


City of
Portsmouth
Department of Public Works



MEMORANDUM

TO: John Bohenko, City Manager

FROM: Terry Desmarais, City Engineer 

COPY: Nancy Colbert-Puff, Deputy City Manager
Peter Rice, Director of Public Works
Suzanne Woodland, Deputy City Attorney

DATE: March 16, 2017

SUBJECT: Report on February 3, 2017 Sewage Discharge
Peirce Island Wastewater Treatment Facility Upgrade Construction

On February 3, 2017 at around 9:30 a.m., a 24" sewer force main, which conveys wastewater from the Mechanic Street Pump Station to the Peirce Island Wastewater Treatment Facility (WWTF), was hit by a contractor during excavation of a new water line. The damage occurred adjacent to the Peirce Island Road, between the pool parking lot and the main gate to WWTF. See attached plan of the approximate location. Although utilities in this area were pre-marked through Dig Safe prior to excavation, through no fault of any party, the force main was struck.

The standard Dig Safe procedures start with the placement of sensors or transponders on known valves, shutoffs, hydrants and other accessible infrastructure associated with a pipe. An electrical charge is generated by the sensor or transponder to help identify the location of the pipe between the known valves, shutoffs, hydrants and other infrastructure. The locations are then marked from the ground level according to the electrical signal.

City staff did the Dig Safe markings. When they were marking the location of the force main, they marked at regular intervals, as is standard practice in the industry. Unfortunately, a section of the force main has an elbow or bend and it was not where anticipated; the discrepancy, which is less than five feet, was not picked up through the Dig Safe effort. The elbow of the pipe brought it in the area to be excavated. Due to this, the contractor inadvertently hit the pipe while excavating in that location.

City staff were informed of the force main break around 9:30 a.m. They were mobilized and onsite by 9:45 a.m. The Mechanic Street Pumping Station was turned off at approximately 10 a.m. Staff turned off the pump station so wastewater would not be discharging from the pipe during the repair. Attached is a SCADA figure showing the discontinuance and restart of pumping.

Septage haulers were called around the same time (10:00 a.m.). Septage trucks and available storage in the collection system were used to minimize any potential discharge of sewage at the Mechanic Street

Pumping Station. Wastewater collects at the pump station and in the pipelines to the pumping station. The septage trucks started pumping out of the Mechanic Street Pump Station wetwell to keep wastewater from backing up. This was initiated as quickly as possible because the pumping station conveys all the wastewater from the City to the Peirce Island WWTF.

The pipe was struck near the lowest point in the force main so the trench was filled with raw wastewater. In order to assess and fix the break, raw wastewater in the trench had to be removed and was pumped to the grass adjacent to the trench and then discharged into the Piscataqua River. The action was unfortunate, but necessary because an alternative approach would have taken longer, caused a larger discharge of wastewater, and delayed the response time.

Staff estimated the total volume of wastewater that was discharged to the Piscataqua River. This was done by first calculating the total volume of wastewater that was in the force main from the treatment plant to the Peirce Island Road Bridge (the high point in the force main). This volume was calculated to be 58,800 gallons. Not all of the wastewater went into the river, so it was reported to be between 30,000 and 50,000 gallons, with 50,000 gallons being the maximum that was discharged. There was an additional 2,000 gallons that went into the South Mill Pond through combined sewer overflow (CSO) 10A, which is metered. This occurred from 3:20 p.m. to 3:35 p.m. because the collection system had run out of available storage volume and the amount of water being removed by the septage trucks was not quite adequate to keep up with the flows at that time. Attached is a report showing the flow meter data for the wastewater discharged to South Mill Pond through CSO 10A.

Through coordinated efforts between City staff and contractor forces, the force main repair was complete at 3:15 p.m. The pump station was turned back on at 3:30 p.m. Attached are SCADA figures (3) showing the discontinuance and restart of pumping.

During this emergency repair, staff notified by telephone the regulatory agencies, the Environmental Protection Agency (EPA) and the NH Department of Environmental Services (DES), around 9:45 a.m. The force main break was reported to the newspaper and a tweet was distributed during the middle of the repair work. This was done to notify the public that we were working on an issue at the construction site. The City issued a follow-up report to the regulatory agencies and it is attached to this memorandum.

To prevent the issue from recurring, the City performed additional electrical sensing along the remainder of the force main beyond what is typically called for. In addition the contractor has conducted test pits to determine the exact location of the pipe in various locations. The contractor is also using ground penetrating radar inside the fence line of the WWTF in order to gather more information on pipe locations.

This was not an unusual incident given the type of construction occurring at the WWTF and the prevalence of older underground utilities throughout the City. Accidents do happen during construction and the important thing is staff and the contractor responded quickly and addressed the issue. It has been the City's experience that representatives of the EPA and DES understand that incidents happen during construction. Reporting is required as well as verification that the situation was quickly addressed, but fines have not been imposed in the past and the City does not anticipate a fine based on this incident.

