



Stantec Consulting Services Inc.
5 Dartmouth Drive, Suite 101
Auburn, NH 03032

November 2, 2016

File: 195113119

Attention: Steven Langlois, Chairman

City of Amesbury Conservation Commission
62 Friend Street
Amesbury, MA 01913

**Reference: Assessment of Stormwater Discharges on October 28, 2016
Amesbury Heights Project
36 Haverhill Road, Amesbury, MA**

Dear Mr. Langlois and Members of the Commission:

Stantec Consulting Services Inc. (Stantec) was contacted by the Commission's Agent, John Lopez by phone and e-mail on October 28, 2016 relative to City Engineer's reporting that significant sediment transport into wetlands and waterways was observed along the stream associated with Baileys Pond. The City indicated sediment transport to Bailey's Pond and the Merrimack River were occurring and appeared to be from the Amesbury Heights project currently under construction. Stantec proceeded to the project site at the request of the Mr. Lopez. The City had photographed the sediment transport to Baileys Pond and the Merrimack River and forwarded pictures to Stantec. The City photos are provided at the end of this report under Appendix A.

Stantec met with the Mr. Lopez and the City Engineer at the Amesbury Heights project along with representatives for the Amesbury Heights project team. It was observed upon arrival that significant sediment laden stormwater was discharging from the Amesbury Heights site towards the abutting property east of the site and into the wetlands and stream located on the abutting property. We note that this is same area of the abutting property was previously impacted by the Amesbury Heights project during the rain storm occurring over the weekend of October 23, 2016 including sedimentation within the wetlands.

The City of Amesbury requested that Stantec conduct an independent observation of the impacts to the Merrimack River and Bailey's Pond relative to the sediment transport and document the source of the sediment. At that time, an enforcement order was verbally issued by the Conservation Commission for the Amesbury Heights project for impacts observed by the City occurring to the wetlands and stream on the abutting property.

Summary of Findings:

On October, 28, 2016, Stantec conducted a field reconnaissance of the stream associated with Bailey's Pond. Bailey's pond was observed to contain sediment laden water. A culvert connects the outlet of Bailey's Pond to the Merrimack River. At the outlet of Baileys' Pond, sediment laden water was observed flowing through the outlet structure and from the culvert outlet located at the Merrimack River. The inflow stream to the Bailey's Pond was observed with sediment laden stream flow and followed upstream. The stream was followed to the



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culvert under Summit Avenue that was observed with sediment laden flow. Upstream of the culverts under the mainline and ramps of Route I-495, sediment laden stream flow was observed at the downstream end of the culvert under Route 150 and along the stream channel. The sediment laden stream flow was followed upstream of the Route 150 culvert along the westerly side of Route 150 to the stream turning point. At the Amesbury Heights project site, sediment laden stormwater discharges from the site were observed flowing towards the wetlands and stream that flows towards Route 150. Continuing upstream of the Amesbury Heights project, stream flow from the culvert under Route 110 was observed to be clean.

Field Observations:

Stantec visited the Hatter's Point project located along the Merrimack River at the outlet pipe location from Bailey's Pond situated just southerly of the Hatter's Point building. At the time of the visit, the tide had risen over the pipe outlet. The outlet pipe was visible below the water and cloudy discharge was observed exiting the pipe into the Merrimack River. (See photos 1 and 2). The outlet pipe into the Merrimack River is connected to the outlet structure at Bailey's Pond.

Stantec visited the pipe outlet at Bailey's Pond and observed sediment laden (cloudy) water. The entire pond was cloudy. Photos 3-5 are taken from the easterly shoreline of Bailey's Pond and include a view toward the inlet stream area to the pond. Stantec visited the stream inlet area discharging into Baileys' Pond (see photos 6 and 7) and observed sediment laden stream flow emanating from the culvert under Summit Avenue. Photos 8-10 are along the stream channel toward the culvert under Summit Avenue

Stantec visited the culvert crossing under Route 150 located upstream of the culverts associated with Route I-495. Photos 11 is of the downstream side of Route 150 and upstream of the mainline and ramps of Route I-495. Photos 12 -15 follow the stream channel upstream along Route 150.

Stantec visited the Amesbury Heights project site and observed two separate locations where sediment laden flows from site culverts were discharging into the wetlands and associated stream located on the abutting property as indicated in photos 16-19.

Stantec also visited the stream flowing under Route 110 that is located upstream of the Amesbury Heights project as indicated in photos 20-21. This stream flows adjacent to the Amesbury Heights project towards Route 150 and eventually to Bailey's Pond.



