

Phase IB Archaeological Field Testing and Monitoring for the Reconstruction of the Paths and Plantings of the Upper Lawn Area of Newtown Playground Project, Queens (Queens County), New York (Q041-116M)



Prepared for:

City of New York - Landmarks Preservation Commission
New York, New York

City of New York – Department of Parks and Recreation
New York, New York

K&V Construction
Paramus, New Jersey

Prepared by:

Leah Mollin-Kling, MAA, R.P.A.,
Chrysalis Archaeological Consultants, Inc.

Edited by:

Alyssa Loorya, Ph.D., R.P.A.
Chrysalis Archaeological Consultants, Inc.

July 2019

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July 2019

EXECUTIVE SUMMARY TABLE

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|---------------------------------------|---|
| New York SHPO Project Review Number: | None |
| Involved City/State/Federal Agencies: | City of New York - Landmarks Preservation Commission City of New York – Department of Parks and Recreation |
| Phase of Survey: | Phase IB (Field Testing and Monitoring) |
| Location Information: | Newtown Playground 56 92nd Street, Queens, NY 11373 |
| Survey Area: | Less than one-acre |
| USGS 7.5 Quad Map: | Jamaica, NY (USGS 2016) |
| Archaeological Survey Overview: | Fragmentary human remains |
| Sensitivity Assessment: | Low potential for intact cultural resources |
| Results of Architectural Survey: | |
| Buildings within Project Area: | 0 |
| Buildings adjacent to Project Area: | 0 |
| Previous N/R Buildings: | 0 |
| Eligible N/R Buildings: | 0 |
| Report Authors: | Leah Mollin-Kling, M.A.A., R.P.A. Alex Agran |
| Report Editors: | Alyssa Loorya, Ph.D., R.P.A. |
| Date: | July 2019 |

EXECUTIVE SUMMARY TEXT

K and V Construction, Inc. contracted with Chrysalis Archaeological Consultants, Inc. on behalf of the City of New York – Department of Parks and Recreation to provide all Cultural Resource Management (Archaeological) services for The Reconstruction of the Paths and the Plantings of the Upper Lawn Area of Newtown Playground, 56 92nd Street, Queens, NY 11373 (Q041-116M). Phase IB archaeological field testing and monitoring occurred from October 30, to November 1, 2018 and monitoring occurred on December 4 to 5, 2018 and March 27th, 2019.

Phase IB field testing was designed to fulfill cultural resource management requirements for the Reconstruction of the Paths and the Plantings of the Upper Lawn Area of Newtown Playground. The purpose of the Project is to make improvements to the Newtown Playground, including the reconstruction of paths and plantings in the upper lawn area.

Historical and documentary research indicate that the Newtown Playground was once an historic cemetery and human internments could still be present within the APE. The Phase IB investigations summarized in this report were designed to determine the presence/absence of archaeological resources including human remains within the project area and to assess whether they would be adversely affected by project construction plans.

A total of 28 standardized test pits (STPs) measuring 1.5' x 1.5' were excavated as part of the Phase IB field testing of Zone 1. 24 of the STPs were located along six transects (A-F) and in one radial (RAD01). The remaining four were judgmental test pits placed in strategic locations. Archaeological monitoring of construction trenches and tree removals occurred in Zones 1 and 2. A majority of the field testing in Zone 1 featured highly disturbed stratigraphy, though fragmentary human remains were recovered from three STPs in modern fill. No further archaeological mitigation is recommended for this Project. However, as there is a potential for intact internments and/or fragmentary human remains to exist within the APE, subsequent construction projects may be subject to archaeological investigations.

The Phase IB Archaeological Field Testing and Monitoring for The Reconstruction of the Paths and the Plantings of the Upper Lawn Area of Newtown Playground Project was enacted in accordance with the National Historic Preservation Act of 1966, as amended, the Advisory Council on Historic Preservation's "Protection of Historic and Cultural Properties" (36 CFR 800.4), and the NY SHPO's Guidelines for Archaeological Projects, and it adheres to the revised 2018 Landmarks Preservation Commission's "Guidelines for Archaeological Work in New York City."

Alyssa Loorya, Ph.D., R.P.A., President, served as Principal Investigator for this project and edited this report. Leah Mollin-Kling, M.A.A., R.P.A. served as Field Director and authored this report for Chrysalis. Alex Agran served as Field Technician for this project.

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I. INTRODUCTION

K and V Construction, Inc., (K&V) contracted with Chrysalis Archaeological Consultants, Inc., (Chrysalis) on behalf of the City of New York – Department of Parks and Recreation (NYC Parks) to provide all Cultural Resource Management (Archaeological) services for The Reconstruction of the Paths and the Plantings of the Upper Lawn Area of Newtown Playground, , 56 92nd Street, Queens, NY 11373 (Q041-116M) (the Project) (Map 01). This report is a summation of the Phase IB archaeological field testing and monitoring that occurred from October 30 to November 1, 2018; December 4 to 5, 2018; and March 27th, 2019, and includes results and recommendations.

The Newtown Playground is located at the corner of 92nd Street and 56th Avenue in the Elmhurst neighborhood of Queens (Queens County), New York (Map 01). The APE is just north of the Queens Center Shopping Mall and 1.2 miles west of Flushing Meadows Corona Park (Map 02). Newtown Playground is a typical park landscape consisting of open grass areas, concrete playground areas, and a park house. NYC Parks established the overall project area and defined the Area of Potential Effect (APE) in their Scope of Work (SOW).

The purpose of the Project is to make improvements to the Newtown Playground, including the reconstruction of paths and plantings in the upper lawn area. The Phase IB investigations summarized in this report were designed to determine the presence/absence of archaeological resources including human remains within the project area and to assess whether they would be adversely affected by project construction plans. The ultimate goal of the cultural resource management investigation was to determine whether any significant (i.e. National Register eligible) resources were present in the APE and to provide mitigation recommendations if necessary. The Phase IB Archaeological Work Plan (AWP) (Chrysalis 2018) was submitted to the New York State Office of Parks, Recreation and Historic Preservation (NY SHPO), and the City of New York – Landmarks Preservation Commission (NYC LPC), and NYC Parks for review and was approved by these agencies in 2018.

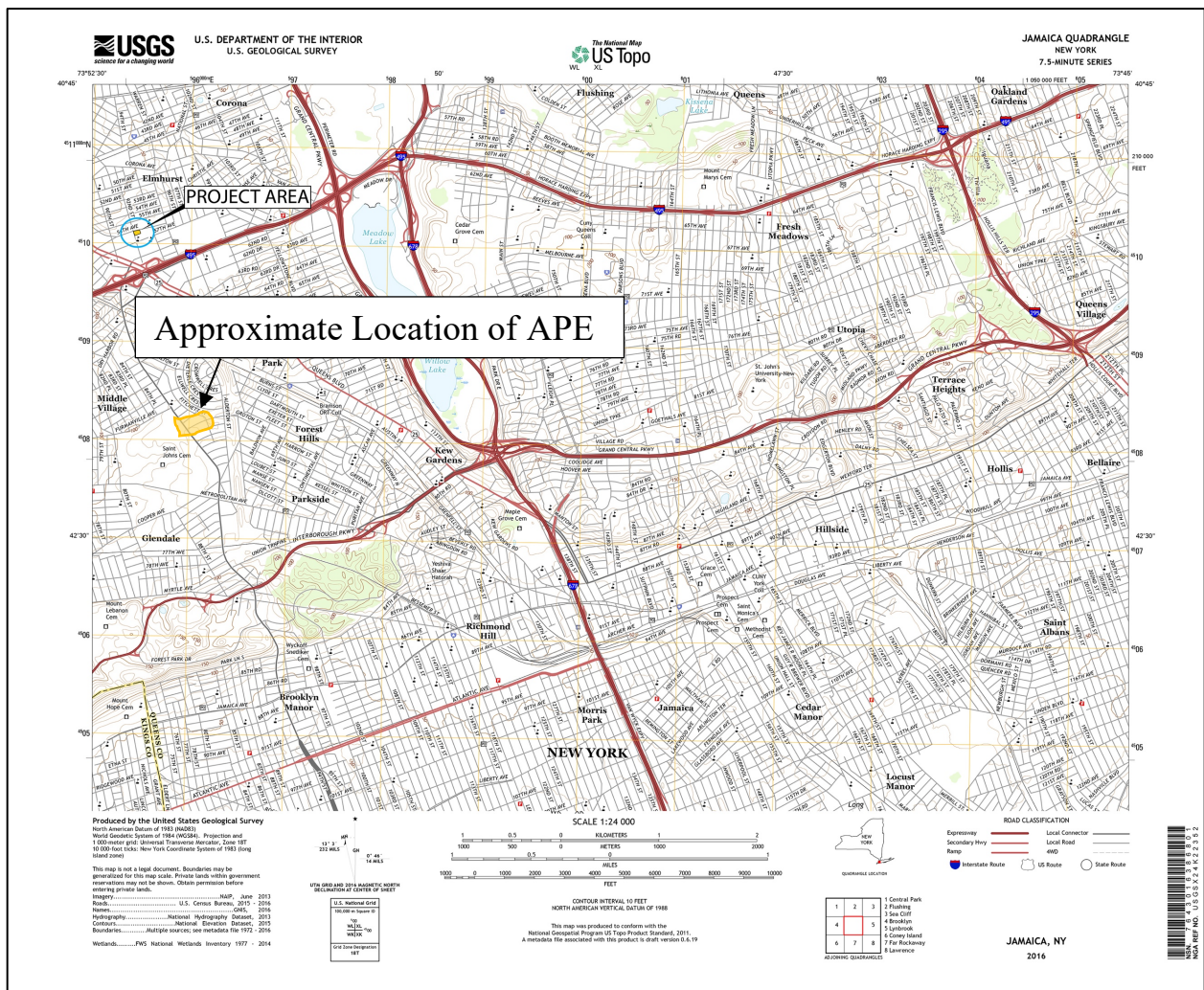
In consultation with the City of New York – Landmarks Preservation Commission (NYC LPC), and in consideration of the recommendations of Arnold Pickman’s 1995 Phase IA archaeological report of the APE, archaeological testing and monitoring was required only in specific areas, or zones, within the park (Pickman 1995). Pickman differentiated the Park into three zones (1-3) of archaeological and human remains sensitivity. The Scope of Work (SOW) provided by NYC Parks called for Archaeological Testing and Monitoring of trench excavations in association with the path reconstructions and other Project activities in Zones 1 and 2. No archaeological activities were required in Zone 3 as project activities in this location were not anticipated to exceed historic and modern fill depths.

A total of 28 standardized test pits (STPs) measuring 1.5’ x 1.5’ (0.5m x 0.5m) were excavated as part of the Phase IB field testing of Zone 1 within the APE. 24 of the STPs were located along six transects (A-F) and in one radial (RAD01). The remaining four were judgmental test pits (JTPs) placed in strategic locations. A majority of the field testing in Zone 1 featured highly disturbed stratigraphy. However, fragmentary human skeletal remains were found in fill soils in three STPs (JTP-02, RAD01-90° and RAD01-270°). Archaeological monitoring of construction trenches occurred in Zone 1 (Trenches 03-05, Pits 01-03) and Zone 2 (Trenches 01 and 02). Tree removals

were monitored in Zone 1. No archaeological activities occurred in Zone 3.

The Phase IB Archaeological Field Testing and Monitoring for The Reconstruction of the Paths and the Plantings of the Upper Lawn Area of Newtown Playground Project (the Project) was enacted in accordance with the National Historic Preservation Act of 1966, as amended, the Advisory Council on Historic Preservation’s “Protection of Historic and Cultural Properties” (36 CFR 800.4), and the NY SHPO’s Guidelines for Archaeological Projects, and it adhered to the Landmarks Preservation Commission’s “Guidelines for Archaeological Work in New York City” (NYC LPC 2018).

Alyssa Loorya, Ph.D., R.P.A., President, served as Principal Investigator for this project and edited this report. Leah Mollin-Kling, M.A.A., R.P.A. served as Field Director and co-authored this report for Chrysalis. Alex Agran served as Field Technician and co-authored this report.



Map 01: USGS 7.5-minute for Jamaica, NY (United States Geological Survey 2016).



Map 02: NYC GIS map with project area highlighted (NYC GIS 2018).

II. SYNTHESIS OF PREVIOUS WORK

To date, the only previous archaeological work for Newtown Playground is Arnold Pickman’s 1995 *Archaeological Documentary Study Reconstruction of Newtown Playground 56th Avenue and 92nd Street Elmhurst, Queens* (Pickman 1995). According to The New York State Office of Parks, Recreation and Historic Preservation Department’s online Cultural Resource Information System (CRIS) and the Landmark Parks Commissions’ archaeological report holdings, no other archaeological reports or additional phases of archaeological investigations have been undertaken at this location.

Pickman’s report indicated that no pre-contact archaeological sites have been discovered or recorded within .5-miles of the APE and thus the project area was determined to have a low sensitivity for the presence of pre-contact resources (Pickman 1995).

The Pickman report indicated that there is a potential for human internments and associated historic cultural remains in the form of buried tombstones to be present in the APE (Pickman 1995). However, numerous construction and reconstruction activities have altered the original topography of the park over the past 100 years, possibly complicating Pickman’s sensitivity assessments.

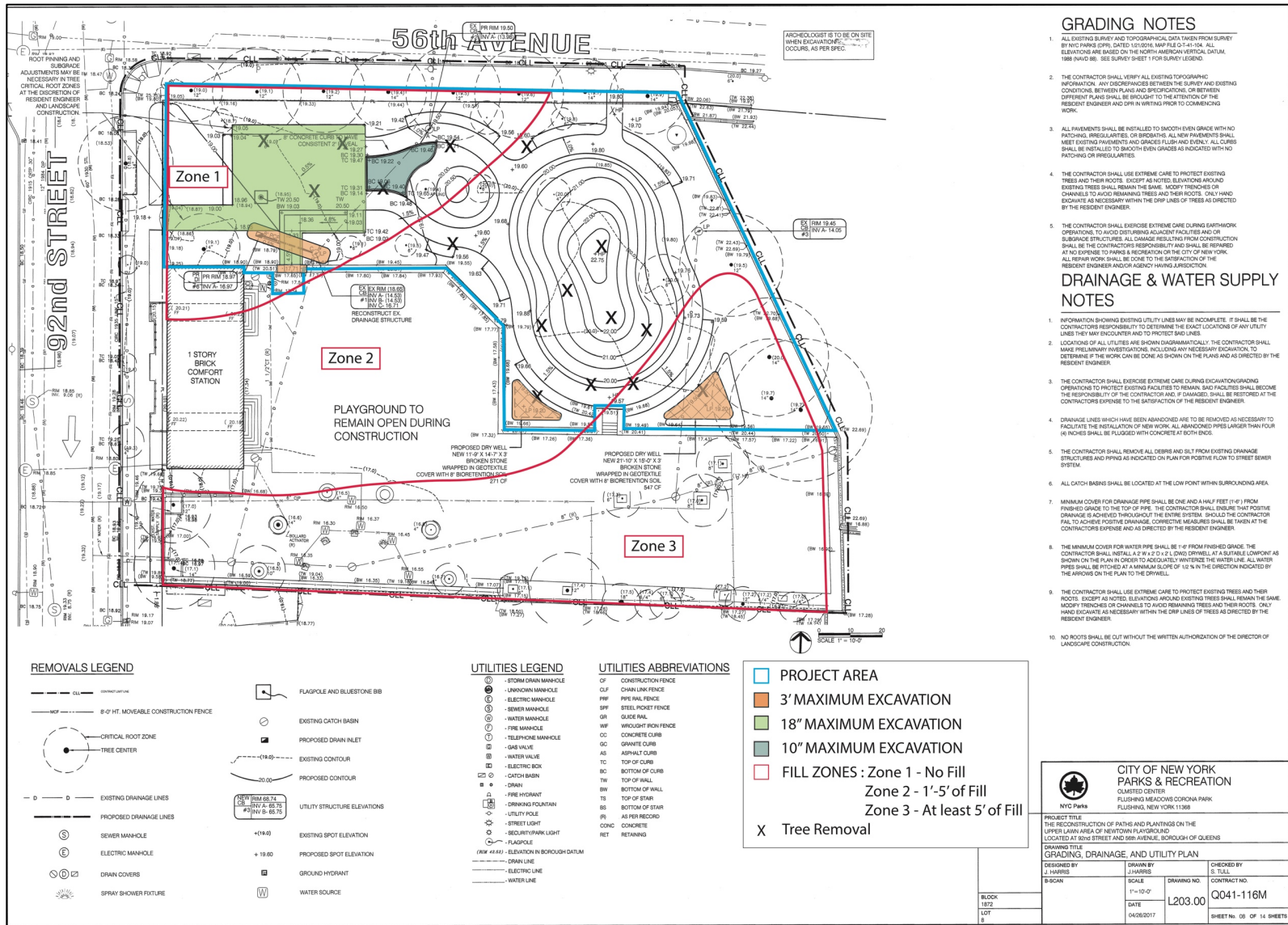
Pickman segmented the park into three zones based on varying depths of modern and historic fill and associated archaeological sensitivity. These zones are called “Pickman Zones” after the author of the Phase IA report and are referenced by NYC Parks in their SOW and construction schematics (Map 03). The fill materials being referenced were deposited during the 1927 construction and

1935 reconstruction of Newtown Playground. Sensitivity is dependent on excavation depths and Zone location.

Pickman's Zone 1 is the area encompassing the northwest third of the playground and has the least amount of documented modern and historic fill, if any. This area was determined to have the potential to yield human remains as the original cemetery surface could lie directly underneath the present surface in some locations. Zone 1 was subject to pre-construction Phase IB archaeological testing and monitoring.

Zone 2 is the middle area of the Park and is situated between Zones 1 and 3. The historic fill was estimated to be 1'-5' below ground surface in this location. Construction activities were monitored in Zone 2 as the potential to encounter human remains and/or other historic resources was possible based on the anticipated fill depths.

Zone 3 encompasses the southeastern third of the playground. Pickman anticipated the fill in this location to extend to at least 5' in depth. As such, minimal to no archaeological resources were expected in this zone, although human internments may exist below this depth. However, excavations in Zone 3 did not exceed 5' in depth and were not archaeologically monitored.



GRADING NOTES

1. ALL EXISTING SURVEY AND TOPOGRAPHICAL DATA TAKEN FROM SURVEY BY NYC PARKS (DPR), DATED 12/1/2016, MAP FILE Q-T4-104. ALL ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM, 1988 (NAVD 88). SEE SURVEY SHEET 1 FOR SURVEY LEGEND.
2. THE CONTRACTOR SHALL VERIFY ALL EXISTING TOPOGRAPHIC INFORMATION. ANY DISCREPANCIES BETWEEN THE SURVEY AND EXISTING CONDITIONS, BETWEEN PLAN AND SPECIFICATION, OR BETWEEN DIFFERENT PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE RESIDENT ENGINEER AND SPR IN WRITING PRIOR TO COMMENCING WORK.
3. ALL PAVEMENTS SHALL BE INSTALLED TO SMOOTH EVEN GRADE WITH NO PATCHING, IRREGULARITIES, OR BROADTHS. ALL NEW PAVEMENTS SHALL MEET EXISTING PAVEMENTS AND GRASSES. FILLER AND SPALLS SHALL BE INSTALLED TO SMOOTH EVEN GRADES AS INDICATED WITH NO PATCHING OR PRESLAPPING.
4. THE CONTRACTOR SHALL USE EXTREME CARE TO PROTECT EXISTING TREES AND THEIR ROOTS. EXCEPT AS NOTED, ELEVATIONS AROUND EXISTING TREES SHALL REMAIN THE SAME. MOODY TRENCHES OR CHANNELS TO AVOID REMAINING TREES AND THEIR ROOTS. ONLY HAND EXCAVATE AS NECESSARY WITHIN THE DRP LINES OF TREES AS DIRECTED BY THE RESIDENT ENGINEER.
5. THE CONTRACTOR SHALL EXERCISE EXTREME CARE DURING EARTHWORK OPERATIONS TO AVOID DISTURBING ADJACENT FACILITIES AND/OR SUBGRADE STRUCTURES. ALL DAMAGE RESULTING FROM CONSTRUCTION SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE REPAIRED AT NO EXPENSE TO PARKS & RECREATION OF THE CITY OF NEW YORK. ALL REPAIR WORK SHALL BE DONE TO THE SATISFACTION OF THE RESIDENT ENGINEER AND/OR AGENCY HAVING JURISDICTION.

DRAINAGE & WATER SUPPLY NOTES

1. INFORMATION SHOWING EXISTING UTILITY LINES MAY BE INCOMPLETE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT LOCATION OF ANY UTILITY LINES THEY MAY ENCOUNTER AND TO PROTECT SAID LINES.
2. LOCATION OF ALL UTILITIES ARE SHOWN DIAGRAMMATICALLY. THE CONTRACTOR SHALL MAKE PRELIMINARY INVESTIGATIONS, INCLUDING ANY NECESSARY EXCAVATION, TO DETERMINE IF THE WORK CAN BE DONE AS SHOWN ON THE PLANS AND AS DIRECTED BY THE RESIDENT ENGINEER.
3. THE CONTRACTOR SHALL EXERCISE EXTREME CARE DURING EXCAVATION/GRADING OPERATIONS TO PROTECT EXISTING FACILITIES TO REMAIN. SAID FACILITIES SHALL BECOME THE RESPONSIBILITY OF THE CONTRACTOR AND, IF DAMAGED, SHALL BE RESTORED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE RESIDENT ENGINEER.
4. DRAINAGE LINES WHICH HAVE BEEN ABANDONED ARE TO BE REMOVED AS NECESSARY TO FACILITATE THE INSTALLATION OF NEW WORK. ALL ABANDONED PIPES LARGER THAN FOUR (4) INCHES SHALL BE PLUGGED WITH CONCRETE AT BOTH ENDS.
5. THE CONTRACTOR SHALL REMOVE ALL DEBRIS AND SILT FROM EXISTING DRAINAGE STRUCTURES AND PIPING AS INDICATED ON PLAN FOR POSITIVE FLOW TO STREET BEMER SYSTEM.
6. ALL CATCH BASINS SHALL BE LOCATED AT THE LOW POINT WITH SURROUNDING AREA.
7. MINIMUM COVER FOR DRAINAGE PIPE SHALL BE ONE AND A HALF FEET (1'-6") FROM FINISHED GRADE TO THE TOP OF PIPE. THE CONTRACTOR SHALL DESIGN THAT POSITIVE DRAINAGE IS ACHIEVED THROUGHOUT THE ENTIRE SYSTEM. SHOULD THE CONTRACTOR FAIL TO ACHIEVE POSITIVE DRAINAGE, CONCRETE MANSUETS SHALL BE TAKEN AT THE CONTRACTOR'S EXPENSE AND AS DIRECTED BY THE RESIDENT ENGINEER.
8. THE MINIMUM COVER FOR WATER PIPE SHALL BE 1'-6" FROM FINISHED GRADE. THE CONTRACTOR SHALL INSTALL A 2" W x 2" x 2" L DWD DRILLWELL AT A SUITABLE LOCATION AS SHOWN ON THE PLAN IN ORDER TO ADJUSTEDLY VENTILATE THE WATER LINE. ALL WATER PIPES SHALL BE FITTED AT A MINIMUM SLOPE OF 1/2" IN 1' IN THE DIRECTION INDICATED BY THE ARROWS ON THE PLAN TO THE DRILLWELL.
9. THE CONTRACTOR SHALL USE EXTREME CARE TO PROTECT EXISTING TREES AND THEIR ROOTS. EXCEPT AS NOTED, ELEVATIONS AROUND EXISTING TREES SHALL REMAIN THE SAME. MOODY TRENCHES OR CHANNELS TO AVOID REMAINING TREES AND THEIR ROOTS. ONLY HAND EXCAVATE AS NECESSARY WITHIN THE DRP LINES OF TREES AS DIRECTED BY THE RESIDENT ENGINEER.
10. NO ROOTS SHALL BE CUT WITHOUT THE WRITTEN AUTHORIZATION OF THE DIRECTOR OF LANDSCAPE CONSTRUCTION.