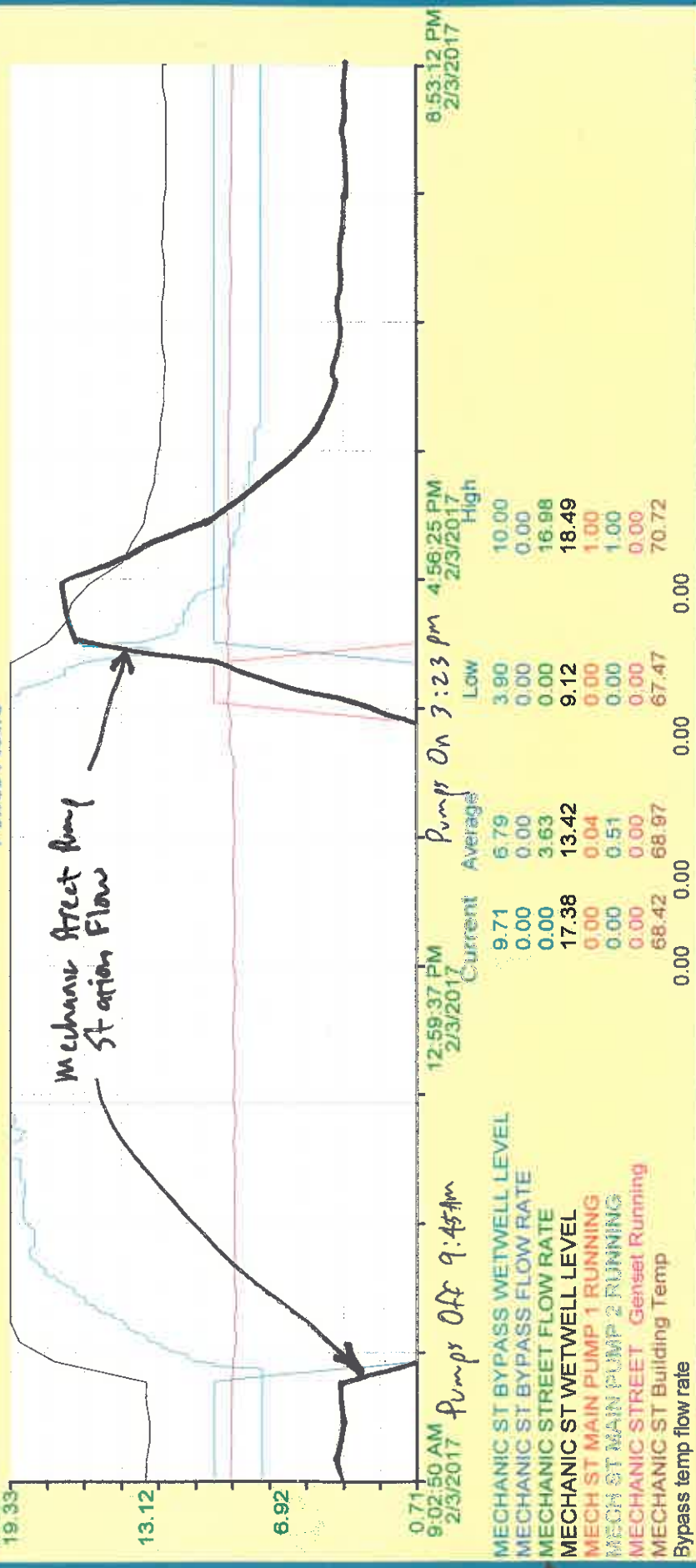
The City and the contractor worked as a team to correct the situation quickly. The contractor incurred costs in terms of time and materials to remedy the situation. The City incurred little cost as part of the operation; staff was not on overtime, except for the tail end of the cleanup, because the pipe repair was completed during normal business hours. Neither party anticipates making a claim for costs against the other based on the information known to date.

ATTACHMENT A. LOCATION OF SEWER MAIN BREAK AND SEWER OVERFLOW



Time In	SEMS	V203	D34070501
20:35:59 (M)	CFM		Alarm: Stream Controller Alarm
11:11:58 (M)	CFM		Alarm: FALL SFP 2 COMMON FAIL ALARM
18:54:58 (M)	CFM		Alarm: Flow Sensor Failure S7 SFP1 ALARM
10:41:13 (M)	CFM		Alarm: Flow Sensor Failure S8 SFP1 ALARM

