City of Biddeford
Wastewater Management Commission
January 13, 2021 4:30 PM Via Zoom

1. **Roll Call**
2. **Approval of Minutes**
3. **New Business**
   - 3.1. DEP Needs Study (Attachment 1)
     20200324 Horrigans Court Incident.pdf
     20200915 Water St Incident.pdf
     20200829 Horrigans Court Incident.pdf
     2020 WW Work Summary.pdf
   - 3.2. Update Foss Street Separation Project
4. **Old Business**
   - 4.1. CSO Vault Project Update
   - 4.2. Lower Main Street Sewer Separation Project Update
   - 4.3. Saint Mary Street Sewer
   - 4.4. Foss Street Update
   - 4.5. CSO Program Update (Attachment)
     Biddeford CSO.pdf
5. **Staff Updates**
   - 5.1. Water Street Treatment Plant
   - 5.2. Biddeford Pool Treatment Plant
   - 5.3. Work Report
6. **Other Business**
   - 6.1. Continued Discussion on Roof Drains
   - 6.2. Other Items
7. **Unfinished Business**
8. **Adjournment**

Maine Department of Environmental Protection

NON-COMPLIANCE/DISCHARGE INCIDENT REPORT

Facility: Horrigans Court Pump Station **Municipality:** City of Biddeford

Date of Incident/Exceedence: 3/24/20

DEP Notification Date: 3/24/20 **To Whom:** Stuart Rose - Voicemail

Marine Resources Notification Date: N/A **To Whom:** N/A

Person Making Notification: Alex Buechner **Phone #:** 207-282-1350

Parameter/Pollutant Quantity and Concentration of Release/Exceedence (include test results):

Wastewater pump station overflow. Based on Flow Assessment flow meter data, 36,295 gallons were discharged.

Specific Location and Duration of Release/Exceedence:

Horrigans Court Pump Station was bypassing into the Saco River from 3/23 @ 11:53 PM to 3/23 @ 12:24 AM and then from 3/24 @ 1:06 AM to 3/24 @ 1:36 AM. The first bypass was 8721 gal. The second was 27,573 gal.

Observed Environmental Effects:

None

Describe specifically what happened, when, and why (include all details, and use additional pages if needed, including maps, diagrams as necessary):

Shortly before midnight on 3/23/20 we started getting alarm calls from multiple pump stations across the city due to blown transformers most likely caused by heavy snowfall. Staff was dispatched immediately to start providing backup power. The Horrigans Court station has backup power on site, but the disturbances to the power tripped out the VFDs for both pumps. By the time that staff was able to get there to manually reset, the station was already at high level and bypassing out the CSO outfall. After the pumps were running again, the crew went out to deal with the other stations that were without power. While doing this we had another power issue that caused the VFD's to trip again. They headed straight over there but by the time they got there, the station was in high level again. Reset it a second time and it has been operating correctly since then. This is the largest pump station in Biddeford's collections system and fills up in a matter of minutes if the pumps stop working.

If discharge from collection system, please address the following questions:

Did overflow reach surface water body (Yes/No)?	Yes	If so, what waterbody?	Saco River

How often pump station/sewer line checked (1/day, 1/week, 1/year, etc.):	2/week	When last checked:	3/23/20
Are maintenance checks documented in O&M Plan (Yes/No)?	Yes	Date of last revised O&M Plan:	
Maintenance checks include what assets (pumps, alarms, wetwell, etc.) by what means (visual, cctv, manual operation, etc.):	Visual inspection 2/week, monthly and annual PM's done per manufactures recommendations		

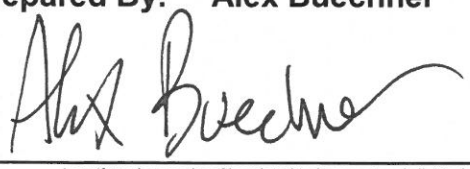
Remedial Actions Taken and Times When Taken:

Reset VFDs and monitored levels remotely.

Specific Measures Needed to Prevent Recurrence:

We are in the process of updating the controls for this station. This will include adding alarms for VFD and pump faults (currently relying on loss of power and high level alarms only). The new controls will also allow for a remote resetting of the VFDs to decrease the response time. We will also be adding flow metering to this station with the controls update. The replacement of this station is part of our CSO master plan.

