.00	CROSS COUNTRY	1.00	0.73		
28	CBASIN	CB-8993	.00	CROSS COUNTRY	1.00	0.73		
29	CBASIN	CB-8994	.00	CROSS COUNTRY	1.00	0.73		
30	CBASIN	CB-8995	.00	PARKIGN LOT	1.00	0.73		
31	CBASIN	CB-8996	.00	PARKING LOT	1.00	0.73		
32	CBASIN	CB-8998	.00	PARKING LOT	1.00	0.73		
33	CBASIN	CB-8999	.00	PARKING LOT	1.00	0.73		
34	CBASIN	CB-9000	.00	CROSS COUNTRY	1.00	0.73		
35	CBASIN	CB-9001	.00	PARKING LOT	1.00	0.73		
36	CBASIN	CB-9002	.00	PARKING LOT	1.00	0.73		
37	CBASIN	CB-9003	.00	PARKING LOT	1.00	0.73		
38	CBASIN	CB-9004	.00	PARKIGN LOT	1.00	0.73		
39	CBASIN	CB-9005	.00	PARKING LOT	1.00	0.73		
40	CBASIN	CB-9006	.00	PARKING LOT	1.00	0.73		
41	CBASIN	CB-9007	.00	PARKING LOT	1.00	0.73		
42	CBASIN	CB-9008	.00	PARKING LOT	1.00	0.73		
43	CBASIN	CB-9009	.00	PARKING LOT	1.00	0.73		
44	CBASIN	CB-9010	.00	PARKING LOT	1.00	0.73		
45	CBASIN	CB-9011	.00	CROSS COUNTRY	1.00	0.73		
46	CBASIN	CB-9012	.00	CROSS COUNTRY	1.00	0.73		

Created By

	W/O # ST00000491	ADM Sys.	Activity STORMWATER STORMWATER UTILITY	Priority 10
Issued 12/16/15 00:00	Target 12/16/15 00:00	Assign to SHAW001	Approv. By JESS001	
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<u>Seq</u>	<u>Asset Type</u>	<u>Asset Id</u>	<u>Rating</u>	<u>Asset Descr</u>	<u>Cst Slr</u>	<u>%</u>	<u>Block #</u>	<u>Street / Cross Street / City ,State Zip</u>
47	CBASIN	CB-9013	.00	CROSS COUNTRY	1.00	0.73		
48	CBASIN	CB-9014	.00	CROSS COUNTRY	1.00	0.73		
49	CBASIN	CB-9015	.00	CROSS COUNTRY	1.00	0.73		
50	CBASIN	CB-9016	.00	CROSS COUNTRY	1.00	0.73		
51	CBASIN	CB-9017	.00	CROSS COUNTRY	1.00	0.73		
52	CBASIN	CB-9018	.00	CROSS COUNTRY	1.00	0.73		
53	CBASIN	CB-9022	.00	PARKING LOT	1.00	0.73		
54	CBASIN	CB-9023	.00	CROSS COUNTRY	1.00	0.73		
55	CBASIN	CB-9035	.00	CROSS COUNTRY	1.00	0.73		
56	CBASIN	CB-9036	.00	CROSS COUNTRY	1.00	0.73		
57	CBASIN	CB-9037	.00	CROSS COUNTRY	1.00	0.73		
58	CBASIN	CB-9038	.00	PARKING LOT	1.00	0.73		
59	CBASIN	CB-9039	.00	PARKING LOT	1.00	0.73		
60	CBASIN	CB-9040	.00	CROSS COUNTRY	1.00	0.73		
61	CBASIN	CB-9041	.00	CROSS COUNTRY	1.00	0.73		
62	CBASIN	CB-9042	.00	CROSS COUNTRY	1.00	0.73		
63	CBASIN	CB-9043	.00	PARKING LOT	1.00	0.73		
64	CBASIN	CB-9044	.00	CROSS COUNTRY	1.00	0.73		
65	CBASIN	CB-9045	.00	CROSS COUNTRY	1.00	0.73		
66	CBASIN	CB-9046	.00	CROSS COUNTRY	1.00	0.73		
67	CBASIN	CB-9047	.00	CROSS COUNTRY	1.00	0.73		
68	CBASIN	CB-9048	.00	PARKING LOT	1.00	0.73		
69	CBASIN	CB-9049	.00	PARKING LOT	1.00	0.73		
70	CBASIN	CB-9050	.00	CROSS COUNTRY	1.00	0.73		
71	CBASIN	CB-9051	.00	PARKING LOT	1.00	0.73		
72	CBASIN	CB-9068	.00	CROSS COUNTRY	1.00	0.73		
73	CBASIN	CB-9069	.00	CROSS COUNTRY	1.00	0.73		
74	CBASIN	CB-9070	.00	CROSS COUNTRY	1.00	0.73		
75	CBASIN	CB-9071	.00	CROSS COUNTRY	1.00	0.73		
76	CBASIN	CB-9072	.00	CROSS COUNTRY	1.00	0.73		
77	CBASIN	CB-9074	.00	CROSS COUNTRY	1.00	0.73		
78	CBASIN	CB-9076	.00	CROSS COUNTRY	1.00	0.73		
79	CBASIN	CB-9077	.00	CROSS COUNTRY	1.00	0.73		
80	CBASIN	CB-9078	.00	CROSS COUNTRY	1.00	0.73		
81	CBASIN	CB-9079	.00	CROSS COUNTRY	1.00	0.73		
82	CBASIN	CB-9207	.00	CROSS COUNTRY	1.00	0.73		
83	CBASIN	CB-9208	.00	PARKING LOT	1.00	0.73		
84	MANHOLE	DMH-541	.00	Cross Country	1.00	0.73		CROSS COUNTRY
85	MANHOLE	DMH-8413	.00	Cross Country	1.00	0.73		CROSS COUNTRY
86	MANHOLE	DMH-9260	.00	CROSS COUNTRY	1.00	0.73		CROSS COUNTRY
87	STORMPIPE	DMH-9260:DPI094	.00	Cross Country	1.00	0.73		CROSS COUNTRY
88	MANHOLE	DMH-9261	.00	CROSS COUNTRY	1.00	0.73		CROSS COUNTRY
89	STORMPIPE	DMH-9261:DMH-92	.00	CROSS COUNTRY	1.00	0.73		CROSS COUNTRY
90	STORMPIPE	DMH-9262:DMH-92	.00	CROSS COUNTRY	1.00	0.73		CROSS COUNTRY
91	MANHOLE	DMH-9263	.00	PARKING LOT	1.00	0.73		PARKING LOT
92	STORMPIPE	DMH-9263:CB-897	.00	CROSS COUNTRY	1.00	0.73		CROSS COUNTRY



MaintStar Storm Work Order

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1/16/2018

Created By

 W/O # ST00000491	ADM Sys.	Activity STORMWATER STORMWATER UTILITY	Priority 10
Issued 12/16/15 00:00	Target 12/16/15 00:00	Assign to SHAW001	Approv. By JESS001
Closed 00/00/00 00:00	W/O Type	Shaw David W	Jessel Paul J

<u>Seq</u>	<u>Asset Type</u>	<u>Asset Id</u>	<u>Rating</u>	<u>Asset Descr</u>	<u>Cst Slr</u>	<u>%</u>	<u>Block #</u>	<u>Street / Cross Street / City ,State Zip</u>
93	MANHOLE	DMH-9264	.00	PARKING LOT	1.00	0.73		PARKING LOT
94	MANHOLE	DMH-9265	.00	PARKIGN LOT	1.00	0.73		PARKIGN LOT
95	STORMPIPE	DMH-9265:DMH-92	.00	PARKING LOT	1.00	0.73		PARKING LOT
96	MANHOLE	DMH-9266	.00	PARKING LOT	1.00	0.73		PARKING LOT
97	STORMPIPE	DMH-9266:DMH-92	.00	PARKING LOT	1.00	0.73		PARKING LOT
98	MANHOLE	DMH-9267	.00	PARKING LOT	1.00	0.73		PARKING LOT
99	STORMPIPE	DMH-9267:DMH-92	.00	PARKING LOT	1.00	0.73		PARKING LOT
100	MANHOLE	DMH-9268	.00		1.00	0.73		
101	MANHOLE	DMH-9269	.00	PARKING LOT	1.00	0.73		PARKING LOT
102	MANHOLE	DMH-9270	.00	PARKING LOT	1.00	0.73		PARKING LOT
103	MANHOLE	DMH-9271	.00	CROSS COUNTRY	1.00	0.73		CROSS COUNTRY
104	MANHOLE	DMH-9272	.00	PARKING LOT	1.00	0.73		PARKING LOT
105	MANHOLE	DMH-9273	.00	CROSS COUNTRY	1.00	0.73		CROSS COUNTRY
106	MANHOLE	DMH-9274	.00	CROSS COUNTRY	1.00	0.73		CROSS COUNTRY
107	MANHOLE	DMH-9275	.00	CROSS COUNTRY	1.00	0.73		CROSS COUNTRY
108	MANHOLE	DMH-9276	.00	CROSS COUNTRY	1.00	0.73		CROSS COUNTRY
109	MANHOLE	DMH-9277	.00	CROSS COUNTRY	1.00	0.73	DPI0946	CROSS COUNTRY
110	MANHOLE	DMH-9278	.00	PARKING LOT	1.00	0.73		PARKING LOT
111	MANHOLE	DMH-9279	.00	PARKING LOT	1.00	0.73		PARKING LOT
112	MANHOLE	DMH-9280	.00	PARKING LOT	1.00	0.73		PARKING LOT
113	MANHOLE	DMH-9281	.00	PARKING LOT	1.00	0.73		PARKING LOT
114	MANHOLE	DMH-9282	.00	PARKING LOT	1.00	0.73		PARKING LOT
115	MANHOLE	DMH-9283	.00	PARKING LOT	1.00	0.73		PARKING LOT
116	MANHOLE	DMH-9284	.00	PARKING LOT	1.00	0.73		PARKING LOT
117	MANHOLE	DMH-9285	.00	PARKING LOT	1.00	0.73		PARKING LOT
118	MANHOLE	DMH-9287	.00	CROSS COUNTRY	1.00	0.73		CROSS COUNTRY
119	MANHOLE	DMH-9290	.00	CROSS COUNTRY	1.00	0.73		CROSS COUNTRY
120	MANHOLE	DMH-9291	.00	CROSS COUNTRY	1.00	0.73		CROSS COUNTRY
121	MANHOLE	DMH-9292	.00	CROSS COUNTRY	1.00	0.73		CROSS COUNTRY
122	MANHOLE	DMH-9293	.00	CROSS COUNTRY	1.00	0.73		CROSS COUNTRY
123	MANHOLE	DMH-9294	.00	CROSS COUNTRY	1.00	0.73		CROSS COUNTRY
124	MANHOLE	DMH-9295	.00	CROSS COUNTRY	1.00	0.73		CROSS COUNTRY
125	MANHOLE	DMH-9296	.00	CROSS COUNTRY	1.00	0.73		CROSS COUNTRY
126	MANHOLE	DMH-9297	.00		1.00	0.73		
127	MANHOLE	DMH-9298	.00	PARKING LOT	1.00	0.73		PARKING LOT
128	MANHOLE	DMH-9299	.00	CROSS COUNTRY	1.00	0.73		CROSS COUNTRY
129	MANHOLE	DMH-9300	.00	CROSS COUNTRY	1.00	0.73		CROSS COUNTRY
130	MANHOLE	DMH-9301	.00	CROSS COUNTRY	1.00	0.73		CROSS COUNTRY
131	MANHOLE	DMH-9302	.00	CROSS COUNTRY	1.00	0.73		CROSS COUNTRY
132	MANHOLE	DMH-9312	.00	PARKING LOT	1.00	0.73		PARKING LOT
133	MANHOLE	DMH-9313	.00	CROSS COUNTRY	1.00	0.73		CROSS COUNTRY
134	MANHOLE	DMH-9314	.00	CROSS COUNTRY	1.00	0.73		CROSS COUNTRY
135	MANHOLE	DMH-9340	.00	CROSS COUNTRY	1.00	0.73		CROSS COUNTRY
136	MANHOLE	DMH-9399	.00	PARKING LOT	1.00	0.73		PARKING LOT
137	GE: DISCHARGE	DPI0946	.00	Cross Country	1.00	0.73		CROSS COUNTRY