Peirce Flows



Mechanic Street flow Station Flow

Pumps Off 9:45 am

Pumps On 3:23 pm

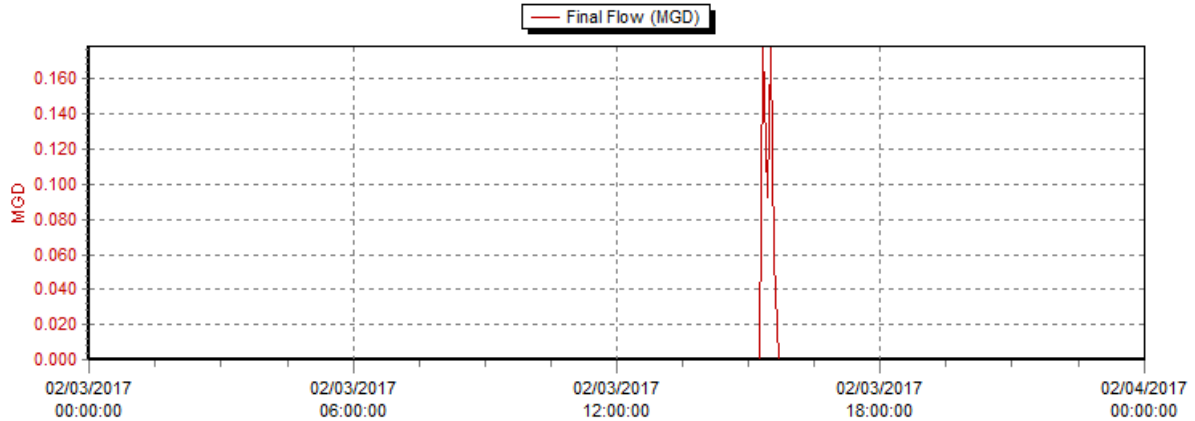
- MECHANIC ST BYPASS WETWELL LEVEL
- MECHANIC ST BYPASS FLOW RATE
- MECHANIC STREET FLOW RATE
- MECHANIC ST WETWELL LEVEL
- MECH ST MAIN PUMP 1 RUNNING
- MECH ST MAIN PUMP 2 RUNNING
- MECHANIC STREET Genset Running
- MECHANIC ST Building Temp
- Bypass temp flow rate

Scroll Scroll

ATTACHMENT C. DAILY DISCHARGE MONITORING REPORT

CSO 010A (South Mill Pond), Parrott Avenue on 2-3-2017

10A (02/03/2017 00:00:00 to 02/04/2017 00:00:00)



Time Stamp	Final Flow (MGD)
02/03/2017 00:00:00	0.000
02/03/2017 00:05:00	0.000
02/03/2017 00:10:00	0.000
02/03/2017 00:15:00	0.000
02/03/2017 00:20:00	0.000
02/03/2017 00:25:00	0.000
02/03/2017 00:30:00	0.000
02/03/2017 00:35:00	0.000
02/03/2017 00:40:00	0.000
02/03/2017 00:45:00	0.000
02/03/2017 00:50:00	0.000
02/03/2017 00:55:00	0.000
02/03/2017 01:00:00	0.000
02/03/2017 01:05:00	0.000
02/03/2017 01:10:00	0.000
02/03/2017 01:15:00	0.000
02/03/2017 01:20:00	0.000
02/03/2017 01:25:00	0.000
02/03/2017 01:30:00	0.000
02/03/2017 01:35:00	0.000
02/03/2017 01:40:00	0.000
02/03/2017 01:45:00	0.000
02/03/2017 01:50:00	0.000
02/03/2017 01:55:00	0.000
02/03/2017 02:00:00	0.000
02/03/2017 02:05:00	0.000
02/03/2017 02:10:00	0.000
02/03/2017 02:15:00	0.000
02/03/2017 02:20:00	0.000
02/03/2017 02:25:00	0.000
02/03/2017 02:30:00	0.000
02/03/2017 02:35:00	0.000
02/03/2017 02:40:00	0.000
02/03/2017 02:45:00	0.000
02/03/2017 02:50:00	0.000
02/03/2017 02:55:00	0.000
02/03/2017 03:00:00	0.000

Time Stamp	Final Flow (MGD)
02/03/2017 03:05:00	0.000
02/03/2017 03:10:00	0.000
02/03/2017 03:15:00	0.000
02/03/2017 03:20:00	0.000
02/03/2017 03:25:00	0.000
02/03/2017 03:30:00	0.000
02/03/2017 03:35:00	0.000
02/03/2017 03:40:00	0.000
02/03/2017 03:45:00	0.000
02/03/2017 03:50:00	0.000
02/03/2017 03:55:00	0.000
02/03/2017 04:00:00	0.000
02/03/2017 04:05:00	0.000
02/03/2017 04:10:00	0.000
02/03/2017 04:15:00	0.000
02/03/2017 04:20:00	0.000
02/03/2017 04:25:00	0.000
02/03/2017 04:30:00	0.000
02/03/2017 04:35:00	0.000
02/03/2017 04:40:00	0.000
02/03/2017 04:45:00	0.000
02/03/2017 04:50:00	0.000
02/03/2017 04:55:00	0.000
02/03/2017 05:00:00	0.000
02/03/2017 05:05:00	0.000
02/03/2017 05:10:00	0.000
02/03/2017 05:15:00	0.000
02/03/2017 05:20:00	0.000
02/03/2017 05:25:00	0.000
02/03/2017 05:30:00	0.000
02/03/2017 05:35:00	0.000
02/03/2017 05:40:00	0.000
02/03/2017 05:45:00	0.000
02/03/2017 05:50:00	0.000
02/03/2017 05:55:00	0.000
02/03/2017 06:00:00	0.000
02/03/2017 06:05:00	0.000
02/03/2017 06:10:00	0.000
02/03/2017 06:15:00	0.000
02/03/2017 06:20:00	0.000
02/03/2017 06:25:00	0.000
02/03/2017 06:30:00	0.000
02/03/2017 06:35:00	0.000
02/03/2017 06:40:00	0.000
02/03/2017 06:45:00	0.000
02/03/2017 06:50:00	0.000
02/03/2017 06:55:00	0.000
02/03/2017 07:00:00	0.000
02/03/2017 07:05:00	0.000
02/03/2017 07:10:00	0.000
02/03/2017 07:15:00	0.000
02/03/2017 07:20:00	0.000
02/03/2017 07:25:00	0.000
02/03/2017 07:30:00	0.000