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We have attached an overall roadway map that indicates the locations of the photos taken by Stantec.

We are available to meet with the Commission to discuss the findings and information noted herein.

Regards,

Stantec Consulting Services Inc.

A handwritten signature in black ink, appearing to read "Michael Leach".

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A handwritten signature in black ink, appearing to read "Gerard Fortin".

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Observations of Stormwater Discharges on October 28, 2016
Relative to Amesbury Heights Project
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#1 – Outlet pipe from Baileys Pond that is observed to be below high tide level of Merrimack River taken on 10-28-16. View from Walkway looking southwesterly.



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#2 – Enlarged view of Baileys Pond submerged outlet pipe that is observed to be discharging cloudy water into Merrimack River taken 10-28-16



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#3 – Outlet Structure at Baileys Pond observed with cloudy water flowing towards the Merrimack River.
Taken on 10-28-16



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#4 – View along Baileys Pond looking southerly toward Outlet Structure with visible sediment (cloudiness) in the water. Taken on 10-28-16



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#5 – View from the easterly shoreline of Bailey's Pond looking northwesterly toward stream inlet emanating from the culvert under Summit Avenue. Taken on 10-28-16.



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#6 – View from northwesterly Baileys' Pond shoreline at the stream discharge location into Bailey's Pond looking southeasterly. Photo 5 above was taken from the shoreline seen in the upper right corner and looking toward this location on 10-28-16.



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#7 – Observed sediment laden stream flow from Summit Avenue culvert taken near edge Baileys Pond and looking easterly on 10-28-16.



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#8 – Observed sediment laden stream discharge from culvert under Summit Avenue flowing downstream towards Bailey's Pond. Taken on 10-28-16 from southerly bank of stream looking southeasterly.



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#9 – Standing downstream of culvert under Summit Avenue looking northerly and upstream at the outlet that is observed discharging sediment laden runoff into the stream channel that flows toward Baileys Pond taken on 10-28-16. The culverts associated with the mainline and ramps of Route I-495 are located upstream.



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#10 – Standing above the Summit Avenue culvert looking downstream toward Bailey's Pond at the observed sediment laden stream flow from culvert under Summit Avenue taken on 10-28-16.



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#11 – Standing above the culvert outlet on the easterly side of Route 150 and looking southeasterly at headwall and observed sediment laden stream flowing downstream towards the culverts associated with Route I-495. Taken 10-28-16



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#12 – Standing southwesterly of the culvert inlet under Route 150 and looking northerly at the culvert inlet headwall and upstream flow toward the culvert. Taken on 10-28-16



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#13 – Standing along the toe of slope on the westerly side of Route 150 at a point upstream of the culvert crossing under Route 150 and looking downstream towards the Route 150 culvert. Taken on 10-28-16



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#14– Standing near the toe of slope on the westerly side of Route 150 and upstream of picture 13 and looking downstream toward the Route 150 culvert. Taken on 10-28-16



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#15 – Standing along the toe of slope on the westerly side of Route 150 at the angle point of the stream channel and looking westerly and upstream along the valley towards the Amesbury Heights project.
Taken on 10-28-16



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#16 – Standing along the slope of the easterly side of the Amesbury Heights access driveway and looking easterly and downstream along the valley towards Photo 15 above. Sediment laden runoff discharging from the Amesbury Heights site was observed flowing beyond the erosion control measures towards the wetlands and stream channel located on the abutting property. Taken on 10-28-16.



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#17 – A closeup view of the observed sediment laden runoff from the Amesbury Heights site at the same location and same view direction as photo 16 above. Taken on 10-28-16.



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#18 – Standing near the top of slope on the easterly side of the Amesbury Heights access driveway and looking northerly towards Route 110. The guardrail along Route 110 can be seen near the top of the photo. Sediment laden runoff from the Amesbury Heights site is observed to be flowing beyond the erosion control measures toward the wetlands and stream located on the abutting property.

Taken on 10-28-16.



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#19 – Standing near the southerly headwall shown in Photo 18 above and looking easterly. This is a closeup photo showing the observed sediment laden site discharge flowing beyond the erosion control measures and into the wetlands and stream channel located beyond the black silt fence. Taken on 10-28-16.



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#20 – Standing along the top bank along Route 110 west of the culvert outlet - seen in the lower left corner - and looking downstream towards the Amesbury Heights site and photos 18 and 19 above. Clean water is observed discharging under Route 110. Cars parked along the Amesbury Heights access drive can be seen in the upper right. Taken on 10-28-16.

