



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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19PR06668**

Prepared For:



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March 2020

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

TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
TABLE OF CONTENTS	2
I. INTRODUCTION	4
II. FIELD CONDITIONS	4
III. FIELD RESULTS	5
IV. CONCLUSIONS AND RECOMMENDATIONS	6
V. REFERENCES	6
PHOTOGRAPHS	
FIGURES	
APPENDIX: Field Summary	

PHOTOGRAPHS

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.

FIGURES

1. Project Site on *Arthur Kill, NY-NJ 7.5 Minute Quadrangle* (USGS 2016)
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

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

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

<i>Depth</i>	<i>Soil type</i>	<i>Color</i>	<i>Artifacts</i>	<i>Interpretations</i>
0-25cm	Loam	Dark Brown	NCM	A
-70cm	Loam	Dark Gray	NCM	B/Sterile Subsoil

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

2014 Stormwater and Sanitary Drainage Plan, Arden Heights Drainage Area, BMP AH-3 Legate Avenue Erosion and Sediment Control Plan, Sheet 3 Dwg. No. C-1. January.

Historical Perspectives Inc.

2001 Mill Creek Watershed, South Richmond Drainage, Staten Island, Phase 1A Cultural Resources Sensitivity Evaluation, NYC DEP, June 2001.

2020 Archaeological Phase IB Work Plan, 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. March 10.

Landmarks Preservation Commission (LPC)

2018 *Landmarks Preservation Commission Guidelines for Archaeological Work in New York City*.

Perazio, Phillip, Historic Preservation Analyst – Archaeology Unit

2020 Letter to Ms. Amy Crader, Vice President AKRF, Inc. Re: DEC – Arden Heights Woods Watershed Drainage Plan – Capital Project ID# SER002317 Carlton Boulevard and Legate Avenue, Staten Island, NY. March 12.

Sutphin, Amanda, Director of Archaeology

2020 Archaeology Review –Project: SER002317 Sanitary and Storm Sewers in Halpin Ave., NYC LPC. March 11.



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



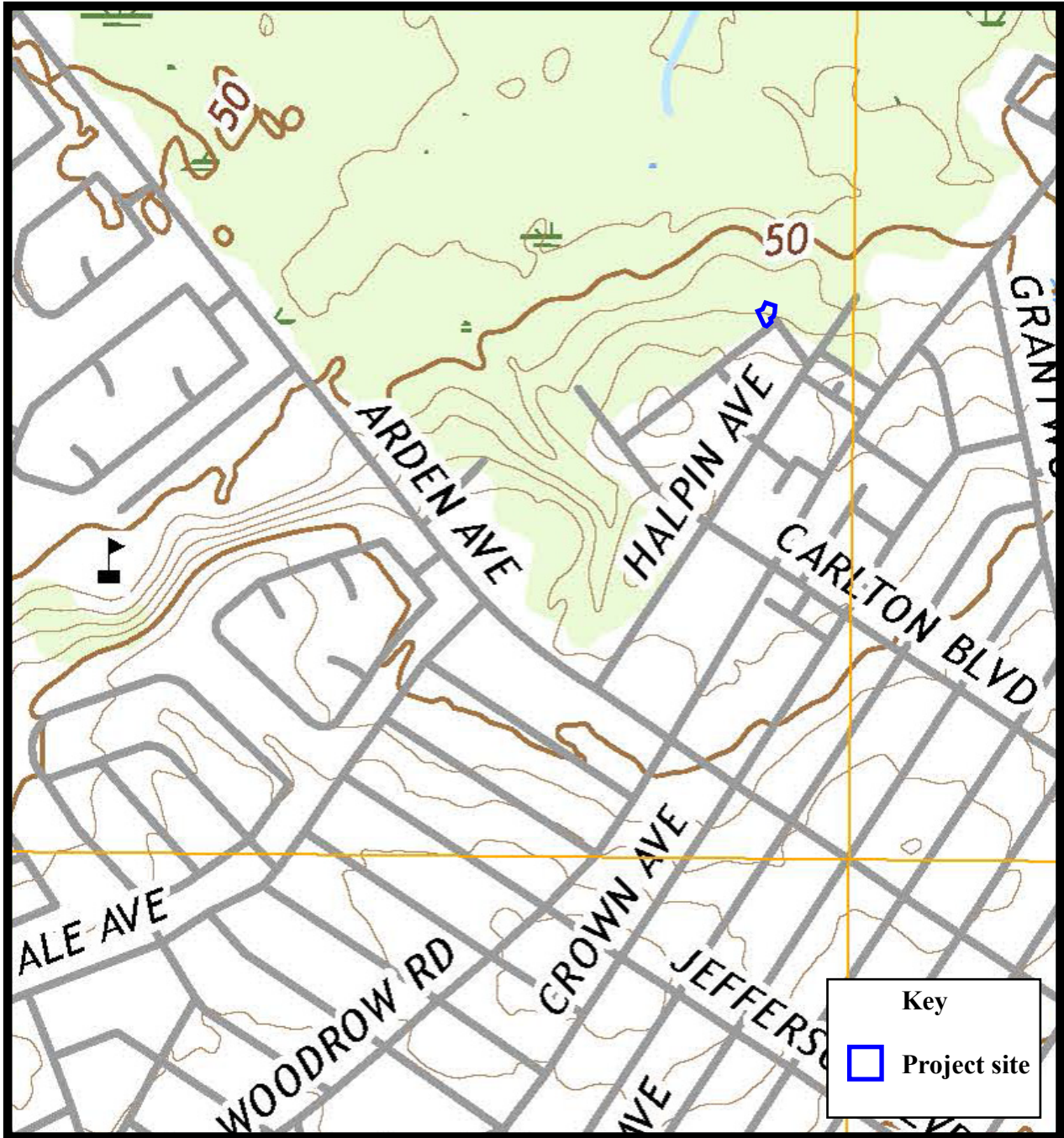
Photograph 2. BMP AH-3 Shovel Test 2 east profile. Note: Entire profile consisting of fill.



