



DRY WEATHER OUTFALL INSPECTION REPORT

1

To: Ms. Lynne Blaisdell, Town Administrator
From: Nick Cristofori, P.E., Comprehensive Environmental Inc.
Date: November 25, 2020
Town: Sandown, NH
Subject: Dry Weather Outfall Inspection and Screening

Under the Environmental Protection Agency's (EPA's) 2017 National Pollutant Discharge and Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit, regulated communities such as Sandown are required to inspect all known outfalls and interconnections for the presence of dry weather flow (no more than 0.1-inches of rainfall has occurred during the previous 24-hour period and no significant snow melt is occurring) within three years of the permit effective date, or by June 30, 2021. CEI performed field work related to dry weather screening on November 3, 2020 and the following relevant outfall conditions were observed:

Table 1 – Dry Weather Flow Screening Results

| Parameter | Number |
|---------------------------------------------------------------|--------|
| Known Outfalls within the Urbanized Area | 12 |
| Outfalls that were Attempted to Visit | 12 |
| Outfalls that Could Not be Located | 1 |
| Outfalls that Could Not be Accessed | 1 |
| Structures Identified as an Outfall Found that were a Culvert | 2 |
| Actual Outfalls Found | 8 |
| Outfalls Found | 8 |
| Outfalls Found Not Flowing | 8 |
| Outfalls Found with Evidence of Flow | 0 |
| Found with Illicit Discharge Potential | 0 |
| Total Not Yet Attempted to Visit | 0 |

No outfalls were flowing or observed to have evidence of flow, or to have indicators of an illicit discharge.

Recommendations and Next Steps

The following items are recommended as follow-up actions:

- As noted above, there was no evidence of illicit discharges noted at any of the inspected outfalls.
- Outfall 5 exhibited some evidence of corrosion and should be monitored during future years and/or repaired as soon as practical. No notable deterioration was observed at other outfalls.
- No outfalls were observed to be more than half buried in sediment.