Implementation Schedule:

Action Item Description	Projected Completion Date
Updating station controls	**5/15/20**
Replacing pump station – part of CSO master plan	**12/31/23**
Prepared By: Alex Buechner 	**Date: 3/24/20**

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.

Non-compliance/Discharge Incident Report Form

The Discharge Incident Report Form can be used by treatment facility personnel to notify the Department when any licensed parameter has been exceeded or when reporting combined sewer overflow related dry weather overflows (DWO's), bypasses, sanitary sewer overflows (SSO's), spills from facility premises to surface waters, or other incidents which violate license conditions as per Chapter 523 Rules regarding "Waste Discharge License Conditions." This form is not mandatory, but if you choose not to use it, be sure that the form or letter you do use includes all the information that this one does.

As per Chapter 523 "Waste Discharge License Conditions," the permittee shall report any non-compliance which may endanger health or the environment orally within 24 hours followed up by a written submission within 5 days of the time the permittee became aware of the circumstances. The following shall also be included as information which must be reported within 24 hours:

- any unanticipated bypass which exceeds any effluent limitation in the permit [including sanitary sewer overflows (SSO's) and dry weather overflows (DWO's) from CSO discharge points]
- any upset which exceeds any effluent limitation in the permit
- violation of a maximum daily discharge limitation for any of the pollutants listed by the Department in the permit

Buechner, Alex

From: Dan Edwards <dedwards@flowassessment.com>
Sent: Tuesday, March 24, 2020 12:48 PM
To: Buechner, Alex
Cc: John Sokol; Dennis Vigliotte
Subject: Biddeford ME CSO 006 Located at Horrigan Court

Afternoon Alex,

This is the flow information for 1A-CSO 006 on Horrigan Court

CSO 006 activated on 03/23/20 23:05:00 to 03/23/20 23:25:00 with a total overflow volume of 0.008721 (MG)

CSO 006 activated on 03/24/20 00:00:00 to 03/24/20 00:40:00 with a total overflow volume of 0.027573 (MG)

Total overflow volume for both events is 0.036295 (MG)

Please let me know if this is what you were looking for or if you require something further.

Dan Edwards

Data Analyst
Flow Assessment Services
72 Priscilla Lane
Auburn, NH 03032
603-656-9799

Maine Department of Environmental Protection

NON-COMPLIANCE/DISCHARGE INCIDENT REPORT

Facility: Wastewater Treatment Facility **Municipality:** City of Biddeford

Date of Incident/Exceedence: 9/14/20, 9/15/20

DEP Notification Date: 9/15/20 **To Whom:** Stuart Rose-VM, Fred Gallant-Phone

Marine Resources Notification Date: N/A **To Whom:** N/A

Person Making Notification: Alex Buechner **Phone #:** 207-282-1350

Parameter/Pollutant Quantity and Concentration of Release/Exceedence (include test results):

An effluent grab sample taken at 9/14 @ 0948 had a fecal coliform MPN result of 78.5 col/100 ml.
An effluent grab sample taken at 9/15 @0751 has a settleable solids result of 0.6 ml/l.

Specific Location and Duration of Release/Exceedence:

At the time of sample collection, the flow was at 1.7 MGD with no rain. Because this exceedance was caused by dirty sampling equipment, I do not believe there was a duration of release.

Observed Environmental Effects:

None.

Describe specifically what happened, when, and why (include all details, and use additional pages if needed, including maps, diagrams as necessary):

On the morning of 9/15, I was notified by the lab that we had exceeded our limit for fecal coliform and that it appeared as though we were going to also exceed our limit for settleable solids. I was also told that the previous day composite had a small amount of floating solids, but not enough to raise any flags. We took a second grab sample from the sampler and found similar solids in the effluent. It appeared to be lost floc from the clarifiers. We took samples of the clarifier effluent and the chlorine contact basin effluent and saw no signs of loss of solids from the clarifiers. We then took a third final effluent sample with a scoop instead of the sampler and also found no signs of solids. This indicated that the problem was sample contamination from the sampler. This was confirmed when we pulled the sampler strainer and found a biofilm surrounding it (see attached photo). As one final check, we compared what we saw in the solids of the sample to a scraping of the biofilm under the microscope and saw the same high concentration of stalked ciliates. The sampler strainer was cleaned and another sample was collected and analyzed for settleable solids. The results of this one showed <0.1 ml/l. I believe that the high solids in the sample was also the cause of high bacteria from the previous day, both of which were caused by a dirty strainer. Both composite samplers are cleaned and serviced monthly and we had pulled new tubing the Friday before the incident. However, the operator that did the tubing change did not remove and thoroughly clean the strainer.