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.



Phase IB Archaeological Investigation
 New York City Department of Design and Construction
 Capital Project SER-002317:
 BMP AH-3, Halpin Avenue and Legate Avenue
 Staten Island, Richmond County, New York

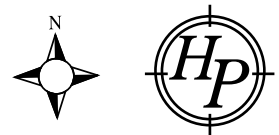


Figure 1: Project site on *Arthur Kill, N.Y-N.J.* 7.5 Minute quadrangle (U.S.G.S. 2016).

0 250 500 750 1000 1250 FEET

A graphic scale bar with alternating black and white segments, corresponding to the numerical values 0, 250, 500, 750, 1000, and 1250 feet.

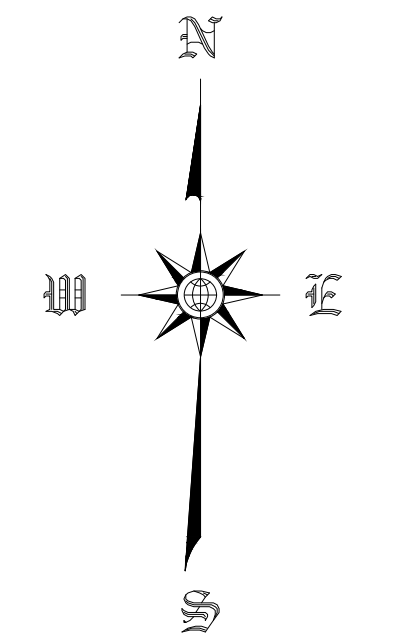
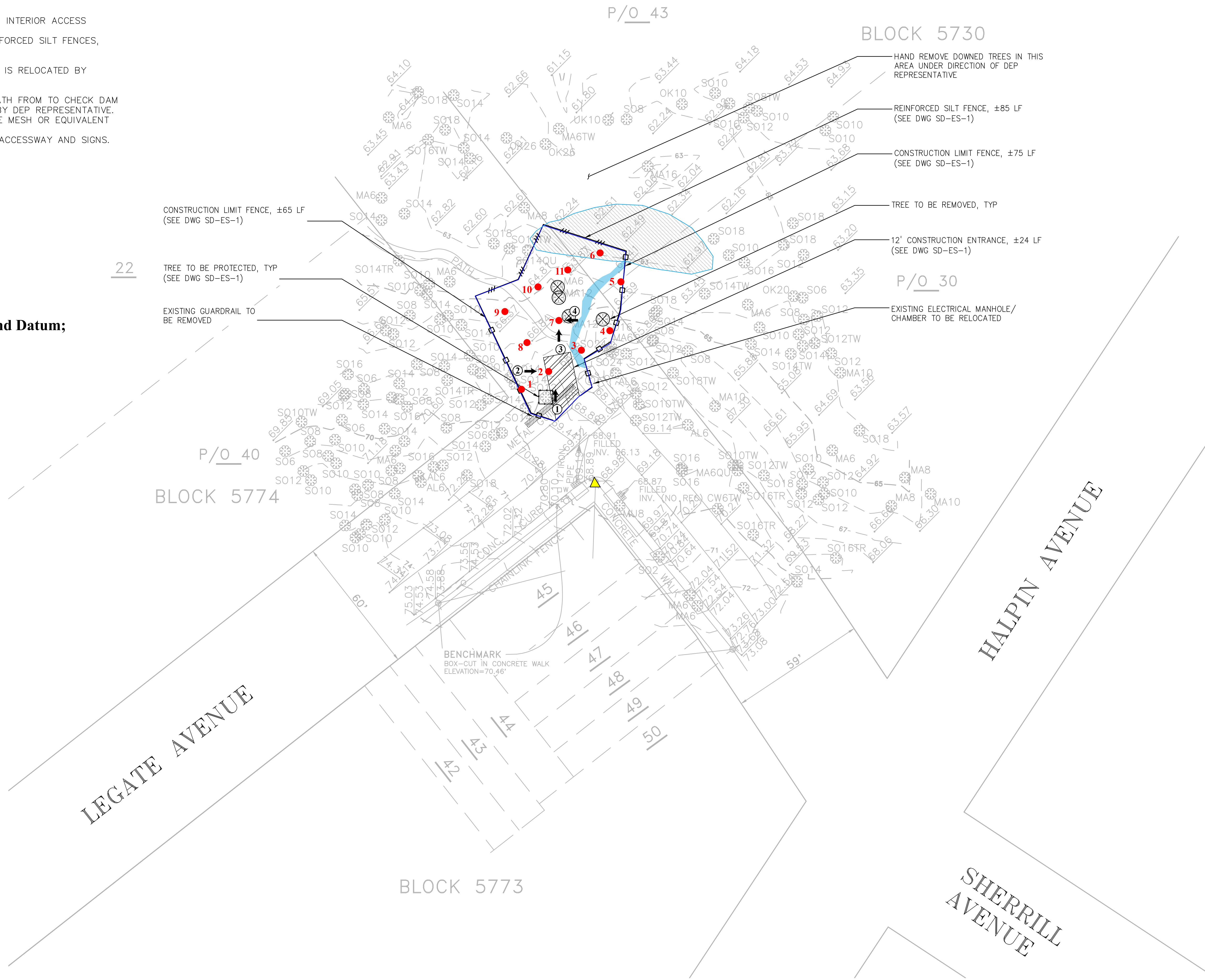
SUGGESTED SEQUENCE OF CONSTRUCTION
 ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE CONTRACT DRAWINGS, AND UPON APPROVAL OF THE PROJECT ENGINEER AND THE DEP REPRESENTATIVE. STAKE OUT AND RECEIVE APPROVAL FROM THE DEP REPRESENTATIVE FOR THE LIMITS OF WORK BEFORE BEGINNING ANY CLEARING. THE DEP REPRESENTATIVE SHALL IDENTIFY ALL TREES TO RECEIVE TREE GUARDS AND GIVE APPROVAL FOR ALL TREES IDENTIFIED FOR REMOVAL BEFORE TREE REMOVAL OPERATIONS BEGIN.

