Phase IB Archaeological Testing

New York City Department of Design and Construction
Capital Project SER-002317:
BMP AH-3 Halpin Avenue and Legate Avenue
Arden Heights Woods Watershed
Staten Island, Richmond County, New York
19PR06668
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EXECUTIVE SUMMARY

The New York City Department of Environmental Protection (DEP) proposes to install a comprehensive sanitary wastewater collection and storm water management system in South Richmond, Staten Island, New York. This project will include the construction of in-street sanitary sewer lines for the collection and conveyance of wastewater for treatment at the Oakwood Beach Water Pollution Control Plant. In addition, storm water drainage facilities and storm water controls termed Best Management Practices (BMPs) will be constructed. Currently, one Arden Heights BMP, AH-3, at the intersection of Legate Avenue and Halpin Avenue, is scheduled for implementation. The improvements in this city-owned public parkland include a stilling basin, a 24-inch storm sewer connection, grading, a new 12-foot wide access path, a check dam, signage, timber-backed guard rails, tree removal, and landscaping.

The site work undertaken at AH-3, in accordance with the New York City Environmental Quality Review (CEQR) regulations, requires archaeological Phase IB field testing based on the results of the Phase IA Archaeological Study (IA) conducted by HPI (2001). In compliance with New York City Landmarks Preservation Commission (LPC) standards (2018), HPI submitted a Work Plan for BMP AH-3 Phase IB archaeological fieldwork to LPC and the New York State Historic Preservation Office (HPI 2020). Both LPC and OPRHP approved the Work Plan (Sutphin, LPC, 3/11/20; Perazio, OPRHP, 3/12/20).

HPI completed the Phase IB field testing of BMP AH-3 on March 13, 2020. The APE was tested with shovel tests (STs) at 5m (16.5 ft) intervals. In all, 11 STs were completed. Field testing showed that much of the APE and immediate vicinity had been previously impacted and was wet. No Precontact or historic resources were identified. No further archaeological work at BMP AH-3 is warranted and none is recommended.
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Photograph 2. BMP AH-3 Shovel Test 2 east profile. Note: Entire profile consisting of fill.

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Photograph 4. BMP AH-3 Shovel Test 7 west profile. Note: Showing a natural profile in the center of the Area of Potential Effect.

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2. Phase IB field map showing the location of Shovel Tests (STs) and wet areas (based on Hazen and Sawyer 2014)
I. Introduction

The New York City Department of Environmental Protection (DEP) proposes to install a comprehensive sanitary wastewater collection and storm water management system in South Richmond, Staten Island, New York. This project will include the construction of in-street sanitary sewer lines for the collection and conveyance of wastewater for treatment at the Oakwood Beach Water Pollution Control Plant. In addition, storm water drainage facilities and storm water controls termed Best Management Practices (BMPs) will be constructed. The Arden Heights Woods Watershed (Watershed) is one of the selected areas for improvement. BMP features, designated as Arden Heights (AH) -1 through AH-6, are planned for this watershed. The six BMPs in AH were evaluated for archaeological sensitivity in 2001.

Currently, one Arden Heights BMP, AH-3, at the intersection of Legate Avenue and Halpin Avenue, is scheduled for implementation. See Figure 1. The improvements in this city-owned public parkland include a stilling basin, a 24-inch storm sewer connection, grading, a new 12-foot wide access path, a check dam, signage, timber-backed guard rails, tree removal, and landscaping.

The site work undertaken at AH-3, in accordance with the New York City Environmental Quality Review (CEQR) regulations, requires archaeological Phase IB field testing based on the results of the Phase IA Archaeological Study (IA) conducted by HPI (2001). The potential archaeological resource type identified in the Phase IA is Native American occupation. The project site is located in a general area of Staten Island where numerous precontact period archaeological sites have been recorded, although nearly all have been recorded on top of elevated hummocks or on terraces, generally around the 10-foot and above elevation.

In compliance with New York City Landmarks Preservation Commission (LPC) standards (2018), HPI submitted a Work Plan for BMP AH-3 Phase IB archaeological fieldwork to LPC and the New York State Historic Preservation Office (HPI 2020). According to CEQR, the archaeological testing is confined to the Area of Potential Effect (APE) for BMP AH-3 which does not include any sewer installations in the abutting roads. Both LPC and OPRHP approved the Work Plan (Sutphin, LPC, 3/11/20; Perazio, OPRHP, 3/12/20).