If discharge from collection system, please address the following questions:

Did overflow reach surface water body (Yes/No)?		If so, what waterbody?	

How often pump station/sewer line checked (1/day, 1/week, 1/year, etc.):		When last checked:	
Are maintenance checks documented in O&M Plan (Yes/No)?		Date of last revised O&M Plan:	
Maintenance checks include what assets (pumps, alarms, wetwell, etc.) by what means (visual, cctv, manual operation, etc.):			

Remedial Actions Taken and Times When Taken:

Strainer was cleaned and new samples were taken.

Specific Measures Needed to Prevent Recurrence:

The operators were all made aware of the cause and reminded to clean all parts of the sampler when the monthly service is due. The SOP for sampler maintenance will be reviewed at the next staff meeting so all are aware.

Implementation Schedule:

Action Item Description	Projected Completion Date

Prepared By: Alex Buechner **Date: 9/15/20**

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.

Non-compliance/Discharge Incident Report Form

The Discharge Incident Report Form can be used by treatment facility personnel to notify the Department when any licensed parameter has been exceeded or when reporting combined sewer overflow related dry weather overflows (DWO's), bypasses, sanitary sewer overflows (SSO's), spills from facility premises to surface waters, or other incidents which violate license conditions as per Chapter 523 Rules regarding "Waste Discharge License Conditions." This form is not mandatory, but if you choose not to use it, be sure that the form or letter you do use includes all the information that this one does.

As per Chapter 523 "Waste Discharge License Conditions," the permittee shall report any non-compliance which may endanger health or the environment orally within 24 hours followed up by a written submission within 5 days of the time the permittee became aware of the circumstances. The following shall also be included as information which must be reported within 24 hours:

- any unanticipated bypass which exceeds any effluent limitation in the permit [including sanitary sewer overflows (SSO's) and dry weather overflows (DWO's) from CSO discharge points]
- any upset which exceeds any effluent limitation in the permit
- violation of a maximum daily discharge limitation for any of the pollutants listed by the Department in the permit

Fecal coliform bacteria
Biddeford WWTP

Method: IDEXX Colilert-18

Sample Loc.	Collected Date/Time	Cl2/Flow ppm/mgd	Setup			Takedown			Large Cell #	Small Cell #	Col/100 ml MPN
			Date	Time	Initials	Date	Time	Initials			
F. Eff	9/13/20/0911	0.9 / 1.5	9/13/20	0915	JC	9/14/20	0738	JC	3	1	4.1
F. Eff	9/14/20 / 0948	0.6 / 1.7	9/14/20	0959	JC	9/15/20	0655	JC	40	2	78.5
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pH

Biddeford WWTP method: SM4500 H+B 20th ED

Sample Type: GRAB method: SM 2540-F 20th ED

Sample Description	Date/Time Collected	Time Analyzed	Slope	Temp C RM/SAMP	pH	Analyst Initials	Settleable Solids	
10	9/12/20	0822	102%	21° / 20.8°	10.06	MP	—	
7	9/12/20	0825	102%	21° / 20.8°	7.00	MP	—	
4	9/12/20	0824	102%	21° / 20.8°	4.04	MP	—	
INF	9/12 0832	0842	102%	21° / 21.7°	6.77	MP	10	
EFF	9/12 0837	0843	102%	21° / 21.5°	6.60	MP	<0.1	
10	9/13/20	0647	102%	21° / 20.8°	10.06	JC	—	
7	9/13/20	0649	102%	21° / 20.8°	7.00	JC	—	
4	9/13/20	0648	102%	21° / 20.8	4.05	JC	—	
INF	9/13 0705	0721	102%	21° / 21.3°	6.56	JC	4.0	
EFF	9/13 0708	0722	102%	21° / 21.4	6.46	JC	<0.1	
10	9/14/20	0733	102%	21° / 20.9°	10.07	JC	—	
7	9/14/20	0734	102%	21° / 20.9°	6.98	JC	—	
4	9/14/20	0734	102%	21° / 20.9°	4.02	JC	—	
INF	9/14 0755	0805	102%	21° / 21.8°	7.00	JC	11	
EFF	9/14 0800	0807	102%	21.0 / 21.5°	6.54	JC	<0.1	
AB1	9/14 0802	0810	102%	21° / 21.6°	6.67	JC	—	
AB2	9/14 0802	0811	102%	21° / 21.9°	6.09	JC	—	
OCL	9/14 0804	0812	102%	21° / 20.6°	7.23	JC	—	
10	9/15/20	0709	102%	~~20.9~~ / 20.9°	10.03	JC	—	
7	9/15/20	0710	102%	21° / 20.8°	7.01	JC	—	
4	9/15/20	0710	102%	21° / 20.8°	4.08	JC	—	
INF	9/15 0753	0801	102%	21° / 20.8°	7.07	JC	14	2nd sample from 0910
EFF	9/15 0757	0802	102%	21° / 20.6°	6.56	JC	0.6	Dup <0.1
AB1	9/15 0759	0802	102%	21° / 21°	6.55	JC	—	
AB2	9/15 0759	0803	102%	21° / 21.3°	6.08	JC	—	
OCL	9/15 0755	0806	102%	21° / 18.7°	7.12	JC	—	
10	9/16/20			/			—	
7	9/16/20			/			—	