DRY WEATHER OUTFALL INSPECTION REPORT

2

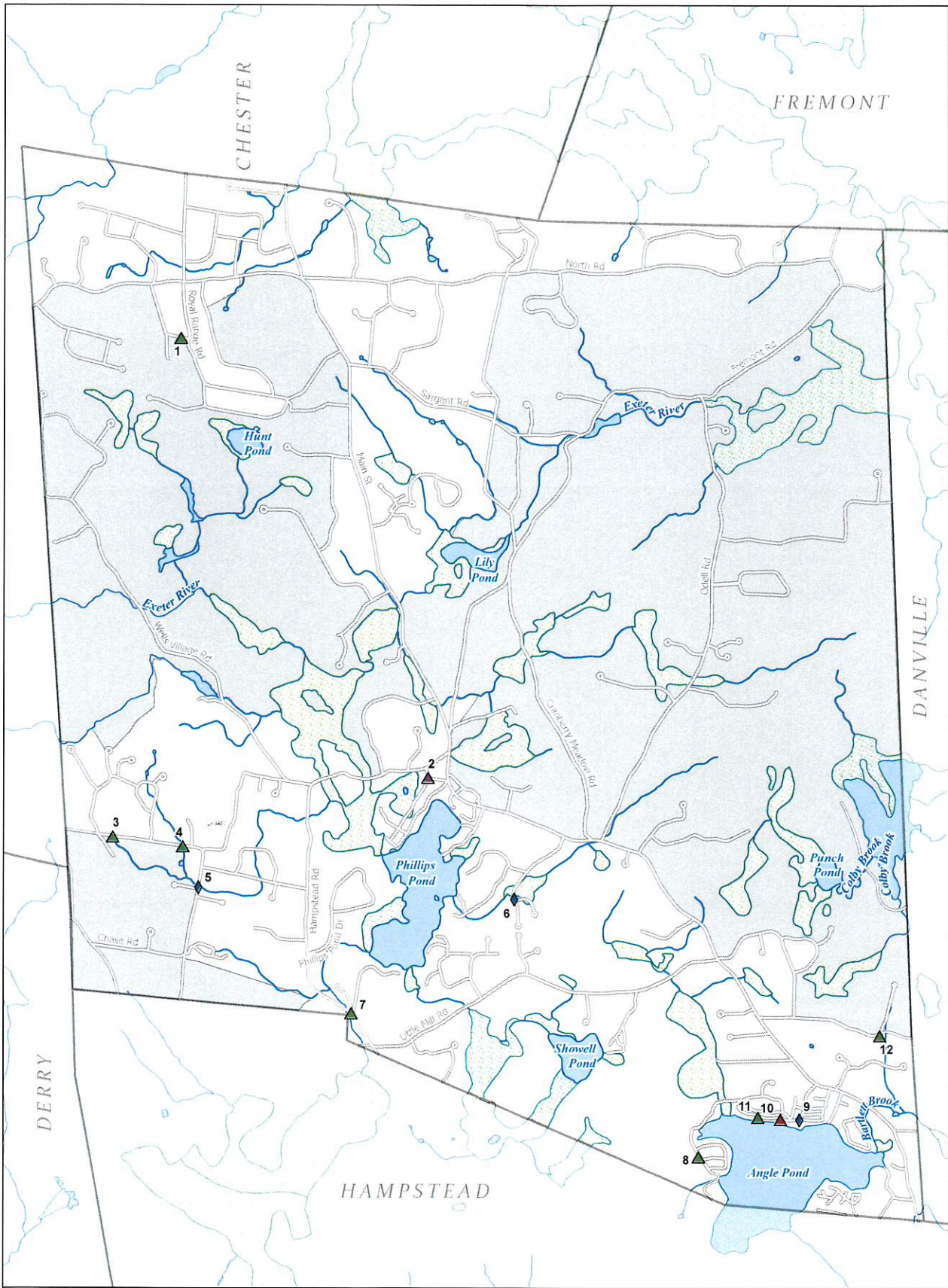
- No outfalls were observed to have evidence of downstream erosion, channelization, or vegetation distress in need of maintenance.
- No headwalls or pipe end treatments were observed to be in need of maintenance.
- One outfall could not be accessed due to fencing around the property, however, the immediate upgradient catch basin did not exhibit evidence of flow. Thus, dry weather illicit discharges are unlikely at this location. If a structural inspection is desired, access to this location should be obtained so that an inspection can occur.
- One outfall could not be found and should be field-located so that dry weather inspections and screening can occur or determined not to exist and removed from mapping.
- Outfall condition should be monitored during future years for sediment accumulation, structural deterioration, evidence of erosion, and other adverse impacts and maintained as needed.

If you have any further questions or would like additional information, please feel free to contact me at 800.725.2550 x303 or ncristofori@ceiengineers.com. Thank you.

Nick Cristofori, P.E.
Principal, Project Manager

Attachments:

- Dry Weather Outfall Sampling Results map
- Table of Results



Legend

- Outfall Inspection Result:
- ▲ Not Flowing
 - ▲ Not Found
 - ▲ Could Not Access
 - ◆ Culvert
 - Roads
 - Lake, Pond, Reservoir
 - Swamp, Marsh
 - ~ Stream, Brook
 - Non-Urban Area



