



Haverhill

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April 28, 2017

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

Subject: City of Haverhill, MA NPDES Permit #MA 0101621
Consent Decree Submittal (Civil Action No. 16-11698-IT)
Compliance Report July – December 2016

Dear Ms. Hilton:

Enclosed is the Compliance Report No. 1 as required by Section IX.67 of the Consent Decree (CD). This report is for the July through December 2016 reporting period.

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

Sincerely,

Robert E. Ward
Deputy DPW Director

cc: Chief, Environmental Enforcement Section, U.S. DOJ
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CITY OF HAVERHILL, MASSACHUSETTS
NPDES PERMIT No. MA0101621
CONSENT DECREE
(16-11698-IT, 11/10/16)

COMPLIANCE REPORT No. 1
JULY THROUGH DECEMBER 2016

APRIL 2017



CITY OF HAVERHILL, MASSACHUSETTS
NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM
PERMIT No. MA0101621
CONSENT DECREE
(16-11698-IT, 11/10/2016)
COMPLIANCE REPORT No. 1
JULY THROUGH DECEMBER 2016

TABLE OF CONTENTS

SECTION	DESCRIPTION	PAGE
1	INTRODUCTION	
	1.1 Background	1-1
	1.2 Report Organization	1-1
	1.3 Certification Statement	1-2
2	IDDE Program	
	2.1 Introduction	2-1
	2.2 Current Revised Priority Listing	2-1
	2.3 IDDE Investigation Progress Reporting	2-3
	2.4 Identified Illicit Connections and Current Resolution Status	2-3
3	SSO AND BUILDING PRIVATE PARTY BACKUP EVENTS	3-1
4	CONSTRUCTION SITE INSPECTION AND ENFORCEMENT PROGRAM	4-1
5	GENERAL STATUS	
	5.1 Introduction	5-1
	5.2 Issues of Noncompliance	5-2
	5.3 Looking Ahead - Six Month Forecast	5-2
6	SECONDARY TREATMENT BYPASS	
	6.1 Introduction	6-1
	6.2 Bypass Events	6-1
	6.3 Rainfall Data	6-3

TABLE OF CONTENTS (CONTINUED)

APPENDICES

- A MAINTSTAR GENERATED WORK ORDERS -
OUTFALL INSPECTIONS
- B MAINTSTAR GENERATED WORK ORDERS -
OUTFALL INVESTIGATIONS

LIST OF TABLES

TABLE	DESCRIPTION	PAGE
2-1	PRIORITIZED LIST OF OUTFALL SUB-AREA INVESTIGATIONS.....	2-2
2-2	SUMMARY OF IDDE INVESTIGATIONS OF SYSTEMS WITH POTENTIAL ILLICIT CONNECTIONS BY BASIN .	2-5
2-3	SUMMARY OF ILLICIT DISCHARGES IDENTIFIED BY BASIN AND CURRENT STATUS (JULY THROUGH DECEMBER 2016)	2-7
3-1	SANITARY SEWER OVERFLOW EVENTS JULY THROUGH DECEMBER 2016.....	3-2
3-2	BUILDING/PRIVATE PARTY BACKUP EVENTS JULY THROUGH DECEMBER 2016.....	3-3
5-1	SUBMISSIONS WITHIN CURRENT REPORTING PERIOD	5-1
5-2	FUTURE DELIVERABLES DURING THE PROCEEDING REPORTING PERIOD (JANUARY THROUGH JULY 2017)	5-2
6-1	SECONDARY TREATMENT BYPASS EVENTS	6-2
6-2	WPAF MONTHLY TOTAL SUSPENDED SOLIDS (TSS) SURPLUS & DEFICITS	6-3

LIST OF FIGURES

FIGURE	DESCRIPTION	PAGE
3-1	SSO AND BUILDING/PRIVATE PARTY BACKUP LOCATIONS JULY THROUGH DECEMBER 2016.....	3-6

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

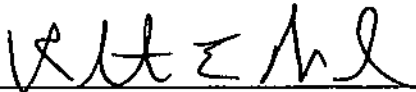
The Compliance Report is divided into several sections including:

- IDDE Program
- SSO and Building/Private Party Backup Events
- Construction Site Inspection and Enforcement Program
- General Status
- Secondary Treatment Bypass

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

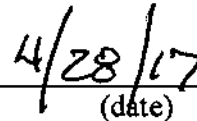
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage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

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, 36 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, however as of the date of this Compliance Report, EPA and MassDEP have not yet provided comments or approval to the City.

2.2 CURRENT REVISED PRIORITY LISTING

A summary of the Priority Outfall Investigations list, which was adopted from the “2014/2015 Stormwater Outfall Inspection Program Report” is provided in Table 2-1. This updated table shows the prioritized schedule for upstream sub-area investigations (for outfalls with problematic dry weather flow quality) and includes revisions for outfalls with dry weather flows that were identified after the 2014/2015 inspection program. There are now 38 outfalls that require further upstream investigations to identify any potential illicit connections. Priority level is based on the E. coli and Enterococci Coliform bacteria concentration levels tested during dry weather flow.

**TABLE 2-1
PRIORITIZED LIST OF OUTFALL SUB-AREA INVESTIGATIONS
(BASED ON OUTFALL INSPECTION PROGRAM)**

Outfall GIS ID	Receiving Waters	MaintStar Work Order #	Address	Date	Bacteria (MPN/100ml)	Priority
				E.coli ²		
UNK0955	Unnamed Water Body	ST00000200	Near 746 South Main street	9/21/2015	>48,000	HIGH
PL0891	Pentucket Lake	ST00000202	Near Main & Marsh Ave	9/9/2015	>24,000	
UNK1767	Unnamed Water Body	ST00000207	Near 6 Tudor CT	9/21/2015	14,000	
UNK0951	Unnamed Water Body	ST00000199	Near 70 Woodcock Ave	9/9/2015	4,611	
UNK1821 ¹	Unknown	ST00000208	Farrwood Dr @ Arrowood Way	11/5/2014	>2,441	
DPI0946	Detention Pond Inlet	ST00000491	Brook ST & High school detention pond	12/1/2015	>2,420	
UNK0788	Unnamed Water Body	ST00000337	784 West Lowell Ave	9/30/2014	>2,420	
MR1141	Merrimack River	ST00000196	Near 715 River St	9/30/2014	>2,420	
DPO0696	Detention Pond Outlet	ST00000295	Behind 445 Lake Street	6/12/2015	>2,419	
DPI1094	Detention Pond Inlet	ST00000114	Near 187 Orchard Hill Road	10/20/2014	>2419.6	
MR1138	Merrimack River	ST00000197	747 River Street	9/30/2014	2,420	
LR1260	Little River	ST00000444	Behind 140 Hale Street	11/4/2015	1,986	MEDIUM
WMBO759	West Meadow Brook	ST00000204	West Meadow Road	11/5/2014	1,986	
UNK0954	Unnamed Water Body	ST00000203	South Main Street add to UNK0955	10/20/2014	1,300	
UNK1166	Unnamed Water Body	ST00000201	Franzone Drive	10/6/2014	1,300	
UNK1177	Unnamed Water Body	ST00000191	Near 605 South Main	10/6/2014	1,300	
DPO1007	Detention Pond Outlet	ST00000192	Near 8 Kenilworth LN	10/20/2014	1,218	
UNK1734	Unnamed Water Body	ST00000206	Presidential Drive	10/20/2014	1,188	
LR0993	Little River	ST00000456	Near 100 Newark St	12/1/2015	1,046	
JC1028 ¹	Johnston's Creek	ST00000194	18 Kaliway	10/20/2014	1,046	
UNK1835	Unnamed Water Body	ST00000294	Broadway @ Glenview RD	6/12/2015	980	LOW
LR1103	Little River	ST00000195	Near 141 Bennington St	9/16/2014	921	
BZB0847	Buswell Pond	ST00000487	Near 46 Fermanagh St	11/13/2014	770	
UNK1735	Unnamed Water Body	ST00000205	Presidential Drive	10/20/2014	649	
MR0982	Merrimack River	ST00000445	River RD @ Back LN septic systems	11/4/2015	548	
UNK0894 ¹	Unnamed Water Body	ST00000190	Near 261 Neck Road	10/6/2014	461.1	
MR1164 ¹	Merrimack River	ST00000386	Bethany Ave Stormwater/CSO Combined Outfall	8/31/2015	461	
DPO1079 ¹	Detention Pond Outlet	ST00000332	Near 6 Amy Lynne LN	7/7/2015	436	
FBO0638	Fishing Brook	ST00000333	Near 888 Hilldale Av	7/7/2015	435	
UNK0668	Unnamed Water Body	ST00000293	Near 26 Danielle Dr	6/12/2015	435	
PL1222	Pentucket Lake	ST00000286	West Gile @ North Ave	6/5/2015	411	
UNK0661	Unnamed Water Body	ST00000198	Near 7 Parkridge Rd	11/13/2014	365	
MR32720	Merrimack River	ST00000457	Near 782 River St	12/1/2015	326	
MR20718	Merrimack River	ST00000387	Wall Street	8/31/2015	631	
UNK0836	Unnamed Water Body	ST00000334	Beechwood Dr @ Juniperwood DR	7/7/2015	326	
UNK1063 ¹	Unknown	ST00000287	End of Crystal Ct	6/5/2015	344.8	
MR24314	Merrimack River	ST00000460	Near Water & Groveland St.	9/9/2015	Enterococci >24,190	HIGH
MR1109	Merrimack River	ST00000492	Near 354 Water St.	12/1/2015	Enterococci > 2,420	

¹ Recently added Catchments

² Bacteria Concentrations are for E. Coli; unless otherwise labeled as Entrococci.

2.3 IDDE INVESTIGATION PROGRESS REPORTING

Using the Priority Listing in Table 2-1 as a guide, the City's progress to date of their IDDE investigations during the reporting period (July through December 2016) is shown in Table 2-2.

Using GIS, the City identified a total of 20.89 miles of storm drain piping and 2,560 drainage manholes in the tributary drainage area upstream of the 38 outfalls requiring further investigations. 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 will be updated in subsequent Compliance Reports. Investigations of each basin were performed using the procedures as outlined in the Revised IDDE Manual.

As summarized in Table 2-2, the City's IDDE investigations have currently addressed 49% and 46% of the identified drain piping and manholes, respectively. Since this is the first Compliance Report as part of the Consent Decree, the Reporting Period and cumulative investigations-to-date are the same values.

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 are summarized in Table 2-3.

Prior to the Consent Decree effective date, the City removed illicit discharges from five single family homes along Columbia Park that were identified upstream of Outfall UNK1188.

To date, the city has identified three illicit connections in the upstream tributary areas of the Merrimack and Pentucket Lake Basins. The three identified illicit connections are:

- Merrimack River Basin
 - Outfall MR24314 - Investigations identified three (3) homes along Groveland and Water Streets connected to the stormwater system. These illicit connections were removed by

connecting the three homes into a new 8-inch gravity sewer main, which was completed in November 2016 at an estimated cost of \$12,788.

- Outfall MR1164 - (Outfall is combined with the Bethany Avenue CSO) - The City has determined that the dry weather flow at the outfall is likely a result of groundwater entering the stormwater system. The source appears to be from a retaining wall system in the Market Basket loading dock area. The City plans to confirm that this is the source of the bacterial contamination with additional Enterococci testing that will be conducted in the Spring of 2017. A report summarizing the Bethany Avenue CSO investigation was sent to EPA and MassDEP on January 6, 2017.
- Pentucket Lake Basin
 - Outfall PL0891 - An existing parallel sewer in poor physical condition was identified and found to be exfiltrating into the adjacent storm drain. The entire sewer main, approximately 1,650 linear feet, must be rehabilitated or replaced. The City has scheduled and budgeted the pipe rehabilitation to take place within Fiscal Year 2018, with an anticipated completion date of June 2019. The estimated cost for engineering, design, bid, and construction of the project is \$442,530. The City has notified the USEPA and MassDEP of the project's intended scope, estimated costs, and schedule for elimination of this illicit discharge in a letter dated January 5, 2017.