Time Stamp	Final Flow (MGD)
02/03/2017 07:35:00	0.000
02/03/2017 07:40:00	0.000
02/03/2017 07:45:00	0.000
02/03/2017 07:50:00	0.000
02/03/2017 07:55:00	0.000
02/03/2017 08:00:00	0.000
02/03/2017 08:05:00	0.000
02/03/2017 08:10:00	0.000
02/03/2017 08:15:00	0.000
02/03/2017 08:20:00	0.000
02/03/2017 08:25:00	0.000
02/03/2017 08:30:00	0.000
02/03/2017 08:35:00	0.000
02/03/2017 08:40:00	0.000
02/03/2017 08:45:00	0.000
02/03/2017 08:50:00	0.000
02/03/2017 08:55:00	0.000
02/03/2017 09:00:00	0.000
02/03/2017 09:05:00	0.000
02/03/2017 09:10:00	0.000
02/03/2017 09:15:00	0.000
02/03/2017 09:20:00	0.000
02/03/2017 09:25:00	0.000
02/03/2017 09:30:00	0.000
02/03/2017 09:35:00	0.000
02/03/2017 09:40:00	0.000
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02/03/2017 09:50:00	0.000
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02/03/2017 10:20:00	0.000
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02/03/2017 11:35:00	0.000
02/03/2017 11:40:00	0.000
02/03/2017 11:45:00	0.000
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02/03/2017 11:55:00	0.000
02/03/2017 12:00:00	0.000

Time Stamp	Final Flow (MGD)
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02/03/2017 12:10:00	0.000
02/03/2017 12:15:00	0.000
02/03/2017 12:20:00	0.000
02/03/2017 12:25:00	0.000
02/03/2017 12:30:00	0.000
02/03/2017 12:35:00	0.000
02/03/2017 12:40:00	0.000
02/03/2017 12:45:00	0.000
02/03/2017 12:50:00	0.000
02/03/2017 12:55:00	0.000
02/03/2017 13:00:00	0.000
02/03/2017 13:05:00	0.000
02/03/2017 13:10:00	0.000
02/03/2017 13:15:00	0.000
02/03/2017 13:20:00	0.000
02/03/2017 13:25:00	0.000
02/03/2017 13:30:00	0.000
02/03/2017 13:35:00	0.000
02/03/2017 13:40:00	0.000
02/03/2017 13:45:00	0.000
02/03/2017 13:50:00	0.000
02/03/2017 13:55:00	0.000
02/03/2017 14:00:00	0.000
02/03/2017 14:05:00	0.000
02/03/2017 14:10:00	0.000
02/03/2017 14:15:00	0.000
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02/03/2017 14:55:00	0.000
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02/03/2017 15:40:00	0.000
02/03/2017 15:45:00	0.000
02/03/2017 15:50:00	0.000
02/03/2017 15:55:00	0.000
02/03/2017 16:00:00	0.000
02/03/2017 16:05:00	0.000
02/03/2017 16:10:00	0.000
02/03/2017 16:15:00	0.000
02/03/2017 16:20:00	0.000
02/03/2017 16:25:00	0.000
02/03/2017 16:30:00	0.000

Time Stamp	Final Flow (MGD)
02/03/2017 16:35:00	0.000
02/03/2017 16:40:00	0.000
02/03/2017 16:45:00	0.000
02/03/2017 16:50:00	0.000
02/03/2017 16:55:00	0.000
02/03/2017 17:00:00	0.000
02/03/2017 17:05:00	0.000
02/03/2017 17:10:00	0.000
02/03/2017 17:15:00	0.000
02/03/2017 17:20:00	0.000
02/03/2017 17:25:00	0.000
02/03/2017 17:30:00	0.000
02/03/2017 17:35:00	0.000
02/03/2017 17:40:00	0.000
02/03/2017 17:45:00	0.000
02/03/2017 17:50:00	0.000
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02/03/2017 18:00:00	0.000
02/03/2017 18:05:00	0.000
02/03/2017 18:10:00	0.000
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02/03/2017 18:25:00	0.000
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02/03/2017 18:35:00	0.000
02/03/2017 18:40:00	0.000
02/03/2017 18:45:00	0.000
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02/03/2017 18:55:00	0.000
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02/03/2017 20:10:00	0.000
02/03/2017 20:15:00	0.000
02/03/2017 20:20:00	0.000
02/03/2017 20:25:00	0.000
02/03/2017 20:30:00	0.000
02/03/2017 20:35:00	0.000
02/03/2017 20:40:00	0.000
02/03/2017 20:45:00	0.000
02/03/2017 20:50:00	0.000
02/03/2017 20:55:00	0.000
02/03/2017 21:00:00	0.000