Labor Cost \$4,645.26

Material Cost \$0.00

Equipment Cost \$2,455.00

APPENDIX C

APPENDIX C

SECONDARY TREATMENT BYPASS EVENT INFORMATION

In addition to the information provided in Table 6-1, for the four secondary treatment bypass events that occurred during the reporting period, per the request of the Massachusetts Department of Environmental Protection, the following information is provided:

- Table 6-1 Secondary Treatment Bypass Events from Compliance Report No. 3 (included in Appendix D for reference).
- State NPDES Monthly Reports (July through December 2017)
- Each Bypass Event Includes the following:
 - Daily Log
 - Comments Logbook
 - Notable Operations Data
 - SCADA Influent Flow Trend Graph
 - SCADA Bypass Flow Trend Graph
 - Capacity of Secondary Treatment System

**TABLE 6-1
SECONDARY TREATMENT BYPASS EVENTS**

Bypass Event	#	2017-19		2017-20		2017-21	2017-22
Date of Bypass		7/18/2017		8/18/2017		09/06/17	09/07/17
Date of Rainfall		07/18/17	07/19/17	08/18/17	08/19/17	09/06/17	09/07/17
Weather Rainfall	Inches		0.65		0.50		2.23
snow melt	(y/n)	n	n	n	n	n	n
Influent Flow	MGD	12.70	7.33	11.16	6.01	17.49	16.34
Bypass Flow Total	MG	2.10	0.00	0.14	0.00	4.46	4.80
Q, bypass start time		5:45PM		2:49PM		noon	2:00AM
Plant Flows @ Start	MGD	58		39		60	51
Q, bypass stop time		7:45PM		3:20PM		3:15PM	5:40AM
Plant Flows @ Stop	MGD	16		15		21	21
Max Influent Flow		12.91	12.15	11.45	10.58	65	11.22
Influent Septage Received	Gallons	24,005	27,635	13,220	14,000	56,800	27,555
Influent TSS	mg/L	604	584			356	204
Effluent TSS	mg/L	66.70	12.60			57.33	9.80
Aeration Basin #1							
Sludge Volume Index	ml/g	760	907	510		398	392
MLSS Lab	mg/L	1,302	1,092	1,940		2490	2,040
Mean Cell Residence Time	Days	2.47	3.44			2.77	6.06
Aeration Basin #2							
Sludge Volume Index	ml/g	853	954	496		365	428
MLSS Lab	mg/L	1,160	1,038	1,994		2,468	1,868
Mean Cell Residence Time	Days	2.37	3.38			2.76	5.87
Aeration Basin #3							
Sludge Volume Index	ml/g	660	855	400		292	455
MLSS Lab	mg/L	1500	1158	2476		3390	2176
Mean Cell Residence Time	Days	4.21	5.75			4.51	10.06
Aeration Basins Online	#	3	3	3	3	3	3
Secondary Clarifier #1							
Depth of Blanket	ft	8.0	9.0	4.0	3.0	2.0	6.0
Secondary Clarifier #2							
Depth of Blanket	ft	10.0	7.0	5.0	2.0	4.0	6.0
Secondary Clarifier #3							
Depth of Blanket	ft	7.0	7.0	4.0	3.0	3.0	5.0
Secondary Clarifiers Online	#	3	3	3	3	3	3

Note:

Gaps for requested data are due to secondary treatment bypass events occurring on a non-sampling days.
Refer to Section 6.3 regarding NOAA rainfall data.

MONTHLY STATE NPDES REPORTS

JULY THROUGH DECEMBER 2017

STATE NPDES REPORT - JULY 2017

Bypass Event	Date	Septage			Q, byp MGD	Q, sec MGD	TRC mg/l	Fecal Coli #/100mls	MLSS AT #1	MLSS AT #2	MLSS AT #3	Sec Effl BOD, mg/l	Sec Effl TSS, mg/l	SVI AT #1	SVI AT #2	SVI AT #3	Sec lbs aer	Sec lbs aer	# of AT on line	# of SST on line
		Q, tot MGD	Recd GPD	Rainfall ins.													DOB method	lbs formula		
	07/01/17	8.90		0.83	0.00	8.90	0.45													
	07/02/17	8.00			0.00	8.00	0.26					9.69	5.80							
	07/03/17	7.88		0.01	0.00	7.88	0.45	1	1,576	1,496	1,754	9.18	3.60	628	568	564	119,217	60,373		
	07/04/17	7.52			0.00	7.52	0.31	1	1,520	1,466	1,686	10.06	2.80	651	675	587	116,348	58,447		
	07/05/17	7.79			0.00	7.79	0.30	<1	1,361	1,424	1,616	12.88	2.60	727	695	613	115,788	55,057		
	07/06/17	7.83			0.00	7.83	0.32	1	1,224	1,512	1,582	14.07	3.40	670	655	626	116,592	54,018		
	07/07/17	8.90			0.00	8.90	0.34	1	1,212	1,346	1,624			586	721	610	107,991	52,317		
	07/08/17	7.87		0.23	0.00	7.87	0.19													
	07/09/17	7.37		0.05	0.00	7.37	0.22					14.16	9.00							
	07/10/17	7.58			0.00	7.58	0.26	1	1,228	1,274	1,552	10.65	4.20	366	777	503	121,097	50,716		
	07/11/17	8.89		0.05	0.00	8.89	0.32	<1	1,610	1,234	1,504	21.70	11.80	615	608	299	119,906	54,393		
	07/12/17	8.28		0.11	0.00	8.28	0.30	10	1,296	1,164	1,392	37.50	90.00	694	773	682	118,955	48,189		
	07/13/17	8.38		0.18	0.00	8.38	0.27	10	1,152	1,032	1,238	25.63	28.00	738	921	565	109,142	42,809		
	07/14/17	7.49		0.08	0.00	7.49	0.34	11	1,094	1,136	1,330			731	871	744	105,761	44,536		
	07/15/17	7.40		0.06	0.00	7.40														
	07/16/17	6.96			0.00	6.96						14.33	7.20							
	07/17/17	7.18			0.00	7.18		6	1,066	1,146	1,420	16.92	6.40	929	864	697	109,841	45,436		
2017-19	07/18/17	12.70			2.10	10.60	0.38	7	1,302	1,160	1,500	28.99	66.70	760	853	660	110,620	49,565		
	07/19/17	7.33		0.65	0.00	7.33	0.38	2	1,092	1,038	1,158	18.87	12.60	907	954	855	92,147	41,133		
	07/20/17	7.25			0.00	7.25	0.35	20	1,114	1,082	1,448	9.27	5.20	772	915	684	88,491	45,586		
	07/21/17	6.91		0.05	0.00	6.91	0.29	12	1,106	1,050	1,480			669	924	669	87,463	45,486		
	07/22/17	6.51			0.00	6.51	0.30													
	07/23/17	6.36			0.00	6.36	0.38					9.88	6.80							
	07/24/17	15.01			0.00	15.01	0.42	5	1,218	1,214	1,614	38.21	173.00	813	815	613	102,874	50,615		
	07/25/17	7.60		0.99	0.00	7.60	0.42	18	928	900	1,138	13.79	9.00	754	756	747	57,654	37,105		
	07/26/17	7.27		0.03	0.00	7.27	0.34	67	1,048	928	1,164	12.16	6.60	668	916	816	57,990	39,281		
	07/27/17	7.35			0.00	7.35	0.35	19	968	1,006	1,326	9.30	5.60	620	770	679	56,465	41,283		
	07/28/17	7.12		0.02	0.00	7.12	0.23	7	1,084	1,040	1,348			600	673	586	64,331	43,435		
	07/29/17	6.68			0.00	6.68	0.36													
	07/30/17	6.44			0.00	6.44	0.37					11.10	6.80							
	07/31/17	6.87			0.00	6.87	0.34	6	1,190	1,212	1,524	13.85	7.20	832	817	650	82,374	49,114		
Average		7.92					0.33	5	1,209	1,184	1,448	16.46	21.56	701	787	640	98,145	48,043		
Minimum		6.36					0.19													
Maximum		15.01					0.45													
Total		245.62		3.34	2.10	243.52											100,000	for 2ats 2ssts		
Operating Range							0.4-	88/100mls	2200	2200		30	30	50-150			125,000	for 2ats 3ssts		
							0.7	260/100mls	1500	1500		45	45				150,000	for 3ats 3ssts		

STATE NPDES REPORT - AUGUST 2017

Bypass Event	Date	Septage		Rainfall ins.	Q, byp MGD	Q, sec MGD	TRC mg/l	Fecal Coli #/100mls	MLSS AT #1	MLSS AT #2	MLSS AT #3	Sec Effl BOD, mg/l	Sec Effl TSS, mg/l	SVI AT #1	SVI AT #2	SVI AT #3	Sec lbs aer	Sec lbs aer	# of AT on line	# of SST on line
		Q, tot MGD	Recd GPD														DOB method	lbs formula		
	08/01/17	6.86	13,000		0.00	6.86	0.32	15	1,278	1,292	1,614	14.66	6.40	775	766	613	92,614	52,342		
	08/02/17	7.05	25,835		0.00	7.05	0.34	29	1,188	1,188	1,338	15.22	6.80	673	833	740	87,018	46,462		
	08/03/17	6.83	16,750	0.12	0.00	6.83	0.54	8	1,282	1,180	1,578	12.97	6.60	663	839	627	98,239	50,540		
	08/04/17	6.63	17,020		0.00	6.63	0.45	12	1,196	1,130	1,626			669	876	609		49,440		
	08/05/17	6.60	16,300		0.00	6.60	0.45													
	08/06/17	6.09		0.10	0.00	6.09	0.47					14.69	9.20							
	08/07/17	6.45	22,600		0.00	6.45	0.36	29	1,322	1,302	1,698	11.60	5.80	749	760	583	107,845	54,068		
	08/08/17	6.63	21,500	0.03	0.00	6.63	0.33	79	1,298	1,284	1,712	11.37	6.00	763	771	578	110,329	53,718		
	08/09/17	6.43	13,090		0.00	6.43	0.36	80	1,240	1,324	1,710	11.62	6.40	798	748	579	110,513	53,468		
	08/10/17	6.30	29,950		0.00	6.30	0.38	83	1,384	1,420	1,754	11.08	6.20	715	697	564	109,382	57,021		
	08/11/17	6.24	21,620		0.00	6.24	0.40	50	1,294	1,406	1,776			765	704	557	111,172	55,995		
	08/12/17	6.13		0.03	0.00	6.13	0.21													
	08/13/17	6.03		0.04	0.00	6.03	0.28					11.06	7.40							
	08/14/17	6.12	49,835		0.00	6.12	0.45	57	1,694	1,662	2,160	12.52	7.40	584	596	458	125,065	69,005		
	08/15/17	6.24	33,135		0.00	6.24	0.44	168	1,646	1,706	2,154	13.30	9.20	547	580	460	129,110	68,880		
	08/16/17	6.08	33,655		0.00	6.08	0.40	14	1,872	1,906	2,982	16.31	10.40	529	519	332	138,219	84,568		
	08/17/17	5.94	20,135		0.00	5.94	0.34	3	1,904	2,000	2,522	11.33	10.40	520	495	393	134,461	80,389		
2017-20	08/18/17	11.16	13,220		0.14	11.02	0.36	5	1,940	1,994	2,476			510	496	400	124,254	80,189		
	08/19/17	6.01	14,000		0.00	6.01	0.38													
	08/20/17	5.68			0.00	5.68	0.51					9.15	10.80							
	08/21/17	5.85	15,500		0.00	5.85	0.49	1	1,940	2,012	2,514	9.38	6.60	510	447	394	117,946	80,890		
	08/22/17	5.99	24,635		0.00	5.99	0.32	<1	1,816	1,932	2,552	8.88	20.20	479	440	388	105,514	78,813		
	08/23/17	12.35	26,000	0.61	0.00	12.35	0.32	50	1,258	1,272	1,364	39.36	49.00	397	354	477	103,745	48,714		
	08/24/17	6.23	64,655		0.00	6.23	0.41	2	1,886	1,896	2,280	16.54	10.60	451	422	434	101,646	75,836		
	08/25/17	6.10	43,050		0.00	6.10	0.35	4	1,728	1,768	2,216			434	368	447	87,637	71,457		
	08/26/17	5.77	4,500		0.00	5.77	0.22													
	08/27/17	5.77			0.00	5.77	0.27					15.97	11.42							
	08/28/17	6.07	57,120		0.00	6.07	0.30	3	1,832	1,984	2,862	18.11	17.33	328	328	346	102,447	83,542		
	08/29/17	6.33	47,400		0.00	6.33	0.44	1	2,078	1,974	2,636	21.85	32.28	313	329	341	105,748	83,667		
	08/30/17	6.13	13,870	0.05	0.00	6.13	0.31	53	1,970	1,976	2,364	22.50	16.40	254	304	360	100,048	78,938		
	08/31/17	5.98	52,400	0.01	0.00	5.98	0.41	3	1,994	1,890	1,920	18.47	10.66	351	397	516	83,737	72,608		
Average		6.58					0.37	12	1,610	1,630	2,079	15.13	12.33	556	568	487	108,486	66,546		
Minimum		5.68					0.21													
Maximum		12.35					0.54													
Total		204.07	710,775	0.99	0.14	203.93											100,000	for 2ats 2ssts		
Operating Range							0.4-	88/100mls	2200	2200		30	30	50-150			125,000	for 2ats 3ssts		
							0.7	260/100mls	1500	1500		45	45				150,000	for 3ats 3ssts		