REMOVALS LEGEND

- CUL --- EXISTING OPTION
- MCF --- 8'-0" HT. MOVEABLE CONSTRUCTION FENCE
- --- CRITICAL ROOT ZONE
- --- TREE CENTER
- D --- D --- EXISTING DRAINAGE LINES
- P --- P --- PROPOSED DRAINAGE LINES
- ⊙ --- SEWER MANHOLE
- ⊙ --- ELECTRIC MANHOLE
- ⊙ --- DRAIN COVERS
- ☀ --- SPRAY SHOWER FIXTURE
- ⚑ --- FLAGPOLE AND BLUESTONE BIB
- --- EXISTING CATCH BASIN
- ⊙ --- PROPOSED DRAIN INLET
- --- EXISTING CONTOUR
- --- PROPOSED CONTOUR
- --- UTILITY STRUCTURE ELEVATIONS
- ⊕ --- EXISTING SPOT ELEVATION
- ⊕ --- PROPOSED SPOT ELEVATION
- ⊕ --- GROUND HYDRANT
- ⊕ --- WATER SOURCE

UTILITIES LEGEND

- ⊙ --- STORM DRAIN MANHOLE
- ⊙ --- UNKNOWN MANHOLE
- ⊙ --- ELECTRIC MANHOLE
- ⊙ --- SEWER MANHOLE
- ⊙ --- WATER MANHOLE
- ⊙ --- FIRE MANHOLE
- ⊙ --- TELEPHONE MANHOLE
- ⊙ --- GAS VALVE
- ⊙ --- WATER VALVE
- ⊙ --- ELECTRIC BOX
- ⊙ --- CATCH BASIN
- ⊙ --- DRAIN
- ⊙ --- FIRE HYDRANT
- ⊙ --- DRAINAGE FOUNTAIN
- ⊙ --- UTILITY POLE
- ⊙ --- STREET LIGHT
- ⊙ --- SECURITY/PARK LIGHT
- ⊙ --- FLAGPOLE
- (MIN 48-61) --- ELEVATION IN BOROUGHS DATUM
- --- DRAIN LINE
- --- ELECTRIC LINE
- --- WATER LINE

UTILITIES ABBREVIATIONS

- CF --- CONSTRUCTION FENCE
- CLF --- CHAIN LINK FENCE
- PRF --- PIPE RAIL FENCE
- SFF --- STEEL PICKET FENCE
- GR --- GUIDE RAIL
- WRF --- WOODPOST IRON FENCE
- CC --- CONCRETE CURB
- GC --- GRANITE CURB
- AS --- ASPHALT CURB
- TC --- TOP OF CURB
- BC --- BOTTOM OF CURB
- TW --- TOP OF WALL
- BW --- BOTTOM OF WALL
- TS --- TOP OF STAR
- BS --- BOTTOM OF STAR
- AS PR --- AS PER RECORD
- CCB --- CONC. CONCRETE
- RET --- RETAINING

- █ PROJECT AREA
- █ 3' MAXIMUM EXCAVATION
- █ 18" MAXIMUM EXCAVATION
- █ 10" MAXIMUM EXCAVATION
- █ FILL ZONES: Zone 1 - No Fill
- █ Zone 2 - 1'-5' of Fill
- █ Zone 3 - At least 5' of Fill
- X Tree Removal

CITY OF NEW YORK PARKS & RECREATION
 QUAIEST CENTER
 FLUSHING MEADOWS CORONA PARK
 FLUSHING, NEW YORK 11368

PROJECT TITLE: THE RECONSTRUCTION OF PATHS AND PLANTINGS ON THE UPPER LAWN AREA OF WESTON PLAYGROUND LOCATED AT 80th STREET AND 56th AVENUE, BOROUGH OF QUEENS

DRAWING TITLE: GRADING, DRAINAGE, AND UTILITY PLAN

| | | |
|--------------------------|---------------------|---------------------------|
| DESIGNED BY J. HARRIS | DRAWN BY S. TULL | CHECKED BY S. TULL |
| BLOCK 1872 | SCALE 1"=10'-0" | CONTRACT NO. Q041-116M |
| LOT 18 | DATE 04/26/2017 | DRAWING NO. L203.00 |
| | | SHEET NO. 08 OF 14 SHEETS |

Map 03: Pickman Fill Zones (1995) and Project Removals Plan as defined by NYC Parks.

III. CONTEXT AND RESEARCH DESIGN

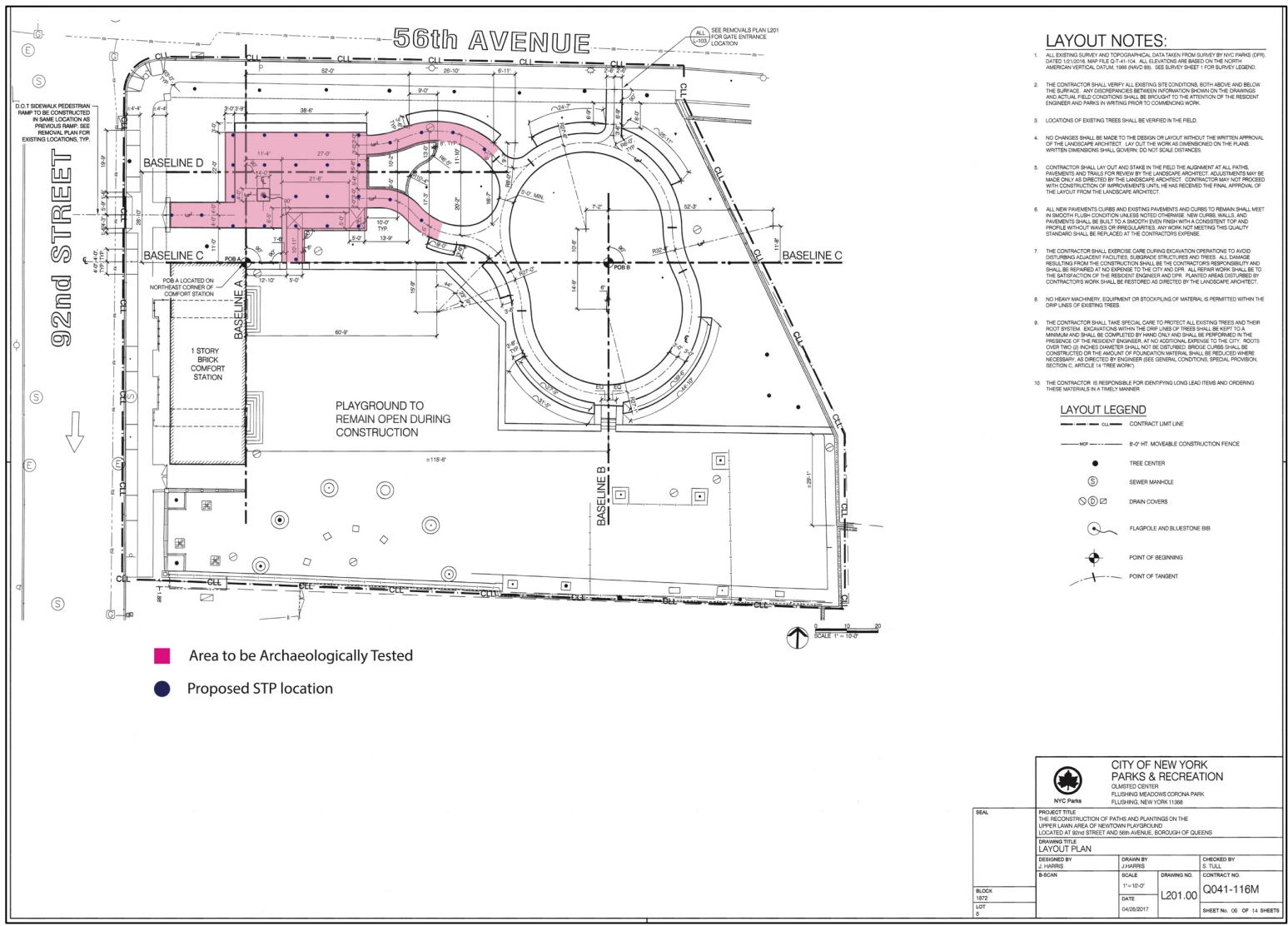
The name of Newtown refers to the old Town that existed in the area from 1664 to 1898, the year that Queens was incorporated into greater New York City as a borough. European settlement in the area dates to at least 1642, though the first real and lasting European settlement in the area was not established until 1652 (Pickman 1995:3). Named Middleburg, this settlement was granted to New England Calvinists by Dutch New Amsterdam, though it was soon enlarged and renamed New Towne after the English took control of the colony in 1665 (Pickman 1995:3).

Historic records indicate that present-day Newtown playground was the former site of colonial New Towne's burial ground. Though historical records are vague on exactly when the burial ground was first put into use, it was likely utilized as the main cemetery for the colonial town and continued as such until the nineteenth century. In the early part of the nineteenth century, several other cemeteries in the area opened up and the Newtown burial ground became a pauper's cemetery, though Pickman notes that contemporary sources conflict as to when exactly this occurred (Pickman 1995:7). In any case, active burials in the cemetery ceased by the late 1880s.

In 1917 control over Newtown cemetery was transferred to NYC Parks due in part to local interest in converting the area into a park, though construction did not occur until 1927-1928 (Pickman 1995: 11-12). Park conversion drastically altered the contours of the old cemetery as part of the grounds were leveled and old headstones were supposedly laid flat and covered with soil (Pickman 1995:12). NYC Parks initiated a major renovation to the Park in 1935, creating much of the present-day landscape and most likely disturbing numerous burials in the process (Pickman 1995: 13).

Headstone data is available for some of the burials that occurred within the Park (Pickman 1995). However, a comprehensive examination of the burials within the Park did not occur until after disinterments and tombstone flattening and/or removals in the twentieth century obliterated significant areas of the old cemetery. Human burials may still exist within the Park, though their presence and intactness are dependent upon twentieth century construction.

Based on the Pickman Phase IA report, Project activities that included hand or mechanical excavation had the potential to uncover human internments; disarticulated, disturbed or otherwise fragmented human skeletal remains; cultural resources associated with the former cemetery such as tombstones or grave markers; and/or other potentially significant historic cultural resources (Pickman 1995). As such, Phase IB field testing and monitoring of project activities were deemed warranted in certain zones within the APE (Map 04).



Map 04: Proposed STP locations from the Archaeological Work Plan (Chrysalis 2018).

IV. PROJECT METHODS

Phase IB fieldwork is designed to ascertain the presence/absence of archaeological resources within a site. The goal is to determine whether significant (i.e., National Register [NR] eligible) resources are extant within the APE and to ascertain whether they could be adversely affected by project construction work. In the case of Newtown Playground, significant cultural resources include historic human internments.

As the Newtown Playground is a known historic burial ground, the potential to encounter human remains necessitated archaeological field testing prior to construction work in Zone 1 due to the limited twentieth century disturbances that have occurred in this area. Zone 1 is located in the northwest third of the playground and has the least amount of documented modern and historic fill, if any (Pickman 1995). According to Pickman's report, the original cemetery surface could lie directly beneath the present surface in some locations.

Due to the sensitivity for human remains and questions regarding the amount of historic fill, Chrysalis excavated 28, 1.5' x 1.5' (0.5m square) standardized test pits (STPs) to identify any potential human remains and/or significant cultural resources within Zone 1. Transects and inter-transect STPs were placed every 10' (3m). STPs were excavated in arbitrary 3" (10cm) levels to a depth of 3' (1m), the proposed maximum depth of construction excavation. Map 04 shows the location of the proposed STPs from the approved Archaeological Work Plan (Chrysalis 2018). Radials were placed around STP's positive for fragmented or disarticulated human remains or other funerary materials.

No intact or articulated human remains were recovered during Phase IB testing. However, fragmentary remains were encountered in three STPs during Phase IB testing. NYC Parks and NYC LPC were immediately notified upon discovery of the fragmentary human remains and excavation was halted in those STPs.

All soils were screened through ¼" mesh screen and described using the Munsell color system and standard texture classifications. All artifacts recovered during screening were retained except for bulk materials such as concrete rubble, brick, large metal objects, ash coal, cinders, and slag. These materials, if encountered, were sampled. Recovered artifacts were bagged according to their unique provenience and transported to the laboratory for processing and analysis. An artifact catalog recording the provenance of each recovered artifact was utilized. Soil profiles were described, photographed in digital format, and illustrated by measured drawings in Imperial or Engineers scale in plan and vertical perspective, as appropriate.

Phase IB archaeological monitoring of construction excavations and earth-disturbing activities (i.e. tree removals) with subsurface impacts greater than 1' (0.3m) below surface occurred for Zones 1 and 2. No monitoring in Zone 3 was included in the Scope of Work (SOW) issued by NYC Parks.

Project plans in Zone 1 called for subsurface construction disturbances as part of the installation of a drain line, concrete curb, and bench pad; the removal of a bluestone ramp connecting the upper lawn to the playground; modifications to the flagpole area; and five tree removals.

In Zone 2 project plans included nine tree removals and the installation of a dry well.

V. FIELD RESULTS

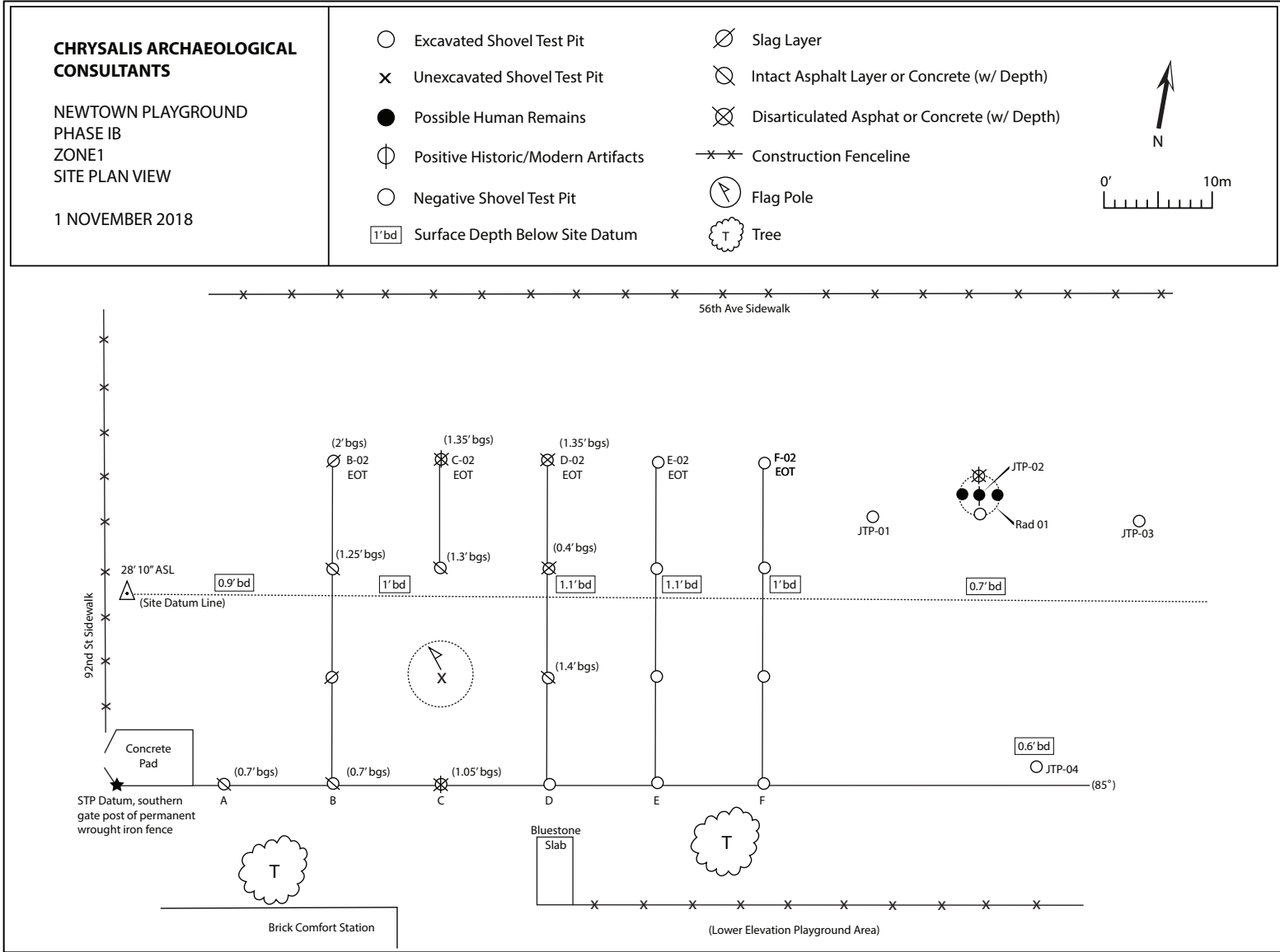
A total of 28 STPs were excavated in Zone 1 during Phase IB field testing of the Newtown Playground. 24 STPs were placed along six transects (A-F) and in one Radial (RAD 01) (Map 05). The remaining 4 pits were excavated as judgmental test pits (JTPs) and placed in strategic locations to maximize coverage of Zone 1. The baseline for the transects ran east to west through the southern portion of the APE. Each transect then ran generally north off of the baseline towards 56th Avenue.

Terrain in Zone 1 was generally flat and surrounded by trees along the periphery. A flagpole and associated concrete slab are extant in the middle of the Zone (Image 01). A playground area connected to Zone 1 via a bluestone ramp and a Park House/Comfort Station lie directly to the south of Zone 1. 56th Avenue is to the north and 92nd Street is to the west of the testable area of Zone 1.

Stratigraphy across Zone 1 was largely consistent, featuring extremely compact fill layers atop either articulated or disarticulated asphalt or concrete flooring found at around 1.5' (0.5m) below ground surface (bgs). Intact asphalt or concrete floor was found in A-01, B-01, B-03, C-03, and D-02. Disarticulated asphalt or concrete floor was found in C-01, C-04, D-03, D-04, and RAD01-360°. In almost all cases, the maximum archaeological STP depth of 3' bgs (1m) could not be achieved because of the presence of the asphalt/concrete layer and/or extremely compacted fill across Zone 1. STPs D-01, E-01, E-02, E-03, E-04, F-01, F-02, F-03, F-04, JTP-01, JTP-03, JTP-04 and RAD01-180° were all discontinued in the fill layer due to extreme compaction.

Only two STPs were excavated to the maximum depth of 3' (1m) bgs: B-02 and RAD01-360°. Sterile subsoil was only encountered in B-02 and B-04. A slag layer was also found in B-02 and B-04.

Fragmentary human remains were found in JTP-02, RAD01-90° and RAD01-270°.



Map 05: Phase IB Field Map.



Image 01: Plan view of Zone 1, looking east.

Transect A

The transect baseline extends 60' (18.3m) at 85° from the southern gate post of the permanent wrought iron fence at the Park's entrance on 92nd Street into the interior (Map 05). Transect A was offset slightly from the proposed STP locations on the AWP map due to the presence of a concrete pad just inside of the Park's 92nd Street gated entrance (Image 02). Transect baseline STPs were then placed every 10' (3m) to the east and off of A-01.

Due to the offset and the ground conditions at the Park, only one STP was excavated on Transect A (A-01). A-01 was excavated to a depth of 18.4' NAVD 88 (0.7' bgs), at which point an intact asphalt floor previously unknown to exist in the project area was exposed and excavation of the STP was discontinued (Table 01). A similar asphalt floor was found in adjacent STP B-01 (Image 03). Stratigraphy above the asphalt floor consisted of a single fill layer suffused with gravel, concrete fragments, asphalt fragments, modern bottle glass (noted and discarded), industrial slag (noted and discarded), and heavy roots. No significant cultural materials were recovered.



Image 02: Excavation of A-01, looking west.



Image 03: Asphalt floor in B-01.

Table 01: Stratigraphic Profile – A-01.

| STRAT | NAVD 88 DEPTH (BGS) | MUNSELL | SOIL TYPE | COMMENTS |
|---------|----------------------------|----------------------------------|------------------|---|
| Fill I | 19.10' – 18.4' (0' – 0.7') | 10YR 3/2 very dark grayish brown | Silty loamy sand | Gravel; asphalt, concrete and brick fragments; industrial slag; and heavy root disturbance. |
| Asphalt | At 18.4' (0.7') | N/A | N/A | Intact asphalt layer. |

Transect B

A total of four STPs were excavated on Transect B (B-01 to B-04). As with Transect A, two of the STPs in Transect B featured intact or disarticulated asphalt or concrete floors and were discontinued before reaching the maximum excavation depth (B-01, B-03). The remaining two STPs (B-02, B-04) featured different stratigraphic profiles than that generally found across Zone 1.