Maine Department of Environmental Protection

NON-COMPLIANCE/DISCHARGE INCIDENT REPORT

Facility: Horrigans Court Pump Station **Municipality:** City of Biddeford

Date of Incident/Exceedence: 8/29/20

DEP Notification Date: 8/29/20 **To Whom:** Fred Gallange – Phone call

Marine Resources Notification Date: N/A **To Whom:** N/A

Person Making Notification: Alex Buechner **Phone #:** 207-282-1350

Parameter/Pollutant Quantity and Concentration of Release/Exceedence (include test results):

Wastewater pump station, excess CSO flow. Estimated 0.62 MG of combined sewer and storm entered the receiving water that would have been sent to the WWTF under normal circumstances.

Specific Location and Duration of Release/Exceedence:

Horrigans Court Pump Station was operating with only one pump during a high flow event from 0815 to 1408 on 8/29. Based on past history, this licensed CSO outfall would have bypassed regardless of having two functioning pumps, but because one pump was down, the volume was higher than it otherwise would have been.

Observed Environmental Effects:

None.

Describe specifically what happened, when, and why (include all details, and use additional pages if needed, including maps, diagrams as necessary):

As the rainfall increased on Saturday morning, the pump station tried to start the second pump to keep up with the flow. The pump VFD issued a fault. The operator on call received the alarm and tried to reset remotely. When this did not work, staff came in to see what was wrong. We discovered that it was drawing high current. After trouble shooting the pump and motor, it was determined that something inside the pump was causing it to jam up. Further inspection could not be done at the time because the wet well level was too high and the valves would not seat. Pulling the pump at this time would have jeopardized the safety of the employees and the operation of the remaining working pump. By the time we had come to this conclusion, the rain had let up and the wet well level started coming down. Because we could not safely work on the equipment at the time, and the weather report for the next few days was not calling for rain, I made the decision to resume working on this issue on Monday when we had a full crew and dry weather. On Monday we took the pump apart and discovered that the washer that holds the impeller in place had broken and allowed the impeller to slide down the shaft and rub on the volute, causing the high amps that were preventing the pump from running. The pump was immediately sent to the shop for service. This pump has recently been rebuilt and was in excellent condition, considering its age. By Wednesday (9/3) we had repaired and reinstalled the pump. It is now working fine and ready for the next rain event.

If discharge from collection system, please address the following questions:

Did overflow reach surface water body (Yes/No)?	Yes	If so, what waterbody?	Saco River

How often pump station/sewer line checked (1/day, 1/week, 1/year, etc.):	2/week	When last checked:	8/28/20
Are maintenance checks documented in O&M Plan (Yes/No)?	Yes	Date of last revised O&M Plan:	
Maintenance checks include what assets (pumps, alarms, wetwell, etc.) by what means (visual, cctv, manual operation, etc.):	Visual inspection and test pumps 2/week. Monthly and annual PM's done per manufactures recommendations.		