LANDSCAPING IS NOT INCLUDED IN CONSTRUCTION SEQUENCING; THE CONTRACTOR MUST RECEIVE APPROVAL FOR ALL LANDSCAPING WORK FROM THE RESTORATION SPECIALIST PRIOR TO CONSTRUCTION.

- INSTALL STABILIZED CONSTRUCTION ENTRANCE AT LEGATE AVENUE. INTERIOR ACCESS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- INSTALL PERIMETER EROSION CONTROL MEASURES, INCLUDING REINFORCED SILT FENCES, CONSTRUCTION LIMIT FENCE, AND TREE GUARDS.
- PERFORM GENERAL SITE CLEARING, GRUBBING, AND REMOVALS.
- DEMOLISH EXISTING GUARDRAIL AND ENSURE ELECTRICAL MANHOLE IS RELOCATED BY OTHERS.
- INSTALL STORM SEWER.
- PERFORM GRADING OF OUTLET STILLING BASIN, CLEAR WALKING PATH FROM TO CHECK DAM AND INSTALL CHECK DAM AT TOP OF STREAM BED AS DIRECTED BY DEP REPRESENTATIVE.
- ONCE COMPLETE, INSTALL STABILIZATION MEASURES SUCH AS JUTE MESH OR EQUIVALENT AND SEED ALL GRADED AREAS.
- INSTALL PERIMETER TREATMENT SUCH AS GUIDERAIL, PERMANENT ACCESSWAY AND SIGNS.

