Phase IB Archaeological Monitoring of the Reconstruction of the Heating, Ventilation, and Air Conditioning System at the King Manor House, Rufus King Park, Jamaica, Queens

Prepared for
City of New York - Landmarks Preservation Commission
City of New York – Department of Parks and Recreation
Arista Plumbing, Heating and Piping Corp.

Prepared by
Alex Agran
Lisa Geiger, M.A., R.P.A.,
Chrysalis Archaeological Consultants

Edited by
Christopher Ricciardi, PhD, R.P.A.
Chrysalis Archaeological Consultants

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I. INTRODUCTION

Arista Plumbing, Heating and Piping Corp. (Arista) retained Chrysalis Archaeological Consultants, Inc. (Chrysalis) as the archaeological contractor for all Cultural Resource Management/Archaeological tasks and undertakings as part of the Reconstruction of the Heating, Ventilation, and Air Conditioning System at the King Manor House, Rufus King Park, Jamaica, Queens, New York.

The project focused on updating the HVAC system of the King Manor House, a residence constructed by 1813 from augmented eighteenth century cottage elements owned by Rufus King, a member of the Continental Congress and the Philadelphia Convention and a signer of the U.S. Constitution in 1787. The truncated property grounds, now known as Rufus King Park, are managed by the City of New York – Department of Parks and Recreation (NYC Parks), while the manor house is managed by the King Manor Association. The King Manor House is listed on the NY State (6/23/1980) and National Federal (12/02/1974) Registers of Historic Places, and it is a recognized National Historic Landmark (12/02/1974). It was first recognized as a NYC Landmark by the City of New York - Landmarks Preservation Commission (NYC LPC) in January 1966 for its architecture and association with the King family.

Following the project Archaeological Work Plan, approved in May of 2020, Chrysalis monitored the excavation of a trench along the northwest corner of the manor for installation of new refrigeration piping. The Area of Potential Effects (APE) was established by the project plans and several previous reports that defined an area of archaeological sensitivity surrounding the King Manor.

Chrysalis monitored trench excavation from Wednesday, July 29 to Friday, July 31, 2020 and on August 18, 2020. Four artifacts were recovered from disturbed contexts. Monitoring indicated a surface landscape A and two fill strata overlay a possible buried A horizon from 2' to 3' below ground surface in Trench 1 Sections 1-3, but the possible buried A horizon was devoid of artifacts and tapers off between Sections 3 and 4. Previous work around the house perimeter to install electric lines, an air conditioning system upon a concrete pad, and a concrete base for a bluestone path disturbed the surrounding soils in Sections 5-7 from 1'4" (bluestone concrete base) to 3'5" (concrete pad) below ground surface.