Time Stamp	Final Flow (MGD)
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02/03/2017 21:10:00	0.000
02/03/2017 21:15:00	0.000
02/03/2017 21:20:00	0.000
02/03/2017 21:25:00	0.000
02/03/2017 21:30:00	0.000
02/03/2017 21:35:00	0.000
02/03/2017 21:40:00	0.000
02/03/2017 21:45:00	0.000
02/03/2017 21:50:00	0.000
02/03/2017 21:55:00	0.000
02/03/2017 22:00:00	0.000
02/03/2017 22:05:00	0.000
02/03/2017 22:10:00	0.000
02/03/2017 22:15:00	0.000
02/03/2017 22:20:00	0.000
02/03/2017 22:25:00	0.000
02/03/2017 22:30:00	0.000
02/03/2017 22:35:00	0.000
02/03/2017 22:40:00	0.000
02/03/2017 22:45:00	0.000
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02/03/2017 23:00:00	0.000
02/03/2017 23:05:00	0.000
02/03/2017 23:10:00	0.000
02/03/2017 23:15:00	0.000
02/03/2017 23:20:00	0.000
02/03/2017 23:25:00	0.000
02/03/2017 23:30:00	0.000
02/03/2017 23:35:00	0.000
02/03/2017 23:40:00	0.000
02/03/2017 23:45:00	0.000
02/03/2017 23:50:00	0.000
02/03/2017 23:55:00	0.000
Minimum	0.000
Average	0.002
Maximum	0.179
Total	0.002 (mg)
Time of Min	02/03/2017 00:00:00
Time of Max	02/03/2017 15:30:00



PUBLIC WORKS DEPARTMENT

CITY OF PORTSMOUTH

680 Peverly Hill Road

Portsmouth N.H. 03801

(603) 427-1530 FAX (603) 427-1539

February 9, 2017

Stephanie Larson (VIA EMAIL)

NHDES

P.O. Box 95 - 29 Hazen Drive

Concord, NH 03301-0095

Re: SSO at Peirce Island Force Main Break
CSO at 10A (South Mill Pond), Parrott Avenue on 2-3-2017
Peirce Island, Portsmouth, New Hampshire

Dear Ms. Larson:

This letter is formal notification of discharges resulting from a sewer force main break on Peirce Island in Portsmouth NH. As part of construction activities for the upgrade of the Peirce Island Wastewater Treatment Facility (WWTF), a contractor hit the force main while digging with an excavator to extend a new utility through the site. The force main is a 24" ductile pipe that conveys wastewater from the City's Mechanic Street Pumping Station to the Peirce Island WWTF. The break occurred on Friday, February 3, 2017 at 9:30 AM.

City staff responded to the break and immediately shut off the pumps at the Mechanic Street Pump Station in order to stop flow in the line. Septage trucks were employed to transfer incoming wastewater from the pump station tank to the Peirce Island treatment facility. In order to remove water from the trench to repair the sewer break, wastewater was pumped out of the trench onto the grass. Wastewater flowed through a silt fence for erosion control prior to discharging to the Piscataqua River. The break was repaired at approximate 3:00 PM.

The total volume of discharge from this incident is estimated to be 30,000 to 50,000 gallons. The discharge was to the Piscataqua River as shown on Attachments A and B.

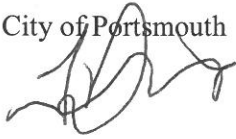
In addition, because the pumps at Mechanic Street were shut off to repair the break, sewerage backed up in the collection system, which resulted in discharge from CSO 10A into the South Mill Pond at Parrott Avenue. The discharge began at 3:20 PM and ended at 3:35 PM. Please find Attachment C, which is the Daily Flow Report for CSO 10A. The total volume of CSO discharged was 2,000 gallons.

The City is investigating the cause of the break, and discussing further measures with the Contractor and Engineer for the Peirce Island Wastewater Treatment Facility Upgrade to prevent such incidents in the future.

If you have any questions or require additional information please call me at 603-766-1421.

Sincerely,

City of Portsmouth

A handwritten signature in black ink, appearing to be 'Terry Desmarais, Jr.', written over the text 'City of Portsmouth'.