B-02 and 04 were the only two STPs across the site that were able to be excavated to subsoil (Tables 02 and 03) (Image 04). A slag layer unique to these two STPs was found at relatively the same depths as the asphalt/concrete layers across the site, which may have resulted in significantly less compactness as the fill layers were not as compressed. The presence of subsoil beneath the slag layer in Transect B indicates that intact soils may also exist underneath the asphalt/concrete layers across Zone 1. However, the top 0.35' (0.1m) of the subsoil in B-02 and B-04 were very compact, suggesting that this layer is truncated and has been impacted by human activities.

No culturally significant materials were uncovered during the testing of Transect B.



Image 04: Stratigraphic profile, B-02.

Table 02: Stratigraphic Profile – B-02.

| STRAT | NAVD 88 DEPTH (BGS) | MUNSELL | SOIL TYPE | COMMENTS |
|-------------------|-----------------------------------|--|-----------------------------|--|
| Ao | 18.90' – 18.75' (0' – 0.15') | 10YR 3/3 dark brown | Sandy Loam | Very compact. |
| Fill I | 18.90' – 18.10' (0.15' – 0.8') | 10YR 3/4 dark yellowish brown mottled with 7.5YR 4/4 brown | Silty medium to coarse sand | Gravel, asphalt chunks, modern trash, slag, brick fragments. |
| Fill II | 18.10' – 17.45' (0.8' – 1.45') | 10YR 2/2 very dark brown with layer of 10YR 2/1 slag | Silty medium to coarse sand | Extremely compact. |
| Truncated Subsoil | 17.45' – 15.90' (1.45' – 3.0') | 7.5YR 4/6 strong brown | Medium sand | Very compact for first 0.35', growing less compact with depth. |

Table 03: Stratigraphic Profile – B-04.

| STRAT | NAVD 88 DEPTH (BGS) | MUNSELL | SOIL TYPE | COMMENTS |
|-------------------|-----------------------------------|--|-----------------|--|
| Ao | 18.70' – 18.50' (0' – 0.2') | 10YR 3/3 dark brown | Sandy loam | Tree roots; compact with gravel. |
| Fill I | 18.50' – 17.95' (0.2' – 0.75') | 10YR 3/2 very dark grayish brown mottled with 7.5YR 4/6 strong brown | Loamy sand | Very compact with gravel, tree roots, chain link fence wiring. |
| Fill II | 17.95' – 17.10' (0.75' – 1.6') | 10YR 4/2 dark grayish brown | Silty fine sand | Extremely compact with gravel, asphalt and brick fragments; concrete-clad ceramic sewer pipe fragments; and cobbles. |
| Fill III | 17.10' – 16.70' (1.6' – 2.0') | N/A | N/A | Slag layer. |
| Truncated Subsoil | 16.70' – 16.35' (2.0' – 2.35') | 7.5YR 4/6 strong brown | Medium sand | Extremely compact |

Transect C

Three STPs were excavated on Transect C (C-01, 03 and 04). C-02 was skipped due to the flag pole and associated concrete slab (Map 05) (Image 01). Stratigraphy across the C transect is very similar, with most of the excavations discontinued due to extreme compaction in fill layers or because of an intact concrete floor. No intact subsoil, human remains, or significant cultural resources were encountered during the excavation of Transect C.

C-01, similar to A-01 and B-01, featured an intact concrete floor at a depth of 18.05' NAVD 88 (1.05' bgs), at which the STP was discontinued. A 2005 penny was recovered from fill within the top 0.35' (0.1m) of C-01.

C-03 was excavated to a depth of 17.7' NAVD 88 (1.3' bgs) at which point the concrete floor found in C-01 was encountered.

A semi-articulated concrete floor was found in C-04 and excavation was discontinued at 17.65' NAVD 88 (1.35' bgs) due to extreme compaction (Table 04). A 1982 penny was recovered from the second fill layer.

The compactness of the fill layers, the asphalt/concrete layers, and the presence of modern trash and the 1982 and 2005 coins indicates that the C Transect has been subject to high levels of modern disturbance. However, based on the presence of subsoil at depths exceeding 1.5' (0.5m) bgs in

Transect B, intact stratigraphic layers and/or human remains may exist underneath the asphalt/concrete layers.

Table 04: Stratigraphic Profile – C-04.

| STRAT | NAVD 88 DEPTH (BGS) | MUNSELL | SOIL TYPE | COMMENTS |
|---------|------------------------------------|----------------------------------|-----------------|---|
| Ao | 19' – 18.75' (0 – 0.25') | 10YR 3/2 very dark grayish brown | Sandy loam | Tree roots. |
| Fill I | 18.75' – 18.25' (0.25' – 0.75') | 10YR 3/3 dark brown | Sandy loam | Compact with gravel, and brick and plastic fragments. |
| Fill II | 18.25' – 17.65' (0.75' – 1.35') | 10YR 4/2 dark grayish brown | Silty fine sand | Very compact with gravel; asphalt, concrete and brick fragments; slag; 1982 penny. Impassable, semi-articulated concrete floor. |

Transect D

Four STPs were excavated along Transect D (D-01 to 04) (Map 05). Stratigraphy across Transect D is consistent, with most of the excavations discontinued due to extreme compaction in fill layers. An articulated asphalt floor was encountered in D-02 and a semi-articulated asphalt floor in the eastern half of D-03 was encountered at 18.60' NAVD 88 (0.4' bgs) (Image 05). No subsoil layers, human skeletal remains, or significant cultural resources were encountered during the excavation of STPs along the D transect.

D-01 was placed adjacent to the bluestone-paved ramp that connects the upper lawn portion of the Park with the extant playground (Map 05). The bluestone pavement was removed and archaeologically monitored (Image 06). No asphalt or concrete flooring was encountered in D-01 as extreme compaction in the second fill layer hampered excavation. (Table 05). D-04 had a similar stratigraphic profile as D-01 and also could not be excavated to the maximum depth due to extreme compaction (Image 07). The extreme compaction in these STPs may indicate that flooring exists in these STPs as its presence may intensify the compaction of the fill layers.



Image 05: Semi-articulated asphalt floor in D-03.



Image 06: Bluestone slab removal, looking south.



Image 07: Stratigraphic profile, D-04.

Table 05: Stratigraphic Profile – D-01.

| STRAT | NAVD 88 DEPTH (BGS) | MUNSELL | SOIL TYPE | COMMENTS |
|---------|-----------------------------------|--|-------------------------|--------------------------------------|
| Fill I | 19.10' – 18.35' (0' – 0.75') | 10YR 4/3 brown mottled with 10YR 5/4 yellowish brown | Loamy sand, Coarse sand | Gravel, brick fragments and plastic. |
| Fill II | 18.35' – 18.10' (0.75' – 1.0') | 10YR 3/3 dark brown | Sandy loam | Extremely compact. |

Transect E

Four STPs were excavated on the E Transect (E-01 to 04) (Map 05). The stratigraphy along Transect E is very similar to Transects C and D, however, no asphalt or concrete layers were encountered due to the extreme compactness of the modern fill layer. Asphalt and concrete fragments were recovered from the fill layer, suggesting that floors are extant in this location. The compactness of the fill layer in relation to the previous transects suggests that this area was subject to increased compression during previous construction activities. E-03 exhibits stratigraphy typical for Transect E (Table 06). Compactness increased with depth.

No intact stratigraphy or significant archaeological resources were encountered in Transect E.

Table 06: Stratigraphic Profile – E-03.

| STRAT | NAVD 88 DEPTH (BGS) | MUNSELL | SOIL TYPE | COMMENTS |
|--------------|----------------------------------|-------------------------------|------------------|--|
| Fill I | 19.20' – 18.40' (0' – 0.8') | 10YR 3/4 dark yellowish brown | Silty sandy loam | Very compact with gravel; asphalt, concrete and brick fragments; modern trash. |
| Fill II | 18.40' – 17.80' (0.8' – 1.4') | 10YR 3/3 dark brown | Loamy sand | Extremely compact with gravel; asphalt, concrete and brick fragments; modern trash; cobbles. Impassable. |

Transect F

Four STPs were excavated on the F Transect (F-01 to F-04) (Map 05). Transect F exhibited similar stratigraphy to Transect E in that the asphalt/concrete floor could not be reached via hand excavation due to the extreme compaction of the fill layers. Again, compactness increased with depth across the transect. F-04 had a slightly less compact top fill layer on this and other transects, however, it too was discontinued due to extreme compaction at 18.30' NAVD 88 (1.0' bgs).

F-01 exhibits a typical stratigraphic profile for Transect F (Table 07). F-01 was placed near a tree on the southern boundary of Zone 1 and its second fill layer was so compact that even the tree roots could not penetrate it. It was noted that major tree roots across the entirety of Zone 1 appeared closer to the surface than normal, perhaps in part because the tree roots could not penetrate the extremely compacted fill and asphalt/concrete layers.

No intact stratigraphy or significant archaeological resources were recovered from Transect F.

Table 07: Stratigraphic Profile – F-01.

| STRAT | NAVD 88 DEPTH (BGS) | MUNSELL | SOIL TYPE | COMMENTS |
|--------------|----------------------------------|---------------------|------------------|---|
| Fill I | 19.50' – 18.90' (0' – 0.6') | 10YR 3/3 dark brown | Sandy loam | Very compact with heavy tree roots and a dense root matt, some gravel, slag, brick and concrete fragments. |
| Fill II | 18.90' – 18.50' (0.6' – 1.0') | 10YR 4/3 brown | Loamy sand | Extremely compact – roots cannot penetrate; with cobble-sized concrete rubble layer and gravel. Impassable. |

JTPs and Radial 01

Four judgmental test pits (JTPs) were placed in various locations in Zone 1 to strategically fulfill archaeological testing of Zone 1 (JTP 01 to 04) (Map 05). JTPs 01-03 were placed along the northern curved branch of testable area off-shooting the main rectangular Zone 1 APE. JTP-04 was placed along the southern curved offshoot.

JTP-01, the westernmost test pit in the northern offshoot, exhibited stratigraphy similar to the majority of Zone 1 STPs: fill layers with increasing compaction leading to discontinuation (Table 08) (Image 08).

JTP-03, which is further to the east from JTP-01 on the northern offshoot, also exhibited similar stratigraphy and was discontinued at 18.20' NAVD 88 (1.30' bgs) due to impassable compaction (Table 09) (Image 09). JTP-04 was the only one to be excavated in the southern offshoot and it too featured similar Zone 1 stratigraphy (Table 10) (Image 10).



Image 08: Stratigraphic profile, JTP-01.

Table 08: Stratigraphic Profile – JTP-01.

| STRAT | NAVD 88 DEPTH (BGS) | MUNSELL | SOIL TYPE | COMMENTS |
|------------|-----------------------------------|--|------------------------|--|
| Overburden | 19.50' – 19.35' (0' – 0.15') | 10YR 4/4 dark yellowish brown mottled with 10YR 5/6 yellowish brown | Sandy loam | Compact with gravel. |
| Fill I | 19.35' – 19.10' (0.15' – 0.4') | 10YR 3/3 dark brown | Sandy loam | Very compact with gravel, some roots, brick fragments and slag. |
| Fill II | 19.10' – 19.05' (0.4' – 0.45') | 10YR 7/4 very pale brown mottled with 10YR 3/2 very dark grayish brown | Medium sand | Very compact. |
| Fill III | 19.05' – 18.50' (0.45' – 1.0') | 10YR 4/3 brown | Medium sand trace silt | Extremely compact concrete rubble layer with gravel and brick fragments. Impassable. |



Image 09: Stratigraphic profile, JTP-03.

Table 09: Stratigraphic Profile – JTP-03.

| STRAT | NAVD 88 DEPTH (BGS) | MUNSELL | SOIL TYPE | COMMENTS |
|---------|----------------------------------|---------------------|------------|---|
| Fill I | 19.50' – 18.65' (0 – 0.85') | 10YR 3/3 dark brown | Sandy Loam | Compact with gravel; concrete, brock and asphalt fragments; and modern glass and plastic fragments. |
| Fill II | 18.65' – 18.2' (0.85' – 1.3') | 10YR 4/3 brown | Loamy sand | Very compact concrete rubble layer with gravel, cobbles, brick and asphalt fragments, modern glass and plastic. Impassable. |



Image 10: Stratigraphic profile, JTP-04.

Table 10: Stratigraphic Profile – JTP-04.

| STRAT | NAVD 88 DEPTH (BGS) | MUNSELL | SOIL TYPE | COMMENTS |
|---------|----------------------------------|----------------------------------|---------------------------|--|
| Fill I | 19.50' – 19.10' (0' – 0.4') | 10YR 3/3 dark brown | Loamy sand | Very compact with gravel and modern glass and heavy tree root disturbance. |
| Fill II | 19.10' – 18.70' (0.4' – 0.8') | 10YR 3/2 very dark grayish brown | Silty fine to medium sand | Extremely compact concrete rubble layer with gravel, brick fragments, modern glass and wire nails. Impassable. |

Disarticulated and fragmentary human remains were recovered during the excavation of JTP-02, which is the middle judgmental test pit in the northern offshoot (Map 05). The Stratigraphy of JTP-02 and the resulting Radial STPs placed around it that were positive for human bone were singular among Zone 1 STPs. For the most part, the pits in which human remains were recovered (JTP-02, RAD01-90°, and RAD01-270°) were noticeably less compact than the rest of Zone 1 and featured different fill layers, some including pockets of subsoil.

A human skeletal element was encountered in mottled fill in JTP-02. The piece of highly fragmented long bone was found in a pocket of yellowish-brown soil inside of the Strat III fill layer, which aside from JTP-02 is consistent across the site (Figure 01) (Image 11). Strat III in JTP-02 was markedly less compact than the Strat III found in most other STPs in Zone 1. Additionally, a horizontal piece of long bone is visible in cross-section in a pocket of subsoil near the bottom of the western wall of JTP-02 at 18.66' NAVD 88 (0.84' bgs) (Figure 01) (Image 12). The bone was recovered from a pocket of Strat IV within Strat III, indicating that modern activity in this area disturbed existing graves.

Upon discovery of bone, JTP-02 was discontinued, photographed, and recorded. A Radial (RAD01) was placed around JTP-02 at 3' intervals and in cardinal directions (360°, 90°, 180°, 270°) (Map 05) (Image 13). Human bone was also recovered in RAD01-90° and RAD01-270°.

A fragment of human bone was recovered from Strat III at 18.60' NAVD 88 (0.9' bgs) in RAD01-90°. The bone, while definitely human, is too fragmentary to be definitively identified as to type. The stratigraphy of RAD01-90° is similar to JTP-02, though without the subsoil mottling (Table 11).

Two human long bone pieces, again too fragmentary to definitively type, were recovered from RAD01-270° in Strat III between 19.10' and 18.70' NAVD 88 (0.4' and 0.8' bgs). The stratigraphic profile of RAD01-270° is almost identical to RAD01-90° (Table 12).

Upon discovery of the human remains in each of the positive test pits, excavation was immediately halted, and the test pits were recorded, profiled, and photographed. NYC Parks was notified of the discovery. A section of tarp was fitted to the bottom of the pits prior to backfilling.

While no human remains were recovered from RAD01-360°, this test pit exhibited different stratigraphy from the rest of the Radial test pits and Zone 1 STPs as no impassable compacted fill layers were present, allowing the test pit to be excavated to the maximum depth of 3' bgs (1m) (Table 13). The last fill layer in RAD01-360° was suffused with modern trash, indicating that a high level of modern disturbance has impacted this area.

The southernmost Radial, RAD01-180°, exhibited similar stratigraphy to the majority of Zone 1 test pits and the same level of impassable compactness as that found across Zone 1 (Table 14).

Due to the presence of fragmentary human remains in less-compacted fill, it is clear that the area surrounding JTP-02 was subject to differing modern disturbance activities than the rest of the testable area of Zone 1. As such, it is possible that additional human remains are present in this area.

CHRYSALIS ARCHAEOLOGICAL
CONSULTANTS

NEWTOWN PLAYGROUND
PHASE IB
ZONE1
JTP-02
SOUTH PROFILE

1 NOVEMBER 2018

 Unexcavated

 Bone

1 10YR 4/3 compact silty fine-
medium sand w/ gravel, brick

2 10YR 7/3 mottled w/ 10YR 3/2
medium sand

3 10YR 3/2 very compact silty fine-
medium sand w/ small gravel,
brick, slag, modern glass, asphalt
mottled w/ 7.5YR 4/6 silty
fine-medium sand

4 7.5YR 4/6 silty fine-medium sand

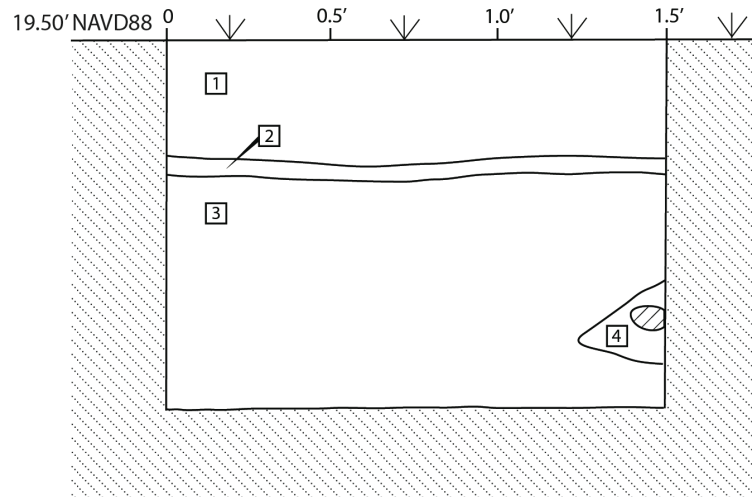


Figure 01: Stratigraphic profile of the south wall of JTP-02.



Image 11: Stratigraphic profile, JTP-02.



Image 12: Close-up of the bone visible in the western wall of JTP-02, with area highlighted.



Image 13: Plan view of Radial 01 (RAD01).

Table 11: Stratigraphic Profile – RAD01-90°.

| STRAT | NAVD 88 DEPTH (BGS) | MUNSELL | SOIL TYPE | COMMENTS |
|----------|--------------------------------------|--|---------------------------|--|
| Fill I | 19.50' – 19.15' (0' – 0.35') | 10YR 4/3 brown | Silty fine to medium sand | Compact with gravel, brick fragments, lead, plastic, and modern glass. |
| Fill II | 19.15' – 19.075' (0.35' – 0.425') | 10YR 7/3 very pale brown mottled with 10YR 3/2 very dark grayish brown | Silty fine to medium sand | |
| Fill III | 19.275' – 18.80' (0.425' – 0.9') | 10YR 3/2 very dark grayish brown | Silty fine to medium sand | Very compact with gravel and cobbles, brick and concrete fragments, modern glass and plastic. Discontinued due to the presence of human remains. |

Table 12: Stratigraphic Profile – RAD01-270°.

| STRAT | NAVD 88 DEPTH (BGS) | MUNSELL | SOIL TYPE | COMMENTS |
|----------|-----------------------------------|--|---------------------------|--|
| Fill I | 19.50' – 19.15' (0' – 0.35') | 10YR 4/3 brown | Silty fine to medium sand | Compact with gravel and brick fragments. |
| Fill II | 19.15' – 19.10' (0.35' – 0.4') | 10YR 7/3 very pale brown mottled with 10YR 3/2 very dark grayish brown | Silty fine to medium sand | |
| Fill III | 19.10' – 18.70' (0.4' – 0.8') | 10YR 3/2 very dark grayish brown | Silty fine to medium sand | Very compact with gravel and brick and glass fragments. Discontinued due to the presence of human remains. |

Table 13: Stratigraphic Profile – RAD01-360°.