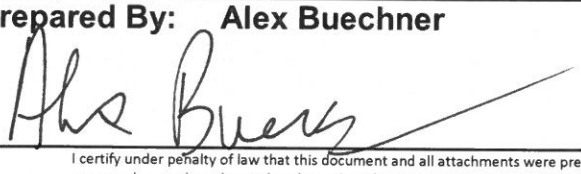
Remedial Actions Taken and Times When Taken:

Pump was send out for service Monday first thing Monday morning and returned to service after repair by 1000 on Wednesday, 9/3. Bypassing plan was put together as a backup plan if we received more rain before the pump was back together.

Specific Measures Needed to Prevent Recurrence:

There was no way to anticipate this issue. This station has had 1 of 2 pumps refurbished (second one planned for winter) and has new controls and arming systems. It is also in our CIP for replacement in the next few years.

Implementation Schedule:

Action Item Description	Projected Completion Date
Repaired pump	**9/3/20**
Replace pump station	**2022**
Prepared By: Alex Buechner 	**Date: 9/3/20**

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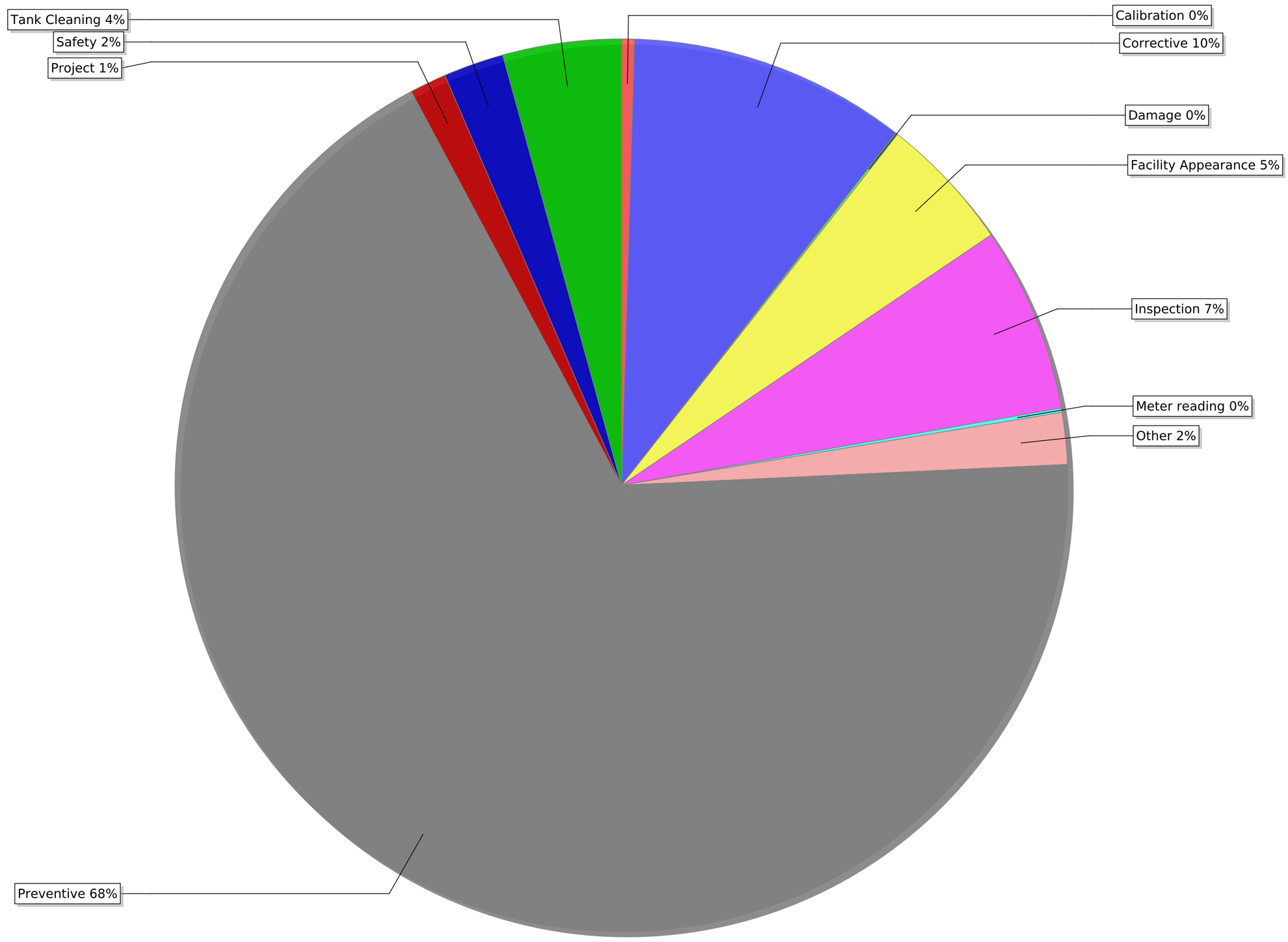
City of Biddeford Waste Water