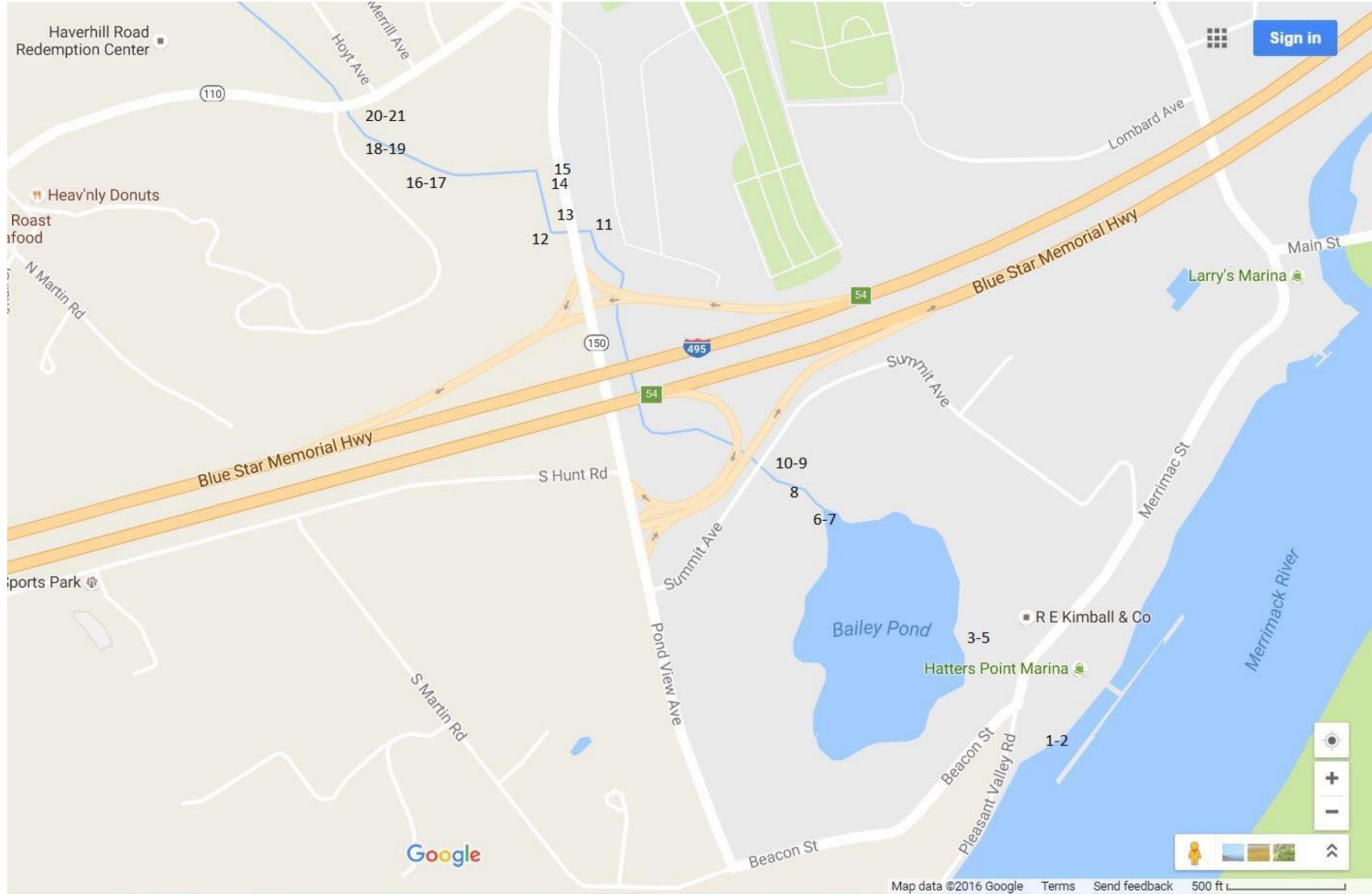


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#21 – Standing behind the Route 110 guardrail and westerly of the culvert under Route 110 and looking easterly at the culvert outlet headwall. The culvert and observed clean stream water are upstream of the sediment laden flows shown in photos 16-19. Taken on 10-28-16.



Off-Site Observation Picture Locations of Stormwater Discharges on October 28, 2016
Relative to Amesbury Heights Project - 36 Haverhill Road, Amesbury, MA



City of Amesbury Photographs
Stormwater Discharges on October 28, 2016
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APPENDIX

A

City of Amesbury Photographs
Stormwater Discharges on October 28, 2016
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City of Amesbury Photographs
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