TABLE 2-2
SUMMARY OF IDDE INVESTIGATIONS OF SYSTEMS WITH POTENTIAL ILLICIT CONNECTIONS BY BASIN

Basin ID	Outfall ID	Existing System Estimates		Upstream Basin Investigations (July 2016 to Dec 2016)				Upstream Basin Investigations COMPLETED TO DATE			
		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								
Detention Pond Outlet	DPO0696	61	2	61	100%	2	100%	61	100%	2	100%
	DPO1079	37	2								
Detention Pond Outlet TOTAL		98	4	61	62%	2	50%	61	62%	2	50%
Detention Pond Inlet	DPI1007	1,634	24								
	DPI1094	22	2								
	DPI0946	7,421	172	7,421	100%	172	1	7,421	100%	172	1
Detention Pond Inlet TOTAL		9,077	198	7,421	82%	172	87%	7,421	82%	172	87%
Fishing Brook	FBO0638	852	24								
Fishing Brook TOTAL		852	24								
Johnston's Creek	JC1028	1,397	26								
Johnston's Creek TOTAL		1,397	26								
Little River	LR0952	7,268	170								
	LR1103	4,418	62								
	LR1260	26,134	614								
	LR0993	539	8								
Little River TOTAL		38,359	854								
Merrimack River	MR0982	128	6								
	MR1109	941	26								
	MR1138	289	18	289	100%	18	100%	289	100%	18	100%
	MR1141	3,899	104	3,899	100%	104	100%	3,899	100%	104	100%
	MR1164	1,746	116								
	MR20718	NA									
	MR32720	NA									
	MR24314	541	24	541	100%	24	100%	541	100%	24	100%
Merrimack River TOTAL		7,544	294	4,729	63%	146	50%	4,729	3239%	146	29400%
Pentucket Lake	PL0891	5,463	128	5,463	100%	128	100%	5,463	100%	128	100%
	PL1222	3,292	102								
Pentucket Lake TOTAL		8,755	230	5,463	62%	128	56%	5,463	62%	128	56%

**TABLE 2-2
(CONTINUED)**

Basin ID	Outfall ID	Existing System Estimates		Upstream Basin Investigations (July 2016 to Dec 2016)				Upstream Basin Investigations COMPLETED TO DATE			
		Length of Pipe (ft)	Number of Manholes	Pipe (ft)	Percent Completed	Manholes	Percent Completed	Pipe (ft)	Percent Completed	Manholes	Percent Completed
Unknown	UNK0661	410	14								
	UNK0668	854	36								
	UNK0788	869.08	16	869	100%	16	100%	869	100%	16	100%
	UNK0836	842	22								
	UNK0894	648	10								
	UNK0951	1,910	34	1,910	100%	34	100%	1,910	100%	34	100%
	UNK0954	81	2								
	UNK0955	6,058	146	6,058	100%	146	100%	6,058	100%	146	100%
	UNK1020	71	4								
	UNK1063	49	2								
	UNK1166	1,079	28								
	UNK1177	156	4								
	UNK1188	25,926	470	25,926	100%	470	100%	25,926	100%	470	100%
	UNK1734	334	12								
	UNK1735	80	2								
	UNK1767	2,077	52	2,077	100%	52	100%	2,077	100%	52	100%
	UNK1821	336	8								
	UNK1835	761	20								
Unknown TOTAL		42,541	882	36,840	87%	718	81%	36,840	87%	718	81%
West Meadow Brook	WMB0759	20	2								
West Meadow Brook TOTAL		20	2								
GRAND TOTAL		110,340	2,560	54,514	49%	1,166	46%	54,514	49%	1,166	46%
		20.89 mi.		10.32 mi.				10.32 mi.			

**TABLE 2-3
SUMMARY OF ILLICIT DISCHARGES IDENTIFIED BY BASIN AND CURRENT STATUS
(JULY THRU DECEMBER 2016)**

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	67a.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	Addres 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)	
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	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 2016), are shown in Tables 3-1 and 3-2, respectively, as well as a GIS Map showing their locations in Figure 3-1.

Over the Reporting Period, there were a total of 71 reported SSO and building/private party backup events, with only eight associated with the City's sewer system. This is more than a 50% reduction in the number of backup events associated with the City compared to the number of occurrences in 2015.

Of the eight SSO's associated with the City, two had occurred previously and the City is addressing them as follows:

- SSO 16-16: Added to a preventive maintenance schedule.
- SSO 16-25: A failing downstream sanitary manhole will be replaced in the Summer of 2017.

The remaining six SSO events occurred for the first time during this Reporting Period; with one having since been permanently eliminated.

TABLE 3-1
SANITARY SEWER OVERFLOW EVENTS
JULY THROUGH DECEMBER 2016

SSO Ownership City or Private	MaintStar Work Order	SSO ID	SSO Address	Start Date/Time	End Date/Time	Date Reported EPA/DEP	Who notified	Reason for occurrence	Date of last SSO occurrence	SSO est. vol.	Receiving Waters if sewerage entered	Method Use to Estimate volume	Nearest CB location ID	Distance to Nearest CB (ft.)	Name of receive Water whether or not there was a release	Entered CB Yes or No	MEASURED TAKEN STOP SSO	Decontaminate	Measured taken to prevent future overflows	SEWERAGE LOCATION INTO STREAM
CITY	WW00000727	SSO-16-16	105 Crosby st	8/7/2016 6:00 PM	8/7/2016 6:30 PM	8/8/2016 8:00 AM	Neighbor	DEBRIS IN SEWER MAIN	5/8/2015 3:00 PM	10	NONE	Visual	CB-3666	96	SNOW BROOK	NO	flushed city line	YES	Preventative Maintenance	NONE
CITY	WW00000730	SSO16-17	Washington Square	8/16/16 10:30AM	8/16/16 11:00AM	8/17/2016 7:30 AM	City Crew	UNKNOWN	First Occurrence	3,000	MERRIMACK RIVER	Visual		0	MERRIMACK RIVER	NO	Turn on Second By-pass Pump	NO		MR22712
CITY	WW00000731	SSO-16-18	Locke St 021D	8/17/2016 3:55 PM	8/17/2016 8:00 PM	8/18/2016 9:30 AM	Paul Jessel	12-in siphon plugged	First SSO Occurrence	28,833	LITTLE RIVER	Preliminary flow CSO meter	CB-4380	17	LITTLE RIVER	NO	Place plug in 12-in sewer	NO	CSO is no brick up	021D
CITY	WW00000744	SSO-16-19	Chestnut st .	9/1/16 -06:40	9/1/2016 7:30 AM	9/2/2016 9:30 AM	Paul Jessel	DEBRIS IN SEWER MAIN	First Occurrence	12,274	MERRIMACK RIVER	Meter and visual	CB-3811	115	MERRIMACK RIVER	YES	Flushing	YES		MR1746
CITY	WW00000789	SSO-16-21	North Ave	10/13/2016 7:30 AM	10/13/2016 8:00 AM	10/13/2016 2:30 PM	Fred Haffty	DEBRIS IN SEWER MAIN	First Occurrence	500	FREY'S POND	Visual	CB#3937	10	FREY'S POND	YES	Flushed city main	YES	Flush sewer main	FR0919
CITY	WW00000800	SSO-16-22	9 -11 Bates Rd.	11/6/2016 3:30 PM	11/6/2016 4:15 AM	11/7/2016 9:15 AM	Paul Jessel	DEBRIS IN SEWER MAIN	First Occurrence	100	Basement	Visual	CB-7641	150	UNKNOWN	YES	flushed city line	YES	flushed city line	
CITY	WW00000818	SSO-16-24	40 SOUTH PORTER	11/18/2016 3:45 PM	11/18/2016 15:15PM	11/19/2016 9:15 AM	Paul Jessel	UNKNOWN	First Occurrence	100	MERRIMACK RIVER	VISUAL	CB-7895	168	MERRIMACK RIVER	YES	Was stop when we arrived	YES	notify Septage Company	Drainage Swale MR23515
CITY	WW00000842	SSO-16-25	129 Carleton Street Lift Station	12/30/2016 12:30 PM	12/30/2016 16:00PM	12/30/2016 7:30 AM	Paul Jessel	DEBRIS IN SEWER MAIN	4/8/2016	14,000	Unknown	Visual	CB-3939	152	CREEK BROOK	NO	Turn Pumps back on	YES	Replace SMH- 2234	Near SMH-2960
PRIVATE	WW00000771	SSO-16-20	35 Naples rd.	9/23/16 14O00	9/23/2016 3:00 PM	9/24/2016 10:30 AM	Resident	MECHANICAL FAILURE	First Occurrence	50	MERRIMACK RIVER	visual	CB-4311	322	MERRIMACK RIVER	NO	Reset pumps	YES	Resident needs to maintain	MR1138
PRIVATE	WW00000801	SSO-16-23	594 Broadway	11/8/2016 4:30 PM	11/8/2016 6:00 PM	11/9/2016 8:15 AM	Paul Jessel	Grease trap not cleaned	First Occurrence	75	none	Visual	CB-3443	65	Creek Brook	NO	Pumped out grease trap	YES	Needs maintenance plan	none

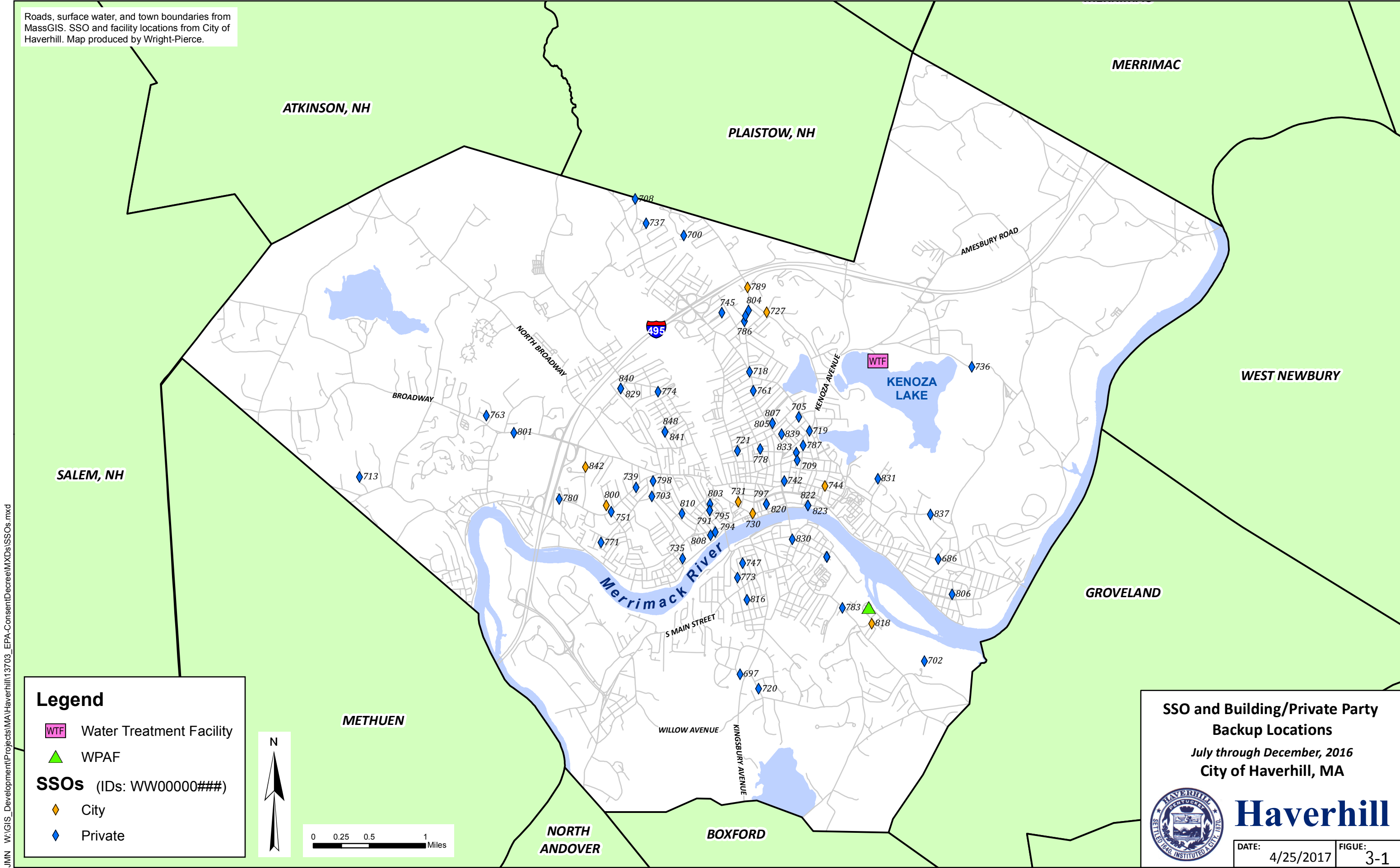
TABLE 3-2
BUILDING/PRIVATE PARTY BACKUP EVENTS
JULY THROUGH DECEMBER 2016

SSO Ownership City or Private	MaintStar Work Order	SSO ID	SSO Address	Date	Who notified	Reason for occurrence
PRIVATE	WW00000686	HOMEOWNER-16-56	252 GROVELAND ST	7/2/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000697	HOMEOWNER-16-57	5 LINCOLNSHIRE DR	7/5/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000700	HOMEOWNER-16-58	18 LILAC LN	7/7/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000702	HOMEOWNER-16-59	LISA LANE	7/14/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000703	HOMEOWNER-16-60	62 LANSING AVE	7/14/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000705	HOMEOWNER-16-61	88 FOUNTAIN STREET	7/18/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000708	HOMEOWNER-16-62	100 PLAISTOW ROAD	7/20/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000709	HOMEOWNER-16-63	8 CLINTON ST	7/21/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000713	HOMEOWNER-16-64	41 COLONIAL FARM RD	7/26/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000718	HOMEOWNER-16-65	1 FIFTEENTH AVE	8/2/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000719	HOMEOWNER-16-66	159 KENOZA AVE	8/3/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000720	HOMEOWNER-16-67	56 HOYT RD	8/3/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000721	HOMEOWNER-16-68	81 FIFTH AVE	8/3/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000734	HOMEOWNER-16-69	150 NORTH AVE	8/18/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000735	HOMEOWNER-16-70	12 VARNUM ST	8/22/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000736	HOMEOWNER-16-71	671 KENOZA ST	8/22/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000737	HOMEOWNER-16-72	30 CRAIGIE AVE	8/23/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000739	HOMEOWNER-16-73	72 LOWELL AVE	8/23/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000742	HOMEOWNER-16-74	CITY HALL MAIN ST	8/30/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000745	HOMEOWNER-16-75	54 TYLER PARK	9/1/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000747	HOMEOWNER-16-76	58 BRADFORD AVE	9/5/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000751	HOMEOWNER-16-77	875 WASHINGTON ST	9/6/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000761	HOMEOWNER-16-78	539 MAIN ST	9/8/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000763	HOMEOWNER-16-79	37 DODGE STREET	9/10/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000771	HOMEOWNER-16-80	35 NAPLES RD	9/23/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000773	HOMEOWNER-16-81	18 CRESENT	9/24/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000774	HOMEOWNER-16-82	8 BATEMAN ST	9/30/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000778	HOMEOWNER-16-83	49 CEDAR ST	10/4/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000780	HOMEOWNER-16-84	2 STEEPEL CHASE COU	10/5/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000783	HOMEOWNER-16-85	227 SALEM ST	10/7/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000786	HOMEOWNER-16-86	134 NORTH AVE	10/8/2016	Resident	Resident Private Sewer Blockage