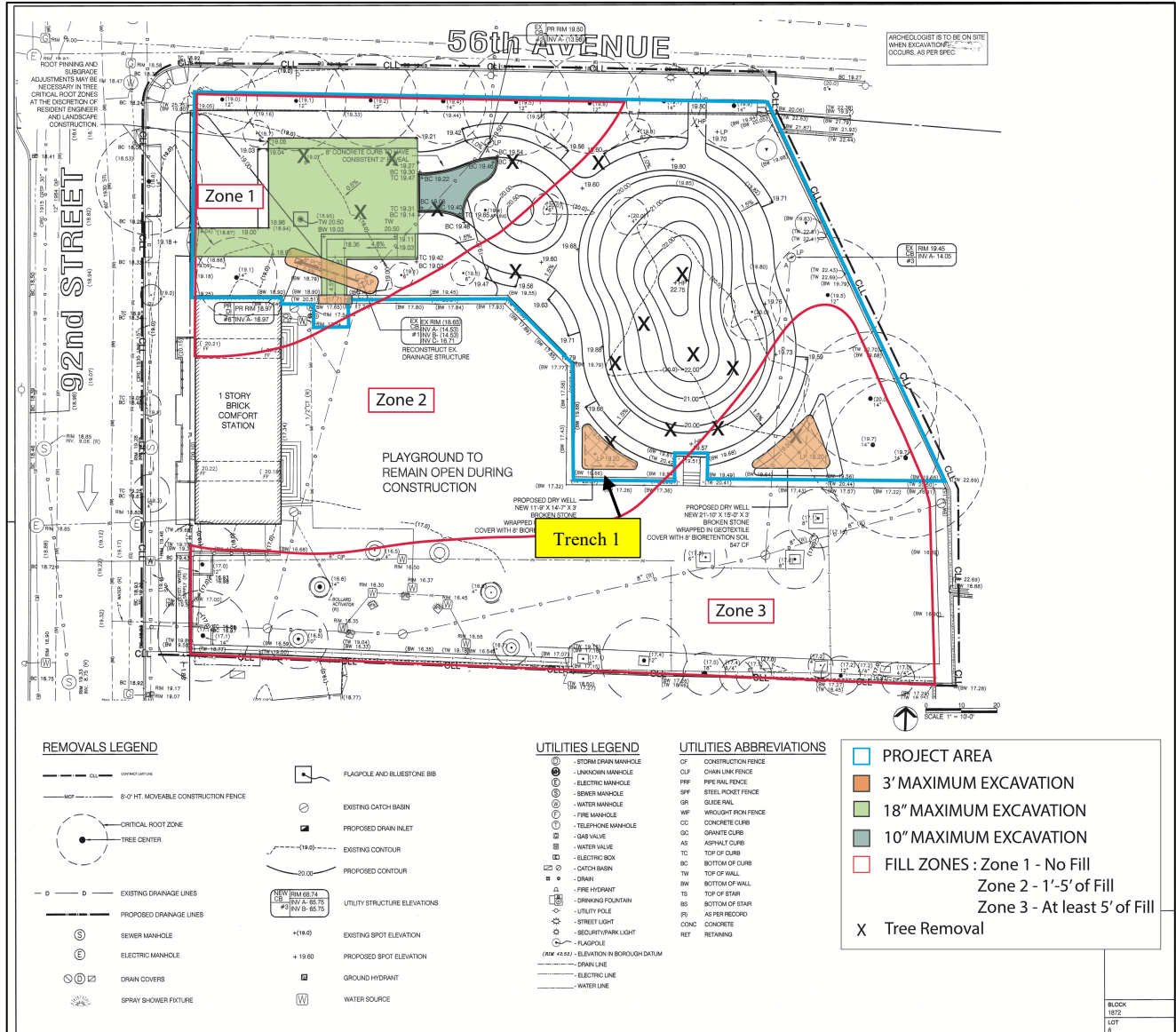
| STRAT | NAVD 88 DEPTH (BGS) | MUNSELL | SOIL TYPE | COMMENTS |
|----------|----------------------------------|---------------------------------|---------------------------|--|
| Fill I | 19.50' – 18.90' (0' – 0.6') | 10YR 4/3 | Silty fine-to-medium sand | Compact with gravel, and brick fragments. |
| Fill II | 18.90' – 18.80' (0.6' – 0.7') | 10YR 7/3 mottled with 10YR 3/2 | Medium Sand | |
| Fill III | 18.80' – 17.10' (0.7' – 2.4') | 10YR 3/2 mottled with 7.5YR 4/6 | Silty fine-to-medium sand | Very compact with pea gravel, brick fragments, and asphalt chunks near bottom. |
| Fill IV | 17.10' – 16.50' (2.4' – 3.0') | 10YR 3/2 | Loamy Very-fine Sand | Loose soil with modern trash. |

Table 14: Stratigraphic Profile – RAD01-180°.

| STRAT | NAVD 88 DEPTH (BGS) | MUNSELL | SOIL TYPE | COMMENTS |
|----------|-------------------------------------|--|-------------|--|
| Fill I | 19.50' – 19.175' (0' – 0.325') | 10YR 3/3 dark brown | Sandy Loam | Compact with gravel, asphalt chunks, and brick fragments. |
| Fill II | 19.175' – 19.00' (0.325' – 0.5') | 10YR 7/3 very pale brown mottled with 10YR 3/2 very dark grayish brown | Medium Sand | |
| Fill III | 19.00' – 18.00' (0.5' – 1.5') | 10YR 4/3 brown | Loamy Sand | Extremely compact with gravel; cobbles; asphalt, brick and concrete and fragments; and modern glass and plastic. Discontinued due to compaction. |

Phase IB Monitoring

In addition to field testing, certain activities in Zones 1 and 2 were also subject to archaeological monitoring. In Zone 1, this included all trenching in association with the installation of a drain line, concrete curb, and bench pad; the removal of a bluestone ramp connecting the upper lawn to the playground; modifications to the flagpole area; and five tree removals (Map 06). In Zone 2, monitoring included trenching excavation for the installation of a new dry well and nine tree removals.



Map 06: Planned excavations and removals in APE.

ZONE 1

Archaeological monitoring of tree removals in Zones 1 and 2 and bluestone ramp removals in Zone 1 occurred concurrently with field testing on October 30 through November 1, 2018. Tree removals in Zones 1 and 2 were not designated as trenches as their subsurface disturbance did not usually exceed 1' below ground surface. Five tree removals were observed in Zone 1 during Phase IB excavations (Image 14). A later tree removal near the location of the human remains was monitored on March 27, 2019. The tree removals encountered one uniform stratum of 10YR 3/2, very dark grayish brown loamy sand fill across the area.



Image 14: Plan view of Zone 1 tree removals.

The bluestone ramp removal created minimal subsurface disturbance and was also not given a trench designation.

Archaeological monitoring of mass excavations and localized trenching for removals with subsurface disturbances and installations in excess of 1' below ground surface occurred in Zone 1 on December 4 to December 5, 2018 (Map 07). Monitoring trenches included: Mass Excavation trench, Pits 1-3, and Trenches 3-5.

Mass Excavation

A large area of zone 1 was excavated to a depth of 1' (0.3m) bgs, which ranges in NAVD 88 elevations. (Map 07). The height of the ground surface in this area varied from 18.86' NAVD 88 in the southwest to 19.2' NAVD 88 in the northwest, giving total depths ranging from 17.86' to 18.2' NAVD 88.

The mass excavation began at the Park's gated entrance at 92nd St and extended 19' (5.8m) east into the park at 9' (2.7m) wide north-south before widening out by 25' (7.62m) to the north for an overall north-south width of 34' (10.4m) (Image 15). This widened area extends 46' (14m) for a total east-west length of 65' (19.8m) from the park entrance to the east edge of the excavation.

The mass excavation encountered one uniform stratum of 10YR 4/2, dark grayish brown loamy sand fill, with angular gravel, cobble, brick fragment, and concrete fragment inclusions (Table 15). The concrete fragments ranged in size from pebble to boulder. Some modern trash was encountered, including plastic utensils and Styrofoam fragments. No archaeologically sensitive material was encountered.

Table 15: West wall stratigraphic profile – Mass Excavation.

| STRAT | NAVD 88 DEPTH (BGS) | MUNSELL | SOIL TYPE | COMMENTS |
|--------|--------------------------------|-----------------------------|------------|---|
| Fill I | 19.2' – 17.86' (0' – 1.34') | 10YR 4/2 dark grayish brown | Loamy Sand | With small angular rocks, cobbles, concrete fragments, brick fragments, modern trash. |



Image 15: Mass excavation in progress at 92nd Street gate.

Pit 1

Pit 1 was established abutting the entrance to the lower playground area, 36.8’ (11.2m) east of the west fence line (Map 07). It measured 9’ (2.7m) east–west by 8’ (2.4m) north–south. The ground surface was at 18.8’ NAVD 88 and excavation in the pit reached a maximum depth of 15.3’ NAVD 88 (3.5’ bgs), encountering the typical 10YR 4/2, dark grayish brown loamy sand fill with angular gravel, cobble, brick and concrete fragment inclusions to a depth of 16.3’ NAVD 88 (2.5’ bgs), where it was underlain by a layer of asphalt 0.5’ (0.15m) thick. This asphalt layer overlies the natural subsoil, a 10YR 4/4, dark yellowish-brown loamy sand with rounded pebble and cobble inclusions (Table 16). The concrete footings of the retaining wall extend beyond the floor of the pit. No archaeologically sensitive material was encountered.



Image 16: Pit 1 excavation in progress.

Table 16: West wall stratigraphic profile – Pit 1.

| STRAT | NAVD 88 DEPTH (BGS) | MUNSELL | SOIL TYPE | COMMENTS |
|---------|--------------------------------|-------------------------------|------------|---|
| Fill I | 18.8’ – 16.3’ (0’ – 2.5’) | 10YR 4/2 dark grayish brown | Loamy Sand | Angular pebbles, concrete fragments, brick fragments. |
| Fill II | 16.3’ – 15.8’ (2.5’ – 3.0’) | N/A | N/A | Intact asphalt layer. |
| Subsoil | 15.8’ – 15.3’ (3.0’ – 3.5’) | 10YR 4/4 dark yellowish brown | Loamy Sand | Rounded pebbles and cobbles. |

Pit 2

Pit 2 was established 13’(4m) east of the west fence line, abutting the brick comfort station to the south, in order to remove a tree stump (Map 07) (Image 17). It measured 11’ (3.4m) east–west by 10’ (3m) north–south. The ground surface is 19.1’ NAVD 88 and excavation reached a maximum depth of 15.9’ NAVD 88 (3.2’ bgs), encountering a layer of 10YR 3/3, dark brown loamy sand fill as well as the natural subsoil beginning at a depth of 16.4’ NAVD 88 (2.7’ bgs) (Table 17). No archaeologically sensitive material was encountered.



Image 17: Pit 2 excavation in progress.

Table 17: West wall stratigraphic profile – Pit 2.

| STRAT | NAVD 88 DEPTH (BGS) | MUNSELL | SOIL TYPE | COMMENTS |
|---------|--------------------------------|-------------------------------|------------|------------------------------------|
| Fill I | 19.1’ – 16.4’ (0’ – 2.7’) | 10YR 3/3 dark brown | Loamy Sand | Angular pebbles, root disturbance. |
| Subsoil | 16.4’ – 15.9’ (2.7’ – 3.2’) | 10YR 4/4 dark yellowish brown | Loamy Sand | Rounded pebbles and cobbles. |

Pit 3

Pit 3 was established with its south corner 25.6' (7.8m) east of the west fence line and 1.5' (0.5m) north of the brick comfort station (Map 07). It measured 5' by 5' (1.5m by 1.5m) and was oriented northwest by southeast. The ground surface was at 19' NAVD 88 and the pit was excavated to a maximum depth of 15' NAVD 88 (4' bgs), encountering the 10YR 4/2, dark grayish brown loamy sand fill to a depth of 17.7' NAVD 88 (1.3' bgs), which overlaid a layer of asphalt 0.7' (0.21m) thick, below which was a disused electrical conduit and the 10YR 4/4, dark yellowish brown loamy sand subsoil (Table 18) (Image 18). No archaeologically sensitive material was encountered.



Image 18: Stratigraphic profile, Pit 3.

Table 18: Southeast wall stratigraphic profile – Pit 3.

| STRAT | NAVD 88 DEPTH (BGS) | MUNSELL | SOIL TYPE | COMMENTS |
|---------|------------------------------|-------------------------------|------------|---|
| Fill I | 19' – 17.7' (0' – 1.3') | 10YR 4/2 dark grayish brown | Loamy Sand | Small angular rocks, concrete fragments, brick fragments. |
| Asphalt | 17.7' – 17' (1.3' – 2.0') | N/A | N/A | Intact asphalt layer. |
| Subsoil | 17' – 15' (2.0' – 4.0') | 10YR 4/4 dark yellowish brown | Loamy Sand | Pebbles and cobbles. |

Trench 3

Trench 3 was established 14' (4.3m) north of the southern fence line and 36.8' (11.2m) east of the western fence line (Map 07). It measured 4' (1.2m) north–south by 23.2' (7.1m) east–west, ending 60' (18.3m) east of the west fence line. The ground surface was at a height of 19' NAVD 88, and the trench was excavated to a depth of 17' NAVD 88 (2' bgs), encountering only the 10YR 4/2, dark grayish brown loamy sand fill with angular gravel, cobble, brick fragment, and concrete fragment inclusions (Table 19) (Image 19). No archaeologically sensitive material was encountered.



Image 19: North wall stratigraphic profile, Trench 3 and 4 – Zone 1.

Table 19: North wall stratigraphic profile – Trench 3.

| STRAT | NAVD 88 DEPTH (BGS) | MUNSELL | SOIL TYPE | COMMENTS |
|--------|--------------------------------|-----------------------------|------------|--|
| Fill I | 19.00' – 17.00' (0' – 2.0') | 10YR 4/2 dark grayish brown | Loamy Sand | Small angular rocks, cobbles, concrete fragments, brick fragments, and modern trash. |

Trench 4

Trench 4 was established on the north wall of Pit 1, 38.8' (11.8m) east of the Park's western fence line (Map 07). The trench had a width of 2.5' (0.8m), first moving to the north-east before turning due east once it intersected with the south wall of Trench 3 at 47.2' (14.4m) east of the western fence line. The trench extended 85' (26m) east of the western fence line, turning to the south-east and following the fence line for 39.5' (12m) before turning due south and ending at the north wall of Trench 1. A spur was excavated southwards at 67' (20.4m) east of the west fence line, 2.5' (0.8m) wide on its east–west axis and 6.5' (2m) long on its north–south axis.

The ground surface ranged from a height of 18.79' NAVD 88 at the west end, sloping up to 19.5' at the south-east turn at 85' (26m) east of the western fence line, then to 19.6' (6m) at the southern end of the trench. The trench was excavated to a depth of 14.79' NAVD 88 (4.0' bgs) at the western end before sloping up 16' NAVD 88 (3.5' bgs) at 85' (26m) east of the western fence line and concluding at 16.6' NAVD 88 (3' bgs) at the east end of the trench.

The trench encountered typical stratigraphy for the area, with the 10YR 4/2, dark grayish brown loamy sandy fill layer overlaying intact asphalt at 16.5' NAVD 88 (2.29' bgs) at the location of the profile in the west end of the trench (Image 20). Natural 10YR 4/4, dark yellowish-brown loamy sand subsoil was found at 16' NAVD 88 (2.76' bgs) in depth up to the limit of Zone 1 at 80' (24.4m) east of the western fence line.

In Zone 2, the soil encountered was a layer 10YR 3/3, dark brown sandy loam fill with some pebble inclusions to a depth of 18' NAVD 88 (1.6' bgs), overlying a layer of 10YR 3/2, very dark brown sandy loam with increased pebble inclusions, brick, and concrete fragments. (Table 20) (Image 21). No archaeologically sensitive material was encountered.



Image 20: North wall stratigraphic profile, Trench 4 – Zone 1.



Image 21: West wall stratigraphic profile, Trench 4 – Zone 2.

Table 20: Southwest wall stratigraphic profile – Trench 4, Zone 2.

| STRAT | NAVD 88 DEPTH (BGS) | MUNSELL | SOIL TYPE | COMMENTS |
|---------------------|--------------------------------|-------------------------------|------------|--|
| Fill I | 19.5' – 16.5' (0' – 3.0') | 10YR 4/2 dark grayish brown | Loamy Sand | Small angular rocks, concrete fragments, brick fragments. Ends at 80' (24.38m) east of the west fence line. |
| Asphalt | 16.5' – 16' (3.0' – 3.5') | N/A | N/A | Intact asphalt layer. |
| Redeposited Subsoil | 16' – 14.79' (3.5' – 4.71') | 10YR 4/4 dark yellowish brown | Loamy Sand | Pebbles and cobbles. Ends at 80' (24.38m) east of the west fence line. |
| Fill II | 19.6' – 18' (0' – 1.5') | 10YR 3/3 dark brown | Sandy Loam | Some pebbles. Begins at 80' (24.38m) east of the west fence line. |
| Fill III | 18'–16' (1.5' – 3.5') | 10YR 3/2 very dark brown | Sandy Loam | More pebble inclusions than above; brick and concrete fragments. Begins at 80' (24.38m) east of the west fence line. |

Trench 5

Trench 5 was established in the lower, concrete-paved playground area beginning at the south wall of Pit 2, 38.8' (11.8m) east of the western fence line (Map 07). The trench proceeded 8.5' (2.6m) to the south then turned to the west for 10' (3.0m) with a width of 2.5' (0.8m), save for the westmost 4' (1.2m) where it widened out to 4' (1.2m).

The ground surface in this lower area was at a height of 17.5' NAVD 88 and the trench was excavated to a maximum depth of 12.9' NAVD 88 (4.6' bgs), encountering the same strata seen previously underlying the concrete pavement (Table 21). Strat I, the fill layer, concluded at 16.5' NAVD 88 (1' bgs) in most of the trench except where it dove into the floor at 4' (1.2m) east of the western end of the trench due to the installation of a utility service line and manhole (Figure 02) (Images 22 and 23). No archaeologically sensitive material was encountered.



Image 22: North wall stratigraphic profile, Trench 5.

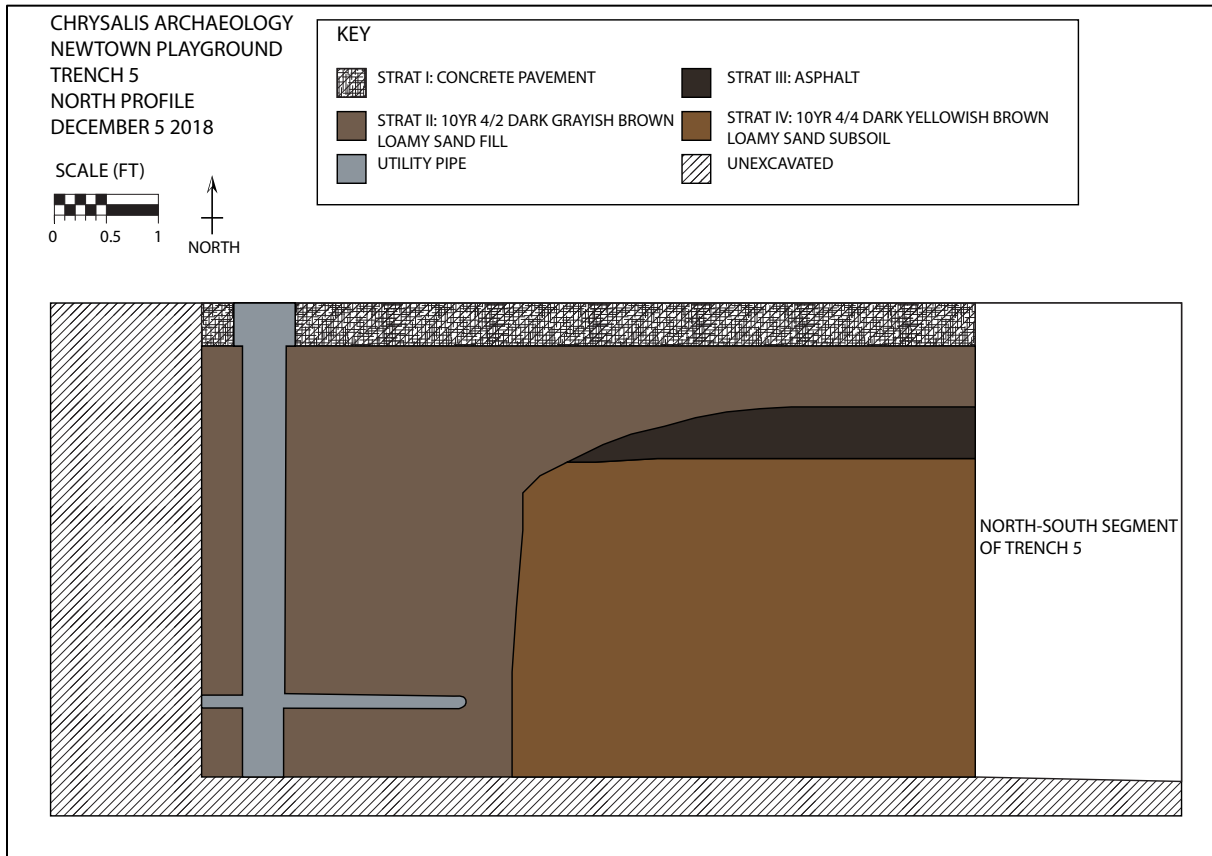


Figure 02: North wall stratigraphic profile, Trench 5.

Table 21: West wall stratigraphic profile – Pit 2.

| STRAT | NAVD 88 DEPTH (BGS) | MUNSELL | SOIL TYPE | COMMENTS |
|----------|--------------------------------|-------------------------------|------------|---|
| Concrete | 17.5' – 17.1' (0' – 0.4') | N/A | N/A | Intact concrete pavement. |
| Fill I | 17.1' – 12.9' (0.4' – 4.6') | 10YR 4/2 dark grayish brown | Loamy Sand | Small angular rocks, concrete fragments, brick fragments. |
| Asphalt | 16.5' – 16' (2.0' – 2.5') | N/A | N/A | Intact asphalt layer. |
| Subsoil | 16' – 12.9' (1.5' – 4.6') | 10YR 4/4 dark yellowish brown | Loamy Sand | Pebbles and cobbles. |



Image 23: Trench 5 plan view.

Tree Removals

A small tree located along the northern edge of Zone 1 and the upper lawn of Newtown Park along 56th Avenue was attempted to be removed starting on March 27, 2019 and was archaeologically monitored (Image 24). A small excavator was used to pull back the soil to a depth of 18.30' NAVD 88 (1' bgs) around the northern edge of the tree. Due to the interweaving of the small tree's roots with the larger adjacent tree to the north, an air spade was utilized in an effort to disentangle the trees (Image 25). After consideration of the tree root conditions, and in an effort to keep the larger tree intact and healthy, Parks ultimately decided not to remove the smaller tree.

The stratigraphy of the aborted tree removal is the same as that for other tree removals across Zone 1: 10YR 3/2, very dark grayish brown loamy sand fill. No significant cultural resources or human remains were recovered during tree removal activities.



Image 24: Area overview of March tree removal, looking northeast.



Image 25: Air spade results, looking north.

ZONE 2

Two trenches were excavated and monitored in Zone 2: Trenches 1 and 4 (Map 07). Trench 4 originated in Zone 1 and is included in that section. Trench 1, a triangular excavation for the installation of a dry well, was monitored on October 31, 2018. Nine tree removals were also observed in Zone 2, although the removals were not designated as trenches or pits as excavation depths did not exceed 1' bgs (Image 26). As with Zone 1, the tree removals encountered one uniform stratum of 10YR 3/2, very dark grayish brown loamy sand fill across Zone 2.

Trench 1 is located on the southern edge of the upper lawn area and directly abuts on its western and southern edge the permanent fence that separates the lawn from the playground area (Map 06) (Image 27). Trench 1 was monitored as project excavation depths could have exceeded expected fill layers. Pickman (1995) indicated that Zone 2 may have fill between 1'-5' bgs.

Trench 1 was excavated to a depth of 17.70' NAVD 88 (2' bgs) and did not exceed Zone 2's fill layer (Table 22) (Image 28). No intact stratigraphy or significant cultural resources were encountered during excavation.



Image 26: Tree removal, Zone 2, looking south.



Image 27: Plan view of Trench 1, Zone 2.



Image 28: Northeast wall stratigraphic profile, Trench 1 -- Zone 2.