The following report documents the completed archaeological field testing at BMP A-3 in March 2020. The field team was William Sandy, MA, RPA and Elizabeth Ebert, MA.

II. Field Conditions

AH-3 is located north and west of the Legate Avenue and Halpin Avenue intersection in lightly wooded, undeveloped parkland. According to historic maps, a small stream flowed roughly east to west, approximately 300 feet north of BMP AH-3. The project APE is an irregular shaped parcel, measuring approximately 20m (65 ft) by 20m (65 ft). There are several impacts that have previously affected the archaeological integrity of the APE, including the installation of a large utility manhole in the south of the APE. Partially exposed construction filter fabric further north on the APE, piles of fill some several feet high, and an intermittent drainage running northeast from the intersecting Halpin and Legate Avenues to a large wet area are additional indicators of disturbance. See the attached photos for field conditions.
III. Field Results

HPI conducted Phase IB field testing of BMP AH-3 on March 16, 2020. The APE was tested with shovel tests (STs) at 5m (16.5 ft) intervals. Very wet areas and locations of obvious disturbance were not tested. These non-tested areas are noted on Figure 2. Some test locations were off-set due to immovable pile of debris. In all, 11 STs were completed; see Figure 2. After screening, note taking, photography, and measuring each was backfilled.

The STs were nearly evenly divided between the five (5) that had natural profiles, with an A horizon over a B horizon and sometime a C horizon (STs 1, 6, 7, 8, and 9), and the six (6) STs that had profiles with some or all fill. Two had profiles composed entirely of fill, ST3 and ST2. See the following field Photos 1-2.

### TABLE 1: Soil Stratigraphy of ST2 / N5E15

<table>
<thead>
<tr>
<th>Depth</th>
<th>Soil type</th>
<th>Color</th>
<th>Artifacts</th>
<th>Interpretations</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-10cm</td>
<td>Loam</td>
<td>Very Dark Grayish Brown</td>
<td>Styrofoam*, Mod. bottle glass*</td>
<td>Fill</td>
</tr>
<tr>
<td>-27cm</td>
<td>Clay Loam</td>
<td>Reddish Brown</td>
<td>NCM</td>
<td>Fill</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mottled Very Dark Grayish Brown</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-30cm</td>
<td>Clay Loam</td>
<td>Reddish Brown</td>
<td>NCM</td>
<td>Fill</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mottled Very Dark Grayish Brown</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-60</td>
<td>Clay Loam</td>
<td>Reddish Brown</td>
<td>NCM</td>
<td>Fill?</td>
</tr>
</tbody>
</table>

NCM = No Cultural Material  * = Discarded

ST4 was truncated; it had fill directly atop a C horizon. Fill sat atop a B horizon in ST5, ST10 and ST11. ST11 also had a dark gray basal stratum, likely indicative of wetlands. ST7 was near the center of the APE and had a natural profile (Photos 3 and 4).

### TABLE 2: Soil Stratigraphy of ST7 / N10E10

<table>
<thead>
<tr>
<th>Depth</th>
<th>Soil type</th>
<th>Color</th>
<th>Artifacts</th>
<th>Interpretations</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-25cm</td>
<td>Loam</td>
<td>Dark Brown</td>
<td>NCM</td>
<td>A</td>
</tr>
<tr>
<td>-70cm</td>
<td>Loam</td>
<td>Dark Gray</td>
<td>NCM</td>
<td>B/Sterile Subsoil</td>
</tr>
</tbody>
</table>

No Precontact artifacts or features were identified. Artifacts were limited to the upper strata of the STs and consisted primarily of modern debris (e.g., Styrofoam and modern bottle glass), as noted on the Field Summary Appendix. ST4 had a modern .22 short cartridge, and ST5 had some modern window glass.
VI. Conclusions and Recommendations

This Phase IB archaeological survey and investigation is part of continued work involving DDC improvements to the Stormwater and Sanitary Drainage for South Richmond. It includes BMP installations in the Arden Heights Woods Watershed Drainage Area (AH). This Phase IB report documents the completed Phase IB archaeological testing of one project APE, Arden Heights BMP AH-3. The property was previously evaluated as having Precontact sensitivity in 2001.