**TABLE 3-2
(CONTINUED)**

SSO Ownership City or Private	MaintStar Work Order	SSO ID	SSO Address	Date	Who notified	Reason for occurrence
PRIVATE	WW00000787	HOMEOWNER-16-87	111 WEBSTER ST	10/9/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000791	HOMEOWNER-16-88	56 CENTRAL ST	10/17/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000794	HOMEOWNER-16-89	AVON PL	10/25/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000795	HOMEOWNER-16-90	56 CENTRAL STREET	10/25/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000797	HOMEOWNER-16-91	30 HOW ST	10/31/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000798	HOMEOWNER-16-92	13 / 15 LANSING AVE	11/1/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000799	HOMEOWNER-16-93	78 SOUTH CENTRAL ST	11/4/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000801	HOMEOWNER-16-94	594 BROADWAY	11/8/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000802	HOMEOWNER-16-95	78 SOUTH CENTRAL ST	11/9/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000803	HOMEOWNER-16-96	40 High Street	11/9/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000804	HOMEOWNER-16-97	171 NORTH AVE	11/9/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000805	HOMEOWNER-16-98	4 TAFT AVE	11/9/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000806	HOMEOWNER-16-99	69 JEFFERSON ST	11/9/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000807	HOMEOWNER-16-100	4 TAFT AVE	11/11/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000808	HOMEOWNER-16-101	20 SANDLED TER	11/13/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000810	HOMEOWNER-16-102	60 HANCOCK ST	11/14/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000816	HOMEOWNER-16-103	19 LEXINGTON AVE	11/17/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000820	HOMEOWNER-16-104	30 HOW ST	12/1/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000822	HOMEOWNER-16-105	131 Water Street	12/2/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000823	HOMEOWNER-16-106	131 Water Street	12/2/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000829	HOMEOWNER-16-107	221 MONUMET ST	12/13/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000830	HOMEOWNER-16-108	145 South Main	12/13/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000831	HOMEOWNER-16-109	53 DWIGHT ST	12/15/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000832	HOMEOWNER-16-110	7 S Brook St	12/15/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000833	HOMEOWNER-16-111	37 ASHLAND ST	12/18/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000837	HOMEOWNER-16-112	163 GOLDEN HILL AVE	12/28/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000839	HOMEOWNER-16-113	17 FOUNTAIN STREET	12/28/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000840	HOMEOWNER-16-114	221 MONUMENT ST	12/28/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000841	HOMEOWNER-16-115	43 GREENOUGH ST	12/29/2016	Resident	Resident Private Sewer Blockage
PRIVATE	WW00000848	HOMEOWNER-16-116	43 GREENOUGH ST	12/29/2016	Resident	Resident Private Sewer Blockage

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



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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. Therefore, no Construction Site Inspections and Enforcement requirements fall under this Reporting Period (July through December 2016).

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.

The Effective Date of this Consent Decree is November 10, 2016, therefore for the first Reporting Period (July through December 2016) there were five deliverables and/or activities due within that timeframe to achieve compliance. Those five deliverables/activities are shown in Table 5-1 below.

TABLE 5-1
SUBMISSIONS WITHIN CURRENT REPORTING PERIOD

Part	Activity	Final Due Date	Submittal Date
A	IDDE		
13	IDDE Complete Dry-Weather Inspections	12/31/15	Inspections: 12/31/15
			Report: 5/6/15
L	POTW's Treatment Plant Planning & Improvements		
46	Upgrade Sludge Dewatering Equipment	6/30/16	6/29/16
47	Submit Updated O&M Manual for POTW	6/30/16	6/29/16
N	CSO Planning & Plan Implementation		
52	Raise CSO Regulator Weirs	12/10/16	12/7/16

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 2016 are attached to this Compliance Report in Appendix A and B, respectively.

In addition to the requirements set forth within the Consent Decree, the City was awarded a grant from MassDEP in the summer of 2016 to assess, evaluate, and prioritize the City's 36 wastewater pumping stations into a 20-Year Capital Improvement Plan. The goal of the report is to serve as a key budgeting and scheduling tool for the City to reliably maintain its pumping stations over the next 20 years and beyond.

5.2 ISSUES OF NONCOMPLIANCE

The City is in compliance with the requirements of this Consent Decree, and there are no items of noncompliance to report.

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 2017, are shown in Table 5-2.

Besides the required deliverables and related activities, the City plans to further test the dry weather flow within Bethany Avenue CSO, Outfall MR1164, in the spring of 2017, and to continue their IDDE stormwater pipe and manhole investigations in 2017.

TABLE 5-2
FUTURE DELIVERABLES DURING THE PROCEEDING REPORTING PERIOD
(JANUARY THROUGH JUNE 2017)

Part	Activity	Trigger Event	# Days Due	FINAL Due Dates
			Post Trigger Event	
Effective Date of Consent Decree		11/10/2016		
B	MS4 Sub-Catchment Area Illicit Discharge Investigations			
14	Submit revised MS4 IDDE Plan	Effective Date	90 days	2/8/2017
C	Illicit Discharge Prohibition and Removal from MS4 System			
17	Adopt ordinance prohibiting non-SW discharges to MS4	Effective Date	90 days	2/8/2017
	Develop MS4 IDDE Enforcement Manual	Ordinance adoption	60 days	3/8/2017

Part	Activity	Trigger Event	# Days Due	FINAL Due Dates
			Post Trigger Event	
18	Eliminate all sources known as of Effective Date to cause pollutants in SW	Effective Date	60 days	1/9/2017
20	Remove illicit discharges verified after Effective Date	Effective Date		Continuous
21	Submit schedule for illicit discharges that cannot be removed in 60 days, including legal dept procedures as to other property owners	Effective Date		Continuous
D	SSOs			
24	Repairing, tracking and reporting SSOs	Effective Date		Continuous
E	CMOM Program Assessment			
26	Submit updated CMOM Program Self-Assessment	Effective Date	180 days	EPA agreed to extend to 2/28/17
F	CMOM Corrective Action Plan			
27	Submit CMOM Corrective Action Plan	Effective Date	180 days	EPA agreed to extend to 2/28/17
H	Emergency Response Plan			
30	Submit Emergency Response Plan	Effective Date	90 days	2/8/2017
L	POTW's Treatment Plant Planning & Improvements			
48	Submit Comprehensive Plant Evaluation	30-Jun-16	30-Jun-16	EPA agreed to extend to 2/28/17
M	CSO Monitoring			
49	City began continuous monitoring at specified outfalls	4/9/2014		Continuous
50	Submit Email Notification of any CSO Discharge	Effective Date	within 24 hours	Continuous
51	Submit annual CSO activation report	Effective Date	Annually	4/30/2017
N	CSO Planning & Plan Implementation			
53	Complete investigations of Bethany Ave CSO	Effective Date	60 days	1/9/2017
54	Complete all remaining work in System Maximization & Wet Weather Maximization Plan in 6/17/13 letter	31-Dec-15	31-Dec-15	3/31/2017
55	Submit Final CSO LTCP (FLTCP)	1-Sep-16	1-Sep-16	EPA agreed to extend to 2/28/17
IX	Compliance Reporting - July through December 2016	Effective Date	Within 180 days of or the initial 4/30/17	4/30/2017

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 2016.

6.2 BYPASS EVENTS

There were five secondary treatment bypass events over seven days that occurred during the reporting period, which are chronologically listed in Table 6-1. 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	#	2016-01		2016-02		2016-03		2016-04		2016-05	
Date of Bypass		10/09/16		10/21/16	10/22/16	11/15/16		11/30/16	12/01/16	12/29/16	
Date of Rainfall		10/9/2016	10/10/2016	10/21/2016	10/22/2016	11/15/2016	11/16/2015	11/30/2016	12/1/2016	12/29/2016	12/30/2016
Weather Rainfall	Inches	0.40	1.36	0.25	2.96	0.00	1.24	0.57	1.16	0.00	1.28
snow melt	(y/n)	No	No	No	No	No	No	No	No	Yes	No
Influent Flow	MGD	18.83	6.43	19.12	11.60	16.08	8.33	14.10	16.55	15.95	11.01
Bypass Flow Total	MG	2.75	0.00	3.74	0.62	3.96	0.00	0.95	4.46	1.33	0.00
Q, bypass start time		4:20 PM		9:30 PM		6:45 PM		9:30 PM		6:50 PM	
Plant Flows @ Start	MGD	49		57.5		52		26		38	
Q, bypass stop time		8:20 PM			2:15 AM	10:30 PM			5:30 AM	10:00 PM	
Plant Flows @ Stop	MGD	15			15	15			16	16	
Influent Septage Received	Gallons	14,400	49,100	21,800	13,200	23,600	36,500	25,000	24,600	23,700	19,800
Influent TSS	mg/L	268	300	-	-	412	440	316	252	392	-
Effluent TSS	mg/L	15.11	9.60	-	-	54.00	13.20	24.67	11.78	90.00	-
Aeration Basin #1											
Sludge Volume Index	ml/g	-	611	448	-	380	271	240	293	210	164
MLSS Lab	mg/L	-	1,620	1,876	-	2,000	1,732	1,874	1,880	2,804	2,380
Mean Cell Residence Time	Days	-	3.97		-	2.41	6.31	3.79	4.24	2.82	
Aeration Basin #2											
Sludge Volume Index	ml/g	-	531	407	-	379	291	254	347	176	172
MLSS Lab	mg/L	-	1,790	1,940	-	2,242	1,790	2,006	1,760	3,130	2,330
Mean Cell Residence Time	Days	-	4.16		-	2.55	6.38	3.89	4.16	2.97	
Aeration Basin #3											
Sludge Volume Index	ml/g	-	438	372	-	374	307	252	347	269	203
MLSS Lab	mg/L	-	2,192	2,422	-	2,648	2,280	2,382	2,044	3,682	2,958
Mean Cell Residence Time	Days	-	6.73		-	4.07	11.17	6.58	7.28	4.73	
Aeration Basins Online	#	3	3	3	3	3	3	3	3	3	3
Secondary Clarifier #1											
Depth of Blanket	ft	9.0	3.5	1.0	4.5	4.0	6.0	5.5	8.0	3.0	6.0
Secondary Clarifier #2											
Depth of Blanket	ft	10.0	3.0	2.5	5.0	4.5	5.0	5.5	7.5	4.0	7.0
Secondary Clarifier #3											
Depth of Blanket	ft	8.0	3.0	2.0	4.0	5.0	6.0	4.5	4.0	5.0	5.0
Secondary Clarifiers Online	#	3	3	3	3	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 that occurs during the Reporting Period, a 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)
October/2016	524,955	660,469	16,759	-152,273
November/2016	670,120	561,299	28,582	80,239
December/2016	556,380	678,259	29,447	-151,326

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 November 15, 2016, however no rainfall was recorded for that day. However, 1.24-inches of rainfall fell on November 15, 2016, but was reported on November 16, 2017, since the rain event occurred after 7:00 AM on November 15th. Similar inconsistencies in data for secondary treatment bypass events that occurred on October 9 and December 29, 2016.