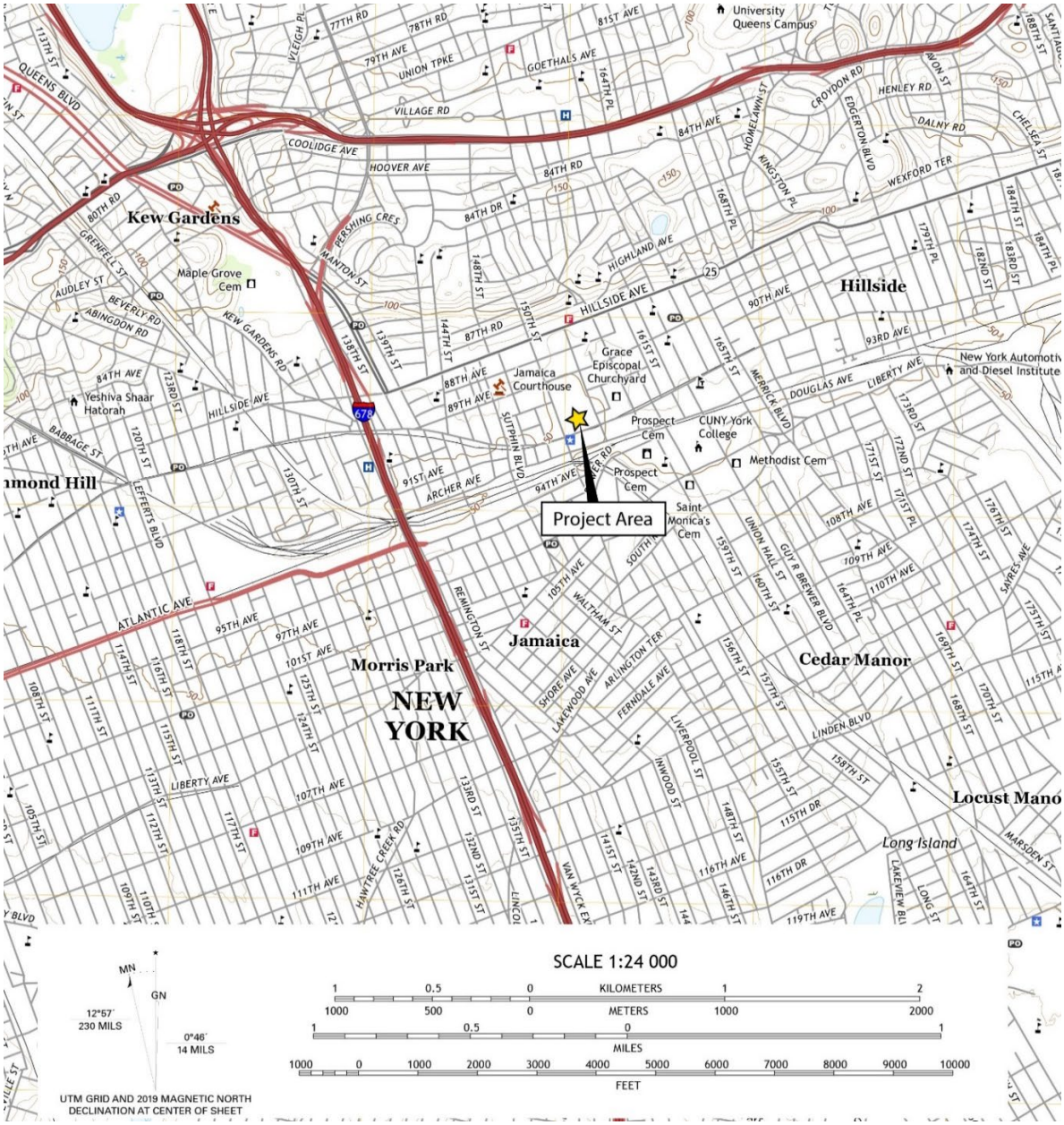
Alyssa Loorya, PhD, R.P.A. served as Principal Investigator, and Alex Agran served as Field Director and authored this report along with Lisa Geiger, M.A., R.P.A. Roseanne Quinn served as Field Technician. Christopher Ricciardi, PhD, R.P.A. edited this report for Chrysalis. See Appendix C for a summary of personnel and their qualifications.