Key

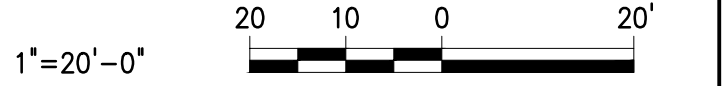
- Project site**
- ▲ **Permanent Datum on top of curb (15m from ST 1; elevation 68.98 Borough of Richmond Datum; elevation 71.07 NAVD88 Datum)**
- **Shovel Tests**
- ↑ **Photographs**
- Drainage**
- Wet area**



PLOT DATE 01/23/2014 12:59P H:\6000-9999\6300\AH\AH 3-4-5\CIVIL\BMP AH-3E_C-1.dwg Last Saved By: m.mahmoud XREFs= Title Block AH-CX-SP-ST-AH-3-4-5-DN-SP-EC-AH-3

WARNING: IT IS A VIOLATION OF SECTION 2209.2 OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER IN ANY MANNER, SPECIFICATIONS, PLATS OR REPORTS TO WHICH THE SEAL OF A PROFESSIONAL ENGINEER HAS BEEN APPLIED. IF AN ITEM BEARING THE SEAL OF A PROFESSIONAL ENGINEER IS ALTERED, THE ALTERING ENGINEER SHALL AFFIX TO THE ITEM HIS SEAL AND THE NOTATION ALTERED BY FOLLOWED BY HIS SIGNATURE, THE DATE, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

Figure 2: Project site showing locations of Shovel Tests and Photographs (HPI 2020 and Hazen and Sawyer 2014).



	DESIGNED: <u>XXX</u>	SCALE: AS SHOWN		HAZEN AND SAWYER Environmental Engineers & Scientists HAZEN AND SAWYER, P.C. • 488 SEVENTH AVENUE • NEW YORK, NEW YORK 10018	APPROVED FOR THE CITY OF NEW YORK _____ P.E. PROJECT MANAGER		CITY OF NEW YORK DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF WATER AND SEWER OPERATIONS CAPITAL PROJECT SE-1 AND SE-100 STORMWATER AND SANITARY DRAINAGE MANAGEMENT PLAN FOR SOUTH RICHMOND STATEN ISLAND, NEW YORK	STORMWATER AND SANITARY DRAINAGE PLAN ARDEN HEIGHTS DRAINAGE AREA BMP AH-3 LEGATE AVENUE EROSION AND SEDIMENT CONTROL PLAN	DATE: <u>JANUARY 2014</u> SHEET: <u>3</u> OF <u>17</u> DWG. NO.: <u>C-1</u>	
	DRAWN: <u>MG/CT</u>	CAD REF: BMP AH-3E_C-1								
	CHECKED: <u>DT</u>									
	SECT. CHIEF: <u>SM</u>									
	PROJ. ENGR: <u>DT</u>									
NO.	DATE	ISSUED FOR	BY							

CAPITAL PROJECT SER-002317 - BMPs AH-3 LEGATE AVENUE, AH-4 CARLTON BOULEVARD & AH-5 ARDEN AVENUE

Appendix: Field Summary, BMP AH-3 Halpin Ave. and Legate Ave., SI, NYC Phase IB

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

NCM = No Cultural Material

1

* = Discarded

Appendix: Field Summary, BMP AH-3 Halpin Ave. and Legate Ave., SI, NYC Phase IB

Shovel Test #/ Coords.	Level	Horizon	Depth cm	Soil Color	Soil Texture	Artifacts/ Reason for Termination/Comments
						at ST
ST8 N5E10	1	A	0-6	10YR4/3 Brown	Clay Loam	Plastic*
	2	B	6-38	5YR4/4 Reddish brown	Loam	NCM
	3	C	38-63	5YR4/4 Reddish brown	Clay Loam	NCM/Sterile subsoil
ST9 N5E5	1	A	0-20	10YR4/3 Brown	Silty Loam	Modern bottle glass*
	2	B	20-47	5YR4/4 Reddish brown	Loam	NCM
	3	C	47-62	5YR4/4 Reddish brown	Clay Loam	NCM/Sterile subsoil
ST10 N10E5	1	Fill	0-18	10YR2/2 Very dark brown mixed with 5YR4/4 Reddish brown	Stony Silty Loam	NCM
	2	B	18-63	5YR4/4 Reddish brown	Loam	NCM/Sterile subsoil
ST11 N15E5	1	Fill	0-30	10YR3/2 Very dark grayish brown mixed w/ 5YR4/4 Reddish brown	Loam	Felt tip "Magic Marker"*
	2	B	30-48	10YR5/4 Yellowish brown	Clay Loam	NCM
	3	C	48-57	10YR4/1 Dark Gray	Clay Loam	NCM/Water

NCM = No Cultural Material

* = Discarded