Appendix A



Storm Generic Inspection

INSPECTION# STI0001246

Type DISCHARGE POINT

3/10/2017

Sub Type 0		ID MR42312
Description Cross Country		Permit
		Cross Street
Location Ref.	Map ID	Map Sheet

Notes

Recommendations

NO FLOWCULVERT

Inspection Type MS4	Adm Sys. _____
Weather CLEAR	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# _____

<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>
1	08/03/16 06:25	labor	MARI001 - Marinez Samuel A	0:30	REG			MS4 INVEST
2	08/03/16 06:25	labor	DAY001 - Day Zebulun	0:30	REG			MS4 INVEST
3	08/03/16 06:25	equip	VEH-S13 - 2013 F350 4X4	0:30				MS4 INVEST

Inspector Signature _____

Date _____

 Print Name Marinez Samuel A



Storm Generic Inspection

INSPECTION# STI0001247

Type DISCHARGE POINT

3/10/2017

Sub Type 0 Description BZB43112	ID BZB43112 Permit Cross Street
Location Ref.	Map ID
Map Sheet	

Notes

NO FLOW

Recommendations

Inspection Type <u>MS4</u> 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# _____
---	--

<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>
1	09/30/16 10:41	labor	MARI001 - Marinez Samuel A	6	00	REG			MS4 INVEST
2	09/30/16 10:41	labor	ROSA001 - Rosario Pedro	6	00	REG			MS4 INVEST
3	09/30/16 10:41	labor	DAY001 - Day Zebulun	6	00	REG			MS4 INVEST
4	09/30/16 10:41	labor	BECK001 - Beckwith Derek	6	00	REG			MS4 INVEST
5	09/30/16 10:41	equip	VEH-S13 - 2013 F350 4X4	6	00				MS4 INVEST
6	09/30/16 10:41	equip	VEH-S15 - 1998 JCB 214 Backhoe	6	00				MS4 INVEST
7	09/30/16 10:41	equip	VEH-H12 - 2011 CHEVROLET SILV.3500	6	00				MS4 INVEST

Inspector Signature _____

 Print Name Marinez Samuel A

Date _____



Storm Generic Inspection

INSPECTION# STI0001248

Type DISCHARGE POINT

3/10/2017

Sub Type 0		ID UNK45912
Description EMILY ST		Permit
		Cross Street
Location Ref.	Map ID	Map Sheet

Notes
BURIED got pipe size, material & proof of flow from CB7423NC
Recommendations
NEEDS DREDGING

Inspection Type MS4	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# _____

<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>
1	11/08/16 10:41	labor	MARI001 - Marinez Samuel A	2:00	REG			MS4 INVEST
2	11/08/16 10:41	labor	DAY001 - Day Zebulun	2:00	REG			MS4 INVEST
3	11/08/16 10:41	equip	VEH-S11 - 2004 SEWER JET MACHINE	2:00				MS4 INVEST
4	11/08/16 10:41	equip	VEH-S13 - 2013 F350 4X4	2:00				MS4 INVEST

Inspector Signature _____

 Print Name Marinez Samuel A

Date _____



Storm Generic Inspection

INSPECTION# STI0001249

Type DISCHARGE POINT

3/10/2017

Sub Type 0

ID MR43114

Description CROSS COUNTRY

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 ☐ Passed ☐ Failed

REF ERM# _____

<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>
1	09/29/16 10:41	labor	MARI001 - Marinez Samuel A	1:00	REG			MS4 INVEST
2	09/29/16 10:41	labor	DAY001 - Day Zebulun	1:00	REG			MS4 INVEST
3	09/29/16 10:41	equip	VEH-S13 - 2013 F350 4X4	1:00				MS4 INVEST

Inspector Signature _____

Date _____

Print Name Marinez Samuel A



Storm Generic Inspection

INSPECTION# STI0001250

Type DISCHARGE POINT

3/10/2017

Sub Type 0		ID MR43115
Description CROSS COUNTRY		Permit
		Cross Street
Location Ref.	Map ID	Map Sheet

Notes

Recommendations

NO FLOW

Inspection Type MS4	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# _____

<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>
1	09/29/16 10:41	labor	MARI001 - Marinez Samuel A	1:00	REG			MS4 INVEST
2	09/26/16 10:41	labor	DAY001 - Day Zebulun	1:00	REG			MS4 INVEST
3	09/29/16 10:41	equip	VEH-S13 - 2013 F350 4X4	1:00				MS4 INVEST

Inspector Signature _____

Date _____

 Print Name Marinez Samuel A



Storm Generic Inspection

INSPECTION# STI0001251

Type DISCHARGE POINT

3/10/2017

Sub Type 0		ID MR43113
Description CROSS COUNTRY		Permit
		Cross Street
Location Ref.	Map ID	Map Sheet

Notes

Recommendations

NO FLOW

Inspection Type MS4	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# _____

<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>
1	01/11/17 09:00	labor	MARI001 - Marinez Samuel A	1:00	REG			MS4 INVEST
2	01/11/17 09:00	labor	DAY001 - Day Zebulun	1:00	REG			MS4 INVEST
3	01/11/17 09:00	equip	VEH-S13 - 2013 F350 4X4	1:00				MS4 INSPEC

Inspector Signature _____

Date _____

 Print Name Marinez Samuel A



Storm Generic Inspection

INSPECTION# STI0001252

Type DISCHARGE POINT

3/10/2017

Sub Type 0		ID DPI43513
Description CROSS COUNTRY		Permit
		Cross Street
Location Ref.	Map ID	Map Sheet

Notes

Recommendations

NO FLOW

Inspection Type MS4	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# _____

<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>
1	10/11/16 09:00	labor	MARI001 - Marinez Samuel A	0:30	REG			MS4 INVEST
2	10/11/17 09:00	labor	DAY001 - Day Zebulun	0:30	REG			MS4 INVEST
3	10/11/17 09:00	equip	VEH-S13 - 2013 F350 4X4	0:30				MS4 INVEST

Inspector Signature _____

Date _____

 Print Name Marinez Samuel A



Storm Generic Inspection

INSPECTION# STI0001253

Type DISCHARGE POINT

3/10/2017

Sub Type 0		ID DPI43512
Description CROSS COUNTRY		Permit
		Cross Street
Location Ref.	Map ID	Map Sheet

Notes

Recommendations

NO FLOW

Inspection Type MS4	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# _____

<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>
1	10/11/16 09:00	labor	MARI001 - Marinez Samuel A	0:30	REG			MS4 INVEST
2	10/11/16 09:00	labor	DAY001 - Day Zebulun	0:30	REG			MS4 INVEST
3	10/11/16 09:00	equip	VEH-S13 - 2013 F350 4X4	0:30				MS4 INVEST

Inspector Signature _____

Date _____

 Print Name Marinez Samuel A



Storm Generic Inspection

INSPECTION# STI0001254

Type DISCHARGE POINT

3/10/2017

Sub Type 0		ID UNK39515
Description UNK39515		Permit
		Cross Street
Location Ref.	Map ID	Map Sheet

Notes

Recommendations

NO FLOW

Inspection Type MS4	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# _____

<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>
1	09/29/16 09:00	labor	MARI001 - Marinez Samuel A	0:30	REG			MS4 INVEST
2	09/29/16 09:00	labor	DAY001 - Day Zebulun	0:30	REG			MS4 INVEST
3	09/29/16 09:00	equip	VEH-S13 - 2013 F350 4X4	0:30				MS4 INVEST

Inspector Signature _____

Date _____

 Print Name Marinez Samuel A

BEHIND Haverhill STADIUM FIELD

SECTION 1: BACKGROUND DATA

Subwatershed:	Outfall ID: MR 42312
Date: 8-3-16	Time: 30 min
Temperature: 70 °F	Inspector(s): 20 SM
Previous 24 Hours Precipitation:	Photos Taken: 1 If yes, Photo Numbers:

SECTION 2: DRAIN MANHOLE DESCRIPTION DESCRIPTION

Location	Material	Shape	Dimension (in.)	Submerged
Storm Sewer (Closed Pipe)	RCP CMP PVC HDPE Steel Clay Other:	Circular Elliptical Box Other:	Diameter/Dimensions: 36"	In Water: No Partially Fully With Sediment: No Partially Fully

SECTION 3: PHYSICAL INDICATORS

Indicator	Y/N	Description	Comments
DMH Damage	N	Spalling, Cracking or Chipping Peeling Paint Corrosion	
Deposits/Stains	N	Oily Paint Flow Line Other:	
Pool Quality	N	Odors Colors Floatables Suds Excessive Algae	
Pipe Algae/Growth	N	Oil Sheen Other: Brown Orange Green Other:	

*Do physical indicators suggest an illicit discharge is present (Y/N):

Flow Description Trickle Moderate Substantial

SECTION 4: PHYSICAL INDICATORS (FLOWING OUTFALLS ONLY)

Indicator	Y/N	Description	Relative Severity Index (1-3)
Odor	No Flow	Sewage Rancid/Sour Sulfide Petroleum/Gas Laundry Other:	1 - Faint 2 - Easily detected 3 - Noticeable from a distance
Color (color chart)	CUVERT	Clear Brown Gray Yellow Green Orange/Red Multi-Color Other:	1 - Faint 2 - Easily detected 3 - Noticeable from a distance
Turbidity		See severity	1 - Slight cloudiness 2 - Cloudy 3 - Opaque
Floatables (Does Not Include Trash)		Sewage Suds and Foam Grease Petroleum (oil sheen) Other:	1 - Few/slight; origin not obvious 2 - Some; indications of origin 3 - Some; origin clear

*Do physical indicators (flowing) suggest an illicit discharge is present (Y/N):

SECTION 5: ON-SITE SAMPLING/TESTING (FLOWING OUTFALLS ONLY)

Parameter	Result	Typical EPA Benchmarks	Equipment
Temperature			EXTECH EC500
pH			EXTECH EC500
Specific Conductivity			EXTECH EC500
Chlorine		> 0.02 mg/L	Hach Test Strips
Ammonia		> 1.0 mg/L	Hach Test Strips
Surfactants		> 0.25 mg/L	CHEMets Detergents Kit K-9400
E.coli	LAB	> 235 cfu/100mL	To be sent to lab
Enterococcus	LAB	> 61 cfu/100mL	To be sent to lab
Sample Location			

NON-ILICIT DISCHARGE CONCERNS (e.g. trash or infrastructure repairs)?

DRAW OUTFALL SKETCH ON BACK.

SECTION 1: BACKGROUND DATA

Subwatershed:	9/30/16	Outfall ID:	B2B 43112
Date:	701	Time:	10:00 AM 6 hrs
Temperature:	°F	Inspector(s):	SM / 20 / pr / DB
Previous 48 Hours Precipitation:		Photos Taken (Y/N):	Y
		If yes, Photo Numbers:	

SECTION 2: OUTFALL DESCRIPTION

Location	Material	Shape	Dimension (in.)	Submerged
Storm Sewer (Closed Pipe)	RCP HDPE Clay	CMP PVC Circular Elliptical Box Other:	Diameter/Dimensions: 10	In Water: No Partially Fully With Sediment: No Partially Fully

SECTION 3: PHYSICAL INDICATORS

Indicator	Y/N	Description	Comments
Outfall Damage	N	Spalling, Cracking or Chipping Corrosion Peeling Paint	
Deposits/Stains	N	Oily Paint Flow Line Other:	No Flow
Abnormal Vegetation	N	Excessive Inhibited	
Pool Quality	N	Odors Colors Floatables Suds Excessive Algae Oil Sheen Other:	
Pipe Algae/Growth		Brown Orange Green Other:	
*Do physical indicators suggest an illicit discharge is present (Y/N):			
Flow Description	Trickle	Moderate	Substantial

SECTION 4: PHYSICAL INDICATORS (FLOWING OUTFALLS ONLY)

Indicator	Y/N	Description	Relative Severity Index (1-3)
Odor		Sewage Petroleum/Gas Other:	1 - Faint 2 - Easily detected 3 - Noticeable from a distance
Color (color chart)		Rancid/Sour Laundry Sulfide Clear Brown Gray Yellow Green Orange/Red Multi-Color Other:	1 - Faint 2 - Easily detected 3 - Noticeable from a distance
Turbidity		See severity	1 - Slight cloudiness 2 - Cloudy 3 - Opaque
Floatables (Does Not Include Trash)		Sewage Petroleum (oil sheen) Other:	1 - Few/slight; origin not obvious 2 - Some; indications of origin 3 - Some; origin clear

*Do physical indicators (flowing) suggest an illicit discharge is present (Y/N):

SECTION 5: ON-SITE SAMPLING/TESTING (FLOWING OUTFALLS ONLY)

Parameter	Result	Typical EPA Benchmarks	Equipment
Temperature			EXTECH EC500
pH			EXTECH EC500
Specific Conductivity			EXTECH EC500
Chlorine		> 0.02 mg/L	Hach Test Strips
Ammonia		> 1.0 mg/L	CHEMets Ammonia Kit K-1410
Surfactants		> 0.25 mg/L	CHEMets Detergents Kit K-9400
E.coli	LAB	> 235 cfu/100mL	To be sent to lab
Enterococcus	LAB	> 61 cfu/100mL	To be sent to lab
Sample Location			

NON-ILICIT DISCHARGE CONCERNS (e.g. trash or infrastructure repairs)?

SECTION 1: BACKGROUND DATA

Subwatershed:	11/8/16	Outfall ID:	JNK 45912	2 hrs
Date:	11/8/16	Time:	8 am	
Temperature:	50°	Inspector(s):	SA / ZO	
Previous 48 Hours Precipitation:		Photos Taken (Y/N)	Y	If yes, Photo Numbers: 0

SECTION 2: OUTFALL DESCRIPTION

Location	Material	Shape	Dimension (in.)	Submerged
Storm Sewer (Closed Pipe)	RCP Clay CMP HDPE Steel Other:	Circular Elliptical Box Other:	Diameter/Dimensions: 4"	In Water: No Partially Fully With Sediment: No Partially Fully

SECTION 3: PHYSICAL INDICATORS

Indicator	Y/N	Description	Comments
Outfall Damage		Spalling, Cracking or Chipping Corrosion	Peeling Paint BUTTER NO picture
Deposits/Stains		Oily Paint Other:	Flow Line
Abnormal Vegetation		Excessive Inhibited	
Pool Quality		Odors Colors Excessive Algae	Floatables Suds Oil Sheen Other:
Pipe Algae/Growth		Brown Orange Green Other:	NEEDS DREDGING

*Do physical indicators suggest an illicit discharge is present (Y/N):

Flow Description	Trickle	Moderate	Substantial
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SECTION 4: PHYSICAL INDICATORS (FLOWING OUTFALLS ONLY)

Indicator	Y/N	Description	Relative Severity Index (1-3)
Odor		Sewage Petroleum/Gas Other:	1 - Faint 2 - Easily detected 3 - Noticeable from a distance
Color (color chart)		Rancid/Sour Laundry Clear Brown Gray Yellow Green Orange/Red Multi-Color Other:	1 - Faint 2 - Easily detected 3 - Noticeable from a distance
Turbidity		See severity	1 - Slight cloudiness 2 - Cloudy 3 - Opaque
Floatables (Does Not Include Trash)		Sewage Petroleum (oil sheen) Other:	1 - Few/slight; origin not obvious 2 - Some; indications of origin 3 - Some; origin clear

*Do physical indicators (flowing) suggest an illicit discharge is present (Y/N):

SECTION 5: ON-SITE SAMPLING/TESTING (FLOWING OUTFALLS ONLY)

Parameter	Result	Typical EPA Benchmarks	Equipment
Temperature			EXTECH EC500
pH			EXTECH EC500
Specific Conductivity			EXTECH EC500
Chlorine		> 0.02 mg/L	Hach Test Strips
Ammonia		> 1.0 mg/L	CHEMets Ammonia Kit K-1410
Surfactants		> 0.25 mg/L	CHEMets Detergents Kit K-9400
E.coli	LAB	> 235 cfu/100mL	To be sent to lab
Enterococcus	LAB	> 61 cfu/100mL	To be sent to lab
Sample Location			

NON-ILICIT DISCHARGE CONCERNS (e.g. trash or infrastructure repairs)?