PROJECT DESCRIPTION

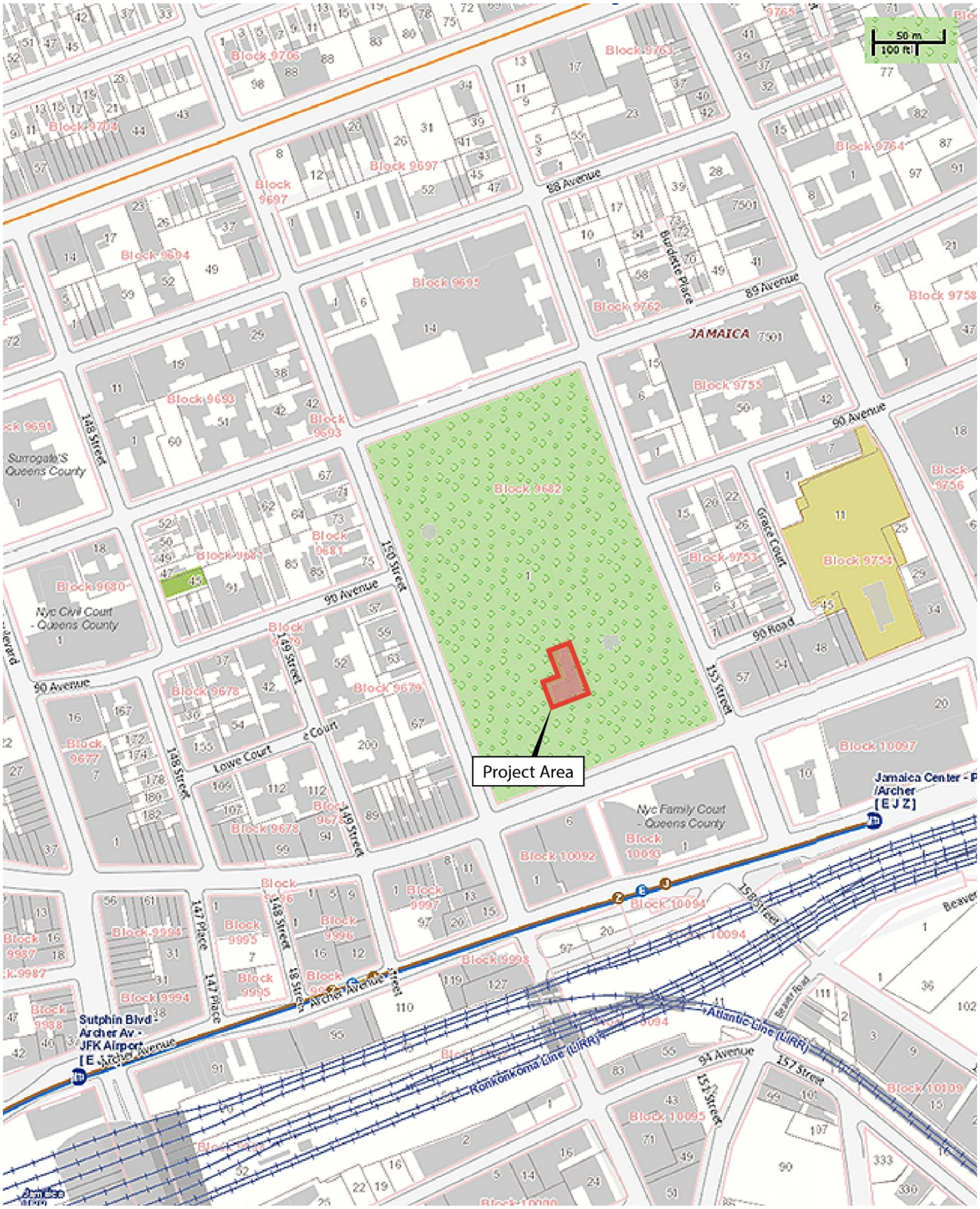
The project area was located within Rufus King Park in Jamaica, Queens, around the King Manor Museum, which operates within the historic King Manor, also known as the Rufus King House (Maps 1 - 2). The Park is bounded by 150th Street to the west, 89th Avenue to the north, 153rd Street to the east, and Jamaica Avenue to the south. The King Manor Museum is located in the southern portion of the park.

Project plans focused on the northwest portion of the King Manor to update the building's HVAC system. Project tasks planned within the house that did not impact ground surface included the removal of existing condensing units and capping existing refrigeration piping in the basement crawl space and summer kitchen.

Installation of new refrigeration lines northwest of the house necessitated excavation 13' from the west exterior wall (Figure 1). Earthmoving activities included excavation of a 100' long trench running parallel to and west of an existing bluestone path at the northwest side of the manor, crossing the bluestone path at one point. Excavation created a 4' wide, 5' deep trench for installation of new refrigeration piping and required removal and reinstallation of a small area of existing bluestone pavers.



Map 1: Project Area on *Jamaica, NY* 7.5 Minute Topographic Map (USGS 2019).



Map 2: Project area within the footprint of Rufus King Park (OASISnyc 2019).