Terry Desmarais, Jr., P.E.
City Engineer

cc: Peter Rice, Director of Public Works
Brian Goetz, Deputy Director of Public Works
Joy Hilton, EPA
Chris Nash, NHDES

ATTACHMENT A. LOCATION OF SEWER MAIN BREAK AND SEWER OVERFLOW



ATTACHMENT B. TRENCH AT MAIN BREAK

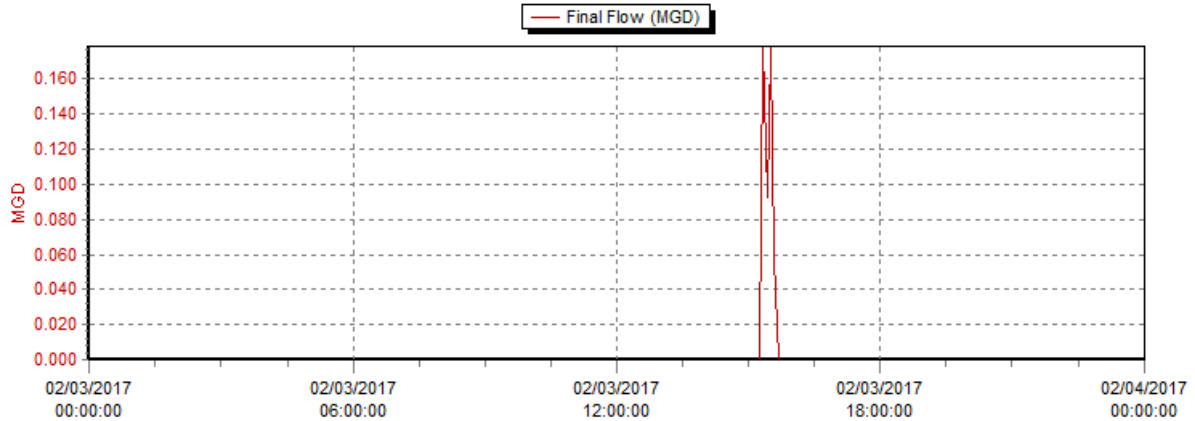


RISER PIPE MARKS THE LOCATION OF THE BREAK.

ATTACHMENT C. DAILY DISCHARGE MONITORING REPORT

CSO 010A (South Mill Pond), Parrott Avenue on 2-3-2017

10A (02/03/2017 00:00:00 to 02/04/2017 00:00:00)



Time Stamp	Final Flow (MGD)
02/03/2017 00:00:00	0.000
02/03/2017 00:05:00	0.000
02/03/2017 00:10:00	0.000
02/03/2017 00:15:00	0.000
02/03/2017 00:20:00	0.000
02/03/2017 00:25:00	0.000
02/03/2017 00:30:00	0.000
02/03/2017 00:35:00	0.000
02/03/2017 00:40:00	0.000
02/03/2017 00:45:00	0.000
02/03/2017 00:50:00	0.000
02/03/2017 00:55:00	0.000
02/03/2017 01:00:00	0.000
02/03/2017 01:05:00	0.000
02/03/2017 01:10:00	0.000
02/03/2017 01:15:00	0.000
02/03/2017 01:20:00	0.000
02/03/2017 01:25:00	0.000
02/03/2017 01:30:00	0.000
02/03/2017 01:35:00	0.000
02/03/2017 01:40:00	0.000
02/03/2017 01:45:00	0.000
02/03/2017 01:50:00	0.000
02/03/2017 01:55:00	0.000
02/03/2017 02:00:00	0.000
02/03/2017 02:05:00	0.000
02/03/2017 02:10:00	0.000
02/03/2017 02:15:00	0.000
02/03/2017 02:20:00	0.000
02/03/2017 02:25:00	0.000
02/03/2017 02:30:00	0.000
02/03/2017 02:35:00	0.000
02/03/2017 02:40:00	0.000
02/03/2017 02:45:00	0.000
02/03/2017 02:50:00	0.000
02/03/2017 02:55:00	0.000
02/03/2017 03:00:00	0.000