605 pipe size, material & proof of flow from
CB-7423

SECTION 1: BACKGROUND DATA

Subwatershed:	Outfall ID: MA 43114
Date: 9/29/16	Time:
Temperature: 70°F	Inspector(s): 20 / SM
Previous 48 Hours Precipitation:	Photos Taken (Y/N) Y If yes, Photo Numbers: 1

SECTION 2: OUTFALL DESCRIPTION

Location	Material	Shape	Dimension (in.)	Submerged
Storm Sewer (Closed Pipe)	RCP CMP HDPE Steel Clay Other:	Circular Elliptical Box Other:	Diameter/Dimensions: 18 Flange	In Water: No Partially Fully With Sediment: No Partially Fully

SECTION 3: PHYSICAL INDICATORS

Indicator	Y/N	Description	Comments
Outfall Damage		Spalling, Cracking or Chipping Corrosion	Peeling Paint
Deposits/Stains	N	Oily Paint Other:	Flow Line
Abnormal Vegetation		Excessive Inhibited	
Pool Quality		Odors Colors Excessive Algae	Floatables Suds Oil Sheen Other:
Pipe Algae/Growth		Brown Orange Green Other:	

*Do physical indicators suggest an illicit discharge is present (Y/N):

Flow Description	Trickle	Moderate	Substantial
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SECTION 4: PHYSICAL INDICATORS (FLOWING OUTFALLS ONLY)

Indicator	Y/N	Description	Relative Severity Index (1-3)
Odor		Sewage Petroleum/Gas Other:	1 - Faint 2 - Easily detected 3 - Noticeable from a distance
Color (color chart)		Clear Green Other:	1 - Faint 2 - Easily detected 3 - Noticeable from a distance
Turbidity		See severity	1 - Slight cloudiness 2 - Cloudy 3 - Opaque
Floatables (Does Not Include Trash)		Sewage Petroleum (oil sheen) Other:	1 - Few/slight; origin not obvious 2 - Some; indications of origin 3 - Some; origin clear

*Do physical indicators (flowing) suggest an illicit discharge is present (Y/N):

SECTION 5: ON-SITE SAMPLING/TESTING (FLOWING OUTFALLS ONLY)

Parameter	Result	Typical EPA Benchmarks	Equipment
Temperature			EXTECH EC500
pH			EXTECH EC500
Specific Conductivity			EXTECH EC500
Chlorine		> 0.02 mg/L	Hach Test Strips
Ammonia		> 1.0 mg/L	CHEMets Ammonia Kit K-1410
Surfactants		> 0.25 mg/L	CHEMets Detergents Kit K-9400
E.coli	LAB	> 235 cfu/100mL	To be sent to lab
Enterococcus	LAB	> 61 cfu/100mL	To be sent to lab
Sample Location			

NON-ILICIT DISCHARGE CONCERNS (e.g. trash or infrastructure repairs)?

SECTION 1: BACKGROUND DATA

Subwatershed:	Outfall ID: NR 423 43115
Date: 9/29/16	Time:
Temperature: 70°F	Inspector(s): ZD / CM
Previous 48 Hours Precipitation:	Photos Taken (Y/N) Y If yes, Photo Numbers: 1

SECTION 2: OUTFALL DESCRIPTION

Location	Material	Shape	Dimension (in.)	Submerged
Storm Sewer (Closed Pipe)	RCP CMP HDPE Steel Clay Other:	Circular Elliptical Box Other:	Diameter/Dimensions: 10 Flange 0	In Water: No Partially Fully With Sediment: No Partially Fully

SECTION 3: PHYSICAL INDICATORS

Indicator	Y/N	Description	Comments
Outfall Damage		Spalling, Cracking or Chipping Corrosion	Peeling Paint
Deposits/Stains	N	Oily Paint Other:	Flow Line
Abnormal Vegetation	N	Excessive Inhibited	
Pool Quality		Odors Colors Excessive Algae	Floatables Suds Oil Sheen Other:
Pipe Algae/Growth		Brown Orange Green	Other:

*Do physical indicators suggest an illicit discharge is present (Y/N):

Flow Description	Trickle	Moderate	Substantial
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SECTION 4: PHYSICAL INDICATORS (FLOWING OUTFALLS ONLY)

Indicator	Y/N	Description	Relative Severity Index (1-3)
Odor		Sewage Petroleum/Gas Other:	1 - Faint 2 - Easily detected 3 - Noticeable from a distance
Color (color chart)		Rancid/Sour Laundry Clear Brown Gray Yellow Green Orange/Red Multi-Color Other:	1 - Faint 2 - Easily detected 3 - Noticeable from a distance
Turbidity		See severity	1 - Slight cloudiness 2 - Cloudy 3 - Opaque
Floatables (Does Not Include Trash)		Sewage Petroleum (oil sheen) Other:	Suds and Foam Grease 1 - Few/slight; origin not obvious 2 - Some; indications of origin 3 - Some; origin clear

*Do physical indicators (flowing) suggest an illicit discharge is present (Y/N):

SECTION 5: ON-SITE SAMPLING/TESTING (FLOWING OUTFALLS ONLY)

Parameter	Result	Typical EPA Benchmarks	Equipment
Temperature			EXTECH EC500
pH			EXTECH EC500
Specific Conductivity			EXTECH EC500
Chlorine		> 0.02 mg/L	Hach Test Strips
Ammonia		> 1.0 mg/L	CHEMets Ammonia Kit K-1410
Surfactants		> 0.25 mg/L	CHEMets Detergents Kit K-9400
E.coli	LAB	> 235 cfu/100mL	To be sent to lab
Enterococcus	LAB	> 61 cfu/100mL	To be sent to lab
Sample Location			

NON-ILICIT DISCHARGE CONCERNS (e.g. trash or infrastructure repairs)?

SECTION 1: BACKGROUND DATA

Subwatershed:	Outfall ID: MA 45113
Date: 9/29/16	Time:
Temperature: 70°F	Inspector(s): ZD / SM
Previous 48 Hours Precipitation:	Photos Taken (Y/N) Y If yes, Photo Numbers: 1

SECTION 2: OUTFALL DESCRIPTION

Location	Material	Shape	Dimension (in.)	Submerged
Storm Sewer (Closed Pipe)	RCP CMP HDPE Steel Clay Other:	Circular Elliptical Box Other:	Diameter/Dimensions: 18" FLARED	In Water: No Partially Fully With sediment: No Partially Fully

SECTION 3: PHYSICAL INDICATORS

Indicator	Y/N	Description	Comments
Outfall Damage		Spalling, Cracking or Chipping Corrosion	Peeling Paint
Deposits/Stains		Oily Paint Other:	Flow Line
Abnormal Vegetation		Excessive Inhibited	
Pool Quality		Odors Colors Excessive Algae Floatables Oil Sheen Other:	Suds
Pipe Algae/Growth		Brown Orange Green Other:	

*Do physical indicators suggest an illicit discharge is present (Y/N):

Flow Description	Trickle	Moderate	Substantial
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SECTION 4: PHYSICAL INDICATORS (FLOWING OUTFALLS ONLY)

Indicator	Y/N	Description	Relative Severity Index (1-3)
Odor		Sewage Petroleum/Gas Other:	1 - Faint 2 - Easily detected 3 - Noticeable from a distance
Color (color chart)		Rancid/Sour Laundry Clear Brown Gray Yellow Green Orange/Red Multi-Color Other:	1 - Faint 2 - Easily detected 3 - Noticeable from a distance
Turbidity		See severity	1 - Slight cloudiness 2 - Cloudy 3 - Opaque
Floatables (Does Not Include Trash)		Sewage Suds and Foam Petroleum (oil sheen) Grease Other:	1 - Few/slight; origin not obvious 2 - Some; indications of origin 3 - Some; origin clear

*Do physical indicators (flowing) suggest an illicit discharge is present (Y/N):

SECTION 5: ON-SITE SAMPLING/TESTING (FLOWING OUTFALLS ONLY)

Parameter	Result	Typical EPA Benchmarks	Equipment
Temperature			EXTECH EC500
pH			EXTECH EC500
Specific Conductivity			EXTECH EC500
Chlorine		> 0.02 mg/L	Hach Test Strips
Ammonia		> 1.0 mg/L	CHEMets Ammonia Kit K-1410
Surfactants		> 0.25 mg/L	CHEMets Detergents Kit K-9400
E.coli	LAB	> 235 cfu/100mL	To be sent to lab
Enterococcus	LAB	> 61 cfu/100mL	To be sent to lab
Sample Location			

NON-ILICIT DISCHARGE CONCERNS (e.g. trash or infrastructure repairs)?

SECTION 1: BACKGROUND DATA

Subwatershed:	Outfall ID: JNK 39515
Date: 9/29/16	Time:
Temperature: °F 70	Inspector(s): 20/SM
Previous 48 Hours Precipitation:	Photos Taken (Y/N) <input checked="" type="checkbox"/> If yes, Photo Numbers:

SECTION 2: OUTFALL DESCRIPTION

Location	Material	Shape	Dimension (in.)	Submerged
Storm Sewer (Closed Pipe)	RCP CMP PVC HDPE Steel Clay Other:	Circular Elliptical Box Other:	Diameter/Dimensions: 12"	In Water: No Partially Fully With Sediment: No Partially Fully

SECTION 3: PHYSICAL INDICATORS

Indicator	Y/N	Description	Comments
Outfall Damage		Spalling, Cracking or Chipping Corrosion	Peeling Paint
Deposits/Stains	N	Oily Other:	Paint Flow Line
Abnormal Vegetation		Excessive Inhibited	
Pool Quality		Odors Colors Floatables Excessive Algae Oil Sheen	Suds Other:
Pipe Algae/Growth		Brown Orange Green Other:	

*Do physical indicators suggest an illicit discharge is present (Y/N):

Flow Description	Trickle Moderate Substantial
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SECTION 4: PHYSICAL INDICATORS (FLOWING OUTFALLS ONLY)

Indicator	Y/N	Description	Relative Severity Index (1-3)
Odor		Sewage Rancid/Sour Sulfide Petroleum/Gas Laundry Other:	1 - Faint 2 - Easily detected 3 - Noticeable from a distance
Color (color chart)		Clear Brown Gray Yellow Green Orange/Red Multi-Color Other:	1 - Faint 2 - Easily detected 3 - Noticeable from a distance
Turbidity		See severity	1 - Slight cloudiness 2 - Cloudy 3 - Opaque
Floatables (Does Not Include Trash)		Sewage Suds and Foam Grease Petroleum (oil sheen) Other:	1 - Few/slight; origin not obvious 2 - Some; indications of origin 3 - Some; origin clear

*Do physical indicators (flowing) suggest an illicit discharge is present (Y/N):

SECTION 5: ON-SITE SAMPLING/TESTING (FLOWING OUTFALLS ONLY)

Parameter	Result	Typical EPA Benchmarks	Equipment
Temperature			EXTECH EC500
pH			EXTECH EC500
Specific Conductivity			EXTECH EC500
Chlorine		> 0.02 mg/L	Hach Test Strips
Ammonia		> 1.0 mg/L	CHEMets Ammonia Kit K-1410
Surfactants		> 0.25 mg/L	CHEMets Detergents Kit K-9400
E.coli	LAB	> 235 cfu/100mL	To be sent to lab
Enterococcus	LAB	> 61 cfu/100mL	To be sent to lab
Sample Location			

NON-ILICIT DISCHARGE CONCERNS (e.g. trash or infrastructure repairs)?