Field testing showed that much of the APE and immediate vicinity had been previously impacted and was wet. Extensive shovel testing found no Precontact artifacts or features. Only a small amount of modern debris was in a general light sheet scatter.

No further archaeological work at BMP AH-3 is warranted and none is recommended.

V. Bibliography

Hazen and Sawyer, PC

Historical Perspectives Inc.


Landmarks Preservation Commission (LPC)

Perazio, Phillip, Historic Preservation Analyst – Archaeology Unit

Sutphin, Amanda, Director of Archaeology
Photograph 1. View looking north at BMP AH-3 Shovel Test 2 on the south end of the Area of Potential Effect.

Photograph 2. BMP AH-3 Shovel Test 2 east profile. Note: Entire profile consisting of fill.
Photograph 3. View looking north at BMP AH-3 Shovel Test 7 in the center of the Area of Potential Effect.

Photograph 4. BMP AH-3 Shovel Test 7 west profile. Note: Showing a natural profile in the center of the Area of Potential Effect.
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Figure 1: Project site on *Arthur Kill, N.Y-N.J. 7.5 Minute quadrangle* (U.S.G.S. 2016).
Key

- Project site
- Permanent Datum on top of curb
  (15m from ST 1; elevation 68.98 Borough of Richmond Datum; elevation 71.07 NAVD88 Datum)
- Shovel Tests
- Photographs
- Drainage
- Wet area

Figure 2: Project site showing locations of Shovel Tests and Photographs (HPI 2020 and Hazen and Sawyer 2014).
<table>
<thead>
<tr>
<th>Shovel Test #/ Coords.</th>
<th>Level</th>
<th>Horizon</th>
<th>Depth cm</th>
<th>Soil Color</th>
<th>Soil Texture</th>
<th>Artifacts/ Reason for Termination/Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>ST1 N0E15</td>
<td>1</td>
<td>A</td>
<td>0-14</td>
<td>10YR2/2 Very dark brown</td>
<td>Loam</td>
<td>NCM/8m W of pavement/ moved 1m W to avoid disturbance</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>B</td>
<td>14-31</td>
<td>5YR5/4 Reddish brown</td>
<td>Clay Loam</td>
<td>NCM</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>C</td>
<td>31-56</td>
<td>5YR5/4 Reddish brown</td>
<td>Silt Loam</td>
<td>NCM/Sterile Subsoil</td>
</tr>
<tr>
<td>ST2 N5E15</td>
<td>1 Fill</td>
<td>0-10</td>
<td>10YR3/2 Very dark grayish brown</td>
<td>Loam</td>
<td>Styrofoam*, modern bottle glass*/ moved 2m W to avoid fill pile</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 Fill</td>
<td>10-27</td>
<td>5YR4/4 Reddish brown mottled 10YR3/2 Very dark grayish brown</td>
<td>Clay Loam</td>
<td>NCM</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 Fill</td>
<td>27-30</td>
<td>5YR4/3 Reddish brown mottled 10YR3/2 Very dark grayish brown</td>
<td>Clay Loam</td>
<td>NCM</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4 Fill?</td>
<td>30-60</td>
<td>5YR4/4 Reddish brown</td>
<td>Clay Loam</td>
<td>NCM/Sterile Subsoil/Photos E profile, look N at ST</td>
<td></td>
</tr>
<tr>
<td>ST3 N10 E15</td>
<td>1 Fill</td>
<td>0-28</td>
<td>5YR4/4 Reddish brown mottled 10YR3/2 Very dark grayish brown</td>
<td>Clay Loam</td>
<td>NCM/Moved 1m N to avoid drainage</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 Fill</td>
<td>28-50</td>
<td>5YR4/3 Reddish brown mottled 10YR3/2 Very dark grayish brown</td>
<td>Clay Loam</td>
<td>NCM/Root impasse</td>
<td></td>
</tr>
<tr>
<td>ST4 N15 E15</td>
<td>1 Fill</td>
<td>0-40</td>
<td>10YR4/4 Dark yellowish brown mottled 10YR3/3 Very dark grayish brown</td>
<td>Silty Clay</td>
<td>22 caliber short cartridge*/Moved 1m W to avoid fill pile</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 C</td>
<td>40-60</td>
<td>7.5YR4/4 Brown</td>
<td>Clay</td>
<td>NCM/Sterile Subsoil</td>
<td></td>
</tr>
<tr>
<td>ST5 N20 E10</td>
<td>1 Fill</td>
<td>0-17</td>
<td>10YR4/2 Dark grayish brown mixed w/ 2.5Y5/3 Light olive brown &amp; 10YR5/8 Yellowish brown</td>
<td>Loam</td>
<td>Plastic*, Modern window glass*/Moved 2m SE</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 Fill</td>
<td>17-28</td>
<td>5YR4/4 Reddish brown mottled 10YR3/2 Very dark grayish brown</td>
<td>Loam</td>
<td>NCM</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 B?</td>
<td>28-57</td>
<td>7.5YR4/4 Brown</td>
<td>Loam</td>
<td>NCM</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4 C?</td>
<td>57-66</td>
<td>7.5YR4/1 Dark gray</td>
<td>Loam</td>
<td>NCM/Water at 60cm</td>
<td></td>
</tr>
<tr>
<td>ST6 N10E5</td>
<td>1 A</td>
<td>0-12</td>
<td>10YR2/2 Very dark brown</td>
<td>Loam</td>
<td>NCM</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 B</td>
<td>12-28</td>
<td>5YR4/4 Reddish brown</td>
<td>Clay Loam</td>
<td>NCM/Water at 20cm</td>
<td></td>
</tr>
<tr>
<td>ST7 N10 E10</td>
<td>1 A</td>
<td>0-25</td>
<td>10YR3/3 Dark brown</td>
<td>Loam</td>
<td>NCM</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 B</td>
<td>25-70</td>
<td>7.5YR4/1 Dark gray</td>
<td>Loam</td>
<td>NCM/Sterile Subsoil/Photos W profile, Look N</td>
<td></td>
</tr>
</tbody>
</table>