STATE NPDES REPORT - SEPTEMBER 2017

Bypass Event	Septage		Rainfall ins.	Q, byp MGD	Q, sec MGD	TRC mg/l	Fecal Coli #/100mls	MLSS AT #1	MLSS AT #2	MLSS AT #3	Sec Effl BOD, mg/l	Sec Effl TSS, mg/l	SVI AT #1	SVI AT #2	SVI AT #3	Sec lbs aer	Sec lbs aer	# of AT on line	# of SST on line
	Q, tot MGD	Recd GPD														DOB method	lbs formula		
	09/01/17	5.82		0.00	5.82	0.23	6	2,004	1,874	2,428			362	406	408	90,973	78,888		
	09/02/17	5.43		0.00	5.43	0.25													
	09/03/17	10.31		0.00	10.31	0.23					19.80	15.50							
	09/04/17	6.09	0.65	0.00	6.09	0.33	7	2,370	2,344	2,906	22.67	28.90	367	358	320	132,021	95,326		
	09/05/17	6.09		0.00	6.09	0.29	4	2,436	2,330	3,164	13.75	8.00	361	382	313	154,128	99,204		
2017-21	09/06/17	17.49		4.46	13.03	0.23	15	2,490	2,468	3,390	37.95	57.33	398	365	292	149,139	104,433		
2017-22	09/07/17	16.34	2.23	4.80	11.54	0.60	6	2,040	1,868	2,176	11.96	9.80	392	428	455	164,722	76,111		
	09/08/17	7.08	0.09	0.00	7.08	0.54	15	2,722	2,668	3,766			331	296	263	171,467	114,542		
	09/09/17	7.39	0.01	0.00	7.39	0.60													
	09/10/17	6.72		0.00	6.72	0.33					10.80	8.80							
	09/11/17	6.74		0.00	6.74	0.37	5	2,686	2,460	3,510	12.65	7.40	298	329	282	150,921	108,287		
	09/12/17	6.62		0.00	6.62	0.28	5	2,794	2,522	3,542	10.50	7.80	347	317	280	152,727	110,814		
	09/13/17	6.62		0.00	6.62	0.50	3	2,794	2,626	3,624	12.38	8.70	251	248	248	162,884	113,140		
	09/14/17	7.10		0.00	7.10	0.35	2	2,906	2,638	3,600	6.96	8.20	296	269	272	153,723	114,391		
	09/15/17	13.20	0.13	0.00	13.20	0.40	3	2,686	2,532	3,584			302	296	240	152,192	110,113		
	09/16/17	6.86	0.58	0.00	6.86	0.29													
	09/17/17	6.79		0.00	6.79	0.50					7.80	8.00							
	09/18/17	6.94		0.00	6.94	0.40	2	2,788	2,688	3,962	5.34	5.60	240	272	227	159,187	118,069		
	09/19/17	7.65	0.03	0.00	7.65	0.52	3	2,608	2,503	3,868	8.05	4.60	253	220	233	139,067	112,327		
	09/20/17	7.52	0.19	0.00	7.52	0.47	1	2,548	2,424	3,558	8.68	5.40	212	169	245	140,799	106,710		
	09/21/17	6.82	0.05	0.00	6.82	0.36	3	2,582	2,436	3,578	12.90	5.60	236	172	243	137,208	107,536		
	09/22/17	6.90		0.00	6.90	0.33	6	2,748	2,704	3,584			313	192	240	143,940	113,040		
	09/23/17	6.54	0.17	0.00	6.54	0.42													
	09/24/17	6.51		0.00	6.51	0.31					10.52	8.60							
	09/25/17	6.85		0.00	6.85	0.33	6	2,838	2,894	3,936	10.82	5.40	176	173	218	157,769	120,947		
	09/26/17	6.91		0.00	6.91	0.33	8	2,784	2,746	3,732	11.23	8.60	158	164	225	148,455	115,868		
	09/27/17	6.75		0.00	6.75	0.30	11	2,770	2,736	3,672	13.07	10.20	181	110	202	143,540	114,817		
	09/28/17	6.34		0.00	6.34	0.30	17	2,770	2,770	3,718	12.17	10.00	116	137	196	142,552	115,818		
	09/29/17	6.03		0.00	6.03	0.35	12	2,704	2,750	3,436			133	142	210	137,555	111,214		
	09/30/17	9.14		0.00	9.14	0.23													
Average	7.79					0.37	5	2,622	2,523	3,464	13.00	11.62	272	259	267	146,903	107,695		
Minimum	5.43					0.23													
Maximum	17.49					0.60													
Total	233.59		4.13	9.26	224.33											100,000	for 2ats 2ssts		
Operating Range						0.4-	88/100mls	2200	2200		30	30	50-150			125,000	for 2ats 3ssts		
						0.7	260/100mls	1500	1500		45	45				150,000	for 3ats 3ssts		

STATE NPDES REPORT - OCTOBER 2017

Bypass Event	Date	Septage		Rainfall ins.	Q, byp MGD	Q, sec MGD	TRC mg/l	Fecal Coli #/100mls	MLSS AT #1	MLSS AT #2	MLSS AT #3	Sec Effl BOD, mg/l	Sec Effl TSS, mg/l	SVI AT #1	SVI AT #2	SVI AT #3	Sec lbs aer DOB method	Sec lbs aer lbs formula	# of AT on line	# of SST on line
		Q, tot MGD	Recd GPD																	
	10/01/17	6.22		0.72	0.00	6.22	0.45					15.00	9.40							
	10/02/17	6.40	31,800		0.00	6.40	0.33	8	3,094	3,238	4,008	10.96	7.80	158	130	177	157,543	129,353		
	10/03/17	6.41	39,250		0.00	6.41	0.37	55	2,894	3,056	3,706	9.92	6.40	128	128	175	146,697	120,797		
	10/04/17	6.41	33,300		0.00	6.41	0.34	9	2,796	2,976	3,620	10.06	7.20	129	118	163	142,702	117,494		
	10/05/17	6.35	43,550		0.00	6.35	0.31	14	2,924	3,108	2,676	17.90	8.40	137	132	209	135,839	108,937		
	10/06/17	6.29	47,450		0.00	6.29	0.40	6	3,198	3,260	3,868			131	117	184	159,182	129,178		
	10/07/17	6.07	55,500	0.05	0.00	6.07	0.24													
	10/08/17	6.39			0.00	6.39	0.39					17.30	16.00							
	10/09/17	11.90	37,800	0.11	0.00	11.90	0.29	3	3,226	3,294	4,288	17.86	12.40	99	94	152	164,718	135,208		
	10/10/17	6.27	41,550	0.67	0.00	6.27	0.39	6	3,450	3,494	4,680	12.76	11.00	107	100	147	183,415	145,416		
	10/11/17	6.58	45,800		0.00	6.58	0.54	3	3,402	2,888	4,222	10.66	6.40	118	135	159	162,717	131,505		
	10/12/17	6.31	81,300	0.01	0.00	6.31	0.49	2	3,446	3,442	3,906	10.66	7.00	102	107	154	163,843	135,033		
	10/13/17	6.25	35,100		0.00	6.25	0.33	7	3,268	3,368	4,008			92	95	132	163,134	133,156		
	10/14/17	6.26	23,300		0.00	6.26	0.29													
	10/15/17	6.37			0.00	6.37	0.51					15.10	10.20							
	10/16/17	6.38	33,250		0.00	6.38	0.37	3	3,102	3,516	4,476	9.52	8.40	81	85	127	165,362	138,786		
	10/17/17	6.24	25,550		0.00	6.24	0.37	9	3,208	2,980	4,128	14.91	7.80	69	87	111	159,930	129,053		
	10/18/17	6.29	45,500		0.00	6.29	0.34	2	3,036	3,188	4,168	13.55	23.70	56	75	96	154,505	130,004		
	10/19/17	6.20	64,800		0.00	6.20	0.27	2	3,250	3,104	4,418	18.11	17.42	58	74	122	158,862	134,758		
	10/20/17	6.04	60,500		0.00	6.04	0.36	2	3,324	3,256	4,330			66	52	92	158,662	136,484		
	10/21/17	5.98	62,300		0.00	5.98	0.29													
	10/22/17	6.10			0.00	6.10	0.27					26.00	17.00							
	10/23/17	6.17	42,250		0.00	6.17	0.54	2	3,070	3,198	3,434	30.00	26.00	59	50	79	143,900	121,372		
	10/24/17	6.76	44,100		0.00	6.76	0.25	11	2,930	3,100	3,704	29.00	28.60	44	48	70	142,974	121,772		
	10/25/17	13.06	50,600	0.60	0.00	13.06	0.62	1	2,916	2,766	3,068	42.00	25.71	58	36	59	153,818	109,463		
	10/26/17	13.35	56,900	0.78	0.00	13.35	0.51	17	2,886	2,762	3,174	40.88	32.66	55	54	47	160,867	110,363		
	10/27/17	6.87	62,250	0.57	0.00	6.87	0.42	5	3,016	2,956	3,740			56	37	64	143,520	121,497		
	10/28/17	6.80	21,750		0.00	6.80	0.39													
	10/29/17	13.53			0.00	13.53	0.27					37.41	40.00							
	10/30/17	20.89	70,900	2.50	0.00	20.89	0.50	9	2,478	2,028	986	30.26	16.88	36	64	61	196,364	68,705		
	10/31/17	10.07	79,400		0.00	10.07	0.54	5	3,308	3,002	4,022	20.38	12.75	60	57	55	164,336	129,253		
Average		7.78					0.39	5	3,101	3,090	3,756	20.01	15.61	86	85	120	158,313	124,436		
Minimum		5.98					0.24													
Maximum		20.89					0.62													
Total		241.21	1,235,750	6.01	0.00	241.21											100,000	for 2ats 2ssts		
Operating Range							0.4-	88/100mls	2200	2200		30	30	50-150			125,000	for 2ats 3ssts		
							0.7	260/100mls	1500	1500		45	45				150,000	for 3ats 3ssts		