Appendix B



MaintStar Storm Work Order

Page 1 of 2
3/30/2017

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

wo_udf1 wo_udf2 wo_udf3 wo_udf4 wo_udf5
wo_udf6 Futher Action ☐ Claim Filed ☐ County 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

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	Hr:mm	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
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



MaintStar Storm Work Order

Page 2 of 2
3/30/2017

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
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

Seq	Asset Type	Asset Id	Rating	Asset Descr	Cst Shr	%	Block #	Street / Cross Street / City ,State Zip
1	CBASIN	CB-586	.00	CLIFFE AVE	1.00	7.69		CLIFFE AVE
2	CBASIN	CB-587	.00	CLIFFE AVE	1.00	7.69		CLIFFE AVE
3	MANHOLE	DMH-212	.00	WORCESTER ST	1.00	7.69		WORCESTER ST
4	MANHOLE	DMH-213	.00	WORCESTER ST	1.00	7.69		WORCESTER ST
5	MANHOLE	DMH-54	.00	RIVER ST	1.00	7.69		RIVER ST
6	MANHOLE	DMH-55	.00	CLIFFE AVE	1.00	7.69		CLIFFE AVE
7	MANHOLE	DMH-56	.00	CLIFFE AVE	1.00	7.69		CLIFFE AVE
8	MANHOLE	DMH-57	.00	CLIFFE AVE	1.00	7.69		CLIFFE AVE
9	MANHOLE	DMH-58	.00	WORCESTER ST	1.00	7.69		WORCESTER ST
10	MANHOLE	DMH-5801	.00	RIVER ST	1.00	7.69		RIVER ST
11	MANHOLE	DMH-5805	.00	Cross Country	1.00	7.69		CROSS COUNTRY
12	MANHOLE	DMH-5806	.00	RIVER ST	1.00	7.69		RIVER ST
13	GE: DISCHARGE	MR1141	.00	CROSS COUNTRY	1.00	7.69		CROSS COUNTRY

Labor Cost	\$486.07	Material Cost	\$0.00	Equipment Cost	\$240.00
Contractors Cost	\$0.00	Misc. Cost	\$0.00	Total W/O Cost	\$726.07


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



MaintStar Storm Work Order

Page 1 of 2
3/30/2017

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

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

Task Descr/Complaint: Investigation MR1138

Action Taken: Attached Files:
Field Engineer notes

Supervisor Notes: GIS Map
Fecal Lab results

CCTV sewer segments
SMH-5825 - SMH 5790
SMH 5825 - SMH 5783

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 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	Hrmm	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



MaintStar Storm Work Order

Page 2 of 2
3/30/2017

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
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
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

Seq	Asset Type	Asset Id	Rating	Asset Descr	Cst Shr	%	Block #	Street / Cross Street / City, State Zip
1	CBASIN	CB-4297	.00	RIVER ST	1.00	16.67		RIVER ST
2	CBASIN	CB-4311	.00	RIVER ST	1.00	16.67		RIVER ST
3	MANHOLE	DMH-5784	.00	NAPLES RD	1.00	16.67		NAPLES RD
4	MANHOLE	DMH-5803	.00	Cross Country	1.00	16.67		CROSS COUNTRY
5	MANHOLE	DMH-5804	.00	RIVER ST	1.00	16.67		RIVER ST
6	GE: DISCHARGE	MR1138	.00	CROSS COUNTRY	1.00	16.67		CROSS COUNTRY

Labor Cost	\$621.24	Material Cost	\$0.00	Equipment Cost	\$260.00
Contractors Cost	\$168.00	Misc. Cost	\$0.00	Total W/O Cost	\$1,049.24

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



MaintStar Storm Work Order

Page 1 of 1
3/30/2017

Created By

W/O # ST00000114	ADM Sys.	Activity Admin Administrative	Priority 4
Issued 11/03/14 00:00	Target 11/03/14 00:00	Assign to JESS001	Approv. By JESS001
Closed 11/13/14 13:25	W/O Type STORM	Jessel Paul J	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	
<u>Complaint</u>			
Problem Address <input type="checkbox"/> Use Customer Address		Cross Street	WReq. #
<u>Location Description</u>		<u>Notes</u>	

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

Task Descr/Complaint: MS4 sampling for E.coli for the following Outfall
Account number 3214013 for CDM services
Action Taken:
Supervisor Notes: Took samples see attachment
UNK 1734 Not in MS; UNK 1735 not in MS; DPO 1007 correc id DPI1007; JC 1028 not in main star
DPI1094 not in MS
CDM is an estimated price

Problem

MS4 STORM WATER OUTFALL

Action

106 Inspection

Seq	Date	Type	Code / Description	Hrmm	Pay Type	Qty	Unit	Activity Location
1	11/03/14 00:00	ctr	CDMSmith - CDM Smith Inc			8.00	1	MS4 INSPEC
3	11/03/14 00:00	labor	MARI001 - Marinez Samuel A	4:00	REG			MS4 INSPEC
4	11/03/14 00:00	labor	JESS001 - Jessel Paul J	1:00	REG			MS4 INSPEC
5	11/03/14 00:00	ctr	EAI - EASTERN ANALYICAL			10.00		MS4 INSPEC

Seq	Asset Type	Asset Id	Rating	Asset Descr	Cst Shr	%	Block #	Street / Cross Street / City ,State Zip
1	GE: DISCHARGE	DPI1007	.00	CROSS COUNTRY	1.00	10.00		CROSS COUNTRY
2	GE: DISCHARGE	DPI1074	.00	Cross Country	1.00	10.00		CROSS COUNTRY
3	GE: DISCHARGE	DPI1094	.00	Cross Country	1.00	10.00		CROSS COUNTRY
4	GE: DISCHARGE	JC1028	.00	Cross Country	1.00	10.00		CROSS COUNTRY
5	GE: DISCHARGE	UNK0883	.00	CROSS COUNTRY	1.00	10.00		CROSS COUNTRY
6	GE: DISCHARGE	UNK0953	.00	CROSS COUNTRY	1.00	10.00		CROSS COUNTRY
7	GE: DISCHARGE	UNK0954	.00	CROSS COUNTRY	1.00	10.00		CROSS COUNTRY
8	GE: DISCHARGE	UNK0955	.00	CROSS COUNTRY	1.00	10.00		CROSS COUNTRY
9	GE: DISCHARGE	UNK1734	.00	PRESIDENTIAL DR	1.00	10.00		
10	GE: DISCHARGE	UNK1735	.00	PRESIDENTIAL DR	1.00	10.00		


Labor Cost	\$130.52	Material Cost	\$0.00	Equipment Cost	\$0.00
Contractors Cost	\$700.00	Misc. Cost	\$0.00	Total W/O Cost	\$830.52



MaintStar Storm Work Order

Page 1 of 1
3/30/2017

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

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

Task Descr/Complaint: Investigation UNK0951

Action Taken: Attached Files:
Field Engineer notes

Supervisor Notes: GIS Map
Fecal Lab results
Some CCTV Reports

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

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

Seq	Asset Type	Asset Id	Rating	Asset Descr	Cst Shr	%	Block #	Street / Cross Street / City ,State Zip
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	\$108.53	Material Cost	\$0.00	Equipment Cost	\$60.00
Contractors Cost	\$0.00	Misc. Cost	\$0.00	Total W/O Cost	\$168.53



MaintStar Storm Work Order

Page 1 of 3
3/30/2017

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

wo_udf1 wo_udf2 wo_udf3 wo_udf4 wo_udf5
wo_udf6 Futher Action ☐ Claim Filed ☐ County 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

DMH7542 needs to be raised to grade

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 attachement page 12 ID CB4839 cam back Negative

Problem

MS4 STORM WATER OUTFALL

Action

506 INVESTIGATION


Seq	Date	Type	Code / Description	Hrmm	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
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



MaintStar Storm Work Order

Page 2 of 3
3/30/2017

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
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


Seq	Asset Type	Asset Id	Rating	Asset Descr	Cst Shr	%	Block #	Street / Cross Street / City ,State Zip
1	CBASIN	CB-4839	.00	FOREST ACRES DR	1.00	3.03		FOREST ACRES DR
2	CBASIN	CB-9136	.00	SOUTH MAIN ST	1.00	3.03		
3	CBASIN	CB-9137	.00	SOUTH MAIN ST	1.00	3.03		
4	CBASIN	CB-9158	.00	PARKING LOT	1.00	3.03		
5	CBASIN	CB-9159	.00	CROSS COUNTRY	1.00	3.03		
6	CBASIN	CB-9160	.00		1.00	3.03		
7	CBASIN	CB-9161	.00	CROSS COUNTRY	1.00	3.03		
8	CBASIN	CB-9162	.00	CROSS COUNTRY	1.00	3.03		
9	MANHOLE	DMH-1194	.00	Cross Country	1.00	3.03		CROSS COUNTRY
10	MANHOLE	DMH-6917	.00	FOREST ACRES DR	1.00	3.03		FOREST ACRES DR
11	MANHOLE	DMH-6918	.00	FOREST ACRES DR	1.00	3.03		FOREST ACRES DR
12	MANHOLE	DMH-6919	.00	FOREST ACRES DR	1.00	3.03		FOREST ACRES DR
13	MANHOLE	DMH-6920	.00	FOREST ACRES DR	1.00	3.03		FOREST ACRES DR
14	MANHOLE	DMH-6921	.00	FOREST ACRES DR	1.00	3.03		FOREST ACRES DR
15	MANHOLE	DMH-6922	.00	FOREST ACRES DR	1.00	3.03		FOREST ACRES DR
16	MANHOLE	DMH-6923	.00	FOREST ACRES DR	1.00	3.03		FOREST ACRES DR



MaintStar Storm Work Order

Page 3 of 3
3/30/2017

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

<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>
17	MANHOLE	DMH-6924	.00	FOREST ACRES DR	1.00	3.03		FOREST ACRES DR
18	MANHOLE	DMH-7271	.00	SOUTH MAIN ST	1.00	3.03		SOUTH MAIN ST
19	MANHOLE	DMH-7543	.00	SOUTH MAIN ST	1.00	3.03		SOUTH MAIN ST
20	MANHOLE	DMH-7544	.00	SOUTH MAIN ST	1.00	3.03		SOUTH MAIN ST
21	MANHOLE	DMH-7545	.00	SOUTH MAIN ST	1.00	3.03		SOUTH MAIN ST
22	MANHOLE	DMH-7547	.00	FOREST ACRES DR	1.00	3.03		FOREST ACRES DR
23	MANHOLE	DMH-7548	.00	FOREST ACRES DR	1.00	3.03		FOREST ACRES DR
24	MANHOLE	DMH-804	.00	SOUTH MAIN ST	1.00	3.03		SOUTH MAIN ST
25	MANHOLE	DMH-9370	.00		1.00	3.03		
26	MANHOLE	DMH-9374	.00	SOUTH MAIN ST	1.00	3.03		SOUTH MAIN ST
27	MANHOLE	DMH-9376	.00	SOUTH MAIN ST	1.00	3.03		SOUTH MAIN ST
28	MANHOLE	DMH-9385	.00	CROSS COUNTRY	1.00	3.03		CROSS COUNTRY
29	MANHOLE	DMH-9386	.00	FOREST ACRES DR	1.00	3.03		FOREST ACRES DR
30	MANHOLE	DMH-9390	.00	FOREST ACRES DR	1.00	3.03		FOREST ACRES DR
31	MANHOLE	DMH-945	.00	SOUTH MAIN ST	1.00	3.03		SOUTH MAIN ST
32	MANHOLE	DMH-946	.00	SOUTH MAIN ST	1.00	3.03		SOUTH MAIN ST
33	GE: DISCHARGE	UNK0955	.00	CROSS COUNTRY	1.00	3.03		CROSS COUNTRY

Labor Cost	\$5,126.70	Material Cost	\$0.00	Equipment Cost	\$2,100.00
Contractors Cost	\$672.00	Misc. Cost	\$0.00	Total W/O Cost	\$7,898.70


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



MaintStar Storm Work Order

Page 1 of 2
3/30/2017

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

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

Task Descr/Complaint: Investigation PL0891

Action Taken: Attached Files:
Field Engineer notes

Supervisor 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	Hrmm	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




MaintStar Storm Work Order

Page 2 of 2

3/30/2017

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	DiagleEnt - Rooter-Man / Daique 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

Seq	Asset Type	Asset Id	Rating	Asset Descr	Cst Shr	%	Block #	Street / Cross Street / City, State Zip
1	CBASIN	CB-3318	.00	MAIN ST	1.00	9.09		MAIN ST
2	MANHOLE	DMH-45	.00	MARSH AVE	1.00	9.09		MARSH AVE
3	MANHOLE	DMH-46	.00	NORTH AVE	1.00	9.09		NORTH AVE
4	MANHOLE	DMH-47	.00	MARSH AVE	1.00	9.09		MARSH AVE
5	MANHOLE	DMH-48	.00	MARSH AVE	1.00	9.09		MARSH AVE
6	MANHOLE	DMH-583	.00	MARSH AVE	1.00	9.09		MARSH AVE
7	MANHOLE	DMH-584	.00	MAIN ST	1.00	9.09		MAIN ST
8	MANHOLE	DMH-585	.00	MARSH AVE	1.00	9.09		MARSH AVE
9	MANHOLE	DMH-7891	.00	MAIN ST	1.00	9.09		MAIN ST
10	MANHOLE	DMH-8486	.00	NORTH AVE	1.00	9.09		NORTH AVE
11	GE: DISCHARGE	PL0891	.00	CROSS COUNTRY	1.00	9.09		CROSS COUNTRY

Labor Cost	\$1,682.92	Material Cost	\$0.00	Equipment Cost	\$938.00
Contractors Cost	\$504.00	Misc. Cost	\$0.00	Total W/O Cost	\$3,124.92


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



MaintStar Storm Work Order

Page 1 of 2
3/30/2017

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		Comments	
<u>Complaint</u>			
<input type="checkbox"/> Use Customer Address		Cross Street	WReq. #
<u>Location Description</u>		<u>Notes</u>	

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

Task Descr/Complaint: Investigation UNK1767

Action Taken: Attached Files:
Field Engineer notes

Supervisor Notes: GIS Map
Fecal Lab results
Some CCTV Reports

CCTV work :
DMH-702 to CB-1574
DMH-702 to DMH-774
DMH-774 to DMH-773
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

Problem

MS4 STORM WATER OUTFALL

Action

506 INVESTIGATION

Seq	Date	Type	Code / Description	Hr:mm	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



MaintStar Storm Work Order

Page 2 of 2
3/30/2017

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

Seq	Date	Type	Code / Description	Hrmm	Pay Type	Qty	Unit	Activity Location
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