Table 22: Northeast wall stratigraphic profile – Trench 1, Zone 2.

| STRAT | NAVD 88 DEPTH (BGS) | MUNSELL | SOIL TYPE | COMMENTS |
|----------|----------------------------------|----------------------------------|-----------------------------|---------------------|
| Fill I | 19.70' – 18.60' (0 – 1.1') | 10YR 3/2 very dark grayish brown | Silty fine to medium sand | |
| Fill II | 18.60' – 18.30' (1.1' – 1.4') | 10YR 6/3 pale brown | Medium sand | |
| Fill III | 18.30' – 17.90' (1.4' – 1.8') | 7.5YR 4/3 brown | Silty medium to coarse sand | |
| Fill IV | 17.90' – 17.70' (1.8' – 2.0') | 10YR 4/2 dark greyish brown | Silty fine to medium sand | Compact with gravel |

VI. LABORATORY RESULTS

No artifacts or intact human remains were recovered from intact stratigraphy or in situ internments during Phase IB field testing of Zone 1 of Newtown Playground. However, disarticulated and highly fragmentary human remains were recovered from fill layers in three test pits in Zone 1 (Table 24) (Images 29-31). Analysis by Forensic Anthropologist, Dr. Matthew Brown, determined that, while definitely human, the bones were too fragmentary to definitively type.

Additionally, numerous modern items, including plastic candy wrappers and wire nails, were recovered in fill in the same provenience as historic artifacts and some of the human remains, indicating a high level of modern disturbance in Zone 1 of the APE. Two modern coins, a 2005 US penny in C-01 and a 1982 US penny in C-04, provides a terminus post quem for Strat I across Zone 1.

Only the human remains were ultimately kept for processing and cataloging.

Table 23: Recovered Human Remains – Zone 1.

| STP | NAVD 88 DEPTH (BGS) | STRATUM | ARTIFACT | COUNT |
|-----------|------------------------------------|--|---------------------------------------|-------|
| JTP-02 | 18.775' – 18.6' (0.725' – 0.9') | Pocket Subsoil (Strat IV) within Strat III | Fragmentary human long bone | 1 |
| RAD01-270 | 19.10' – 18.70' (0.4' – 0.8') | III | Fragmentary human long bone | 2 |
| RAD01-90 | 18.70' (0.8') | III | Fragmentary human phalanx or phalange | 1 |
| TOTAL | - | - | - | 4 |



Image 29: Fragmentary human long bones from RAD01-270°.



Image 30: Fragmentary human skeletal element from JTP-02.

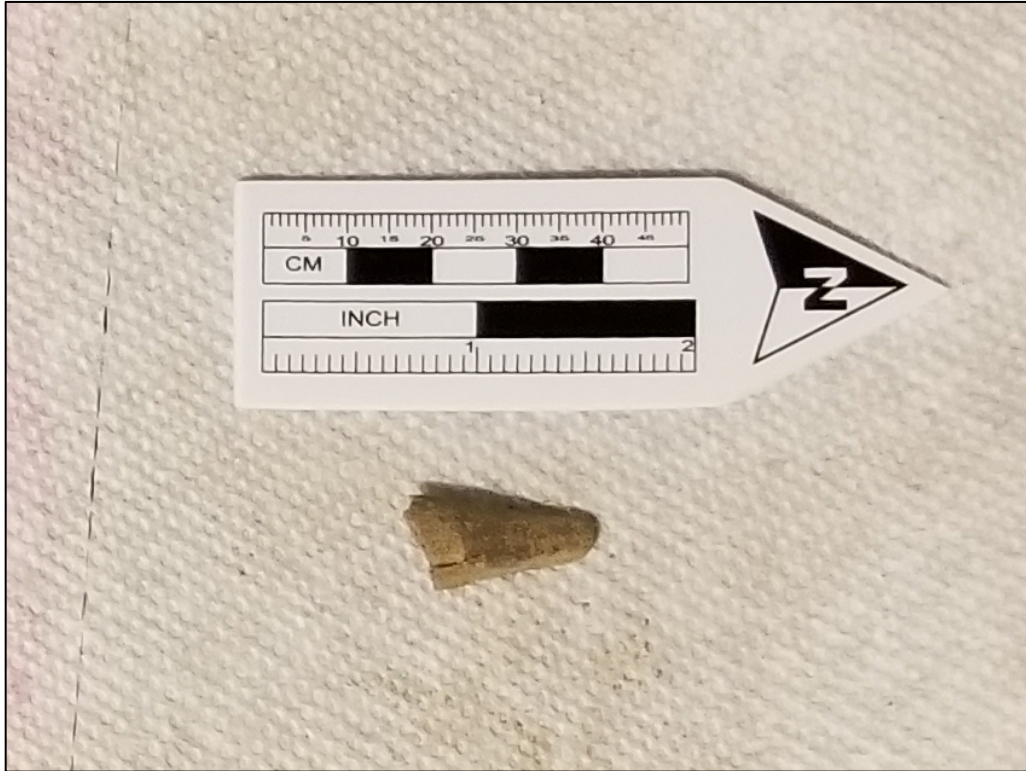


Image 31: Fragmentary human skeletal element from RAD01-90°.

VII. CONCLUSIONS

A total of 28 archaeological test pits were excavated as part of the Phase IB field testing of The Reconstruction of the Paths and the Plantings of the Upper Lawn Area of Newtown Playground, 56 92nd Street, Queens, NY 11373 (Q041-116M). 24 standardized test pits (STPs) were excavated along five transects and one radial and four judgmental test pits (JTPs) were placed strategically in order to maximize coverage in Zone 1 of the Newtown Playground.

Human remains were recovered in three test pits, though they were highly fragmentary and found in modern fill layers. Overall, the excavation of Phase IB STPs did not yield any significant cultural resources in Zone 1. Pickman postulated that the fill depth in Zone 1 may be directly underneath the surface. However, Phase IB testing and monitoring indicates that much of Zone 1 is highly disturbed to at least 1.5' bgs.

Monitoring of subsurface excavations as part of the Project occurred in Zones 1 and 2. In Zone 1, a mass excavation trench, Pits 1-3, Trenches 3-5, and five tree removals were monitored. In Zone 2, Trench 1 and nine tree removals were monitored. No archaeologically significant materials were recovered during Phase IB monitoring of project activities.

Based on the information gleaned from Phase IB field testing, no National Register contributing resources exist within the APE. Additionally, the subsurface excavation depths achieved during

project work did not have any adverse effects on human internments. However, should work on current or future projects exceed the fill levels as put forth by Pickman (1995) or those demonstrated by Phase IB work in any zone, Chrysalis recommends further cultural resource management efforts be considered as human internments could still exist in areas of the Park not disturbed by current excavation depths.

Based on the presence of fragmentary human remains in fill layers and amongst modern trash in Zone 1, it is clear that graves were once extant in this area, though they are now disturbed. Future work achieving 1.5' bgs or more in depth, or that extend underneath the asphalt and concrete flooring/concreted fill layers, may disturb intact graves. Future work may also encounter fragmentary human skeletal elements at shallow depths within Zone 1 based upon the results of Phase IB testing.

VIII. RECOMMENDATIONS

No further archaeological mitigation is recommended for this Project. However, based on the recovery of fragmentary human remains in Zone 1, any future work that exceeds the fill levels as put forth by Pickman (1995) in any zone is recommended to be subject to further cultural resource management investigations as human internments could still exist in areas of the Park not disturbed by current excavation depths.

Chrysalis does not recommend additional cultural resource management efforts for The Reconstruction of the Paths and the Plantings of the Upper Lawn Area of Newtown Playground, 56 92nd Street, Queens, NY 11373 (Q041-116M).

However, project excavations did not exceed Pickman's assumed Phase IA fill depths for Zones 2-3. Any future work planned in these Zones that exceed the assumed fill depths should involve cultural resource management as human internments and/or disarticulated remains may exist in these locations. Any current or future work in Zone 1 that exceeds the asphalt/concrete floor layer (approximately 1' to 1.5' bgs across Zone 1) should involve cultural resource management efforts as fragmentary human remains were recovered from disturbed layers above the asphalt and concrete layers, indicating that others may exist in this location.

IX. REFERENCES

City of New York – Landmarks Preservation Commission.

- 2002 Guidelines for Archaeological Work in New York City. Report on file with the City of New York – Landmarks Preservation Commission. New York, New York.
- 2018 Guidelines for Archaeological Work in New York City. Report on file with the City of New York – Landmarks Preservation Commission. New York, New York.

New York Archaeological Council.

- 1994 Standards for Cultural Resource Investigations and the Curation of Archaeological Collections in New York State. Report on file with the New York State Office of Parks, Recreation and Historic Preservation. Albany, New York.
- 2000 Cultural Resource Standards Handbook: Guidance for Understanding and Applying the New York Standards for Cultural Resource Investigations. Report on file with the New York State Office of Parks, Recreation and Historic Preservation. Albany, New York.
- 2002 Guidelines for the Use of Archaeological Monitoring as an Alternative to Other Field Techniques. Report on file with the New York State Office of Parks, Recreation and Historic Preservation. Albany, New York

Pickman, Arnold

- 1995 Archaeological Documentary Study Reconstruction of Newtown Playground 56th Avenue and 92nd Street Elmhurst, Queens. Report on file with the City of New York – Landmarks Preservation Commission. New York, New York.

United States – Geological Survey

- 2016 USGS US Topo 7.5-minute map for Jamaica, NY. USGS – National Geospatial Technical Operations Center (NGTOC).

X. APPENDICES



To: City of New York - Landmarks Preservation Commission
City of New York – Department of Parks and Recreation

From: Leah Mollin-Kling, M.A.A., R.P.A. and Alyssa Loorya, PhD, R.P.A.

Re: Phase IB Archaeological Work Plan for The Reconstruction of the Paths and the Plantings of the Upper Lawn Area of Newtown Playground, 56 92nd Street, Queens, NY 11373 (Q041-116M)

Date: October 30, 2018 (Final Revised)

I. INTRODUCTION

K and V Construction, Inc., (K&V) contracted with Chrysalis Archaeological Consultants, Inc., (Chrysalis) on behalf of the City of New York – Department of Parks and Recreation (NYC Parks) to provide all Cultural Resource Management (Archaeological) services for The Reconstruction of the Paths and the Plantings of the Upper Lawn Area of Newtown Playground, 56 92nd Street, Queens, NY 11373 (Q041-116M) (Map 01). NYC Parks established the overall project area and defined the Area of Potential Effect (APE) in their Scope of Work (SOW). Project plans include tree removals and excavations in association with path reconstructions, bench pads, concrete curb construction, drainage lines, dry wells, and bluestone slab removals.

In consultation with the City of New York – Landmarks Preservation Commission (NYC LPC), and in consideration of the recommendations of Arnold Pickman’s 1995 archaeological report limited archaeological testing prior to the start of construction and construction monitoring are recommended for this project. The Pickman report differentiated the APE into three zones of archaeological and human remains sensitivity (Pickman 1995). Based on this archaeological testing is required in Zone 1, and archaeological construction monitoring is required for Zone 2. Parks’ SOW does not require monitoring for construction activities in Zone 3 as the depth of the excavations are not anticipated to exceed the level of modern and historic fill in this location.

This Archaeological Work Plan (AWP) is provided to the NYC LPC and NYC Parks for review and approval. It describes the procedures and tasks to be performed as part of this Phase IB Archaeological Project. This AWP consists of four components: an Archaeological Testing Plan for Zone 1, an Archaeological Monitoring Plan for Zone 2, a Human Remains Protocol, and an Unanticipated Discoveries Plan.

This Work Plan has been updated based on two meetings between K&V, Chrysalis and NYC Parks: the first on Monday, October 15, 2018 at The Olmsted Center and the second on Monday, October 29, 2018 at Newtown Playground.

The purpose of this overall cultural resources project is to determine the presence or absence of human remains, and/or significant (i.e. National Register eligible) cultural resources, and to document and determine the extent of any potential human remains and/or archaeological resources, which may be encountered. As Newtown Playground was once a cemetery, there is a potential to encounter human remains during Project activities. The purpose of this plan is to: 1) outline the proposed archaeological tasks; 2) outline the lines of communication that will be employed throughout the project with regard to human remains and cultural resources components; 3) detail what steps will be taken in the event that significant archaeological remains, including, but not limited to, human remains or unanticipated discoveries, are exposed; 4) outline the laboratory analysis process to be followed, if necessary; 5) provide a time estimate for all Project archaeological tasks, including, but not limited to, field work, laboratory processing and analysis, and the development of a final report.

NYC Parks Scope of Work outlined the following specific archaeological tasks as part of the Phase IB project:

- 1) Create a Monitoring, Unanticipated Discoveries and Human Remains Protocol Plan (note – this has been expanded to include pre-construction Archaeological Testing per consultation with NYC LPC);
- 2) Undertake Archaeological Testing and Monitoring of construction excavation in the APE defined by NYC Parks;
- 3) Conduct analysis of any human skeletal remains or material remains recovered (i.e. washing, cataloging, creation of a database);
- 4) Develop a historical and cultural context(s) for the interpretation and evaluation of any cultural resources that may be present within the APE;
- 5) Produce a draft and final report of the results;
- 6) Provide all additional related cultural resource management services that may arise.

CULTURAL RESOURCE REGULATIONS

For cultural resources and structures, the National Historic Preservation Act (NHPA) and the Advisory Council on Historic Preservation (ACHP) define, under Section 106 Regulations, wherein federal agencies (and other governmental agencies using federal funds) must consider the effects of their actions on any properties listed on, or determined eligible for listing on, the National Register for Historic Places (NR). Likewise, the State Historic Preservation Act (SHPA) and the (New York) City Environmental Quality Review Act (CEQRA) require that agencies must consider the effects of their actions on any properties listed on, or determined eligible for listing on, the State and City Register for Historic Places. This AWP follows the NYC LPC Archaeological Guidelines for NYC (NYC LPC 2018). The cultural resources specialists who will perform this work will satisfy the qualifications specified in the NYC LPC Archaeological Guidelines for NYC (NYC LPC 2018) and 36 CFR 61, Appendix A.

PROJECT DESCRIPTION

Proposed modifications to the existing Newtown Playground call for subsurface excavations in all three Zones identified in the Pickman report (1995), including six trenches along the footpath in the northern portion of the park (Zone 1). Plans also include tree removals, the creation of bench pads, concrete curb construction, installation of drainage lines and dry wells, and bluestone slab removals. The SOW provided by NYC Parks called for Archaeological Testing and Monitoring of the excavation of trenching in association with the path reconstructions and other Project activities in Zones 1 and 2. Project activities in Zone 3 are not anticipated to exceed historic and modern fill depths and no archaeological monitoring was specified in the SOW.

PROJECT INFORMATION¹

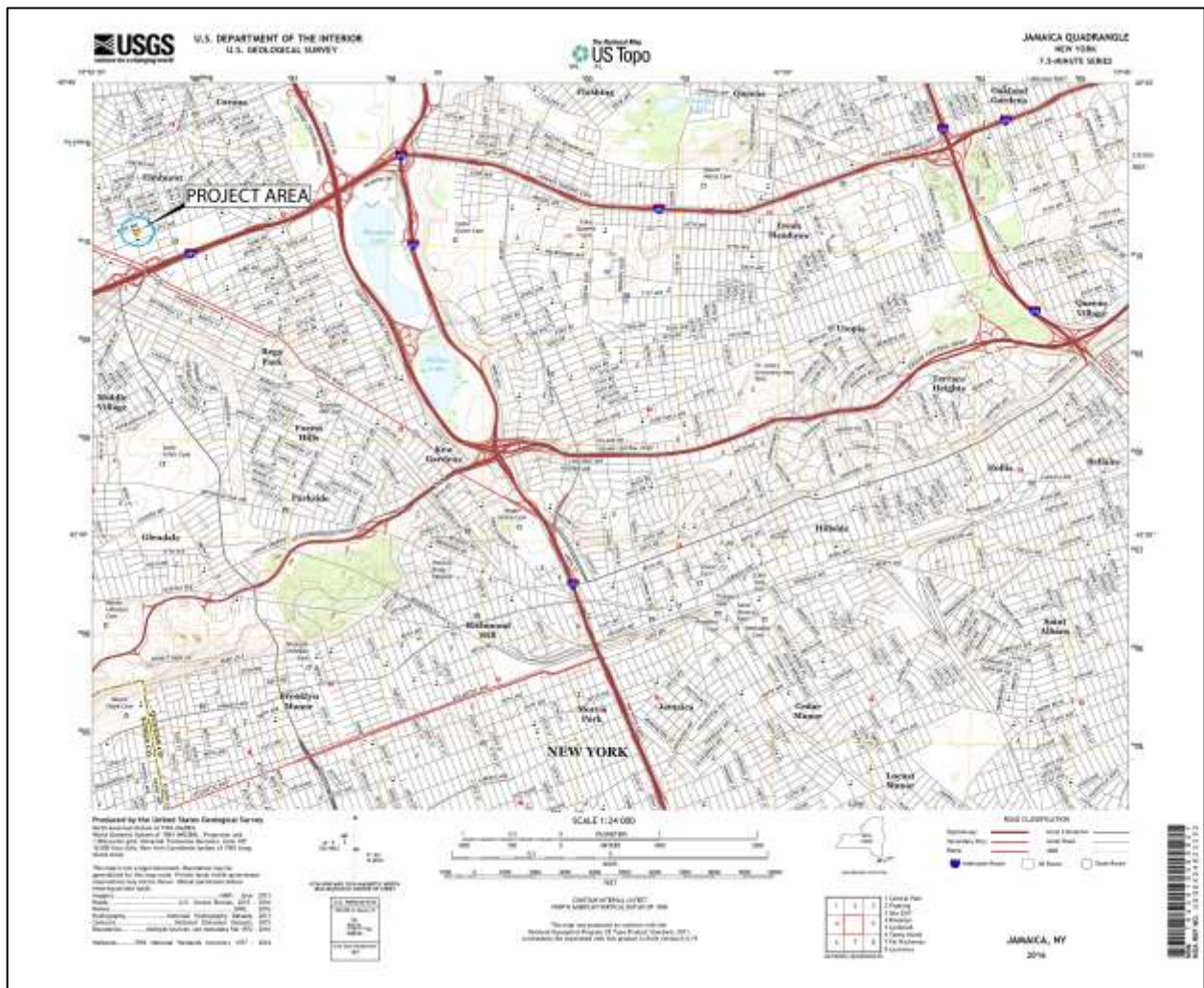
| | |
|------------------------------------|--|
| Project name: | Reconstruction of the Paths and the Plantings of the Upper Lawn Area of Newtown Playground (Q041-116M) |
| Address: | 56 92nd Street, Queens, NY 11373 |
| Borough/block/Lot: | Queens/1872/8 |
| LPC PUID: | |
| Lead agency: | NYC Department of Parks and Recreation |
| Principal Investigator: | Alyssa Loorya, Ph.D., R.P.A. |
| Field Director: | Leah Mollin-Kling, M.A., R.P.A. |
| Laboratory Director: | Alyssa Loorya, Ph.D., R.P.A. |
| Forensics/Physical Anthropologist: | Matthew Brow, Ph.D., R.P.A. |
| Proposed Project Schedule: | Testing – 1 week (Chrysalis) Monitoring – TBD – by K and V Construction, Inc. |

¹ Contact information for all agencies and individuals is presented in the Project Communication section.

II. ENVIRONMENTAL AND HISTORIC CONTEXT

Newtown Playground is located in Elmhurst, Queens at the corner of 92nd Street and 56th Avenue (Maps 01 and 02), it is a typical park landscape consisting of open grass areas, concrete and a Park House. The name of Newtown refers to the old Town that existed in the area from 1664 to 1898, the year that Queens was incorporated into greater New York City as a borough. European settlement in the area dates to at least 1644. Historic records indicate that the playground was the former site of the Town of Newtown's burial ground, which discontinued operation in the 1880s (Pickman 1995). The area was converted into a playground in the early nineteenth century and was reconstructed in 1927-28 and again in 1935 (Pickman 1995).

For a detailed overview of the project area's pre-contact and historic periods, please refer to the Phase IA *Archaeological Documentary Study Reconstruction of Newtown Playground 56th Avenue and 92nd Street Elmhurst, Queens* (Pickman 1995). Only a brief summation is included here.



Map 01: USGS 7.5-minute for Jamaica, NY (United States Geological Survey 2016).



Map 02: NYC GIS map with project area highlighted (NYC GIS 2018).

SUMMARY OF ARCHAEOLOGICAL SENSITIVITY

PRE-CONTACT

As of the writing of the 1995 Pickman report, no pre-contact archaeological sites had been discovered or recorded within .5-miles of the APE (Pickman 1995). Thus, the project area was determined to have a low sensitivity for the presence of pre-contact resources. Chrysalis conducted a new search of The New York State Office of Parks, Recreation and Historic Preservation Department's online Cultural Resource Information System (CRIS) and of the LPC's archaeological report holdings and found no additional archaeological discoveries or investigations within the APE since the 1995 Pickman assessment. As such, the potential to recover pre-contact cultural resources in the APE remains low.