STATE NPDES REPORT - NOVEMBER 2017

Bypass Event	Date	Septage		Rainfall ins.	Q, byp MGD	Q, sec MGD	TRC mg/l	Fecal Coli #/100mls	MLSS AT #1	MLSS AT #2	MLSS AT #3	Sec Effl BOD, mg/l	Sec Effl TSS, mg/l	SVI AT #1	SVI AT #2	SVI AT #3	Sec lbs aer		# of AT on line	# of SST on line
		Q, tot MGD	Recd GPD														DOB method	lbs formula		
	11/01/17	9.94	20,800		0.00	9.94	0.35	11	2,872	2,594	3,748	21.05	19.14	56	54	51	146,699	115,267		
	11/02/17	9.60	43,600		0.00	9.60	0.43	12	2,616	2,328	3,432	15.55	10.00	57	56	50	133,894	104,784		
	11/03/17	9.01	22,500	0.03	0.00	9.01	0.54	20	2,360	2,290	3,448			25	74	64	124,855	101,306		
	11/04/17	8.74	53,900		0.00	8.74	0.34													
	11/05/17	8.63			0.00	8.63	0.30					24.67	13.71							
	11/06/17	9.11	44,600		0.00	9.11	0.23	10	2,210	2,460	3,630	30.55	19.14	27	53	63	127,382	103,833		
	11/07/17	8.42	19,000	0.12	0.00	8.42	0.37	12	2,176	2,070	3,270	42.99	13.70	32	58	58	109,968	94,025		
	11/08/17	8.34	48,350	0.07	0.00	8.34	0.41	19	1,916	1,846	2,790	45.29	12.75	63	27	100	95,496	81,966		
	11/09/17	7.94	47,150		0.00	7.94	0.29	3	2,068	1,824	2,884	26.60	11.42	34	71	69	96,927	84,768		
	11/10/17	8.07	74,100		0.00	8.07	0.50	9	2,296	1,994	3,060			65	45	75	109,242	91,949		
	11/11/17	7.67	26,300		0.00	7.67	0.39													
	11/12/17	7.68	4,800		0.00	7.68	0.44					23.68	14.77							
	11/13/17	9.04	58,000		0.00	9.04	0.35	5	2,390	2,024	3,362	19.60	13.33	71	74	65	108,320	97,278		
	11/14/17	7.91	28,500	0.26	0.00	7.91	0.27	1	2,638	2,320	3,468	27.76	13.80	76	78	69	124,154	105,409		
	11/15/17	7.75	52,500		0.00	7.75	0.27	<1	2,696	2,330	3,556	21.63	11.40	78	52	93	124,326	107,361		
	11/16/17	10.63	83,700		0.00	10.63	0.43	<1	2,658	2,456	3,606	20.28	12.00	75	53	94	127,727	109,087		
	11/17/17	7.95	53,350	0.42	0.00	7.95	0.23	<1	2,878	2,518	3,588			66	83	98	127,745	112,390		
	11/18/17	8.18	41,600		0.00	8.18	0.38													
	11/19/17	12.42	0	0.22	0.00	12.42	0.39					19.39	16.33							
	11/20/17	8.28	50,300	0.25	0.00	8.28	0.58	<1	3,126	2,782	4,068	13.24	13.33	77	79	82	147,858	124,800		
	11/21/17	8.23	36,900		0.00	8.23	0.41	1	2,922	2,684	3,856	13.59	13.14	62	78	91	136,744	118,370		
	11/22/17	14.89	42,800		0.00	14.89	0.21	<1	2,606	2,428	3,572	17.49	15.66	77	70	98	123,842	107,661		
	11/23/17	8.91		0.72	0.00	8.91	0.37	<1	2,968	2,666	3,732	11.45	12.54	81	60	88	137,045	117,169		
	11/24/17	8.65	96,750		0.00	8.65	0.37	3	2,862	2,682	3,824			77	76	76	143,962	117,194		
	11/25/17	8.58	35,500		0.00	8.58	0.43													
	11/26/17	8.45			0.00	8.45	0.23					19.27	20.67							
	11/27/17	8.51	73,000		0.00	8.51	0.33	1	2,980	2,856	4,106	13.62	17.49	76	74	75	147,374	124,374		
	11/28/17	8.51	84,500		0.00	8.51	0.36	<1	2,802	2,546	3,740	13.55	11.27	79	67	102	132,271	113,691		
	11/29/17	8.50	51,500		0.00	8.50	0.25	<1	2,624	2,466	3,672	15.37	13.40	76	49	86	129,982	109,613		
	11/30/17	8.35	82,100		0.00	8.35	0.26	1	2,580	2,410	3,484	14.88	12.20	62	77	95	123,569	106,010		
Average	8.90						0.36	3	2,602	2,390	3,541	21.43	14.15	63	64	79	126,336	106,741		
Minimum	7.67						0.21													
Maximum	14.89						0.58													
Total	266.89	1,276,100		2.09	0.00	266.89											100,000	for 2ats 2ssts		
Operating Range							0.4-	88/100mls	2200	2200		30	30	50-150			125,000	for 2ats 3ssts		
							0.7	260/100mls	1500	1500		45	45				150,000	for 3ats 3ssts		

STATE NPDES REPORT - DECEMBER 2017

Bypass Event	Date	Septage		Rainfall ins.	Q, byp MGD	Q, sec MGD	TRC mg/l	Fecal Coli #/100mls	MLSS AT #1	MLSS AT #2	MLSS AT #3	Sec Effl BOD, mg/l	Sec Effl TSS, mg/l	SVI AT #1	SVI AT #2	SVI AT #3	Sec lbs aer	Sec lbs aer	# of AT on line	# of SST on line
		Q, tot MGD	Recd GPD														DOB method	lbs formula		
	12/01/17	8.36	52,100		0.00	8.36	0.48	<1	2,552	2,544	3,430			78	51	82	125,522	106,660		
	12/02/17	8.10	13,000		0.00	8.10	0.32													
	12/03/17	8.09	0		0.00	8.09	0.22					15.00	18.00							
	12/04/17	8.11	54,650		0.00	8.11	0.30	<1	2,738	2,562	3,630	7.99	12.00	79	78	80	129,979	111,714		
	12/05/17	8.94	52,800		0.00	8.94	0.35	<1	2,522	2,362	3,842	10.66	14.79	59	78	95	126,509	109,162		
	12/06/17	13.07	48,800	0.55	0.00	13.07	0.53	1	2,938	2,942	3,104	16.20	14.77	80	82	74	143,688	112,390		
	12/07/17	8.25	30,000		0.00	8.25	0.29	<1	2,680	2,862	3,352	9.30	8.40	62	79	89	130,129	111,264		
	12/08/17	8.01	16,800		0.00	8.01	0.29		2,850	2,606	3,164			72	77	63	126,978	107,836		
	12/09/17	8.31	30,600		0.00	8.31	0.37													
	12/10/17	8.77	0	0.53	0.00	8.77	0.45					7.39	9.20							
	12/11/17	8.30	84,200		0.00	8.30	0.42	<1	2,598	2,652	3,564	9.99	10.60	77	75	76	131,502	110,263		
	12/12/17	10.22	131,800		0.00	10.22	0.39	<1	2,578	2,750	3,678	9.79	7.80	78	75	75	133,181	112,665		
	12/13/17	8.62	55,350	0.22	0.00	8.62	0.47	<1	2,484	2,362	3,262	8.19	6.60	81	80	83	119,415	101,431		
	12/14/17	8.34	57,100		0.00	8.34	0.38	<1	2,422	2,260	2,990	6.16	7.40	66	88	97	111,549	95,977		
	12/15/17	8.24	78,200		0.00	8.24	0.39	2	2,202	2,164	2,722			82	79	81	105,416	88,671		
	12/16/17	8.13	7,250		0.00	8.13	0.55													
	12/17/17	8.08	0		0.00	8.08	0.45					9.90	11.60							
	12/18/17	8.11	0		0.00	8.11	0.39	<1	2,598	2,366	3,428	9.79	8.00	81	80	85	121,937	104,984		
	12/19/17	8.56	0	0.02	0.00	8.56	0.22	<1	2,586	2,396	3,512	8.19	7.00	85	58	91	122,473	106,260		
	12/20/17	8.30	28,000		0.00	8.30	0.40	2	2,426	2,340	2,476	5.56	6.40	62	81	121	106,590	90,597		
	12/21/17	7.96	29,500		0.00	7.96	0.27	<1	1,838	2,070	3,088	5.96	7.20	98	53	100	96,807	87,520		
	12/22/17	8.08	23,150		0.00	8.08	0.20	1	2,394	2,140	2,490			84	79	104	100,085	87,870		
	12/23/17	11.28	5,000	0.35	0.00	11.28	0.38													
	12/24/17	8.95	0	0.60	0.00	8.95	0.48													
	12/25/17	8.14	0	0.15	0.00	8.14	0.35					7.60	9.20							
	12/26/17	8.21	51,750	0.37	0.00	8.21	0.36	1	2,766	2,442	3,890	8.12	9.20	76	78	77	131,725	113,816		
	12/27/17	8.02	13,800		0.00	8.02	0.52	<1	2,830	2,740	4,458	7.29	9.20	74	69	94	143,391	125,450		
	12/28/17	7.98	30,300		0.00	7.98	0.29	<1	3,290	2,552	3,898	9.96	10.00	67	67	95	140,307	121,847		
	12/29/17	7.91	12,100		0.00	7.91	0.33	<1	2,376	2,172	3,160			84	83	101	106,422	96,427		
	12/30/17	7.81	16,800		0.00	7.81	0.43													
	12/31/17	12.17	0	0.01	0.00	12.17	0.38					16.65	10.60							
Average	8.69						0.38	1	2,583	2,464	3,357	9.48	9.90	76	75	88	122,680	105,140		
Minimum	7.81						0.20													
Maximum	13.07						0.55													
Total	269.42	923,050		2.80	0.00	269.42											100,000	for 2ats 2ssts		
Operating Range							0.4-	88/100mls	2200	2200		30	30	50-150			125,000	for 2ats 3ssts		
							0.7	260/100mls	1500	1500		45	45				150,000	for 3ats 3ssts		

BYPASS EVENT: 2017-19

HAVERHILL, MA - WWTP - DAILY LOG

Date: 07/18/17

	SENIOR OPERATOR:	Primary Operator:	Centrifuge	Secondary Operator
1st	Isaiah Lewis		Kevin Rutledge	
2nd	Norm Paquette	Norm Paquette	kevin Rutledge	Alces?Paquette
3rd	Jim Bevelaqua		Waino Waisanen	

WEATHER: Hi: 86 Lo: 63 Ob: 69
 Rain: Snow: snowcover
 Conditions: Cloudy

LAB	Walter Alce
INFLUE	Q,Daily Total
	12.70
	MAX
	64.35
	MIN
	4.63
Q,byp	start/stop times am or pm & Q
	5:45PM
Q,byp Status	activated
Q,bypa	2.10 Q to 2nd
	10.60

PRIMARY SCUM LEVEL: SCREENINGS CARTS:

	Old	New	Plant	Pump Station	Grit quty
1st	1.23	9.19	1		yd3
2nd	1.60	4.91	1	0	
3rd	1.60	10.50	1		

PLANT (*1600) POWER	Centrifuge:	484
End 1st KVA (06) KW (06)	Primary:	5883
End 2nd KVA (06) KW (06)	Secondary:	3518
End 3rd KVA (06) KW (06)	Aeration:	0
COLLECTOR SPEED	Total:	17673