NCM = No Cultural Material  
* = Discarded
<table>
<thead>
<tr>
<th>Shovel Test #/ Coords.</th>
<th>Level</th>
<th>Horizon</th>
<th>Depth cm</th>
<th>Soil Color</th>
<th>Soil Texture</th>
<th>Artifacts/ Reason for Termination/Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>ST8 N5E10</td>
<td>1</td>
<td>A</td>
<td>0-6</td>
<td>10YR4/3 Brown</td>
<td>Clay Loam</td>
<td>Plastic*</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>B</td>
<td>6-38</td>
<td>5YR4/4 Reddish brown</td>
<td>Loam</td>
<td>NCM</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>C</td>
<td>38-63</td>
<td>5YR4/4 Reddish brown</td>
<td>Clay Loam</td>
<td>NCM/Sterile subsoil</td>
</tr>
<tr>
<td>ST9 N5E5</td>
<td>1</td>
<td>A</td>
<td>0-20</td>
<td>10YR4/3 Brown</td>
<td>Silty Loam</td>
<td>Modern bottle glass*</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>B</td>
<td>20-47</td>
<td>5YR4/4 Reddish brown</td>
<td>Loam</td>
<td>NCM</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>C</td>
<td>47-62</td>
<td>5YR4/4 Reddish brown</td>
<td>Clay Loam</td>
<td>NCM/Sterile subsoil</td>
</tr>
<tr>
<td>ST10 N10E5</td>
<td>1</td>
<td>Fill</td>
<td>0-18</td>
<td>10YR2/2 Very dark brown mixed with 5YR4/4 Reddish brown</td>
<td>Stony Silty Loam</td>
<td>NCM</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>B</td>
<td>18-63</td>
<td>5YR4/4 Reddish brown</td>
<td>Loam</td>
<td>NCM/Sterile subsoil</td>
</tr>
<tr>
<td>ST11 N15E5</td>
<td>1</td>
<td>Fill</td>
<td>0-30</td>
<td>10YR3/2 Very dark grayish brown mixed w/ 5YR4/4 Reddish brown</td>
<td>Loam</td>
<td>Felt tip “Magic Marker”*</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>B</td>
<td>30-48</td>
<td>10YR5/4 Yellowish brown</td>
<td>Clay Loam</td>
<td>NCM</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>C</td>
<td>48-57</td>
<td>10YR4/1 Dark Gray</td>
<td>Clay Loam</td>
<td>NCM/Water</td>
</tr>
</tbody>
</table>

NCM = No Cultural Material

* = Discarded