Seq	Asset Type	Asset Id	Rating	Asset Descr	Cst Shr	%	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
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	\$826.36	Material Cost	\$0.00	Equipment Cost	\$340.00
Contractors Cost	\$42.00	Misc. Cost	\$0.00	Total W/O Cost	\$1,208.36


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



MaintStar Storm Work Order

Page 1 of 1
3/30/2017

Created By

 W/O # ST00000208	ADM Sys.	Activity STORMWATER STORMWATER UTILITY	Priority 10
Issued 01/30/15 11:14	Target 01/30/15 11:14	Assign to SHAW001	Approv. By JESS001
Closed 00/00/00 00:00	W/O Type CORRUNPLND	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	
<u>Complaint</u>			
<div></div>		<div></div>	
Problem Address	<input type="checkbox"/> Use Customer Address	Cross Street	WReq. #
<u>Location Description</u>		<u>Notes</u>	
<div></div>		<div></div>	

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

Task Descr/Complaint: Investigation UNK1821

Supervisor Notes: Leave as this is an investagation
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	Asset Type	Asset Id	Rating	Asset Descr	Cst Shr	%	Block #	Street / Cross Street / City ,State Zip
1	GE: DISCHARGE	UNK1821	.00	Cross Country	1.00			

Labor Cost	Material Cost	Equipment Cost
Contractors Cost	Misc. Cost	Total W/O Cost


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



MaintStar Storm Work Order

Page 1 of 1
3/30/2017

Created By

 W/O # ST00000295	ADM Sys.	Activity STORMWATER STORMWATER UTILITY	Priority 10
Issued 06/19/15 00:00	Target 06/19/15 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	
<u>Complaint</u>			
Problem Address <input type="checkbox"/> Use Customer Address		Cross Street	WReq. #
<u>Location Description</u>		<u>Notes</u>	

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

Task Descr/Complaint: *INVESTAGATE DPO0696*

Action Taken: *Attached Files:*

Supervisor Notes: *Field Engineer notes
GIS Map
Fecal Lab results*

Went on multiple occasions to find flow. Found fresh animal feces in struture. Might be contributing to false results.

>2,419 MPN/100mls

Problem

MS4 STORM WATER OUTFALL

Action

506 INVESTIGATION

Seq	Date	Type	Code / Description	Hr:mm	Pay Type	Qty	Unit	Activity Location
1	10/20/16 00:00	labor	DAY001 - Day Zebulun	1:00	REG			MS4 INVEST
3	10/20/16 00:00	labor	ROSA001 - Rosario Pedro	1:00	REG			MS4 INVEST
4	10/20/16 00:00	labor	BECK001 - Beckwith Derek	1:00	REG			MS4 INVEST
5	10/20/16 00:00	equip	VEH-S13 - 2013 F350 4X4	1:00				MS4 INVEST
6	10/20/16 00:00	equip	VEH-S14 - 2014 F350 4X4	1:00				MS4 INVEST
7	11/01/16 00:00	labor	MARI001 - Martinez Samuel A	1:00	REG			MS4 INVEST
8	11/01/16 00:00	labor	DAY001 - Day Zebulun	1:00	REG			MS4 INVEST
9	11/01/16 00:00	labor	BECK001 - Beckwith Derek	1:00	REG			MS4 INVEST
10	11/01/16 00:00	equip	VEH-S13 - 2013 F350 4X4	1:00				MS4 INVEST
11	11/01/16 00:00	equip	VEH-S14 - 2014 F350 4X4	1:00				MS4 INVEST

Seq	Asset Type	Asset Id	Rating	Asset Descr	Cst Shr	%	Block #	Street / Cross Street / City, State Zip
1	CBASIN	CB-2297	.00	PAMELA LN	1.00	33.33		PAMELA LN
2	MANHOLE	DMH-168	.00	PAMELA LN	1.00	33.33		PAMELA LN
3	GE: DISCHARGE	DPO0696	.00	Cross Country	1.00	33.33		CROSS COUNTRY

Labor Cost \$144.70

Material Cost \$0.00


Equipment Cost \$80.00



MaintStar Storm Work Order

Page 1 of 2
3/30/2017

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	
<u>Complaint</u>			
Problem Address <input type="checkbox"/> Use Customer Address		Cross Street	WReq. #
<u>Location Description</u>		<u>Notes</u>	

wo_udf1 wo_udf2 wo_udf3 wo_udf4 wo_udf5
wo_udf6 Futher Action ☐ Claim Filed ☐ County 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.

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	Hrmm	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		

Seq	Asset Type	Asset Id	Rating	Asset Descr	Cst Shr	%	Block #	Street / Cross Street / City ,State Zip
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




MaintStar Storm Work Order

Page 2 of 2

3/30/2017

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>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>
4	GE: DISCHARGE	UNK0788	.00	WEST LOWELL AVE	1.00	25.00		WEST LOWELL AVE

Labor Cost	\$297.48	Material Cost	\$0.00	Equipment Cost	\$120.00
Contractors Cost	\$84.00	Misc. Cost	\$0.00	Total W/O Cost	\$501.48

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

Created By

 W/O # ST00000460	ADM Sys.	Activity STORMWATER STORMWATER UTILITY	Priority 10
Issued 12/09/15 00:00	Target 12/09/15 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	
<u>Complaint</u>			
Problem Address <input type="checkbox"/> Use Customer Address		Cross Street	WReq. #
<u>Location Description</u>		<u>Notes</u>	

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

Task Descr/Complaint: INVESTAGATE MR24314
Action Taken: Contractor installed a gravity sewer completed November 4, 2016
Supervisor Notes: Attached Files:
 Field Engineer notes
 GIS Map
 Fecal Lab results
 Some CCTV Reports
 PICTURES OF THE NEW SMH AND CONNECTIONS
 FOUND 15 GROVELAND STREET 19 GROVELAND STREET 314 WATER STREET AND POSSIBLE 316 WATER STREET TIED INTO A COMMON LINE CONECTED TO CB-4918 THEN INTO MERRIMACK RIVER.
 Enterococci >24190 MPN/100ml LIMIT 35 CFU
 E. coli <24,000 MPN/100 mls LIMIT 88 CFU
 See attached spreadsheet calculating the estimated sewerage total discharge

Problem

MS4 STORM WATER OUTFALL

Action

506 INVESTIGATION

Problem

ILICIT POSSIBLE ILICIT CONNECTION

Action

506 INVESTIGATION


Seq	Date	Type	Code / Description	Hr:mm	Pay Type	Qty	Unit	Activity Location
1	08/01/16 00:00	labor	JESS001 - Jessel Paul J	2:00	REG			MS4 INSPEC
2	08/01/16 00:00	ctr	MikeMazota - Mazzotta Michael			1.00		MS4 INSPEC
3	07/18/16 00:00	labor	MARI001 - Marinez Samuel A	2:00	REG			MS4 INSPEC
4	07/18/16 00:00	labor	DAY001 - Day Zebulun	2:00	REG			MS4 INSPEC
5	07/18/16 00:00	labor	ROSA001 - Rosario Pedro	2:00	REG			MS4 INSPEC
6	07/18/16 00:00	labor	BECK001 - Beckwith Derek	2:00	REG			MS4 INSPEC
7	07/18/16 00:00	equip	VEH-S13 - 2013 F350 4X4	2:00				MS4 INSPEC



MaintStar Storm Work Order

Page 2 of 2
3/30/2017

Created By

 W/O # ST00000460	ADM Sys.	Activity STORMWATER STORMWATER UTILITY	Priority 10
Issued 12/09/15 00:00	Target 12/09/15 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	07/18/16 00:00	equip	VEH-S14 - 2014 F350 4X4	2:00				MS4 INSPEC
9	07/27/16 00:00	labor	MARI001 - Marinez Samuel A	3:00	REG			MS4 INSPEC
10	07/27/16 00:00	labor	DAY001 - Day Zebulun	3:00	REG			MS4 INSPEC
11	07/27/16 00:00	labor	ROSA001 - Rosario Pedro	3:00	REG			MS4 INSPEC
12	07/27/16 00:00	labor	BECK001 - Beckwith Derek	3:00	REG			MS4 INSPEC
13	07/27/16 00:00	equip	VEH-S13 - 2013 F350 4X4	3:00				MS4 INSPEC
14	07/27/16 00:00	equip	VEH-S14 - 2014 F350 4X4	3:00				MS4 INSPEC
15	07/27/16 00:00	ctr	BMCCorp - BMC Corp.			3.00		MS4 INSPEC
16	07/27/16 00:00	ctr	HPD - HAVERHILL POLICE DEPARTMENT			3.00		MS4 INSPEC
17	09/01/16 00:00	labor	MARI001 - Marinez Samuel A	4:00	REG			MS4 INSPEC
18	09/01/16 00:00	labor	DAY001 - Day Zebulun	4:00	REG			MS4 INSPEC
19	09/01/16 00:00	equip	VEH-S13 - 2013 F350 4X4	4:00				MS4 INSPEC
20	09/01/16 00:00	ctr	DiagleEnt - Rooter-Man / Daique Enterprise			1.00		MS4 INSPEC

Seq	Asset Type	Asset Id	Rating	Asset Descr	Cst Shr	%	Block #	Street / Cross Street / City, State Zip
1	CBASIN	CB-4918	.00	WATER ST	1.00	14.29		WATER ST
2	CBASIN	CB-4919	.00	WATER ST	1.00	14.29		WATER ST
3	MANHOLE	DMH-6967	.00	GROVELAND ST	1.00	14.29		GROVELAND ST
4	MANHOLE	DMH-6968	.00	WATER ST	1.00	14.29		WATER ST
5	MANHOLE	DMH-8784	.00	WATER ST	1.00	14.29		WATER ST
6	MANHOLE	DMH-9073	.00	WATER ST	1.00	14.29		WATER ST
7	GE: DISCHARGE	MR24314	.00	MERIMACK RIVER	1.00	14.29		

Labor Cost	\$760.11	Material Cost	\$0.00	Equipment Cost	\$280.00
Contractors Cost	\$12,914.00	Misc. Cost	\$0.00	Total W/O Cost	\$13,954.11


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



MaintStar Storm Work Order

Page 1 of 5
3/30/2017

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

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

Task Descr/Complaint: Investigate DPI0946

Supervisor Notes: Attached Files:
Field Engineer notes
GIS Map
Fecal Lab results
Some CCTV Reports

E.coli >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			
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			


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

Seq	Date	Type	Code / Description	Hrmm	Pay Type	Qty	Unit	Activity Location
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				


Seq	Asset Type	Asset Id	Rating	Asset Descr	Cst Shr	%	Block #	Street / Cross Street / City ,State Zip
1	CBASIN	CB-7247	.00	MONUMENT ST	1.00	0.78		
2	CBASIN	CB-7248	.00	Cross Country	1.00	0.78		
3	CBASIN	CB-7249	.00	Cross Country	1.00	0.78		
4	CBASIN	CB-7250	.00	Cross Country	1.00	0.78		
5	CBASIN	CB-7450	.00	Cross Country	1.00	0.78		
6	CBASIN	CB-7454	.00	CROSS COUNTRY	1.00	0.78		
7	CBASIN	CB-7455	.00	CROSS COUNTRY	1.00	0.78		
8	CBASIN	CB-7483	.00	Cross Country	1.00	0.78		
9	CBASIN	CB-8975	.00	CROSS COUNTRY	1.00	0.78		
10	CBASIN	CB-8976	.00	CROSS COUNTRY	1.00	0.78		
11	CBASIN	CB-8977	.00	CROSS COUNTRY	1.00	0.78		
12	CBASIN	CB-8978	.00	CROSS COUNTRY	1.00	0.78		
13	CBASIN	CB-8979	.00	PARKING LOT	1.00	0.78		
14	CBASIN	CB-8980	.00	PARKING LOT	1.00	0.78		
15	CBASIN	CB-8981	.00	PARKING LOT	1.00	0.78		
16	CBASIN	CB-8982	.00	PARKING LOT	1.00	0.78		
17	CBASIN	CB-8983	.00	PARKING LOT	1.00	0.78		
18	CBASIN	CB-8984	.00	CROSS COUNTRY	1.00	0.78		
19	CBASIN	CB-8985	.00	CROSS COUNTRY	1.00	0.78		
20	CBASIN	CB-8986	.00	PARKING LOT	1.00	0.78		
21	CBASIN	CB-8987	.00	PARKING LOT	1.00	0.78		
22	CBASIN	CB-8988	.00	CROSS COUNTRY	1.00	0.78		
23	CBASIN	CB-8989	.00	CROSS COUNTRY	1.00	0.78		