#1	#2	#3
1st slow	slow	slow
2nd slow	slow	slow
3rd slow	slow	slow
PSTs on-line	3	

Gravity Thickeners DOB: Torque:

	#1	#2	#1	#2
1st	3	4	n/a	n/a
2nd	2.5	5	n/a	n/a
3rd	3	4	/	/

12 Mid PUMP STATION (*450) POWER
 12 Mid Start 1st KW(06) KVA(
 12 Mid Start 2nd 3.88 4.00
 12 Mid Start 3rd KW(06) KVA(
 AERATION: Dissolved Oxygen

ATs	on-line	3
#1 AT#1 infl do avg		2.1
#3 AT#1 effl do avg		3.9
#4 AT#2 infl do avg		1.9
#6 AT#2 effl do avg		1.8

Weekly Septage Pumped Gals

SEPTAGE LEVEL

1st	5.65	ft
2nd		ft
3rd		ft

Cl2 vol	Tank #1	Tank #2	TWAS LEVELS:
1st		815	#1 #2 #3
2nd		650	1st 4 7 8
3rd		438	2nd 6 10 11
Total	19 Gallons		3rd 5 9 10

Dosage Setpoint

Effluent Cl2, mg/l	2.50	Inplant	/ / 2.60
			/ / 2.00

CHLORINE RESIDUAL:

0.38 mg/l

CHEMICALS: Sodium Hypo 8 Polymer dry 234 Polymer liq. 1409
 Hydroxide 14 Alpha Lox 15 drums

SECONDARY SCUM:	#1	#2	#1	#2	#1	#2
	4.1	5.7	7.6	7.5	4.8	5
RAS# SC#						
	0.00		2.43		2.52	2.52

SECONDARY CLARIFIERS SSTs on-line 3

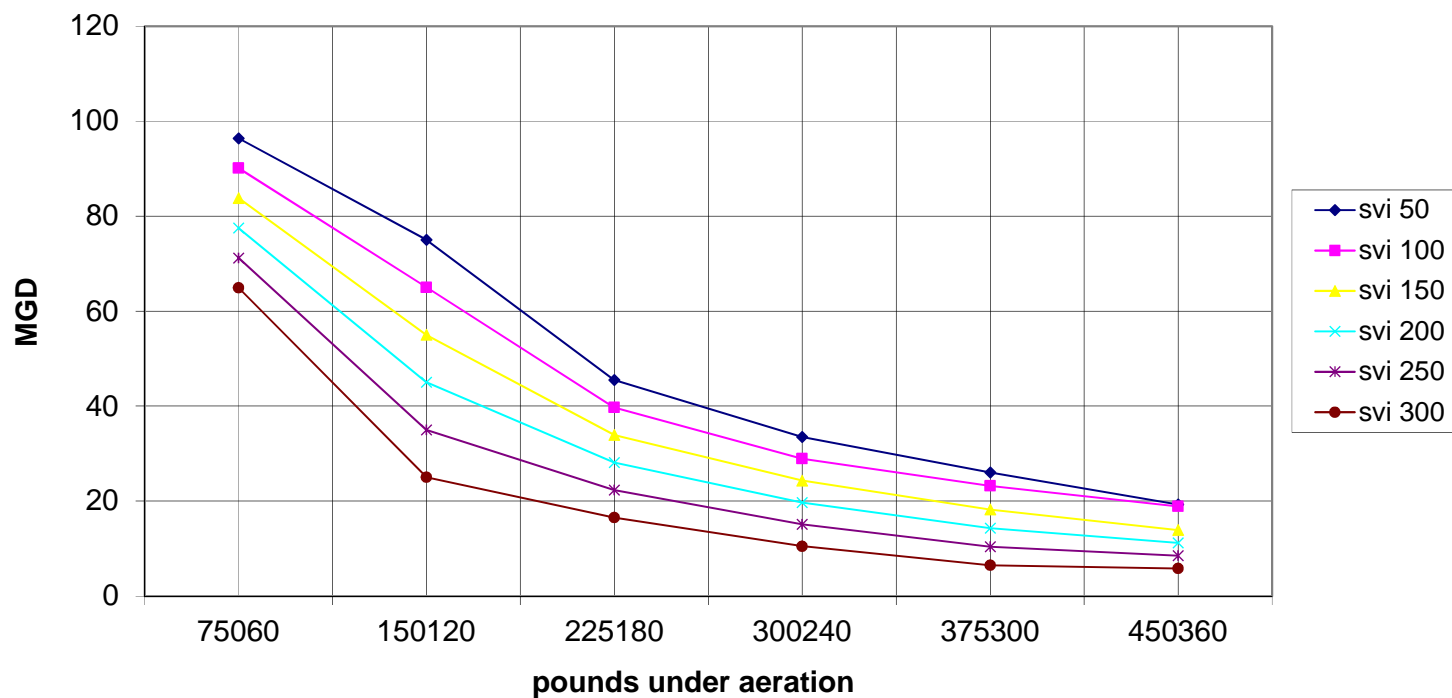
Depth of Blankets	Daily average
#1	#2
12.92	10.3
	8.2

DOB by Operators	#1	#2	#3
1st	11.0	7.0	10.0
2nd	8.0	8.0	10.0
3rd	9.0	13.0	12.0
	10.0	10.5	7.0
	10.5	13.0	10.5
	13.0	10.5	13.0

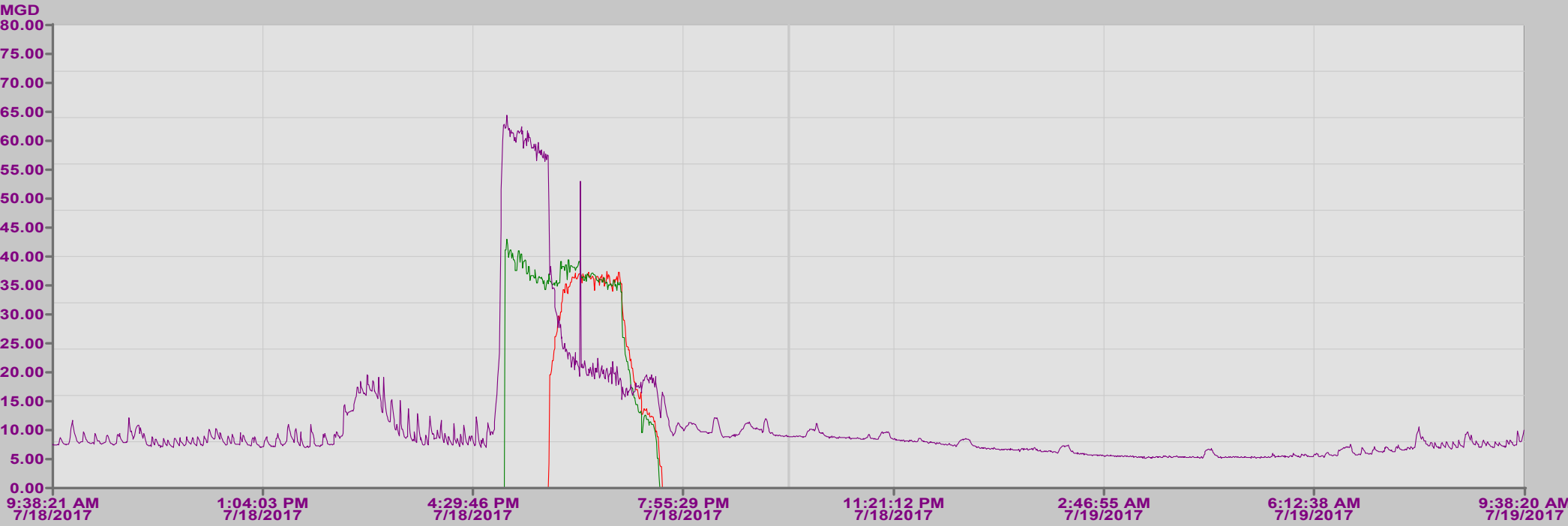
comments logbook for 7/18/2017
1/17/2018 9:18:08 AM

	Comment
1	6:22:00 AM CONTROL_ROOM Primary and Secondary Plant Checks, Operating #2 DAF thru Shift, Collected Composite Samples, C Adjustments, Final Readings, IL
2	10:31:00 AM CONTROL_ROOM primary check, operating DAF #2, set up 2nd KMnO4 station in screenings room and put on-line, head STEP SCREENS, cleaned GT WEIRS...HEAVY volume of FOG continues to come out of #1GT CW, check...cleaned AT DO PROBES...maintenance working on #5 ATB...#9 AERATOR continues to run i FOG, set up FIRE HOSE to SE CHANNEL per FGH/JB odor complainit logged 7/17 (took fire hose fr service), AM SC OSG adjustments made 87 - 70/65 - 88, WIMS DAF/CENTRIFUGE DATA ENTRY, in station check, marginal station check. nrp
3	1:11:00 PM CONTROL_ROOM Steve working on generatot at pump station, PM SC OSG adjustments made...87/90 - 65/60 - 88. nrp
4	3:25:00 PM CONTROL_ROOM primary scum ceased pumping (?), found #1 SEPTAGE PUMP OFF at pump but ON at MCC PANEL and 2 DISAGREEMENT ALARMS...flushed/back-flushed #2 pump/septage tank...cleared blockage... PUMP...#1 SEPTAGE PUMP is OFF at PUMP and PANEL...w/o written on #1 SEPTAGE PUMP. nrp
5	3:46:00 PM CONTROL_ROOM Primary and secondary plant checks - Operating #2 centrifuge and #2 DAF - Filling blended sludge ta -----Jbev
6	7:45:00 PM CONTROL_ROOM Heavy T storms starting at 4:45 PM, many siphon alarms , storm over at 5:PM flow peaked at 65 MG screening log had to be removed by hand from #2 step screen - Excessive FOG's causing problems centrifuge run and began flush cycle - Filled blended sludge tank and flushed - Finished solids lab ==

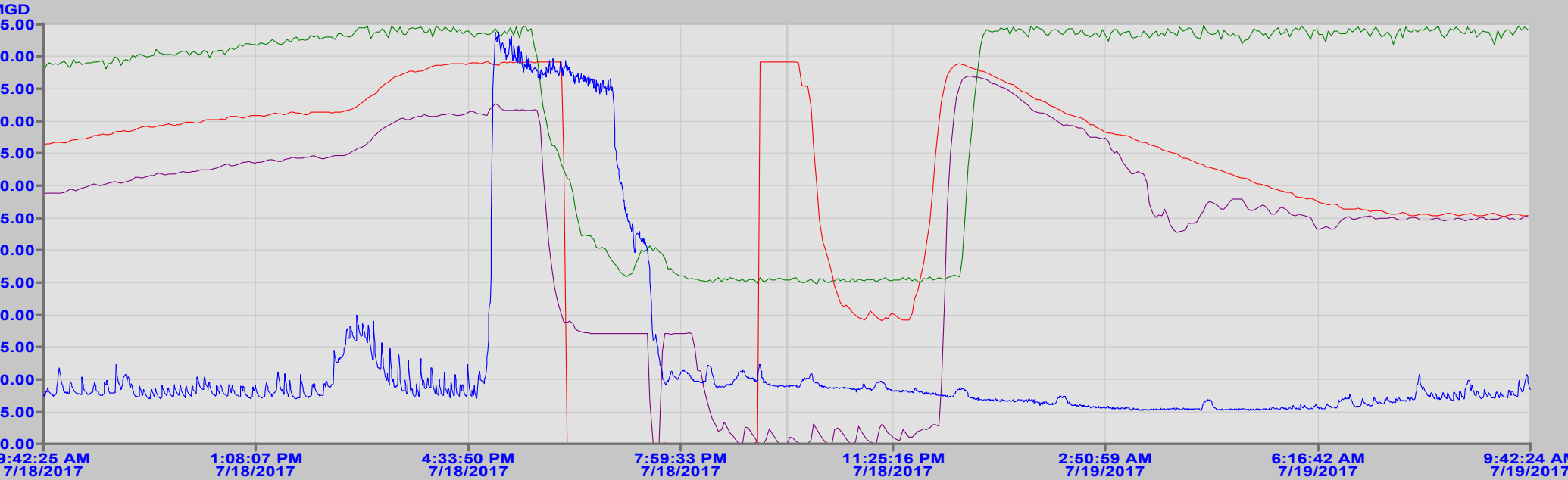
Capacity of Secondary System at 3ATs 3SSTs



date:	7/18/2017	Flow, MG	SVI	MLSS	lbs	sr oper	setting selected, MG
bypass start time:	5:42pm	58	760	1320	80000	jb	25
bypass stop time:	7:34pm	16					