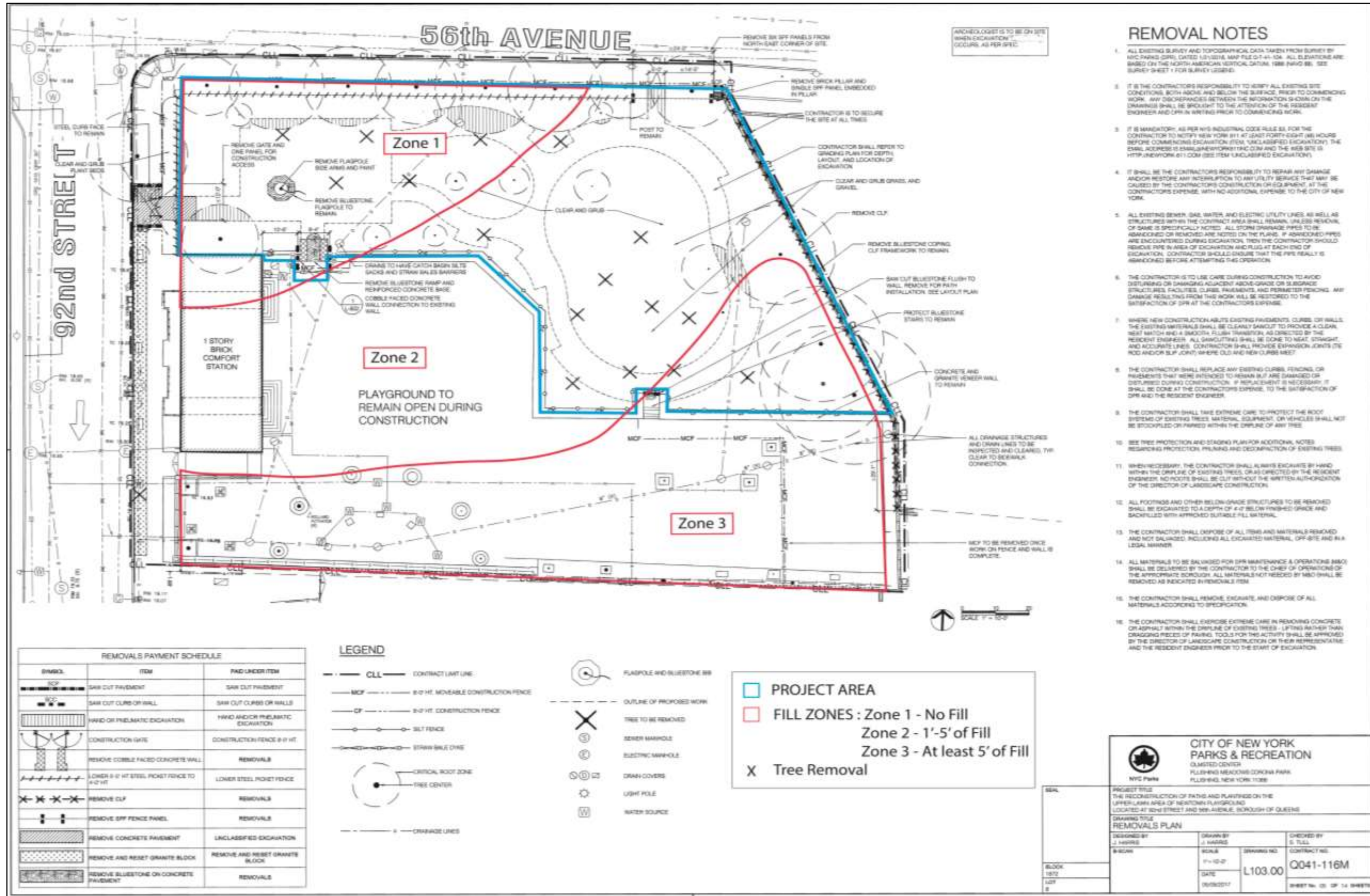
HISTORIC

The Pickman report outlined the potential for human internments and associated historic cultural remains in the form of buried tombstones (Pickman 1995). However, numerous construction and reconstruction activities have altered the original topography of the park over the past 100 years.

Pickman segmented the park into three zones to differentiate the depths of modern and historic fill and associated archaeological sensitivity. These zones are called "Pickman Zones" after the author of the Phase IA report and are referenced by NYC Parks in their SOW and construction schematics (Maps 03 and 04). The fill materials being referenced were deposited during the 1927 construction and 1935 reconstruction of Newtown Playground. Sensitivity is dependent on excavation depths and Zone location.

- **Zone 1:** The area encompassing the northwest third of the playground has the least amount of documented modern and historic fill, if any. The original cemetery surface could lie directly underneath the present surface in some locations.
 - This area has the potential to yield human remains. Zone 1 will be subject to pre-construction archaeological testing.
- **Zone 2:** The area situated between Zones 1 and 3. The historic fill is estimated to be 1'-5' in this location. Any excavations extending below 1'-5' could encounter human remains and/or other historic resources.
 - Excavations in Zone 2 are subject to archaeological monitoring during construction.
- **Zone 3:** This area encompasses the southeastern third of the playground. The fill in this location extends to at least 5' in depth. Minimal to no archaeological resources are expected in this zone unless excavations extend deeper than 5' below surface. However, due to the depth of the fill in this zone, it is in this area that human internments could be the most intact within the APE.
 - Excavations in Zone 3 are not planned to extend beyond 5' and will not be archaeologically monitored.

Based on the Phase IA report, project activities that include hand or mechanical excavation have the potential to uncover human internments; disarticulated, disturbed or otherwise fragmented human remains; cultural resources associated with the former cemetery such as tombstones or grave markers; and/or other potentially significant historic cultural resources.



REMOVAL NOTES

1. ALL EXISTING SURVEY AND TOPOGRAPHICAL DATA TAKEN FROM SURVEY BY NYC PARKS (DPR), DATED 10/15/2014, MAP FILE D-14-104. ALL ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM, 1988 NAVD 88. SEE SURVEY SHEET 1 FOR SURVEY LOGS.
2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL EXISTING SITE CONDITIONS, BOTH ABOVE AND BELOW THE SURFACE, PRIOR TO COMMENCING WORK. ANY DISCREPANCIES BETWEEN THE INFORMATION SHOWN ON THE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE RESIDENT ENGINEER AND WRITTEN PRIOR TO COMMENCING WORK.
3. IT IS MANDATORY, AS PER NYC INDUSTRIAL CODE RULE 23, FOR THE CONTRACTOR TO NOTIFY NYC DOB AT LEAST FORTY-EIGHT (48) HOURS BEFORE COMMENCING EXCAVATION (ITEM UNCLASSIFIED EXCAVATION). THE CALL NUMBER IS 311-NYC-PARKS (311-637-2311) AND THE WEB SITE IS: [HTTP://N.Y.C.G.O.V./DOB](http://nyc.gov/dob) (SEE ITEM UNCLASSIFIED EXCAVATION).
4. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR ANY DAMAGE AND/OR RESTORE ANY INTERFERENCE TO ANY UTILITY SERVICE THAT MAY BE CAUSED BY THE CONTRACTOR'S CONSTRUCTION OR EQUIPMENT AT THE CONTRACTOR'S EXPENSE, WITH NO ADDITIONAL EXPENSE TO THE CITY OF NEW YORK.
5. ALL EXISTING SEWER, GAS, WATER, AND ELECTRIC UTILITY LINES, AS WELL AS STRUCTURES WITHIN THE CONTRACT AREA SHALL REMAIN UNLESS REMOVAL OF SAME IS SPECIFICALLY NOTED. ALL STORM DRAINAGE PIPES TO BE ABANDONED OR REMOVED ARE NOTED ON THE PLANS. IF ABANDONED PIPES ARE ENCOUNTERED DURING EXCAVATION, THEN THE CONTRACTOR SHOULD REMOVE PIPE IN AREA OF EXCAVATION AND PLUG AT EACH END OF EXCAVATION. CONTRACTOR SHOULD INSURE THAT THE PIPE REALLY IS ABANDONED BEFORE ATTEMPTING THIS OPERATION.
6. THE CONTRACTOR IS TO USE CARE DURING CONSTRUCTION TO AVOID DISTURBING OR DAMAGING ADJACENT SEWER, GAS, OR ELECTRICAL STRUCTURES, FACILITIES, CURBS, PAVEMENTS, AND PERMETER FENCING. ANY DAMAGE RESULTING FROM THIS WORK WILL BE RESTORED TO THE SATISFACTION OF DPR AT THE CONTRACTOR'S EXPENSE.
7. WHERE NEW CONSTRUCTION ADJACENT EXISTING PAVEMENTS, CURBS, OR WALLS, THE EXISTING MATERIALS SHALL BE CLEANLY SAW CUT TO PROVIDE A CLEAR, NEAT MATCH AND A SMOOTH, FLUSH TRANSITION AS DIRECTED BY THE RESIDENT ENGINEER. ALL SAWCUTTING SHALL BE DONE TO NEAT, STRAIGHT, AND ACCURATE FINISH. CONTRACTOR SHALL PROVIDE EXPANSION JOINTS (TIE ROD AND/OR SLIP JOINT) WHERE OLD AND NEW CURBS MEET.
8. THE CONTRACTOR SHALL REPLACE ANY EXISTING CURBS, FENCING, OR PAVEMENTS THAT WERE INTENDED TO REMAIN BUT ARE DAMAGED OR DISTURBED DURING CONSTRUCTION. IF REPLACEMENT IS NECESSARY, IT SHALL BE DONE AT THE CONTRACTOR'S EXPENSE, TO THE SATISFACTION OF DPR AND THE RESIDENT ENGINEER.
9. THE CONTRACTOR SHALL TAKE EXTREME CARE TO PROTECT THE ROOT SYSTEMS OF EXISTING TREES, MATERIAL, EQUIPMENT, OR VEHICLES SHALL NOT BE STOCKPILED OR PARKED WITHIN THE DRUPLINE OF ANY TREE.
10. SEE TREE PROTECTION AND STAGING PLAN FOR ADDITIONAL NOTES REGARDING PROTECTION, PRUNING AND DECOMPOSITION OF EXISTING TREES.
11. WHEN NECESSARY, THE CONTRACTOR SHALL ALWAYS EXCAVATE BY HAND WITHIN THE DRUPLINE OF EXISTING TREES OR AS DIRECTED BY THE RESIDENT ENGINEER. NO ROOTS SHALL BE CUT WITHOUT THE WRITTEN AUTHORIZATION OF THE DIRECTOR OF LANDSCAPE CONSTRUCTION.
12. ALL FOOTINGS AND OTHER BELOW-GRADE STRUCTURES TO BE REMOVED SHALL BE EXCAVATED TO A DEPTH OF 4'-0" BELOW FINISHED GRADE AND BACKFILLED WITH APPROVED SUITABLE FILL MATERIAL.
13. THE CONTRACTOR SHALL EXPOSE OF ALL ITEMS AND MATERIALS REMOVED AND NOT SALVAGED, INCLUDING ALL EXCAVATED MATERIAL, OFF-SITE AND IN A LEGAL MANNER.
14. ALL MATERIALS TO BE SALVAGED FOR DPR MAINTENANCE & OPERATIONS (M&O) SHALL BE DELIVERED BY THE CONTRACTOR TO THE CHIEF OF OPERATIONS OF THE APPROPRIATE BOROUGHS. ALL MATERIALS NOT NEEDED BY M&O SHALL BE REMOVED AS INDICATED IN REMOVALS ITEM.
15. THE CONTRACTOR SHALL REMOVE, EXCAVATE, AND DISPOSE OF ALL MATERIALS ACCORDING TO SPECIFICATION.
16. THE CONTRACTOR SHALL EXERCISE EXTREME CARE IN REMOVING CONCRETE OR ASPHALT WITHIN THE DRUPLINE OF EXISTING TREES - LIFTS RATHER THAN DRAGGING PIECES OF PAVING. TOOLS FOR THIS ACTIVITY SHALL BE APPROVED BY THE DIRECTOR OF LANDSCAPE CONSTRUCTION OR THEIR REPRESENTATIVE AND THE RESIDENT ENGINEER PRIOR TO THE START OF EXCAVATION.

| REMOVALS PAYMENT SCHEDULE | | |
|---------------------------|--|----------------------------------|
| SYMBOL | ITEM | PAY UNDER ITEM |
| | SAW CUT PAVEMENT | SAW CUT PAVEMENT |
| | SAW CUT CURBS OR WALLS | SAW CUT CURBS OR WALLS |
| | HAND AND/OR PNEUMATIC EXCAVATION | HAND AND/OR PNEUMATIC EXCAVATION |
| | CONSTRUCTION GATE | CONSTRUCTION FENCE 8'-0" HT. |
| | REMOVE COBBLE FACED CONCRETE WALL | REMOVALS |
| | LOWER 8'-0" HT STEEL POINT FENCE TO 4'-0" HT | LOWER STEEL POINT FENCE |
| | REMOVE CLP | REMOVALS |
| | REMOVE SFF FENCE PANEL | REMOVALS |
| | REMOVE CONCRETE PAVEMENT | UNCLASSIFIED EXCAVATION |
| | REMOVE AND RESET GRANITE BLOCK | REMOVE AND RESET GRANITE BLOCK |
| | REMOVE BLUESTONE ON CONCRETE PAVEMENT | REMOVALS |

LEGEND

- CLL - CONTRACT LANT LINE
- MCF - 8'-0" HT. MOVABLE CONSTRUCTION FENCE
- CF - 8'-0" HT. CONSTRUCTION FENCE
- SFT FENCE
- STRAW BALE ONE
- CRITICAL ROOT ZONE
- TREE CENTER
- GRABAGE LINES
- FLAGPOLE AND BLUESTONE SW
- OUTLINE OF PROPOSED WORK
- TREE TO BE REMOVED
- SEWER MANHOLE
- ELECTRIC MANHOLE
- DRAIN COVERS
- LIGHT POLE
- WATER SOURCE

PROJECT AREA

FILL ZONES: Zone 1 - No Fill
Zone 2 - 1'-5' of Fill
Zone 3 - At least 5' of Fill

X Tree Removal

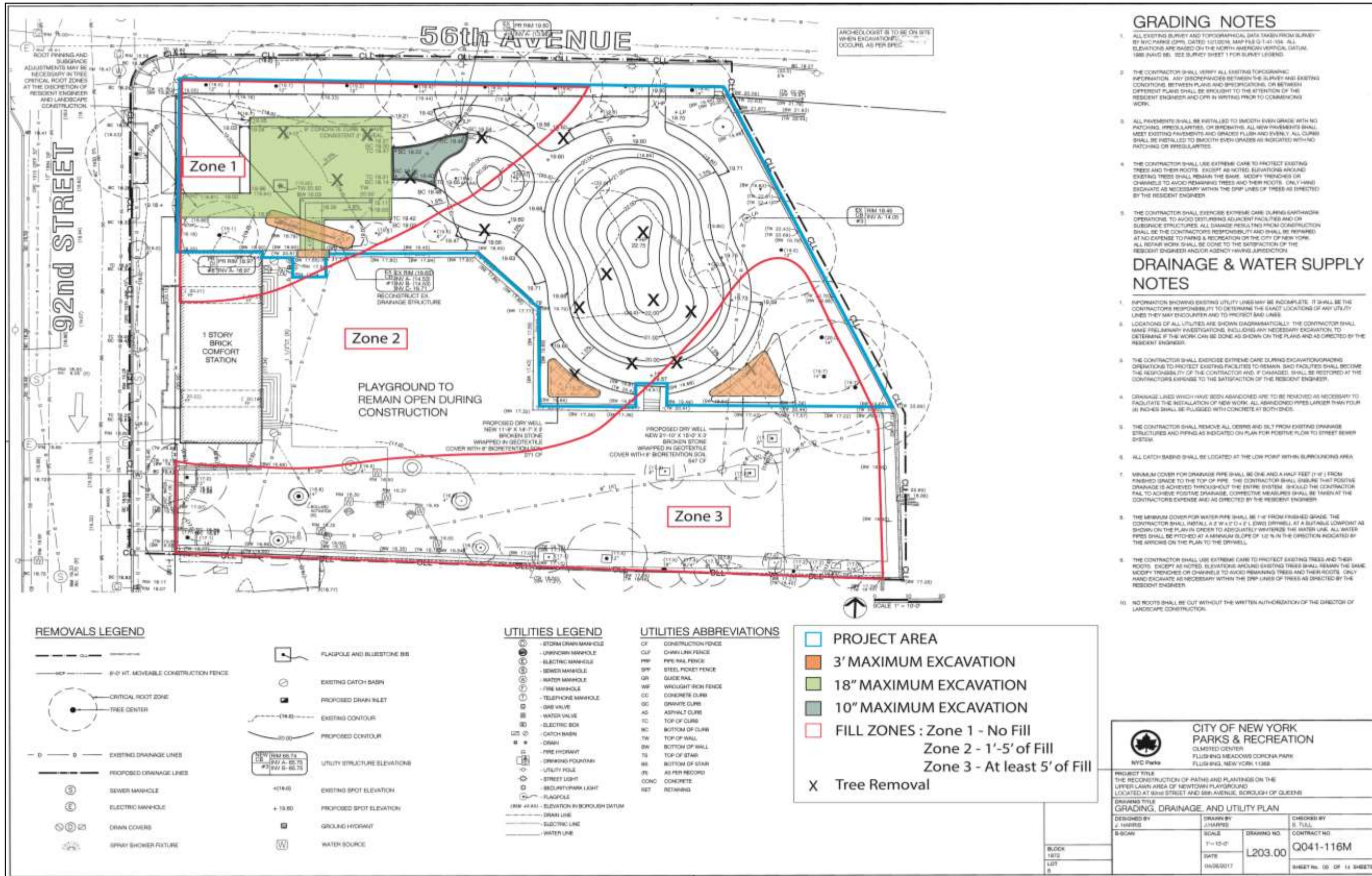
CITY OF NEW YORK PARKS & RECREATION
GLAMSTED CENTER
FLUSHING MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

PROJECT TITLE: THE RECONSTRUCTION OF PATHS AND PLAYGROUNDS ON THE UPPER LEARN AREA OF NEWTOWN PLAYGROUND LOCATED AT 92ND STREET AND 56TH AVENUE, BOROUGHS OF QUEENS

DRAWING TITLE: REMOVALS PLAN

| | | |
|------------------------|---------------------|---------------------------|
| DESIGNED BY: J. HARRIS | DRAWN BY: J. HARRIS | CHECKED BY: S. TULL |
| SCALE: 1"=10'-0" | DRAWING NO: L103.00 | CONTRACT NO: Q041-116M |
| DATE: 06/20/2017 | | SHEET NO. 03 OF 14 SHEETS |

Map 03: Project Removals Plan Highlighting Area of Potential Effect as defined by NYC Parks and Fill Zones define by Pickman 1995.



GRADING NOTES

1. ALL EXISTING SURVEY AND TOPOGRAPHICAL DATA TAKEN FROM SURVEY BY NYC PARKS (DPR, DATED 10/18/04, MAP FILE 0 1-11-104). ALL ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM, 1988 (NAVD 88). SEE SURVEY SHEET 1 FOR SURVEY LOGS.
2. THE CONTRACTOR SHALL VERIFY ALL EXISTING TOPOGRAPHIC INFORMATION. ANY DISCREPANCIES BETWEEN THE SURVEY AND EXISTING CONDITIONS BETWEEN PLANS AND SPECIFICATIONS, OR BETWEEN DIFFERENT PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE RESIDENT ENGINEER AND OPI IN WRITING PRIOR TO COMMENCING WORK.
3. ALL PAVEMENTS SHALL BE INSTALLED TO SMOOTH EVEN GRADE WITH NO PATCHING, PRECIPITATES, OR BLENDS. ALL NEW PAVEMENTS SHALL MEET EXISTING PAVEMENTS AND GRADES FLUSH AND EVEN. ALL CURBS SHALL BE INSTALLED TO SMOOTH EVEN GRADES AS INDICATED WITH NO PATCHING OR BLENDS.
4. THE CONTRACTOR SHALL USE EXTREME CARE TO PROTECT EXISTING TREES AND THEIR ROOTS. EXCEPT AS NOTED, ELEVATIONS AROUND EXISTING TREES SHALL REMAIN THE SAME. MODIFY TRENCHES OR CHANNELS TO AVOID REMAINING TREES AND THEIR ROOTS. ONLY HAND EXCAVATE AS NECESSARY WITHIN THE DWP LINES OF TREES AS DIRECTED BY THE RESIDENT ENGINEER.
5. THE CONTRACTOR SHALL EXERCISE EXTREME CARE DURING EARTHWORK OPERATIONS TO AVOID DISTURBING ADJACENT FACILITIES AND OR SUBSURFACE STRUCTURES. ALL DAMAGE RESULTING FROM CONSTRUCTION SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE REPAIRED AT NO EXPENSE TO PARKS & RECREATION OF THE CITY OF NEW YORK. ALL REPAIR WORK SHALL BE DONE TO THE SATISFACTION OF THE RESIDENT ENGINEER AND/OR AGENCY HAVING JURISDICTION.

DRAINAGE & WATER SUPPLY NOTES

1. INFORMATION SHOWING EXISTING UTILITY LINES MAY BE INCOMPLETE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT LOCATIONS OF ANY UTILITY LINES THEY MAY ENCOUNTER AND TO PROTECT SAID LINES.
2. LOCATIONS OF ALL UTILITIES ARE SHOWN DIAGRAMMATICALLY. THE CONTRACTOR SHALL MAKE FIELD SURVEY INVESTIGATIONS, INCLUDING ANY NECESSARY EXCAVATION, TO DETERMINE IF THE WORK CAN BE DONE AS SHOWN ON THE PLANS AND AS DIRECTED BY THE RESIDENT ENGINEER.
3. THE CONTRACTOR SHALL EXERCISE EXTREME CARE DURING EXCAVATION/WORK OPERATIONS TO PROTECT EXISTING FACILITIES TO REMAIN. SAID FACILITIES SHALL BECOME THE RESPONSIBILITY OF THE CONTRACTOR AND, IF DAMAGED, SHALL BE RESTORED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE RESIDENT ENGINEER.
4. DRAINAGE LINES WHICH HAVE BEEN ABANDONED ARE TO BE REACHED AS NECESSARY TO FACILITATE THE INSTALLATION OF NEW WORK. ALL ABANDONED PIPES LARGER THAN FOUR (4) INCHES SHALL BE PLUGGED WITH CONCRETE AT BOTH ENDS.
5. THE CONTRACTOR SHALL REMOVE ALL COBLES AND SILT FROM EXISTING DRAINAGE STRUCTURES AND PIPES AS INDICATED ON PLAN FOR POSITIVE FLOW TO STREET SEWER SYSTEM.
6. ALL DITCH BASINS SHALL BE LOCATED AT THE LOW POINT WITHIN SURROUNDING AREA.
7. MINIMUM COVER FOR DRAINAGE PIPE SHALL BE ONE AND A HALF FEET (1'-6") FROM FINISHED GRADE TO THE TOP OF PIPE. THE CONTRACTOR SHALL ENSURE THAT POSITIVE DRAINAGE IS ACHIEVED THROUGHOUT THE ENTIRE SYSTEM. SHOULD THE CONTRACTOR FAIL TO ACHIEVE POSITIVE DRAINAGE, CORRECTIVE MEASURES SHALL BE TAKEN AT THE CONTRACTOR'S EXPENSE AND AS DIRECTED BY THE RESIDENT ENGINEER.
8. THE MINIMUM COVER FOR WATER PIPE SHALL BE 1'-0" FROM FINISHED GRADE. THE CONTRACTOR SHALL INSTALL A 2' W x 2' D x 2' L DWS DRYWELL AT A SUITABLE LOCATION AS SHOWN ON THE PLAN IN ORDER TO ADEQUATELY SERVE THE WATER USE. ALL WATER PIPES SHALL BE PITCHED AT A MINIMUM SLOPE OF 1/2" IN THE DIRECTION INDICATED BY THE ARROWS ON THE PLAN TO THE DRYWELL.
9. THE CONTRACTOR SHALL USE EXTREME CARE TO PROTECT EXISTING TREES AND THEIR ROOTS. EXCEPT AS NOTED, ELEVATIONS AROUND EXISTING TREES SHALL REMAIN THE SAME. MODIFY TRENCHES OR CHANNELS TO AVOID REMAINING TREES AND THEIR ROOTS. ONLY HAND EXCAVATE AS NECESSARY WITHIN THE DWP LINES OF TREES AS DIRECTED BY THE RESIDENT ENGINEER.
10. NO ROOTS SHALL BE CUT WITHOUT THE WRITTEN AUTHORIZATION OF THE DIRECTOR OF LANDSCAPE CONSTRUCTION.