[FIIX] Closed Work Order Graph Report

This report was run on: Jan 05, 2021 08:51:40 AM
with the following parameters
From Date: Jan 01, 2020 08:51:00 AM
To Date: Dec 31, 2020 08:51:00 AM
Closed by User: "All"
Parent Asset: "All"
Maintenance Type: "All"
Asset Category: "All"



Maintenance Type	Count
Calibration	6
Corrective	129
Damage	1
Facility Appearance	63
Inspection	86
Meter reading	2
Other	24
Preventive	871
Project	17
Safety	28
Tank Cleaning	55
	1,282

Cote, Kara

From: Riley, Michael S <Michael.S.Riley@maine.gov>
Sent: Monday, December 28, 2020 4:06 PM
To: Ryan Wingard; Piers, Brandy M
Cc: Demers, Jeff; Buechner, Alex; Milligan, Tom; Steve L. Guerrette
Subject: RE: Biddeford CSO - Positive News

Hello Ryan,
That's excellent news. In fact, the best news regarding Biddeford's CSO effort since I came to DEP four years ago. If I understand your spreadsheet correctly, flows to the WWTP have been reduced by an average of 10.44% by separating the 48" storm drain from the 24" interceptor. Looking at it another way, the volume separated (21.4MG) would have comprised 15.1 % of the WWTF flows for those days (142MG) or about 1 in every 6.6 gallons. Not having to pump and treat this volume of stormwater is having a substantial impact on overall flows entering the plant.
Initial flow monitoring has confirmed what you predicted in your February 2020 CSO Master Plan submittal. That separating the 48" storm drain was the most impactful step the City could take to reduce Biddeford's CSO discharge volume. We recognize that a huge amount of work still has to be accomplished in separating out excess stormwater from the Biddeford sewer system, but this is an excellent step forward. Both the City and your firm are to be congratulated on this advancement.

Mike Riley, P.E.,
Senior Environmental Engineer
CSO Abatement & FSP Coordinator
Department of Environmental Protection
Division of Water Quality Management
(207) 287-7766 (desk) (207) 745-4242 (cell)
michael.s.riley@maine.gov

From: Ryan Wingard <ryan.wingard@wright-pierce.com>
Sent: Monday, December 28, 2020 12:13 PM
To: Riley, Michael S <Michael.S.Riley@maine.gov>; Piers, Brandy M <Brandy.M.Piers@maine.gov>
Cc: Demers, Jeff <Jeff.Demers@Biddefordmaine.org>; Buechner, Alex <Alex.Buechner@Biddefordmaine.org>; Milligan, Tom <Tom.Milligan@Biddefordmaine.org>; Steve L. Guerrette <steve.guerrette@wright-pierce.com>
Subject: Biddeford CSO - Positive News

Mike and Brandy,

We thought it would be good to share some positive CSO news with you heading into the new year. Amidst our SSES smoke testing efforts, Alex has been closely monitoring the flows at CSO 5 (Western/Main). See attached for the data.

The City paid Flow Assessment to keep the CSO 5 metering equipment in longer to collect post-separation flow data. This was in an effort to see how impactful the recent system changes have been. The attached table shows flows from October and November that would have previously gone to the Horrigan Court PS and then the plant as well as the daily plant flows. The "% Removed" column compares the separated stormwater that went out the old CSO 5 location to what the flow would have been at the WWTF had it not been removed. As you can see, their efforts have resulted in a pretty big impact with about 10% of the total flow to the WWTF now being discharged as separated stormwater

through the old CSO 5 location. It is estimated the City has easily removed 25-30 percent of the flow to the Horrigan Court PS.

Happy New Year!

Ryan Wingard, PE
Wright-Pierce | Vice President, Civil Group Leader
office 207.761.2991 | direct 207.523.1419

WRIGHT-PIERCE
Engineering a Better Environment