SECONDARY FLOW RATE (F_CV) 8.95 MGD
BYPASS FLOW (F_CV) 0.00 MGD
BYPASS FLOW AUTO SP (F_CV) 0.00 MGD
BYPASS CHLORINE (F_CV) 0.00 PPM



INFLUENT FLOW (F_CV)	8.93	63.85	5.18	12.89
SECONDARY CLARIFIER 1 SLUDGE BLANKET (F_CV)	6.25	15.94	6.08	12.99
SECONDARY CLARIFIER 2 SLUDGE BLANKET (F_CV)	14.57	14.57	0.00	9.87
SECONDARY CLARIFIER 3 SLUDGE BLANKET (F_CV)	0.00	14.02	0.00	8.18

◀◀

◀

Switch to 7Days

▶

▶▶

Ack	Time In	Date In	Description	Value	Status
	07:58:15.041	1/17/2018	AERATION TR 2 RAS GATE FAULT	NORMAL	CFN
✓	20:54:45.487	1/16/2018	BLENDED SLUDGE TANK HIGH LEVE	ALARM	CFN
✓	17:22:37.111	1/14/2018	UPPER SIPHON CSO LEVEL HIGH	HIGH	CFN
✓	11:04:04.027	1/14/2018	UPPER SIPHON RIVER LEVEL HIGH	ROHIBIT CSO	CFN
✓	07:15:52.628	1/14/2018	PUMP STATION WW PUMP 4 CONE WIL TO CLOSE		CFN
✓	07:14:03.308	1/14/2018	PUMP STATION WW PUMP 4 USED TRIP TROUBLE		CFN

Total Alarms: 18Filter: OffSort: Time In, DescendingRun

BYPASS EVENT: 2017-20

HAVERHILL, MA - WWTP - DAILY LOG

Date: 08/18/17

	SENIOR OPERATOR:	Primary Operator:	Centrifuge	Secondary Operator
1st	Isaiah Lewis		Walter Alce	
2nd	Norm Paquette	kevin Rutledge	Walter Alce	Norm Paquette
3rd	Jim Bevelaqua		Waino Waisanen	

WEATHER: Hi: 82 Lo: 51 Ob: 63
 Rain: Snow: snowcover
 Conditions: Cloudy

LAB	Mark B
INFLUE	Q,Daily Total MAX MIN
	11.16 58.10 3.42
Q,byp	start/stop times am or pm & Q
Q,byp Status	inactivated 3:30 PM
Q,bypa	0.14 Q to 2nd 11.02

PRIMARY SCUM LEVEL: SCREENINGS CARTS:

	Old	New	Plant	Pump Station	Grit quity
1st	2.58	8.10	0		yd3
2nd	2.61	7.21	0		
3rd	3.1	10.21	2		

PLANT (*1600) POWER	Centrifuge:	466
End 1st KVA (06) KW (06)	Primary:	5451
End 2nd KVA (06) KW (06)	Secondary:	3987
End 3rd KVA (06) KW (06)	Aeration:	0
COLLECTOR SPEED	Total:	18610

#1	#2	#3
1st slow	slow	slow
2nd slow	slow	slow
3rd slow	slow	slow
PSTs on-line	3	

Gravity Thickeners DOB:	Torque:
#1 #2 #1 #2	
1st 4 5 n/a n/a	
2nd 5 5 n/a n/a	
3rd 5 5 / /	

12 Mid PUMP STATION (*450) POWER
12 Mid Start 1st KW(06) KVA(
12 Mid Start 2nd .53 .65
12 Mid Start 3rd KW(06) KVA(
AERATION: Dissolved Oxygen

ATs on-line 3
#1 AT#1 infl do avg 1.8
#3 AT#1 effl do avg 2.2
#4 AT#2 infl do avg 0.3
#6 AT#2 effl do avg 1.8

Weekly Septage Pumped Gals

SEPTAGE LEVEL
1st 8.70 ft
2nd ft
3rd ft

Cl2 vol	Tank #1	Tank #2	TWAS LEVELS:
1st	1332		#1 #2 #3
2nd	1191/2514		1st 6 8 12
3rd	2350	4120	2nd 9 13 14
Total	444 Gallons		3rd 5 10 14

Dosage Setpoint	
Effluent Cl2, mg/l	2.15
Inplant	2.15
	2.1/6.6

CHLORINE RESIDUAL:

0.36 mg/l

CHEMICALS:	Sodium Hypo 3	Polymer dry 190	Polymer liq. 1597
		Hydroxide 7	Alpha Lox 15 drums

SECONDARY SCUM:	#1 #2 #1 #2 #1 #2
	6.2 6.0 5.9 7.1 6 6
RAS#	1 2 2 RA 4 3
	0.00 3.40 3.40 3.40

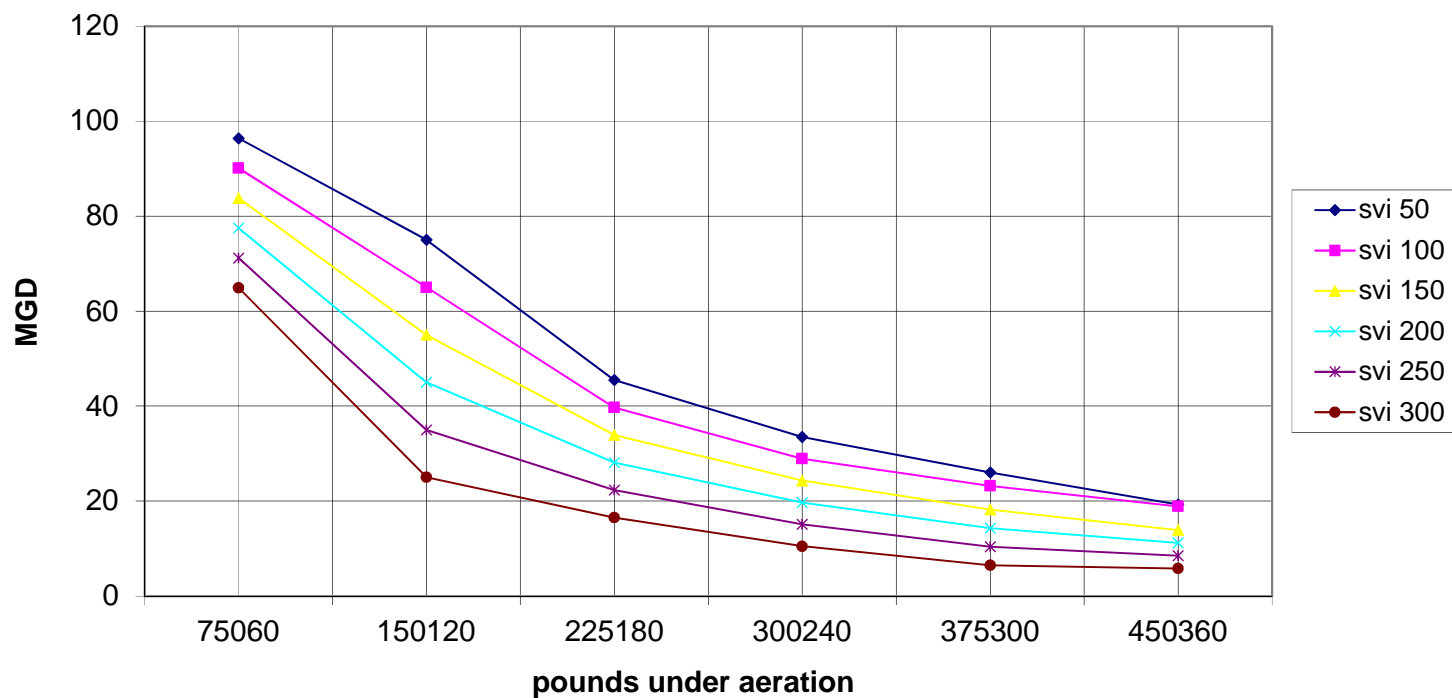
SECONDARY CLARIFIERS SSTs on-line 3

Depth of Blankets	Daily average	DOB by Operators
#1 #2 #3		#1 #2 #3
10.94 6.7 5.9		1st 7.0 5.0 6.0 5.0 5.0 3.0
		2nd 4.0 6.0 5.0 6.5 4.0 6.0
		3rd 14.0 12.0 13.0 12.0 13.0 12.0

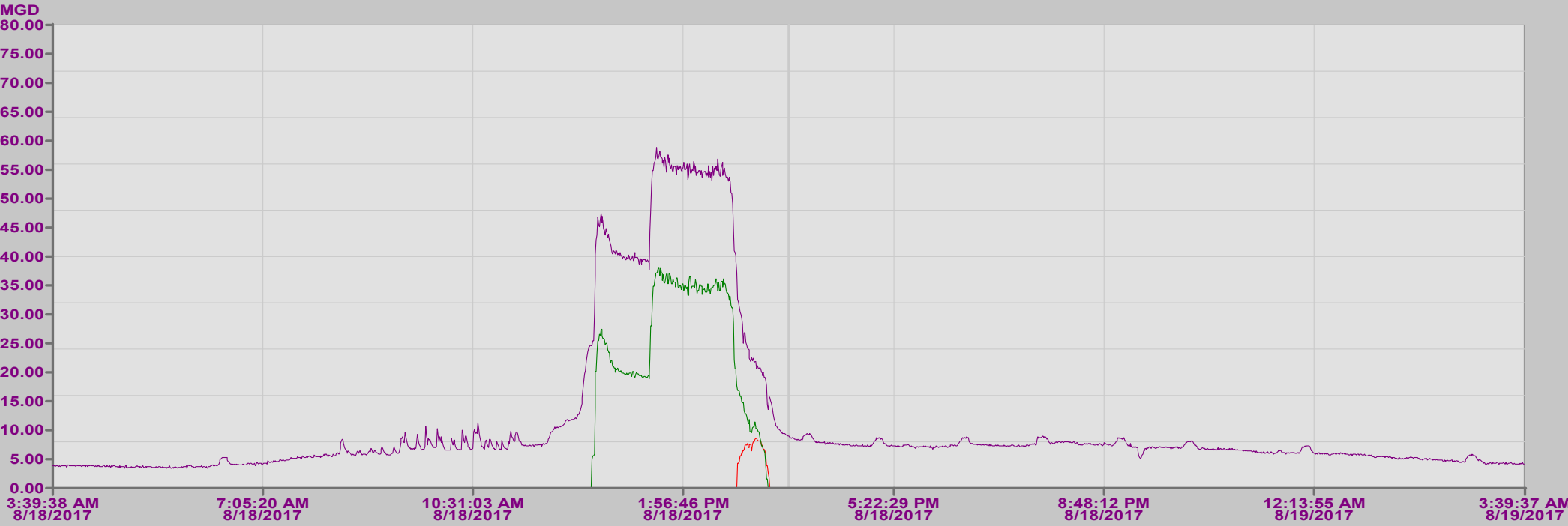
comments logbook for 8/18/2017
1/17/2018 9:32:27 AM