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

Seq	Asset Type	Asset Id	Rating	Asset Descr	Cst Shr	%	Block #	Street / Cross Street / City State Zip
24	CBASIN	CB-8990	.00	CROSS COUNTRY	1.00	0.78		
25	CBASIN	CB-8991	.00	CROSS COUNTRY	1.00	0.78		
26	CBASIN	CB-8992	.00	CROSS COUNTRY	1.00	0.78		
27	CBASIN	CB-8993	.00	CROSS COUNTRY	1.00	0.78		
28	CBASIN	CB-8994	.00	CROSS COUNTRY	1.00	0.78		
29	CBASIN	CB-8995	.00	PARKIGN LOT	1.00	0.78		
30	CBASIN	CB-8996	.00	PARKING LOT	1.00	0.78		
31	CBASIN	CB-8998	.00	PARKING LOT	1.00	0.78		
32	CBASIN	CB-8999	.00	PARKING LOT	1.00	0.78		
33	CBASIN	CB-9000	.00	CROSS COUNTRY	1.00	0.78		
34	CBASIN	CB-9001	.00	PARKING LOT	1.00	0.78		
35	CBASIN	CB-9002	.00	PARKING LOT	1.00	0.78		
36	CBASIN	CB-9003	.00	PARKING LOT	1.00	0.78		
37	CBASIN	CB-9004	.00	PARKIGN LOT	1.00	0.78		
38	CBASIN	CB-9005	.00	PARKING LOT	1.00	0.78		
39	CBASIN	CB-9006	.00	PARKING LOT	1.00	0.78		
40	CBASIN	CB-9007	.00	PARKING LOT	1.00	0.78		
41	CBASIN	CB-9008	.00	PARKING LOT	1.00	0.78		
42	CBASIN	CB-9009	.00	PARKING LOT	1.00	0.78		
43	CBASIN	CB-9010	.00	PARKING LOT	1.00	0.78		
44	CBASIN	CB-9011	.00	CROSS COUNTRY	1.00	0.78		
45	CBASIN	CB-9012	.00	CROSS COUNTRY	1.00	0.78		
46	CBASIN	CB-9013	.00	CROSS COUNTRY	1.00	0.78		
47	CBASIN	CB-9014	.00	CROSS COUNTRY	1.00	0.78		
48	CBASIN	CB-9015	.00	CROSS COUNTRY	1.00	0.78		
49	CBASIN	CB-9016	.00	CROSS COUNTRY	1.00	0.78		
50	CBASIN	CB-9017	.00	CROSS COUNTRY	1.00	0.78		
51	CBASIN	CB-9018	.00	CROSS COUNTRY	1.00	0.78		
52	CBASIN	CB-9022	.00	PARKING LOT	1.00	0.78		
53	CBASIN	CB-9023	.00	CROSS COUNTRY	1.00	0.78		
54	CBASIN	CB-9035	.00	CROSS COUNTRY	1.00	0.78		
55	CBASIN	CB-9036	.00	CROSS COUNTRY	1.00	0.78		
56	CBASIN	CB-9037	.00	CROSS COUNTRY	1.00	0.78		
57	CBASIN	CB-9038	.00	PARKING LOT	1.00	0.78		
58	CBASIN	CB-9039	.00	PARKING LOT	1.00	0.78		
59	CBASIN	CB-9040	.00	CROSS COUNTRY	1.00	0.78		
60	CBASIN	CB-9041	.00	CROSS COUNTRY	1.00	0.78		
61	CBASIN	CB-9042	.00	CROSS COUNTRY	1.00	0.78		
62	CBASIN	CB-9043	.00	PARKING LOT	1.00	0.78		
63	CBASIN	CB-9044	.00	CROSS COUNTRY	1.00	0.78		
64	CBASIN	CB-9045	.00	CROSS COUNTRY	1.00	0.78		
65	CBASIN	CB-9046	.00	CROSS COUNTRY	1.00	0.78		
66	CBASIN	CB-9047	.00	CROSS COUNTRY	1.00	0.78		
67	CBASIN	CB-9048	.00	PARKING LOT	1.00	0.78		
68	CBASIN	CB-9049	.00	PARKING LOT	1.00	0.78		
69	CBASIN	CB-9050	.00	CROSS COUNTRY	1.00	0.78		

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


Seq	Asset Type	Asset Id	Rating	Asset Descr	Cst Shr	%	Block #	Street / Cross Street / City ,State Zip
70	CBASIN	CB-9051	.00	PARKING LOT	1.00	0.78		
71	CBASIN	CB-9068	.00	CROSS COUNTRY	1.00	0.78		
72	CBASIN	CB-9069	.00	CROSS COUNTRY	1.00	0.78		
73	CBASIN	CB-9070	.00	CROSS COUNTRY	1.00	0.78		
74	CBASIN	CB-9071	.00	CROSS COUNTRY	1.00	0.78		
75	CBASIN	CB-9072	.00	CROSS COUNTRY	1.00	0.78		
76	CBASIN	CB-9074	.00	CROSS COUNTRY	1.00	0.78		
77	CBASIN	CB-9076	.00	CROSS COUNTRY	1.00	0.78		
78	CBASIN	CB-9077	.00	CROSS COUNTRY	1.00	0.78		
79	CBASIN	CB-9078	.00	CROSS COUNTRY	1.00	0.78		
80	CBASIN	CB-9079	.00	CROSS COUNTRY	1.00	0.78		
81	CBASIN	CB-9207	.00	CROSS COUNTRY	1.00	0.78		
82	CBASIN	CB-9208	.00	PARKING LOT	1.00	0.78		
83	MANHOLE	DMH-541	.00	Cross Country	1.00	0.78		CROSS COUNTRY
84	MANHOLE	DMH-8413	.00	Cross Country	1.00	0.78		CROSS COUNTRY
85	MANHOLE	DMH-9260	.00	CROSS COUNTRY	1.00	0.78		CROSS COUNTRY
86	MANHOLE	DMH-9261	.00	CROSS COUNTRY	1.00	0.78		CROSS COUNTRY
87	MANHOLE	DMH-9263	.00	PARKING LOT	1.00	0.78		PARKING LOT
88	MANHOLE	DMH-9264	.00	PARKING LOT	1.00	0.78		PARKING LOT
89	MANHOLE	DMH-9265	.00	PARKIGN LOT	1.00	0.78		PARKIGN LOT
90	MANHOLE	DMH-9266	.00	PARKING LOT	1.00	0.78		PARKING LOT
91	MANHOLE	DMH-9267	.00	PARKING LOT	1.00	0.78		PARKING LOT
92	MANHOLE	DMH-9268	.00		1.00	0.78		
93	MANHOLE	DMH-9269	.00	PARKING LOT	1.00	0.78		PARKING LOT
94	MANHOLE	DMH-9270	.00	PARKING LOT	1.00	0.78		PARKING LOT
95	MANHOLE	DMH-9271	.00	CROSS COUNTRY	1.00	0.78		CROSS COUNTRY
96	MANHOLE	DMH-9272	.00	PARKING LOT	1.00	0.78		PARKING LOT
97	MANHOLE	DMH-9273	.00	CROSS COUNTRY	1.00	0.78		CROSS COUNTRY
98	MANHOLE	DMH-9274	.00	CROSS COUNTRY	1.00	0.78		CROSS COUNTRY
99	MANHOLE	DMH-9275	.00	CROSS COUNTRY	1.00	0.78		CROSS COUNTRY
100	MANHOLE	DMH-9276	.00	CROSS COUNTRY	1.00	0.78		CROSS COUNTRY
101	MANHOLE	DMH-9277	.00	CROSS COUNTRY	1.00	0.78		CROSS COUNTRY
102	MANHOLE	DMH-9278	.00	PARKING LOT	1.00	0.78		PARKING LOT
103	MANHOLE	DMH-9279	.00	PARKING LOT	1.00	0.78		PARKING LOT
104	MANHOLE	DMH-9280	.00	PARKING LOT	1.00	0.78		PARKING LOT
105	MANHOLE	DMH-9281	.00	PARKING LOT	1.00	0.78		PARKING LOT
106	MANHOLE	DMH-9282	.00	PARKING LOT	1.00	0.78		PARKING LOT
107	MANHOLE	DMH-9283	.00	PARKING LOT	1.00	0.78		PARKING LOT
108	MANHOLE	DMH-9284	.00	PARKING LOT	1.00	0.78		PARKING LOT
109	MANHOLE	DMH-9285	.00	PARKING LOT	1.00	0.78		PARKING LOT
110	MANHOLE	DMH-9287	.00	CROSS COUNTRY	1.00	0.78		CROSS COUNTRY
111	MANHOLE	DMH-9290	.00	CROSS COUNTRY	1.00	0.78		CROSS COUNTRY
112	MANHOLE	DMH-9291	.00	CROSS COUNTRY	1.00	0.78		CROSS COUNTRY
113	MANHOLE	DMH-9292	.00	CROSS COUNTRY	1.00	0.78		CROSS COUNTRY
114	MANHOLE	DMH-9293	.00	CROSS COUNTRY	1.00	0.78		CROSS COUNTRY
115	MANHOLE	DMH-9294	.00	CROSS COUNTRY	1.00	0.78		CROSS COUNTRY



MaintStar Storm Work Order

Page 5 of 5
3/30/2017

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

Seq	Asset Type	Asset Id	Rating	Asset Descr	Cst Shr	%	Block #	Street / Cross Street / City ,State Zip
116	MANHOLE	DMH-9295	.00	CROSS COUNTRY	1.00	0.78		CROSS COUNTRY
117	MANHOLE	DMH-9296	.00	CROSS COUNTRY	1.00	0.78		CROSS COUNTRY
118	MANHOLE	DMH-9297	.00		1.00	0.78		
119	MANHOLE	DMH-9298	.00	PARKING LOT	1.00	0.78		PARKING LOT
120	MANHOLE	DMH-9299	.00	CROSS COUNTRY	1.00	0.78		CROSS COUNTRY
121	MANHOLE	DMH-9300	.00	CROSS COUNTRY	1.00	0.78		CROSS COUNTRY
122	MANHOLE	DMH-9301	.00	CROSS COUNTRY	1.00	0.78		CROSS COUNTRY
123	MANHOLE	DMH-9302	.00	CROSS COUNTRY	1.00	0.78		CROSS COUNTRY
124	MANHOLE	DMH-9312	.00	PARKING LOT	1.00	0.78		PARKING LOT
125	MANHOLE	DMH-9313	.00	CROSS COUNTRY	1.00	0.78		CROSS COUNTRY
126	MANHOLE	DMH-9314	.00	CROSS COUNTRY	1.00	0.78		CROSS COUNTRY
127	MANHOLE	DMH-9340	.00	CROSS COUNTRY	1.00	0.78		CROSS COUNTRY
128	MANHOLE	DMH-9399	.00	PARKING LOT	1.00	0.78		PARKING LOT
129	GE: DISCHARGE	DPI0946	.00	Cross Country	1.00	0.78		CROSS COUNTRY

Labor Cost	\$4,538.60	Material Cost	\$0.00	Equipment Cost	\$2,400.00
Contractors Cost	\$0.00	Misc. Cost	\$0.00	Total W/O Cost	\$6,938.60


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



MaintStar Storm Work Order

Page 1 of 2
3/30/2017

Created By

 W/O # ST00000492	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
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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 ☐ County Problem ☐ Customer Problem ☐

Task Descr/Complaint: Investigate MR1109
Attached Files:
Action Taken: Field Engineer notes
Supervisor Notes: GIS Map
Fecal Lab resultsCCTV Reports
Sewer segments inspected :
SMH9396 - SMH8797
SMH8797 - SMH6267
E.coil >2420.6MPN/100 ml
Enterococci 1413.6 MPN/100ml
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	11/07/16 00:00	labor	MARI001 - Marinez Samuel A	4:00	REG			MS4 INVEST
2	11/07/16 00:00	labor	DAY001 - Day Zebulun	4:00	REG			MS4 INVEST
3	11/07/16 00:00	equip	VEH-S13 - 2013 F350 4X4	4:00				MS4 INVEST
4	11/14/16 00:00	labor	MARI001 - Marinez Samuel A	4:00	REG			MS4 INVEST
5	11/14/16 00:00	labor	DAY001 - Day Zebulun	4:00	REG			MS4 INVEST
6	11/14/16 00:00	equip	VEH-S13 - 2013 F350 4X4	4:00				MS4 INVEST
7	11/14/16 00:00	equip	VEH-S11 - 2004 SEWER JET MACHINE	4:00				MS4 INVEST
8	11/14/16 00:00	ctr	BMCCorp - BMC Corp.			4.00		MS4 INVEST

Seq	Asset Type	Asset Id	Rating	Asset Descr	Cst Shr	%	Block #	Street / Cross Street / City ,State Zip
1	CBASIN	CB-3166	.00	WATER ST	1.00	9.09		WATER ST
2	MANHOLE	DMH-364	.00	Cross Country	1.00	9.09		CROSS COUNTRY
3	MANHOLE	DMH-365	.00	Cross Country	1.00	9.09		CROSS COUNTRY
4	MANHOLE	DMH-366	.00	GROVELAND ST	1.00	9.09		GROVELAND ST



MaintStar Storm Work Order

Page 2 of 2

3/30/2017

Created By

	W/O # ST00000492	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 Shr</u>	<u>%</u>	<u>Block #</u>	<u>Street / Cross Street / City, State Zip</u>
5	MANHOLE	DMH-367	.00	WATER ST	1.00	9.09		WATER ST
6	MANHOLE	DMH-368	.00	WATER ST	1.00	9.09		WATER ST
7	MANHOLE	DMH-369	.00	SHAPLEIGH AVE	1.00	9.09		SHAPLEIGH AVE
8	MANHOLE	DMH-370	.00	GROVELAND ST	1.00	9.09		GROVELAND ST
9	MANHOLE	DMH-6967	.00	GROVELAND ST	1.00	9.09		GROVELAND ST
10	MANHOLE	DMH-6968	.00	WATER ST	1.00	9.09		WATER ST
11	GE: DISCHARGE	MR1109	.00	Cross Country	1.00	9.09		CROSS COUNTRY

Labor Cost \$396.64

Material Cost \$0.00

Equipment Cost \$284.00

Contractors Cost \$0.00

Misc. Cost \$0.00

Total W/O Cost \$680.64

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