REMOVALS LEGEND

- CL --- CONSTRUCTION FENCE
- 8'-0" HT. MOVEABLE CONSTRUCTION FENCE
- CRITICAL ROOT ZONE
- TREE CENTER
- EXISTING DRAINAGE LINES
- PROPOSED DRAINAGE LINES
- ⊕ SEWER MANHOLE
- ⊕ ELECTRIC MANHOLE
- ⊕ DRAIN COVERS
- ⊕ SPRAY SHOWER FEATURE

UTILITIES LEGEND

- ⊕ FLAGPOLE AND BLUESTONE BBS
- ⊕ EXISTING CATCH BASIN
- ⊕ PROPOSED DRAIN INLET
- EXISTING CONTOUR
- PROPOSED CONTOUR
- ⊕ UTILITY STRUCTURE ELEVATIONS
- ⊕ EXISTING SPOT ELEVATION
- ⊕ PROPOSED SPOT ELEVATION
- ⊕ GROUND HYDRANT
- ⊕ WATER SOURCE

UTILITIES ABBREVIATIONS

- SDM STORM DRAIN MANHOLE
- UMH UNKNOWN MANHOLE
- EMH ELECTRIC MANHOLE
- BMH BOWER MANHOLE
- WMH WATER MANHOLE
- FMH FIRE MANHOLE
- TMH TELEPHONE MANHOLE
- GV GAS VALVE
- WV WATER VALVE
- EB ELECTRIC BOX
- CB CATCH BASIN
- DRH DRAIN
- PH PIPE HYDRANT
- DFP DRINKING FOUNTAIN
- UP UTILITY POLE
- SL STREET LIGHT
- SPR SECURITY PARK LIGHT
- FP FLAGPOLE
- EL ELEVATION IN BOROUGH DATUM
- DL DRAIN LINE
- EL ELECTRIC LINE
- WL WATER LINE

UTILITIES ABBREVIATIONS

- CF CONSTRUCTION FENCE
- CLF CHAIN LINK FENCE
- PF PIPE RAIL FENCE
- SFF STEEL FENCE
- GR GLASS RAIL
- WF WOODEN FENCE
- CC CONCRETE CURB
- OC ORNATE CURB
- AC ASPHALT CURB
- TC TOP OF CURB
- BC BOTTOM OF CURB
- TW TOP OF WALL
- BW BOTTOM OF WALL
- TS TOP OF STAR
- BS BOTTOM OF STAR
- RE AS PER RECORD
- CONC CONCRETE
- RET RETAINING

- PROJECT AREA
- 3' MAXIMUM EXCAVATION
- 18" MAXIMUM EXCAVATION
- 10" MAXIMUM EXCAVATION
- FILL ZONES : Zone 1 - No Fill
Zone 2 - 1'-5' of Fill
Zone 3 - At least 5' of Fill
- X Tree Removal

**CITY OF NEW YORK
PARKS & RECREATION**
CLERK CENTER
FLUSHING MEADOWS CORONA PARK
FLUSHING, NEW YORK 11368

PROJECT TITLE
THE RECONSTRUCTION OF PATHS AND PLANTINGS ON THE
UPPER LAWN AREA OF NEWTOWN PLAYGROUND
LOCATED AT 92ND STREET AND 56TH AVENUE, BOROUGH OF QUEENS

DRAWN TITLE
GRADING, DRAINAGE, AND UTILITY PLAN

| | | |
|--------------------------|------------------------|---------------------------|
| DESIGNED BY J. HARRIS | DRAWN BY J. HARRIS | CHECKED BY S. TULL |
| SCALE 1" = 10'-0" | DRAWING NO. L203.00 | CONTRACT NO. Q041-116M |
| DATE 04/06/2017 | | |

BLOCK
187D
LOT
B

SHEET NO. 06 OF 14 SHEETS

Map 04: Project Area Impacts Plan Highlighting Area of Potential Effect as defined by NYC Parks, Excavation Depths and Fill Zones define by Pickman 1995.

III. RESEARCH DESIGN

The Phase IB archaeological plan is designed to determine the presence or absence of human skeletal remains, either in situ burials or fragmented disarticulated skeletal elements and other materials associated with the former Newtown cemetery. Pickman's 1995 study identified three zones of sensitivity correlated to historic fill and/or disturbance episodes. Hypothetically Zone 1 has minimal to no disturbance. Testing and monitoring will determine the accuracy of Pickman's sensitivity zones.

IV. PROJECT METHODS

PHASE IB ARCHAEOLOGICAL PLAN AND PROTOCOLS

Phase IB fieldwork is designed to ascertain the presence/absence of archaeological resources within a site. Its ultimate goal is to determine whether significant (i.e., National Register [NR] eligible) resources that could be adversely affected by project construction are extant within the APE.

The following sets forth the plan for Phase IB archaeological testing and monitoring for the Reconstruction of the Paths and the Plantings of the Upper Lawn Area of Newtown Playground Project. It describes additional mitigation measures that will be undertaken should archaeological resources be encountered during the archaeological investigations, including protocols should human remains be exposed, artifact analysis such as laboratory work, written reports, and further documentary research, if necessary.

As the area is a known historic burial ground and there is a potential to encounter human remains LPC has directed that research to identify potential descendant communities prior to the start of construction. Should human remains be exposed NYC Parks must notify next of kin and/or the descendant community.

Research will include an assessment of any tombstone and interment information included in Pickman's 1995 study as well as online and repository research to identify existing resources regarding interment records associated with the cemetery. Possible repositories may include the Queens Historical Society and the Queens Borough Library. As the former Newtown town burying ground jurisdiction may lie with Queens County.

ARCHAEOLOGICAL TESTING

Archaeological testing prior to construction is recommended for Zone 1 due to the limited activity that has occurred in this area. Zone 1 is located in the northwest third of the playground and has the least amount of documented modern and historic fill, if any (Pickman 1995). The original cemetery surface could lie directly beneath the present surface in some locations.

A map provided by NYC Parks highlighted the area within Zone 1 to be archaeologically tested prior to construction (Map 04).

Due to the sensitivity for human remains and questions regarding the amount of historic fill Chrysalis proposes excavating a 1.5' x 1.5' (.5 meter square) controlled test pit to identify any potential fill soils in the area and determine a baseline stratigraphic profile for the site that highlights the natural stratigraphy of the site. The control test pit would be excavated in arbitrary 3" (10cm) levels to a depth of 3', the proposed maximum depth of construction excavation.

The stratigraphic information obtained from the control test pit will serve as a guideline for the excavation of the remaining Standard Test Pits (STPs).

A total of 24 STPs, spaced every 10' will be excavated throughout the area highlighted by NYC Parks. Map 05 shows the location of the proposed STPs. The location of the control test pit will be determined in the field based on site conditions. Each STP will be manually excavated according to the natural stratigraphy. All soils will be screened through ¼" mesh screen. Soils will be described using the Munsell color system and standard texture classifications. All artifacts recovered during screening will be retained, with the exception of bulk materials such as concrete rubble, brick, large metal objects, ash coal, cinders, and slag. In the case of such materials, a sample will be described from each provenience and the remainder will be quantified and discarded in the field. Recovered artifacts will be bagged according to their unique provenience and transported to the laboratory for processing and analysis. An artifact catalog, recording the provenience of each recovered artifact, will be created. Soil profiles, cultural features, etc. will be described, photographed in digital format and illustrated by measured drawings in Imperial or Engineers scale in plan and vertical perspective, as appropriate.

If an STP is positive for the presence of fragmented or disarticulated human remains or other funerary materials, radial STPs will be excavated 3' from the original STP.

Additionally, if an STP tests positive for the presence of fragmented or disarticulated human remains Chrysalis will notify NYC Parks and NYC LPC while moving forward with the remainder of the testing plan, including radial STPs.

If suspected *in situ* or otherwise intact or articulated human remains are exposed in an STP Chrysalis will immediately notify NYC Parks and NYC LPC. Concurrently Chrysalis will expand the STP to determine the extent of human remains, and if they represent a partial skeleton or an intact *in situ* burial. Skeletal elements will be documented in place using scaled drawings and digital photography as necessary. No skeletal elements will be removed. Following this initial determination and documentation all work in the area of the exposed burial will cease pending consultation with NYC LPC and NYC Parks

Additional detail regarding Human Remains Protocols is outlined below.

Upon completion of the STP testing, and based on the results of the field testing, Chrysalis, K&V and NYC Parks will reconvene to determine the appropriate continued methodology for Zone 1.

ARCHAEOLOGICAL MONITORING

Archaeological monitoring is recommended for this project based upon and in accordance with the Scope of Work provided by NYC Parks and K&V Construction. Archaeological monitoring is defined as “the observation of construction excavation activities by an archaeologist in order to identify, recover, protect and/or document archaeological information or materials” (NYAC 2002:2).

Based upon the project and known history of the project area, Chrysalis concurs that monitoring is the most practical and cost-effective method for Phase IB Testing. Zone 2 is believed to contain 1’ to 5’ of fill. Excavation on Zone 2 will extend to 3’ and several tree removals will occur.

Previous work in 1927 and 1935 within the playground area, as well as tree roots, may have disturbed skeletal remains, bringing them closer to the surface than the original interment depth. As such, human remains may be exposed during minimal excavation and removal of trees, curbs or other structural elements by the current project. Archaeological monitoring of any subsurface impacts greater than 1’ below surface will provide the most effective means of identifying potential human remains or other evidence of the former cemetery throughout this area. Additionally, it will provide the most information regarding fill episodes within the park, which may be used to inform future work.

Monitoring will occur in all necessary locations until the final construction depths are reached in archaeologically sensitive areas and/or if the archaeological monitor determines the excavation area to have reached sterile soil (with regard to potential human remains and other archaeological deposits and resources). Archaeological Monitoring in Zone 2 is recommended for all excavations, especially those with planned maximum depths of 1’ or greater due to the amount of fill documented in this location (Pickman 1995). It is recommended that monitoring occur for the proposed dry well and nine tree removals. The proposed bench pads in Zone 2 will only reach a maximum excavation depth of 6”. However, due to the possibility that previous impacts in the APE may have disturbed human interments, it is recommended that archaeological monitoring occur for all Zone 2 subsurface project work.

It is noted that no monitoring for excavations in Zone 3 is outlined in the Scope of Work (SOW) issued by NYC Parks as construction depths are not anticipated to exceed 5’ (the maximum depth of fill outlined by Pickman). It must be considered that previous installations of bluestone and concrete curbs (or other playground features) now slated for removal may have previously impacted the APE at the depths necessary to disturb burials or grave markers from the cemetery. No monitoring is slated as per the Parks’ SOW for Zone 3 as none of the planned excavations in this area will go beneath 5’ in depth. However, it is possible, depending upon the species of tree being removed, that the root systems extend to a depth that may have impacted burials. Removal may expose, or bring to the surface, disarticulated or fragmented human skeletal elements. All construction personnel should be advised of the potential for human remains and made aware of the Unanticipated Discoveries Plan.

Within Zone 1, Archaeological Monitoring is recommended for all construction excavations and earth disturbing activities (e.g. tree removals) unless the results of the Phase IB testing provide definitive evidence that there is no sensitivity for human remains in the area. Presently, no fill is known to be present in the area and the original cemetery may lie immediately below the present surface. According to the SOW, Zone 1 excavations include: a proposed drain line with a maximum depth of 36"; removal of bluestone and other modifications in the flagpole area with a maximum depth of 18"; concrete curb excavation with a maximum depth of 10"; five tree removals; and one bench pad with a maximum depth of 6". Four locations within the drip line of trees along the path reconstruction may also be subject to Archaeological Monitoring if excavated.

GENERAL METHODOLOGY

All monitoring activities will comply with NYC LPC's Guidelines for Archaeological Work in New York City (LPC 2018) and NYAC's Guidelines for the Use of Archaeological Monitoring (NYAC 2002). The archaeologist(s) will maintain drawings, photographs, and descriptions of all encountered resources as well as an up-to date log of all monitoring activities, including the date, time, and duration of all monitoring episodes, accompanied with a description of the activity being monitored.

An archaeological monitor is required for each active excavation area. If excavations requiring archaeological monitoring are to occur simultaneously in more than one area at a time, additional archaeological monitors will be required to ensure that each excavation area is monitored in accordance with the protocols. The project will provide at least 48 hours' notice prior to the beginning of excavation work in any areas that require archaeological monitoring so that the adequate resources can be provided.

In the event that archaeological deposits are encountered, the archaeologist(s) will be permitted to temporarily halt excavation to examine the soils and potential resource(s) in the trench more closely. The archaeologist will be permitted to halt excavation for a period of up to 24 hours to allow time for photography, drawing of plan views and profiles, screening of removed soils for artifacts, removal of soil samples, hand excavation, and any other actions deemed necessary to determine the nature, extent, and potential significance of the discovery. The archaeologist will determine the level of documentation required for each discovery.

If more than 24 hours is required to document a deposit or feature, the archaeologist will notify and consult with the K&V Resident Engineer of the additional time needed. Additional documentary research may be also necessary in order to further understand the potential significance of deposits.

If work stoppages occur, the construction contractor may relocate to an area or task where archaeological monitoring is not required. However, if excavation is to occur in another potentially sensitive area, the archaeological team will provide additional staff, within a minimum mutually agreed upon notification period for staffing changes, to monitor this additional area while work documenting the cultural resource occurs.

If the resources encountered do not appear potentially significant, the on-site professional archaeologist will notify the appropriate construction personnel, and construction may resume.

If the resources encountered are deemed significant, it will be necessary to consult with NYC LPC.

During all excavation, the construction contractor will assist the archaeological team, as needed. This may include, but is not limited to meeting all OSHA regulations, and machine or hand excavation of non-sensitive levels to further reveal resource(s). Construction personnel will allow the archaeologist access to the excavation area at a maximum of 60-minute intervals, as requested, to enter the excavation area to observe soils and stratigraphy within.

Though not anticipated, if excavation depths extend below 5', the archaeological monitor will observe the excavation from the street/ground level and may request that specific soil deposits be temporarily piled beside the excavation in order to more closely examine them. It may be necessary to temporarily halt excavation to enter the construction excavation area in order to observe the deeper deposits.

Documentation of archaeological deposits may require soil sampling or the hand excavation of features, cultural layers or test units by the archaeologist. Screening of soils from the excavation will be based upon the judgment of the archaeologist. Soils will be screened through ¼ inch-mesh screen and excavated by natural strata or in pre-determined controlled levels. Soils will be described using the Munsell color system and standard texture classifications. All artifacts recovered during screening will be retained, with the exception of bulk materials such as concrete rubble, brick, large metal objects, ash coal, cinders, and slag. In the case of such materials, a sample will be described from each provenience and the remainder will be quantified and discarded in the field. Recovered artifacts will be bagged according to their unique provenience and transported to the laboratory for processing and analysis. An artifact catalog, recording the provenience of each recovered artifact, will be created. Soil profiles, cultural features, etc. will be described, photographed in digital format and illustrated by measured drawings in Imperial or Engineers scale in plan and vertical perspective, as appropriate.

The project will provide a protected area within the project site or field office to temporarily store equipment and/or material remains recovered from the excavation trenches. Material remains may require temporary storage prior to transportation to Chrysalis' laboratory facility.

HUMAN REMAINS

As noted and documented in the Phase IA Assessment (Pickman 1995), the park is a former cemetery and special consideration and care is required if human remains are uncovered. Any action related to the discovery of potential human remains is subject to the statute law as defined in the *Rules of the City of New York*, Title 24 - Department of Mental Health and Hygiene, specifically Title 24, Title V, Article 205. In addition, the NYC LPC regulations regarding human remains and the New York Archaeological Council's (NYAC) policy on the discovery of human remains and items of cultural patrimony will be taken into consideration – providing they do not conflict with the City of New York statute regulations. The protocols to be implemented in the event that human remains are discovered are more fully detailed in the Human Remains Protocol.

At any time, if human remains, or potential human remains are encountered and/or recovered, the project will immediately halt excavation, enact the Human Remains Protocol and begin the coordination process with all relevant entities. If intact human remains are found, they may not be disinterred until the consultation process has been completed. The discovery of intact, in situ human remains may require a redesign of portions of the project to ensure the remains are not disturbed.

IF SIGNIFICANT ARCHAEOLOGICAL DEPOSITS ARE FOUND

If archaeological resources are encountered that the on-site archaeologist determines to be potentially significant, e.g. appearing to meet eligibility criteria for listing on the National Register of Historic Places (NR-eligible), the archaeologist will notify all project shareholders, including, but not limited to, K&V, NYC Parks, and NYC LPC.

NYC LPC and NYC Parks will be consulted to determine if further archaeological field-testing and/or mitigation is necessary. If no additional testing is required, the archaeologist will notify the construction contractor/manager that work may resume once documentation of the resource(s) has been completed. The specific time required for the documentation effort will be based upon the specific discovery and coordinated with the project team. The construction contractor should plan, schedule, and execute their work in a manner that such work stoppages will not result in a total shutdown of any construction work.

If potential NRHP-eligible archaeological resources are identified during construction monitoring all work will cease in the area of the discovery until NR eligibility evaluation (Phase II) and, if necessary, mitigation through additional testing or data recovery (Phase II or Phase III) is completed. A scope of work for the potential Phase II and/or III work will be developed in consultation with NYC LPC and NYC Parks and implemented, prior to further construction work, to retrieve significant information before all or part of the site is impacted by construction. Preparation of a scope of work for potential Phase II and/or Phase III investigation may cause a delay in construction, given the requirement for agency review and approval prior to initiating those tasks.

If tombstones or other grave markers are exposed, they will be documented in place. The on-site archaeologist will make an assessment if the stone(s) are in situ or have been moved from their original location. If possible, the stone(s) will be left in place. If not, they will be removed and taken to Chrysalis' laboratory. In either instance, tombstones or grave markers will be examined for inscribed information (e.g. names or dates). If names are recovered from these objects, documentary research into the death and burial certificates of the individuals listed on the marker will be undertaken. This information is likely available at the City of New York - Department of Records and Municipal Archive at Chambers Street or the Queens County Archives.

Any recovered grave markers or tombstones should be reinterred on site at the end of the project,

LARGE SCALE DISCOVERIES

In the event of a significant large-scale discovery, defined as a significant discovery containing a large number of burials or volume of materials and/or features that will require additional archaeological excavation/documentation, all project shareholders including K&V, NYC Parks and NYC LPC, will be consulted to develop a path forward meeting the needs of the potential discovery. Following this consultation, it may be recommended that additional archaeological measures and resources be employed. This may include, but is not limited to, additional staffing, specialist consultants and expanded archaeological testing/excavation such as Phase II data recovery.

The ability to bring in a larger or additional archaeological staff and additional resources would allow for a more expeditious approach toward the recovery and documentation of any large-scale discoveries.

In the event of a large-scale discovery the following procedures will be followed:

1. Upon discovery, Chrysalis will halt excavation and notify K&V, who will, in turn, notify NYC Parks. Chrysalis will notify NYC LPC.
2. A meeting will be held to discuss how to best address the discovery. If NYC LPC determines that further excavation and recovery are required (i.e. Phase II or Phase III Mitigation), Chrysalis will create a SOW for the specific tasks outlined at the meeting, to include time and budget, within ten business days. The SOW will be provided to K&V and NYC Parks for approval.
3. Upon written approval from K&V, Chrysalis will bring in the additional resources required to complete the specific task(s).
4. Once the agreed upon tasks of the SOW are completed, any additional resources and services will no longer be required unless further along in the project additional large-scale discoveries are made.

ARTIFACT ANALYSIS AND CURATION

All artifacts will be cleaned, catalogued and stored in archival safe materials. Pre-contact and Post-contact historic artifacts will be analyzed in terms of material type, form, function, and temporal attributes (e.g., Noël Hume 1969, South 1977, Miller 1991). Analysis will include the identification of the Terminus Post Quem (TPQ) of artifacts for each context and generation of mean beginning and end dates for assemblages. This information will be used to establish context and to determine whether such assemblages represent primary or secondary deposits.

Any artifact material removed from the project site will be the property of the project site owner, in accordance with NYC LPC guidelines (LPC 2018). It is the responsibility of Parks to arrange for the long-term curation of the collection in an appropriate facility. The New York City Archaeological Repository (NYCAR) will accept significant and representative materials recovered from the site for curation. Any significant deposits that will be curated at the NYCAR will be prepared in accordance with NYC LPC's curation guidelines (NYC LPC 2018) and the standards of the receiving repository. The artifacts will be returned to the project for transmittal to the long-term curation facility upon completion of the laboratory analysis and with the submission of the final report. There may be archaeological materials and deposits recovered that the NYCAR will not accept for curation. These materials will be returned to NYC Parks. It is the responsibility of NYC Parks to arrange for their storage, curation with another facility, or final disposition. The archaeological team will prepare any materials not being delivered to the NYCAR for long-term storage according to current archaeological standards.

REPORT RESULTS

A report documenting the results of the field testing, monitoring, analysis, any other background and/or documentary research, will be prepared according to NYC LPC standards (NYC LPC 2018). In addition, the report will include recommendations regarding the potential National Register eligibility of any documented and recommendations for additional investigation or mitigation, as necessary. A digital, preliminary draft report will be submitted to K&V and NYC Parks for initial review. Upon approval, the formal draft report will be submitted to NYC LPC. Upon approval by NYC LPC, two printed copies will be provided to NYC LPC for their records. Digital copies will be provided to all other parties unless printed copies are requested.

Archaeological Awareness Orientation

Due to the nature of the project, construction personnel will be relied upon to work with the archaeological team in the identification of potential human remains, archaeological resources and deposits, including. There will also be areas that are not subject to archaeological monitoring but may still contain human skeletal elements or other archaeological resources.

Chrysalis will provide an Archaeological Awareness Orientation for all project and construction personnel. This orientation will include historic and archaeological background of the area and the site as well as information regarding the types of resources that may be encountered during this project and how to recognize those resources. This orientation should occur prior to the commencement of any construction excavation activities to ensure the construction contractor understands the nature of the archaeological significance of the area and the procedures of this Archaeological Work Plan.