	Comment
1	<p>6:34:00 AM CONTROL_ROOM</p> <p>Primary and Secondary Plant Checks, Operating #2 DAF thru the Shift, Collected Composite Sample Gate Adjustment, Final Readings, IL</p>
2	<p>11:03:00 AM CONTROL_ROOM</p> <p>primary check, operating DAF #2, centrifuge process on-line...filling 2 sludge trailers today per fgh, cl out of #1 GT CW now, pumping primary scum, KMnO4 stations are both on-line...continuing to add N and 2 are both covered with thick FOG blanket...SE CHANNEL relatively clear of any substantial FOG degrees of FOG coverage, AM SC OSG adjustment made...90 - 60 - 92/95, pump station check...ma BAR RACKS in LOCAL in anticipation of forecasted rain, VR and AFP panels still have active alarms for LOWER SIPHON still has RIVER LEVEL HIGH/PROHIBIT CSO MODE alarm river level is at 4.5</p>
3	<p>2:10:00 PM CONTROL_ROOM</p> <p>#1 WWp failed (air bound) to come on during rain event as first lag...re-primed pump but not before M ~9%...UPPER SIPHON malfunctioned during rain event...Paul is on site, received ~5K gallons NaOC</p>
4	<p>2:34:00 PM PJESSEL</p> <p>CSO program currently is not working SG-120 and SG-220 will not move from 100%. CDMSmith is in and Lower Siphons. Paul Jessel will be monitoring CSO control during the upcoming rain storm. Once Thank You</p>
5	<p>2:53:00 PM CONTROL_ROOM</p> <p>by-pass activated at ~ 2:15 pm...incoming flow at 55mgd. nrp</p>
6	<p>3:53:00 PM PJESSEL</p> <p>CSO middle siphon will be running in simulation now 3:53 PM until 4:15 PM as CDM and I are testing t</p>
7	<p>4:06:00 PM PJESSEL</p> <p>CSO gates are now working in auto if you receive any alarms it is real one</p>
8	<p>4:28:00 PM CONTROL_ROOM</p> <p>Primary and secondary plant checks - Operating #2 centrifuge and #2 DAF - Started solids lab - High loaded with FOG's - Step screens still in local -----Jbev</p>
9	<p>7:36:00 PM CONTROL_ROOM</p> <p>Completed centrifuge run and started flush cycle, some cleaning in centrifuge room - Scheduled rain -----Jbev</p>

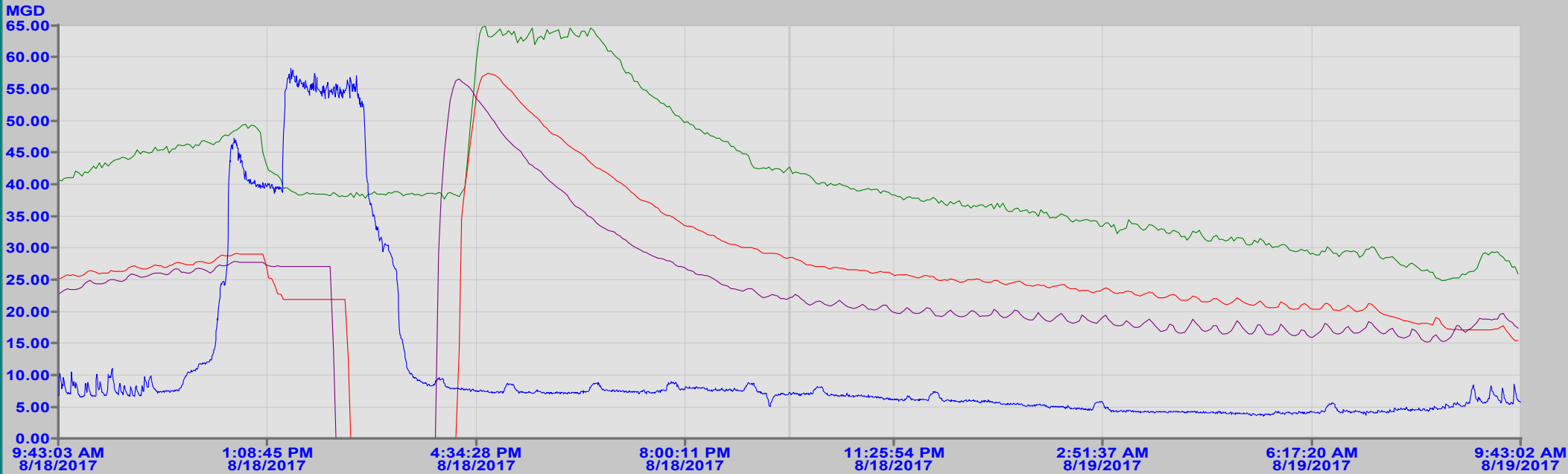
Capacity of Secondary System at 3ATs 3SSTs



date:	8/18/2017	Flow, MG	SVI	MLSS	lbs	sr oper	setting selected, MG
bypass start time:	2:49pm	55	470	2140	160000	nrp	43
bypass stop time:	3:20pm	15					



SECONDARY FLOW RATE (F_CV) 9.09 MGD
BYPASS FLOW (F_CV) 0.00 MGD
BYPASS FLOW AUTO SP (F_CV) 0.00 MGD
BYPASS CHLORINE (F_CV) 0.00 PPM



INFLUENT FLOW (F_CV)

SECONDARY CLARIFIER 1 SLUDGE BLANKET (F_CV)

SECONDARY CLARIFIER 2 SLUDGE BLANKET (F_CV)

SECONDARY CLARIFIER 3 SLUDGE BLANKET (F_CV)

SELECTED

7.20

HIGH

58.19

TIME LOW

3.59

AVG.

11.20

10.50

15.96

6.11

9.96

7.01

14.13

0.00

6.27

5.44

13.91

0.00

5.55

Switch to 7Days

Ack	Time In	Date In	Description	Value	Status
	07:58:15.041	1/17/2018	AERATION TR 2 RAS GATE FAULT	NORMAL	CFN
✓	20:54:45.487	1/16/2018	BLENDED SLUDGE TANK HIGH LEVE	ALARM	CFN
✓	17:22:37.111	1/14/2018	UPPER SIPHON CSO LEVEL HIGH	HIGH	CFN
✓	11:04:04.027	1/14/2018	UPPER SIPHON RIVER LEVEL HIGH	ROHIBIT CSO	CFN
✓	07:15:52.628	1/14/2018	PUMP STATION WW PUMP 4 CONE WIL TO CLOSE		CFN
✓	07:44:02.308	1/14/2018	PUMP STATION WW PUMP 4 USED TRIP TO CLOSE		CFN

Total Alarms: 18 Filter: Off Sort: Time In, Descending Run

BYPASS EVENT: 2017-21

HAVERHILL, MA - WWTP - DAILY LOG

Date: 09/06/17

	SENIOR OPERATOR:	Primary Operator:	Centrifuge	Secondary Operator
1st	William Paszko	Waino Waisanen	Norm Paquette	
2nd	Isaiah Lewis	kevin Rutledge	Norm Paquette	Walter Alce
3rd	Tom Riley	Walter Alce	Waino Waisanen	

WEATHER: Hi: 86 Lo: 64 Ob: 64
 Rain: Snow: Conditions: artly Cloudy snowcover

LAB	Mark B
INFLUE	Q,Daily Total
	17.49
	MAX
	64.32
	MIN
	3.46
Q,byp	start/stop times am or pm & Q
Q,byp Status	inactivated
Q,bypa	4.46 Q to 2nd
	13.03

PRIMARY SCUM LEVEL: SCREENINGS CARTS:

	Old	New	Plant	Pump Station	Grit quity
1st	16.44	5.32	3		9 yd3
2nd	16.55	5.73	3/0	2/0	
3rd	16.55	10.21	0	0	

PLANT (*1600) POWER	Centrifuge:	466
End 1st KVA (06) KW (06)	Primary:	5708
End 2nd KVA (06) KW (06)	Secondary:	3353
End 3rd KVA (06) KW (06)	Aeration:	0
COLLECTOR SPEED	Total:	18111

#1	#2	#3
1st off slow slow		
2nd off slow slow		
3rd off slow slow		
PSTs on-line	2	

Gravity Thickeners DOB:	Torque:
#1	#1
#2	#2
1st 5 4 n/a n/a	
2nd 5 5 n/a n/a	
3rd 5 4	

12 Mid PUMP STATION (*450) POWER
12 Mid Start 1st KW(06) KVA(
12 Mid Start 2nd KW(06) KVA(
12 Mid Start 3rd KW(06) KVA(

AERATION: Dissolved Oxygen

ATs on-line 3
#1 AT#1 infl do avg 2.6
#3 AT#1 effl do avg 2.2
#4 AT#2 infl do avg 2.4
#6 AT#2 effl do avg 2.4

Weekly Septage Pumped Gals

SEPTAGE LEVEL
1st 8.22 ft
2nd ft
3rd ft

Cl2 vol	Tank #1	Tank #2	TWAS LEVELS:
1st	830		#1 #2 #3
2nd	587		1st 5 5 12
3rd	3697	435	2nd 10 10 14
Total	508 Gallons		3rd

Dosage Setpoint	Inplant
Effluent Cl2, mg/l	3.90
	CHLORINE RESIDUAL:
	0.23 mg/l

CHEMICALS:	Sodium Hypo 12	Polymer dry 163	Polymer liq. 894
		Hydroxide 19	Alpha Lox 15 drums

SECONDARY SCUM:	#1	#2	#1	#2	#1	#2
	7.0	8	5	6	8.9	7.9
RAS# SC#						
	0.00	2.54	2.81	2.81		

SECONDARY CLARIFIERS SSTs on-line 3

Depth of Blankets	Daily average	DOB by Operators
#1	#2	#3
7.15	8.3	7.4
1st	3.0	2.0
2nd	2.0	11.0
3rd	8.0	7.0

comments logbook for 9/6/2017
1/17/2018 9:33:32 AM

Comment	
1	<p>6:06:00 AM CONTROL_ROOM weather info; collected composite samples; plant checks; chemical inv; operating DAF #2 thru the modes; adding hypo to both GT's; placed Bar Racks in continuous modes; Waino Waisanen staying #1 to keep PS Pump #1 pumping; .11 mg/l hypo residual at 5 am, increased hypo dosage to 3.00 mg am; wp</p>
2	<p>2:04:00 PM CONTROL_ROOM Primary and Secondary Plant Checks, Operating #1 Centrifuge and #2 DAF, Breaking up Grease Ch Step Screens in Local Mode, Removed Large Rolling Bail from Step Screen #2, Emptied Grit, Three Carts, RAS rates up to 3.25mgd, #2 Septage Pump is now Available, Secondary Wash Out - SC Gate Reset AT Blower #5 VFD Failure Alarm, Changed Out two Screenings carts and Changed bag on Ste Readings, IL</p>
3	<p>3:52:00 PM CONTROL_ROOM Plant checks, rain still in area, Walter + Brasier splitting rain event, Walter /Riley doing solids labs, Q flushed Grit pumps, DAF + centrifuge running, P.Station checked, monitoring #1 PT and sludge pump</p>
4	<p>4:47:00 PM CONTROL_ROOM Lost prime for #1 PS pump/flushed and restarted, Q = 104gpm, tjr</p>
5	<p>8:03:00 PM CONTROL_ROOM 2nd set of blankets, flushed grit pumps again, Labs completed, step screens in auto/ break in rain till coverage,tjr</p>
6	<p>8:08:00 PM CONTROL_ROOM No mention of sludge spill today in garage in daily log or run sheet ??</p>

BYPASS EVENT: 2017-22

HAVERHILL, MA - WWTP - DAILY LOG

Date: 09/07/17

	SENIOR OPERATOR:	Primary Operator:	Centrifuge	Secondary Operator
1st	William Paszko	Kevin Rutledge	Norm Paquette	
2nd	Isaiah Lewis	Walter Alce	Norm Paquette	Kevin Rutledge
3rd	Tom Riley		Waino Waisanen	