Time Stamp	Final Flow (MGD)
02/03/2017 03:05:00	0.000
02/03/2017 03:10:00	0.000
02/03/2017 03:15:00	0.000
02/03/2017 03:20:00	0.000
02/03/2017 03:25:00	0.000
02/03/2017 03:30:00	0.000
02/03/2017 03:35:00	0.000
02/03/2017 03:40:00	0.000
02/03/2017 03:45:00	0.000
02/03/2017 03:50:00	0.000
02/03/2017 03:55:00	0.000
02/03/2017 04:00:00	0.000
02/03/2017 04:05:00	0.000
02/03/2017 04:10:00	0.000
02/03/2017 04:15:00	0.000
02/03/2017 04:20:00	0.000
02/03/2017 04:25:00	0.000
02/03/2017 04:30:00	0.000
02/03/2017 04:35:00	0.000
02/03/2017 04:40:00	0.000
02/03/2017 04:45:00	0.000
02/03/2017 04:50:00	0.000
02/03/2017 04:55:00	0.000
02/03/2017 05:00:00	0.000
02/03/2017 05:05:00	0.000
02/03/2017 05:10:00	0.000
02/03/2017 05:15:00	0.000
02/03/2017 05:20:00	0.000
02/03/2017 05:25:00	0.000
02/03/2017 05:30:00	0.000
02/03/2017 05:35:00	0.000
02/03/2017 05:40:00	0.000
02/03/2017 05:45:00	0.000
02/03/2017 05:50:00	0.000
02/03/2017 05:55:00	0.000
02/03/2017 06:00:00	0.000
02/03/2017 06:05:00	0.000
02/03/2017 06:10:00	0.000
02/03/2017 06:15:00	0.000
02/03/2017 06:20:00	0.000
02/03/2017 06:25:00	0.000
02/03/2017 06:30:00	0.000
02/03/2017 06:35:00	0.000
02/03/2017 06:40:00	0.000
02/03/2017 06:45:00	0.000
02/03/2017 06:50:00	0.000
02/03/2017 06:55:00	0.000
02/03/2017 07:00:00	0.000
02/03/2017 07:05:00	0.000
02/03/2017 07:10:00	0.000
02/03/2017 07:15:00	0.000
02/03/2017 07:20:00	0.000
02/03/2017 07:25:00	0.000
02/03/2017 07:30:00	0.000

Time Stamp	Final Flow (MGD)
02/03/2017 07:35:00	0.000
02/03/2017 07:40:00	0.000
02/03/2017 07:45:00	0.000
02/03/2017 07:50:00	0.000
02/03/2017 07:55:00	0.000
02/03/2017 08:00:00	0.000
02/03/2017 08:05:00	0.000
02/03/2017 08:10:00	0.000
02/03/2017 08:15:00	0.000
02/03/2017 08:20:00	0.000
02/03/2017 08:25:00	0.000
02/03/2017 08:30:00	0.000
02/03/2017 08:35:00	0.000
02/03/2017 08:40:00	0.000
02/03/2017 08:45:00	0.000
02/03/2017 08:50:00	0.000
02/03/2017 08:55:00	0.000
02/03/2017 09:00:00	0.000
02/03/2017 09:05:00	0.000
02/03/2017 09:10:00	0.000
02/03/2017 09:15:00	0.000
02/03/2017 09:20:00	0.000
02/03/2017 09:25:00	0.000
02/03/2017 09:30:00	0.000
02/03/2017 09:35:00	0.000
02/03/2017 09:40:00	0.000
02/03/2017 09:45:00	0.000
02/03/2017 09:50:00	0.000
02/03/2017 09:55:00	0.000
02/03/2017 10:00:00	0.000
02/03/2017 10:05:00	0.000
02/03/2017 10:10:00	0.000
02/03/2017 10:15:00	0.000
02/03/2017 10:20:00	0.000
02/03/2017 10:25:00	0.000
02/03/2017 10:30:00	0.000
02/03/2017 10:35:00	0.000
02/03/2017 10:40:00	0.000
02/03/2017 10:45:00	0.000
02/03/2017 10:50:00	0.000
02/03/2017 10:55:00	0.000
02/03/2017 11:00:00	0.000
02/03/2017 11:05:00	0.000
02/03/2017 11:10:00	0.000
02/03/2017 11:15:00	0.000
02/03/2017 11:20:00	0.000
02/03/2017 11:25:00	0.000
02/03/2017 11:30:00	0.000
02/03/2017 11:35:00	0.000
02/03/2017 11:40:00	0.000
02/03/2017 11:45:00	0.000
02/03/2017 11:50:00	0.000
02/03/2017 11:55:00	0.000
02/03/2017 12:00:00	0.000

Time Stamp	Final Flow (MGD)
02/03/2017 12:05:00	0.000
02/03/2017 12:10:00	0.000
02/03/2017 12:15:00	0.000
02/03/2017 12:20:00	0.000
02/03/2017 12:25:00	0.000
02/03/2017 12:30:00	0.000
02/03/2017 12:35:00	0.000
02/03/2017 12:40:00	0.000
02/03/2017 12:45:00	0.000
02/03/2017 12:50:00	0.000
02/03/2017 12:55:00	0.000
02/03/2017 13:00:00	0.000
02/03/2017 13:05:00	0.000
02/03/2017 13:10:00	0.000
02/03/2017 13:15:00	0.000
02/03/2017 13:20:00	0.000
02/03/2017 13:25:00	0.000
02/03/2017 13:30:00	0.000
02/03/2017 13:35:00	0.000
02/03/2017 13:40:00	0.000
02/03/2017 13:45:00	0.000
02/03/2017 13:50:00	0.000
02/03/2017 13:55:00	0.000
02/03/2017 14:00:00	0.000
02/03/2017 14:05:00	0.000
02/03/2017 14:10:00	0.000
02/03/2017 14:15:00	0.000
02/03/2017 14:20:00	0.000
02/03/2017 14:25:00	0.000
02/03/2017 14:30:00	0.000
02/03/2017 14:35:00	0.000
02/03/2017 14:40:00	0.000
02/03/2017 14:45:00	0.000
02/03/2017 14:50:00	0.000
02/03/2017 14:55:00	0.000
02/03/2017 15:00:00	0.000
02/03/2017 15:05:00	0.000
02/03/2017 15:10:00	0.000
02/03/2017 15:15:00	0.000
02/03/2017 15:20:00	0.178
02/03/2017 15:25:00	0.093
02/03/2017 15:30:00	0.179
02/03/2017 15:35:00	0.058
02/03/2017 15:40:00	0.000
02/03/2017 15:45:00	0.000
02/03/2017 15:50:00	0.000
02/03/2017 15:55:00	0.000
02/03/2017 16:00:00	0.000
02/03/2017 16:05:00	0.000
02/03/2017 16:10:00	0.000
02/03/2017 16:15:00	0.000
02/03/2017 16:20:00	0.000
02/03/2017 16:25:00	0.000
02/03/2017 16:30:00	0.000