Dry Weather Outfall Screening Results Map

Sandown, NH



Data Sources: MassGIS, Town of Sandown, CEI

Sandown New Hampshire Dry Weather Outfall Screening

| Outfall ID | Lat. | Lon. | Date of Inspection | Outfall Located? | Receiving Waterbody (if any) | Outfall Characteristics | | | | | Pipe Ends and Headwall Conditions | | | | |
|------------|----------|-----------|--------------------|-----------------------|------------------------------|-------------------------|---------------|---------------|---------------------------|----------------|------------------------------------------------|---------------------|------------------------------|---------------------|--------------------|
| | | | | | | Outfall Type | Pipe Material | Outfall Shape | Outfall Diameter (inches) | Outfall Damage | Outfall Condition Comment | Pipe End Treatment | Pipe End Treatment Condition | Headwall Material | Headwall Condition |
| 1 | 42.95315 | -71.21015 | 11/3/2020 13:50 | Found | | Outfall | CMP | Round | 12 | Dented | Slightly dented on right side | Projecting | Good | N/A | N/A |
| 2 | 42.92547 | -71.18886 | 11/3/2020 14:43 | Not Found | | | | | | | | | | | |
| 3 | 42.92182 | -71.21592 | 11/3/2020 14:09 | Found | | Outfall | CMP | Round | 12 | None | | Flush with Headwall | Good | Stone | Good |
| 4 | 42.92121 | -71.20995 | 11/3/2020 14:18 | Found | Unnamed Stream | Outfall | CMP | Round | 18 | None | | Flush with Headwall | Good | Stone | Good |
| 5 | 42.91869 | -71.20849 | 11/3/2020 14:23 | Found | Unnamed Stream | Outfall | CMP | Round | 36 | Corrosion | Invert corrosion | Flush with Headwall | Good | Stone | Good |
| 6 | 42.91817 | -71.18172 | 11/3/2020 14:50 | Found, not an Outfall | | | RCP | Round | 36 | None | | Flush with Headwall | Good | Reinforced Concrete | Good |
| 7 | 42.91069 | -71.19355 | 11/3/2020 14:32 | Found | Unnamed Stream | Outfall | HDPE | Round | 12 | None | | Flush with Headwall | Good | Stone | Good |
| 8 | 42.90145 | -71.16547 | 11/3/2020 15:32 | Found | | Outfall | RCP | Round | 12 | None | | Flush with Headwall | Good | Precast Concrete | Good |
| 9 | 42.904 | -71.15725 | 11/3/2020 15:13 | Found, not an Outfall | | | | | | | | | | | |
| 10 | 42.90416 | -71.15855 | 11/3/2020 15:17 | Could not Access | | | | | | | | | | | |
| 11 | 42.90403 | -71.15991 | 11/3/2020 15:24 | Found | Angle Pond | Open Drainage | Rip rap | | 24 | None | Gravel open drainage outfall in good condition | N/A | N/A | N/A | N/A |
| 12 | 42.90937 | -71.14986 | 11/3/2020 15:05 | Found | | Outfall | RCP | Round | 12 | None | | Flush with Headwall | Good | Precast Concrete | Good |

Notes

1. Outfall Material: RCP = Reinforced Concrete Pipe; CMP = Corrugated Metal Pipe; HDPE = High Density Polyethylene; CI = Cast Iron; PVC = Polyvinyl Chloride

| Outfall ID | Erosion and Sedimentation | | | | Illicit Discharge Potential & Flow Characteristics | | | | Overall Comments |
|------------|---------------------------|----------------------------|---------------------|---------------------|----------------------------------------------------|---------------------------------|------------------|-----------------------|-----------------------------------------------------------------------------------------------------------------|
| | Downstream Erosion | Downstream Erosion Comment | Vegetation Distress | Sedimentation Level | Any Illicit Discharge Indicators? | is Dry Weather Flow Present? | Flow Description | Is a Sample Required? | |
| 1 | Moderate | Some channelization | None | <25% | None | No | | No | |
| 2 | | | | | | | | | Outfall not found, mapped location is halfway up a hill and on a street with no visible drainage infrastructure |
| 3 | None | | None | None | None | No | | No | |
| 4 | None | | None | None | None | No | | No | |
| 5 | None | | None | None | None | No | | No | Culvert with drainage connection |
| 6 | None | | None | <25% | None | No | | No | Culvert with no apparent drainage connection |
| 7 | None | | None | <25% | None | No | | No | |
| 8 | None | | None | <25% | None | No | | No | |
| 9 | | | | | | | | | Stone drainage culvert in good condition |
| 10 | | | | | | | | | Could not access due to fencing around property. Upstream catch basin did not have any flow |
| 11 | None | | None | None | None | No | | No | Gravel open drainage outfall. No pipe could be found along shoreline |
| 12 | None | | None | <25% | None | No | | No | |