WEATHER: Hi: 72 Lo: 59 Ob: 60
 Rain: 2.23 Snow: snowcover
 Conditions: Cloudy

LAB	Mark B
INFLUE	Q,Daily Total
	16.34
	MAX
	65.00
	MIN
	6.32
Q,byp	start/stop times am or pm & Q
Q,byp Status	activated
Q,bypa	4.80 Q to 2nd
	11.54

PRIMARY SCUM LEVEL: SCREENINGS CARTS:

	Old	New	Plant	Pump Station	Grit quity
1st	16.49	8.20	2		10 yd3
2nd	16.49	10.21	2	0	
3rd	16.49	10.21	3		

PLANT (*1600) POWER	Centrifuge:	423
End 1st KVA (06) KW (06)	Primary:	5177
End 2nd KVA (06) KW (06)	Secondary:	3142
End 3rd KVA (06) KW (06)	Aeration:	0
COLLECTOR SPEED	Total:	16696

#1	#2	#3
1st off slow slow		
2nd off slow slow		
3rd off slow slow		
PSTs on-line	2	

Gravity Thickeners DOB:	Torque:
#1 #2 #1 #2	
1st 6 6 n/a n/a	
2nd 6 6 n/a n/a	
3rd 5 5	

12 Mid PUMP STATION (*450) POWER
12 Mid Start 1st KW(06) KVA(
12 Mid Start 2nd KW(06) KVA(
12 Mid Start 3rd KW(06) KVA(

AERATION: Dissolved Oxygen

ATs on-line 3
#1 AT#1 infl do avg 3.8
#3 AT#1 effl do avg 2.5
#4 AT#2 infl do avg 3.1
#6 AT#2 effl do avg 3.3

Weekly Septage Pumped Gals

SEPTAGE LEVEL
1st 5.19 ft
2nd ft
3rd ft

Cl2 vol	Tank #1	Tank #2	TWAS LEVELS:
1st	3477		#1 #2 #3
2nd	3344		1st 5 5 10
3rd	3227		2nd 11 13 14
Total	444 Gallons		3rd 8 7 9

Dosage Setpoint	Inplant
Effluent Cl2, mg/l	2.50
	____/____/____
	____/____/____

CHLORINE RESIDUAL:

0.60 mg/l

CHEMICALS:	Sodium Hypo 12	Polymer dry 158	Polymer liq. 654
		Hydroxide 19	Alpha Lox 15 drums

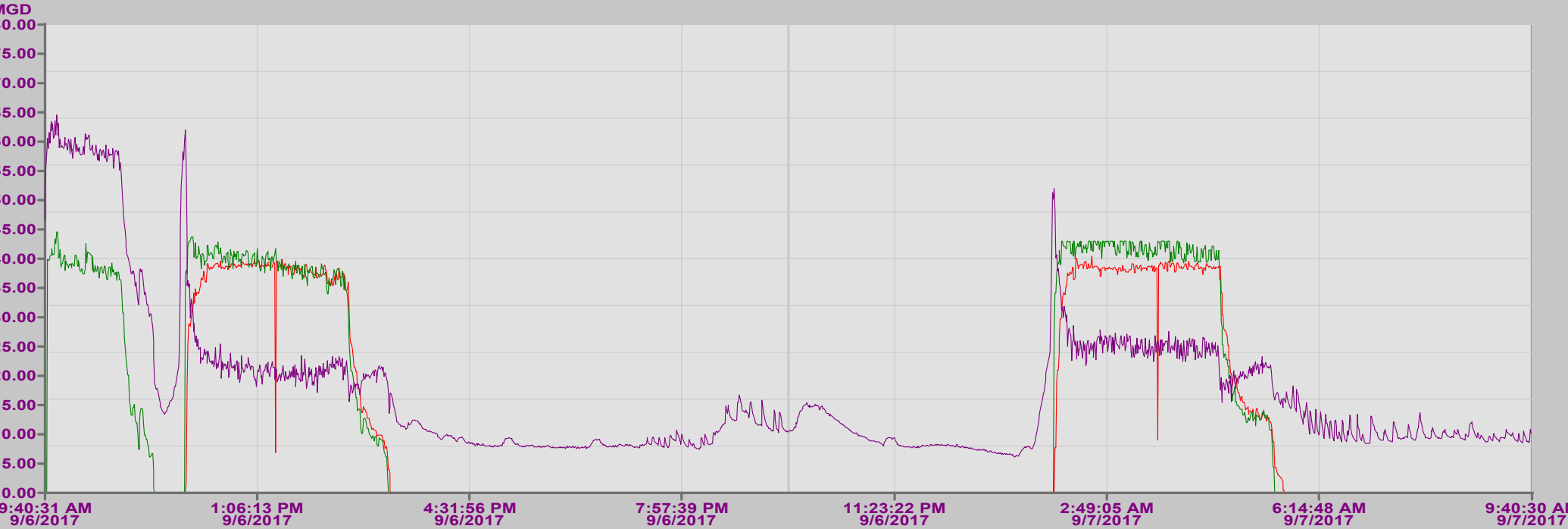
SECONDARY SCUM:	#1 #2 #1 #2 #1 #2
	6.0 6 8.2 8.4 6.7 6.1
RAS# SC#	RAS# SC# RAS# SC#
	0.00 2.92 2.66 2.66

SECONDARY CLARIFIERS SSTs on-line 3

Depth of Blankets	Daily average	DOB by Operators
#1 #2 #3		#1 #2 #3
6.45 6.9 6.8		1st 5.0 5.0 5.0 6.0 6.0 7.0
		2nd 6.0 4.5 6.0 5.5 5.0 5.5
		3rd 5.0 5.0 6.0 6.0 6.0 6.0

comments logbook for 9/7/2017
1/17/2018 9:34:01 AM

Comment	
1	6:20:00 AM CONTROL_ROOM weather info; collected composite samples; plant checks; chemical inv; operating DAF #2 thru the modes; adding hypo to both GT's; KR on shift for a rain event; Secondary By-Pass started at 2 am screens and grit flows thru the shift; 1.23 mg/l hypo residual a 5 am, lowered dosage hypo to 3.00 m racks back auto modes; sludge hauler in at 6 am; emptied grit hopper; wp
2	7:41:00 AM CONTROL_ROOM liquid polymer delivery was 2310 gallons...2500 gallons were ordered...protocol was followed in recei
3	10:28:00 AM CONTROL_ROOM regarding tom riley's entry on 9-6-17 pertaining to sludge spill in sludge garage, the spill was cleaned up action was completed before the end of the shift it happened on and did not run into the following properly disposed of into a sludge trailer. the entry by riley seems very petty and trivial. nrp
4	1:55:00 PM CONTROL_ROOM Primary and Secondary Plant Checks, Operating #1 Centrifuge (only one Trailer) and #2 DAF, Maint Suction plugged with Grease - Scheduled Collections with Jet Truck for the morning, Permanganate needs an oil Change WO#15008, Final Readings, IL
5	2:28:00 PM CONTROL_ROOM Recieved Liquid Poly Delivery, IL
6	5:27:00 PM CONTROL_ROOM Plant checks completed, DAF running, blending for tomorrows run, completed centrifuge run, Labs st
7	9:43:00 PM CONTROL_ROOM Light rain @9:00 pm, 2nd set blankets, Lab completed ,tjr



SECONDARY FLOW RATE (F_CV)	10.47	MGD
BYPASS FLOW (F_CV)	0.00	MGD
BYPASS FLOW AUTO SP (F_CV)	0.00	MGD
BYPASS CHLORINE (F_CV)	0.00	PPM



Switch to 7Days



PLANT INFLUENT FLOW

CITY OF HAVERHILL, MA - WWTF

LOGIN

1/17/2018

9:44:06 AM

ALARMS

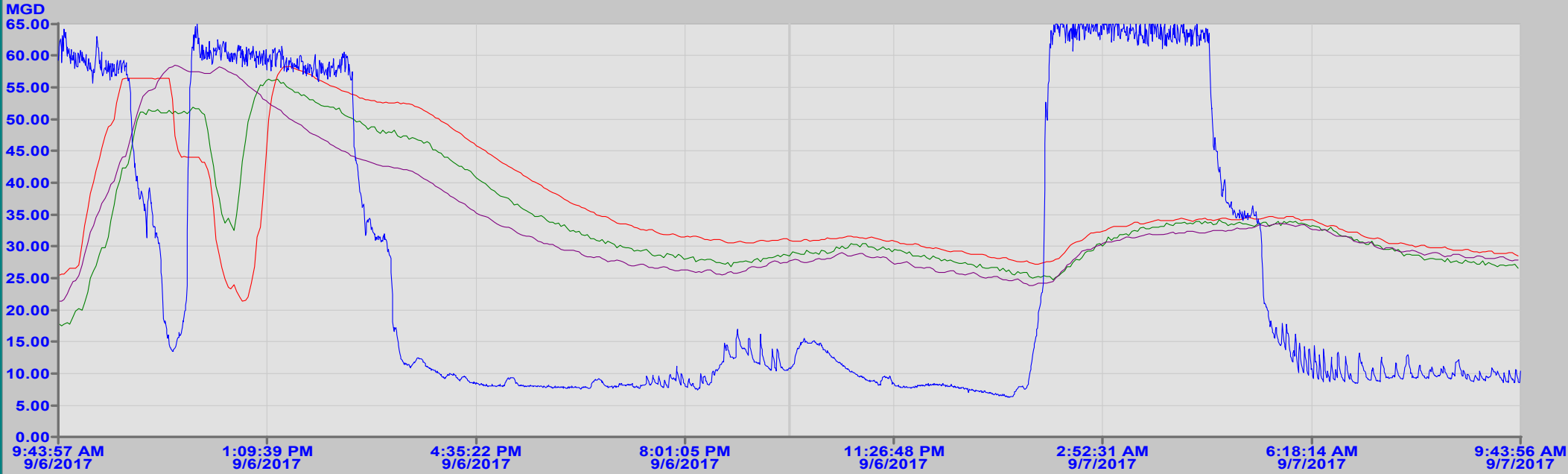
MAIN MENU

HISTORY MENU

MAIN PUMP STAT

INF. FLOW

13.40 MGD



INFLUENT FLOW (F_CV)	SELECTED	HIGH	TIME LOW	AVG.
SECONDARY CLARIFIER 1 SLUDGE BLANKET (F_CV)	10.83	65.00	6.27	26.40
SECONDARY CLARIFIER 2 SLUDGE BLANKET (F_CV)	7.00	13.86	4.29	8.47
SECONDARY CLARIFIER 3 SLUDGE BLANKET (F_CV)	7.61	14.36	5.26	9.00
SECONDARY CLARIFIER 3 SLUDGE BLANKET (F_CV)	6.81	14.39	5.26	8.32

Switch to 7Days

Ack	Time In	Date In	Description	Value	Status
	07:58:15.041	1/17/2018	AERATION TR 2 RAS GATE FAULT	NORMAL	CFN
✓	20:54:45.487	1/16/2018	BLENDED SLUDGE TANK HIGH LEVE	ALARM	CFN
✓	17:22:37.111	1/14/2018	UPPER SIPHON CSO LEVEL HIGH	HIGH	CFN
✓	11:04:04.027	1/14/2018	UPPER SIPHON RIVER LEVEL HIGH	ROHIBIT CSO	CFN
✓	07:15:52.628	1/14/2018	PUMP STATION WW PUMP 4 CONE WIL TO CLOSE		CFN
✓	07:14:02.308	1/14/2018	PUMP STATION WW PUMP 4 USED TRIP TO CLOSE		CFN

Total Alarms: 18 Filter: Off Sort: Time In, Descending Run