Time Stamp	Final Flow (MGD)
02/03/2017 16:35:00	0.000
02/03/2017 16:40:00	0.000
02/03/2017 16:45:00	0.000
02/03/2017 16:50:00	0.000
02/03/2017 16:55:00	0.000
02/03/2017 17:00:00	0.000
02/03/2017 17:05:00	0.000
02/03/2017 17:10:00	0.000
02/03/2017 17:15:00	0.000
02/03/2017 17:20:00	0.000
02/03/2017 17:25:00	0.000
02/03/2017 17:30:00	0.000
02/03/2017 17:35:00	0.000
02/03/2017 17:40:00	0.000
02/03/2017 17:45:00	0.000
02/03/2017 17:50:00	0.000
02/03/2017 17:55:00	0.000
02/03/2017 18:00:00	0.000
02/03/2017 18:05:00	0.000
02/03/2017 18:10:00	0.000
02/03/2017 18:15:00	0.000
02/03/2017 18:20:00	0.000
02/03/2017 18:25:00	0.000
02/03/2017 18:30:00	0.000
02/03/2017 18:35:00	0.000
02/03/2017 18:40:00	0.000
02/03/2017 18:45:00	0.000
02/03/2017 18:50:00	0.000
02/03/2017 18:55:00	0.000
02/03/2017 19:00:00	0.000
02/03/2017 19:05:00	0.000
02/03/2017 19:10:00	0.000
02/03/2017 19:15:00	0.000
02/03/2017 19:20:00	0.000
02/03/2017 19:25:00	0.000
02/03/2017 19:30:00	0.000
02/03/2017 19:35:00	0.000
02/03/2017 19:40:00	0.000
02/03/2017 19:45:00	0.000
02/03/2017 19:50:00	0.000
02/03/2017 19:55:00	0.000
02/03/2017 20:00:00	0.000
02/03/2017 20:05:00	0.000
02/03/2017 20:10:00	0.000
02/03/2017 20:15:00	0.000
02/03/2017 20:20:00	0.000
02/03/2017 20:25:00	0.000
02/03/2017 20:30:00	0.000
02/03/2017 20:35:00	0.000
02/03/2017 20:40:00	0.000
02/03/2017 20:45:00	0.000
02/03/2017 20:50:00	0.000
02/03/2017 20:55:00	0.000
02/03/2017 21:00:00	0.000

Time Stamp	Final Flow (MGD)
02/03/2017 21:05:00	0.000
02/03/2017 21:10:00	0.000
02/03/2017 21:15:00	0.000
02/03/2017 21:20:00	0.000
02/03/2017 21:25:00	0.000
02/03/2017 21:30:00	0.000
02/03/2017 21:35:00	0.000
02/03/2017 21:40:00	0.000
02/03/2017 21:45:00	0.000
02/03/2017 21:50:00	0.000
02/03/2017 21:55:00	0.000
02/03/2017 22:00:00	0.000
02/03/2017 22:05:00	0.000
02/03/2017 22:10:00	0.000
02/03/2017 22:15:00	0.000
02/03/2017 22:20:00	0.000
02/03/2017 22:25:00	0.000
02/03/2017 22:30:00	0.000
02/03/2017 22:35:00	0.000
02/03/2017 22:40:00	0.000
02/03/2017 22:45:00	0.000
02/03/2017 22:50:00	0.000
02/03/2017 22:55:00	0.000
02/03/2017 23:00:00	0.000
02/03/2017 23:05:00	0.000
02/03/2017 23:10:00	0.000
02/03/2017 23:15:00	0.000
02/03/2017 23:20:00	0.000
02/03/2017 23:25:00	0.000
02/03/2017 23:30:00	0.000
02/03/2017 23:35:00	0.000
02/03/2017 23:40:00	0.000
02/03/2017 23:45:00	0.000
02/03/2017 23:50:00	0.000
02/03/2017 23:55:00	0.000
Minimum	0.000
Average	0.002
Maximum	0.179
Total	0.002 (mg)
Time of Min	02/03/2017 00:00:00
Time of Max	02/03/2017 15:30:00