HUMAN REMAINS PROTOCOL

Special consideration and care is required in the event that human remains are uncovered. Any action related to the discovery of human remains is subject to the statute law as defined in the *Rules of the City of New York*, Title 24 - Department of Mental Health and Hygiene, specifically Title 24, Title V, Article 205. In addition, the NYC LPC regulations regarding human remains and the New York Archaeological Council's (NYAC) policy on the discovery of human remains and items of cultural patrimony will be taken into consideration – providing they do not conflict with the City of New York statute regulations.

In consideration of the site history, this Human Remains Protocol has been drafted to provide a clear process for all project participants to follow in the event that human remains are encountered. This Protocol is applicable to all instances when potential human remains are exposed, both when the archaeological team is on site and when the archaeological team is not on site.

As per New York City law (Title 24, Title V, Section 205.1 (a)) a burial is defined as a “means (of) interment of human remains in the ground or in a tomb, vault, crypt, cell or mausoleum, and includes any other usual means of final disposal of human remains other than cremation” (Rules of the City of New York 2015). For the purposes of this project and as per New York City law (Title 24, Title V, Section 205.1 (c)), human remains are defined as “any part of the dead body of a human being but does not include human ashes recovered after cremation” (Rules of the City of New York 2015). This includes any bone fragments, a single bone or tooth, partial skeleton, etc.

As per New York City law (Title 24, Title V, Section 205.7) a permit must be obtained from the Department of Health for the disinterment of any human remains. A funeral director must obtain this permit. No human remains may be removed from the ground, from the area where they are first exposed, until this permit has been obtained and Regulatory Agency coordination has been completed. No construction work can occur in this area while the permit is being obtained and until the archaeologist, in consultation with NYC LPC, gives clearance for work to proceed.

In any area that human remains are discovered, the K&V RE and/or the on-site Construction Foreman or Supervisor will flag or fence off the area of the discovery, taking all practical measures to protect the discovery from damage and disturbance.

The Construction Contractor should plan to move to another location if human remains are exposed, as work will need to be temporarily halted in the area of the remains. If the contractor moves to an area that requires archaeological monitoring, additional archaeological personnel will be required on site.

Initial Protocol

1. If suspected human remains are exposed, the archaeologist in conjunction with the K&V RE and/or the on-site Construction Foreman or Supervisor will immediately halt all work in the area of the discovery. Work may continue, however, in areas of the Site not immediately surrounding the discovered remains.
2. If suspected human remains are exposed in an area that has not been previously identified for archaeological monitoring, i.e. if the archaeologist is not on site, the K&V RE and/or the on-site Construction Foreman or Supervisor will immediately halt all work in the area of the discovery and notify the archaeologist. The archaeologist will return to site within 24 hours of notification. The K&V RE and/or the on-site Construction Foreman or Supervisor will cover and protect the discovery from any further disturbance.
3. The archaeologist, once on site, will enter the construction area to inspect the discovery. Chrysalis' Forensic Anthropologist will be called to site to determine if the skeletal remains are human.
4. If the identified skeletal material is not human, the archaeologist will inform the K&V RE and/or the on-site Construction Foreman or Supervisor that work may continue.
5. If the skeletal material is human, the archaeologist will inform the K&V RE and/or the on-site Construction Foreman or Supervisor that work must cease in the area, and the full remainder of the human remains protocol will be implemented.

Human Remains Protocol

At all times, human remains must be treated with the utmost dignity and respect. The following procedures will be followed once it is confirmed that human remains have been exposed:

1. The K&V RE will notify NYC Parks. The archaeologist will notify NYC LPC.
2. The K&V RE will immediately notify the New York City Police Department (NYPD) and Chrysalis will notify the New York City Medical Examiner's office (OCME) of the find. The project will cooperate with the OCME and NYPD, providing access to the site if required.
3. Once the NYPD and OCME have determined they have no concerns regarding the discovery², the K&V RE will direct the archaeological team to proceed with an initial assessment of the remains, including if the remains represent an intact burial, multiple burials, or partial skeleton, or fragmentary skeletal remains, and the potential effect of construction on the skeletal remains.

² NYC Department of Health requires that this be obtained in writing.

4. Chrysalis will draft a Memorandum to the Project (K&V and NYC Parks), NY SHPO and NYC LPC detailing the discovery, including recommendations as to how to proceed.
5. It is the preference of NY SHPO and NYC LPC that human remains be left *in situ*. However, if the nature and location of the project necessitates the removal of the human remains, permits from the City of New York Department of Health and Mental Hygiene (DOH) are required for any disinterment and disposition activities. Permits are required for intact burials, partial burials, and fragmentary skeletal remains.
6. Only a funeral director can obtain the permits from DOH. Chrysalis will contact and coordinate with the Funeral Director to obtain all necessary permits.
7. The K&V RE will notify any parties, including next of kin, if known, as directed by NYC Parks, or as indicated by City/State law.
8. Once the proper permits have been obtained and consultation completed, the archaeological team will proceed as appropriate depending on the context of the discovery and based on consultation with NY SHPO and NYC LPC.
9. Documentary research may be necessary to attempt to identify the descendant community associated with the burial or cemetery.

Protocol for Fragmentary Human Remains

If the exposed skeletal remains are determined to be fragmentary and do not represent a partial or intact skeleton, the following procedures will be implemented:

1. Chrysalis will undertake a detailed archaeological assessment of the discovery. This may include photography, scaled drawings and eventual removal of the remains. Only the Archaeologist or Forensic Anthropologist may excavate identified human remains.
2. Once this is completed and the fragmentary remains have been removed, the Archaeologist will further investigate the area to assess if any additional skeletal remains are present.
3. If no further human remains are present, the Archaeologist will notify the K&V RE that work may continue.

Protocol for Partial Burials or Intact and in situ Human Remains

If it is determined that intact, or partially intact interments are present and may be disturbed by continuing construction, the archaeologist will consult with NYC LPC and the Project regarding additional measures to avoid or mitigate further damage. The following protocol will be followed:

1. Chrysalis' Forensic Anthropologist will further assess the burial and begin documentation. Only the Archaeologist or Forensic Anthropologist may excavate human remains that have been identified.
2. Chrysalis will consult with NYC LPC and the project regarding potential additional mitigation measures.
3. Chrysalis will prepare and submit a mitigation plan for the disinterment, documentation, and analysis of the human remains. This will be submitted to the Project and NYC LPC for approval.
4. Any disinterment will be conducted by and/or under the supervision of the Forensic Anthropologist following the procedures detailed in the mitigation plan.
5. Depending on the scale of the discovery, additional archaeological personnel may be required to assist with archaeological tasks on site.
6. If any burials are to remain *in situ*, the project will assist as necessary in ensuring they are protected.

Once an area has been documented and cleared of human remains that are in danger of being disinterred and/or any burials that will remain *in situ* are appropriately protected, the Archaeologist and the K&V RE will inform the project that construction may resume.

All human remains will be brought to Chrysalis' laboratory facility in Brooklyn, New York for further documentation. Final disposition of the remains following conclusion of the project will be arranged with the project in consultation with NYC PARKS and NYC LPC.

UNANTICIPATED DISCOVERIES PLAN

The Unanticipated Discoveries Plan is to be used as a guide for construction personnel during portions of the project that do not require archaeological monitoring. Unanticipated Discoveries are defined as any cultural resources, including human remains, found during construction in any portion of the project site not monitored by the archaeologist. Cultural resource discoveries that require immediate reporting and notification to the archaeological team and the construction coordinator include, but are not limited to, human remains, grave markers, and recognizable, potentially significant concentrations of artifacts, features, or other evidence of human occupation. All project team members and construction foremen should be made aware of this plan.

The K&V Resident Engineer (RE) will coordinate with the professional archaeologist for implementation of the Unanticipated Discoveries Plan. The K&V RE will obtain, review, and file on site this Unanticipated Discoveries Plan. The K&V RE will initiate implementation of the Unanticipated Discoveries Plan by sponsoring an awareness session with the archaeologist, on-site construction management personnel, equipment operators, and laborers.

Cultural resource discoveries that require reporting and notification to the K&V RE include (but are not limited to):

1. Any skeletal or human remains including coffins, burial vaults or other evidence of burials (e.g. tombstones or other grave markers).
2. Building or other structural foundations. These may be constructed of wood, stone or brick. It is possible that artifact deposits exist within these features. Foundation walls may be intact, but often only sections of a wall are uncovered and/or remain.
3. Any recognizable, potential concentrations of artifacts, features, faunal material or other evidence of human occupation. This includes evidence of shaft features such as wells or privies.

In the event that unanticipated archaeological resources are found during construction in any portion of the project site when the archaeologist is not present, the following procedures will be followed:

1. If an unanticipated discovery of human remains, grave markers, artifacts or historic structural remains, as defined above, occurs during construction, all work will immediately stop in the area of the discovery to protect the integrity of the find. Work may not resume in the area of the discovery until the archaeologist and the K&V RE has granted clearance.
2. The construction foreman will immediately notify the designated on-site K&V RE of the find. The K&V RE will instruct the construction foreman to flag and fence off the area of the discovery to ensure safety and avoidance of impacts.

3. The K&V RE will immediately notify NYC Parks and the archaeologist of the find. The notification will include the specific location of the discovery within the disturbed area of the project site and the nature of the discovery. The K&V RE will identify the location and date of the discovery on the project plans.
4. The archaeologist will coordinate an on-site archaeological consultation to evaluate the find. A reasonable amount of time must be given to the archaeologist to not only arrange to return to site (generally within 24 hours) but to complete the assessment of the discovery (generally within 24 hours of arriving on site). These timeframes may vary based on the nature of the discovery (i.e. size, complexity, etc.).
5. The archaeologist will conduct an on-site assessment of the find. If necessary, the archaeologist will coordinate with the K&V RE to direct the contractor to further flag or fence off the archaeological discovery location and direct the contractor to continue work in another portion of the project area. The contractor will not restart work in the area of the identified archaeological resource until the K&V RE has granted clearance, after receiving word from the archaeologist that the archaeological resource has been fully examined and documented as necessary.
6. The archaeologist will inform K&V RE and NYC Parks' RE of the preliminary significance, if any, of the find.

If the discovery is determined to lack potential significance by the archaeologist, the K&V RE will grant clearance to the contractor to resume work.

If the unanticipated discovery is determined to be potentially significant, the following procedures will be followed:

1. The archaeologist will promptly notify the K&V RE, NYC Parks and NYC LPC. This notification will explain why the archaeologist believes the discovery to be significant and define a SOW for further evaluating the significance of the resource and project effects on it. All work to evaluate significance will be confined to the project APE.
2. The archaeologist will conduct a more detailed assessment of the resource's significance and the potential effect of construction on the resource.
3. The archaeologist will document the find in accordance with the guidelines presented in the Archaeological Plan/Protocol.
4. K&V will notify other parties, as directed by NYC LPC, or as indicated by City/State law.

5. If the find is determined to be significant, and continuing construction may damage the resource, then the archaeologist, K&V and NYC Parks will consult with NYC LPC and project shareholders regarding further mitigation and appropriate measures for recovery and/or appropriate measures for site treatment. These measures may include:
 - Formal archaeological evaluation of the site
 - Visits to the site by NYC LPC and/or other parties
 - Preparation of a mitigation plan for approval by NYC LPC
 - Implementation of the mitigation plan

Approval to resume construction will follow completion of the fieldwork component of the mitigation plan.

6. If the find is determined to be isolated or completely disturbed by previous construction activities, the archaeologist will consult with the K&V RE and will request approval to resume construction, subject to any further mitigation that may be required by NYC LPC.
7. The K&V RE will notify the Construction Contractor of clearance to resume work.

V. PROJECT SCHEDULE AND MANAGEMENT

Work Plan Timeline

As previously stated, there are six tasks associated with the archaeological portion of the project. The following is an estimation of time required to complete these tasks – including a list of assumptions that may alter the timeline created for these activities. If the schedule requires adjustment, based on changing/unanticipated field conditions, a new schedule will be prepared and provided to the Project for consideration.

Task 01: Creation of Archaeological Monitoring Plan

Duration: Approximately 24 hours

Assumptions: No further changes required to the document

Task 02: Archaeological Testing of Zone 1

Duration: 2 people, 64 hours (32 hours per person)

Assumptions: a) K&V will ensure that all surfaces (concrete/asphalt/etc.) will be cleared prior to commencement of the archaeological time required to conduct STPs.
b) No human remains will be encountered in any STP
c) No more than 50 material remains will be recovered for all STPs
d) No more than 6 radial STPs will be required

Task 03: Archaeological Monitoring of Zone 2

Duration: TBD – based on construction excavation schedule to be provided by K&V

Assumption: No more than 80 hours will be required for K&V's excavation

Task 04: Laboratory Analysis

Duration: 24 hours

Assumption: a) No human remains will be recovered
b) No more than 100 material remains will be recovered from Zone's 1 and 2
c) A material cultural "specialists" will not be required

Task 05: Reporting

Duration: 48 hours

Assumptions: All assumptions in Tasks 02 to 04 prove correct

Task 06: All Other Tasks

Duration: 0 hours

Assumption: Parks continues its long standing policy not to allow reimbursement for the time required to undertake all Park's reporting requirements.

If any of these assumptions proves incorrect, an adjustment to the schedule may be necessary. No change will occur until agreed upon by the project team.

VI. PROJECT COMMUNICATION

Aside from the already defined communication plan if potential human remains and/or significant material remains are recovered, Chrysalis will provide an “end of week” brief email summary of what has transpired. This email will be sent to K&V, NYC Parks and NYC LPC concurrently. It is anticipated that the following will receive this email update:

K&V: Ramesh C. Patel

NYC Parks: Vincent Alfano, Walid Abdelaziz and Jacqui Harris

NYC LPC: Amanda Sutphin

If additional persons are requested, they can be added to the email chain.

PROJECT CONTACT INFORMATION:

Chrysalis Archaeological Consultants, Inc.

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K&V

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City of New York – Department of Parks and Recreation

Vincent Alfano
City of New York – Department of Parks and Recreation
Olmsted Center - Flushing Meadows-Corona Park
117-02 Roosevelt Avenue
Flushing, Queens, New York 11368
Phone: (718) 760-6758
Email: Vincent.Alfano@parks.nyc.gov

City of New York – Landmarks Preservation Commission

Amanda Sutphin, Director of Archaeology
City of New York – Landmarks Preservation Commission
Municipal Building
One Center Street – 9th Floor
New York, New York 10007
(212) 669-7823
Email: asutphin@lpc.nyc.gov

City of New York – Office of the Medical Examiner

Bradley Adams
City of New York – Office of the Medical Examiner
520 1st Avenue
New York, New York 10016-6499
(212) 447-2760 or (646) 879-7873
Email: badams@ocme.nyc.gov

City of New York – Police Department

New York City Police Department
110th Precinct
94-41 43rd Avenue
Queens, NY 11373
Phone: (718) 476-9311

Funeral Director

Doris V. Amen, L.F.D.
Jurek-Park Slope Funeral Homes, Inc.
728 Fourth Avenue
Brooklyn, New York 11232
Phone: (718) 768-4192
Email: dorisvamen@verizon.net

REFERENCES

City of New York – Landmarks Preservation Commission.

- 2002 Guidelines for Archaeological Work in New York City. Report on file with the City of New York – Landmarks Preservation Commission. New York, New York.
- 2018 Guidelines for Archaeological Work in New York City. Report on file with the City of New York – Landmarks Preservation Commission. New York, New York.

New York Archaeological Council.

- 1994 Standards for Cultural Resource Investigations and the Curation of Archaeological Collections in New York State. Report on file with the New York State Office of Parks, Recreation and Historic Preservation. Albany, New York.
- 2000 Cultural Resource Standards Handbook: Guidance for Understanding and Applying the New York Standards for Cultural Resource Investigations. Report on file with the New York State Office of Parks, Recreation and Historic Preservation. Albany, New York.
- 2002 Guidelines for the Use of Archaeological Monitoring as an Alternative to Other Field Techniques. Report on file with the New York State Office of Parks, Recreation and Historic Preservation. Albany, New York

Pickman, Arnold

- 1995 Archaeological Documentary Study Reconstruction of Newtown Playground 56th Avenue and 92nd Street Elmhurst, Queens. Report on file with the City of New York – Landmarks Preservation Commission. New York, New York.

United States – Geological Survey

- 2016 USGS US Topo 7.5-minute map for Jamaica, NY. USGS – National Geospatial Technical Operations Center (NGTOC).

Appendix B

Alyssa Loorya, Ph.D., R.P.A. |
President, Principal Investigator



Ms. Loorya is founder and president of Chrysalis Archaeological Consultants. For nearly twenty years she has worked in cultural resource management and public education devoted to preserving cultural resources and communicating their value to local communities. She has completed over sixty technical and academic reports and has delivered dozens of presentations concerning preservation compliance, New York City historical development, and educational curricula. Her extensive experience lends itself to her roles in developing and executing research and excavation plans, project management, regulatory compliance and report production.

PROJECTS BY STATE

New York:

102 Franklin Avenue, Brooklyn, NY, Phase IA, 2006
147 Hicks Street, Brooklyn, NY, Phase IB, 1998
156 Rivington Street, New York, NY, Phase IA, 2012
210 Broad Street, Staten Island, NY, Phase I 2009
221 Main Street, Sag Harbor, NY, Phase IA, 2016
246 Front Street, New York, NY, Phase I, 2012
265 Front Street, Brooklyn, NY, Phase I, 2016
275 Myrtle Avenue, Brooklyn, NY, Phase IA, 2016
311 Broadway, New York, NY, Phase IA, 2005
404 Littleworth Lane, Sea Cliff, NY, Phase IB 2016
50 Bowery, New York, NY, Phase I, 2014
63-65 Columbia Street, Brooklyn, NY, Phase IA, 2004
79 Christopher Street, New York, NY, Phase IB, 2008
Alcoa Powerhouse, Massena, NY, Phase IA, 2016
Artesian Way, Nissequogue, NY, Phase II, 2016
Bartow-Pell Mansion; Bronx, NY, Phase IB, 1993, 2004, 2008, 2012
Bronx River Greenway, Bronx, NY, Phase IB, 2016
Brooklyn Navy Yard, Brooklyn, NY, Phase IB, 2017-present
Carll's River, Babylon, NY, Phase IA, 2017
Chambers Street, New York, NY, Phase I, 2005
Charles Point Waterfront Trail, Peekskill, NY, Phase IB, 2016
City Hall Park, Fuel Cell Project, New York, NY, Phase IB, 2013
City Hall Park, New York, NY, Phase IB, II, 2012
City Island Bridge, Bronx, NY, Phase IB, 2014-present
Columbus Park, New York, NY, Phase I, 2007
Conference House Park, Staten Island, NY, Phase IB, 2018-present
DEP Water Tunnel - Shaft 4, NY, Phase IB, 2013

AREAS OF EXPERTISE

National Historic Preservation Act
Section 106 Compliance
Material Collections Analysis
Archaeological Survey and Excavation
Public Outreach

EDUCATION

Ph.D., Anthropology and Archaeology:
2018, CUNY Graduate School

M.A., Anthropology and Archaeology:
1998, Hunter College

CERTIFICATIONS

Register of Professional Archaeologist
10-Hour OSHA Construction Safety
30-Hour OSHA Construction Safety
40-Hour OSHA HAZWOPER
SWAC - Secure Worker Access
Consortium

PROFESSIONAL EXPERIENCE

2001-Present: Chrysalis Archaeologica
Consultants
2006-2010: URS Corporation, Principa
Investigator
2007-2010: Gray & Pape, Supervisory
Consultant

CONTACT INFORMATION

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One Richmond Square – Suite 121F
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Phone: 401.499.4354

Leah Mollin-Kling, M.A., R.P.A. | Field Director

Ms. Mollin-Kling has over ten years of experience working in all phases of archaeological excavation. Her specializations include both prehistoric and historic contexts in the Middle Atlantic and New England regions. Her professional focus centers on historic urban infrastructure and consumer culture. She has extensive knowledge of field methodologies for prehistoric and historic sites.

SELECTED PROJECT EXPERIENCE BY STATE

New York

Artesian Way – Phase IB (2018)

Nissequogue, NY

Field Director for Phase IB testing of Mid-Archaic to Early-Woodland Native site in Long Island.

Hart Island– Pre-Phase (2018)

Bronx, NY

Ongoing collection of nineteenth-century human remains in areas of extreme erosion in lead-up to large-scale project in 2019.

Newtown Playground – Phase IB testing and Monitoring (2018)

Queens, NY

Field Director for Phase IB project involving human and archaeological remains.

Washington Square Park – Monitoring (2017-2018)

New York, NY

Monitoring construction of water utility pipes around Washington Square Park in Manhattan for human and archaeological remains.

Forge River Watershed Project – Phase Ib (2017)

Brookhaven, NY

Principal Investigator for Phase Ib excavations in various locations in Brookhaven, Long Island, NY for Hurricane Sandy recovery efforts.

Myrtle Avenue – Monitoring/Phase II (2017)

Brooklyn, NY

Monitored construction activities and performed Phase II field testing of remains of mid-nineteenth century row houses in Fort Greene, Brooklyn, NY.

Brooklyn Navy Yard Annex – Phase Ib (2017)

Brooklyn, NY

Monitored mechanical excavation of test pits in the vicinity of historic structures and cemetery in the Brooklyn Naval Yard Annex.



AREAS OF EXPERTISE

Archaeological Survey and Excavation
Public Outreach and Education
Historic Materials Identification

EDUCATION

M.A.A., Applied Anthropology: 2009,
University of Maryland, College Park

B.A., Archaeology: 2005, Boston University

CERTIFICATIONS

OSHA 10 Hour

HAZMAT 40 Hour

LIRR Safety

Fireguard

PROFESSIONAL EXPERIENCE

2017 – Present: Chrysalis Archaeological
Consultants

2016-2017: Geoarcheology Research
Associates

2014-2016: Public Archaeology Laboratory

2009-2011: John Milner Associates

2006-2007: Public Archaeology Laboratory

PROFESSIONAL ORGANIZATIONS

Register of Professional Archaeologists
(RPA)

Society for Historic Archaeology (SHA)

New York State Archaeological Association
(NYSAA)

Professional Archaeologists of New York City
(PANYC)

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