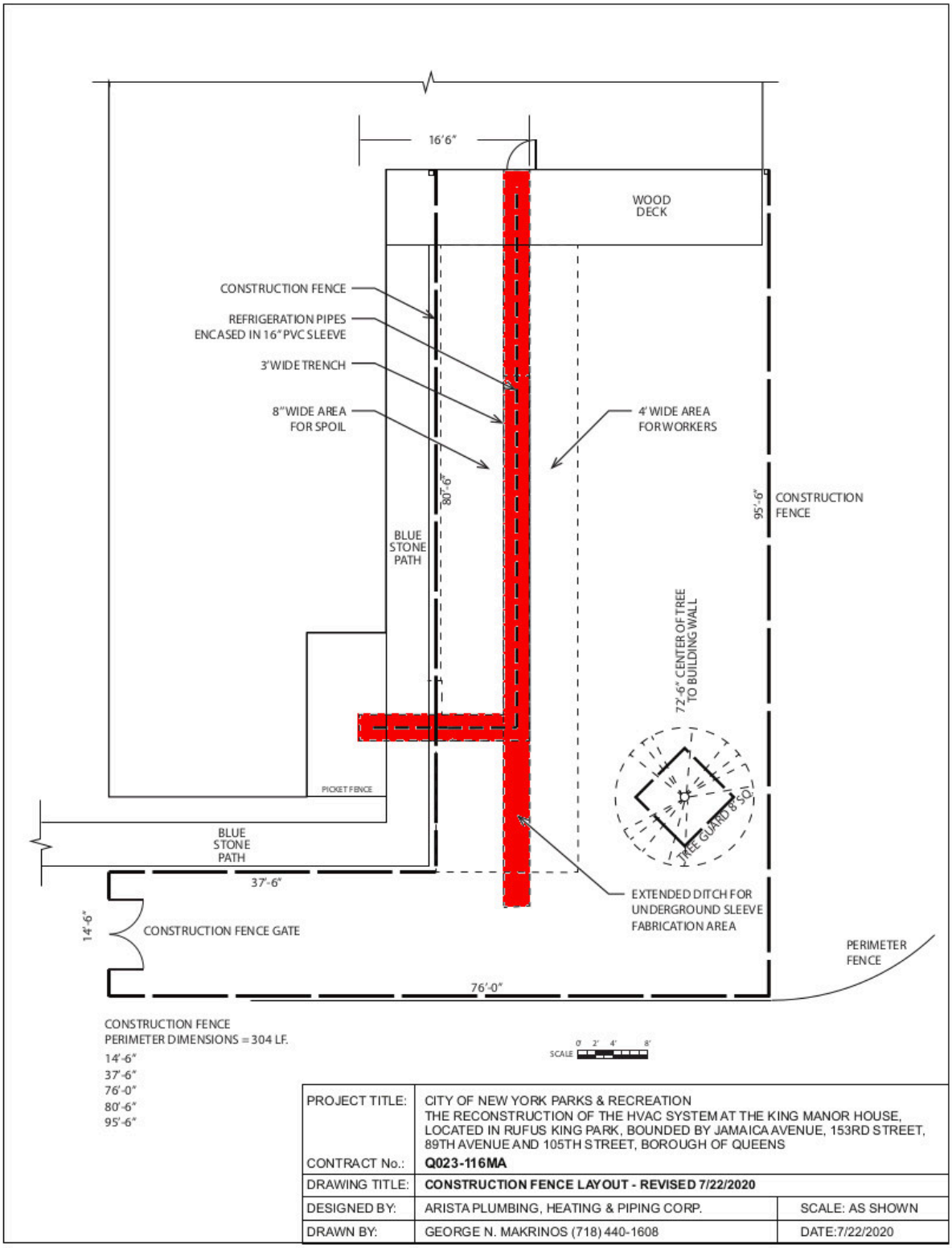


Figure 1: Route of new HVAC lines via excavation trench in red, northwest of King Manor.

Project Information

Project Name	Reconstruction of the Heating, Ventilation, and Air Conditioning System at the King Manor House, Rufus King Park, Jamaica, Queens
Street Address	150-03 Jamaica Avenue, Jamaica NY 11432
Borough/Block/Lot	Queens/Block 9682/Lot 1
LPC PUID (If Yet Assigned)	
Applicant Name	City of New York – Department of Parks and Recreation
Lead Agency (Contact Person)	Historic House Trust of NYC
Secondary Agencies (Contact Person)	
Principal Investigator	Alyssa Loorya, Ph.D., R.P.A.
Field Director	Alex Agran

II. SYNTHESIS OF PREVIOUS WORK

The project area was located in the Jamaica neighborhood of Queens, New York within Rufus King Park around the King Manor. There is some documentary evidence that an inn or farmhouse was present here in the early 1700s, and a parsonage may have been erected around 1730 on the site where the King Manor now stands; the manor is said to have expanded the parsonage cottage to form its kitchen (Cotz 1984). Rufus King established his home here on land purchased by 1805 (Historic Sites Research 1986). King was a member of the Continental Congress, the Philadelphia Convention and a signer of the U.S. Constitution in 1787. His original purchase included 59 acres of land, expanded to 90 acres. An 1813 map shows the finished manor house and three outbuildings on the property, which was mainly used as farmland. Two of these outbuildings were located about 475' north of the rear of the manor (Cotz 1984: 9).

In 1827, upon Rufus King's death, the estate and farm passed to his son, John King. By 1842, new buildings had been built north and east of the manor house. There was a steady decline of the farm after this time. 1873 maps show no additional structures, and by 1895-1897 only one outbuilding was still standing (Cotz 1984: 11). Cornelia King, John's daughter, was the last King relative to live on the property until her death in 1896.

In 1897 the manor house and the surrounding 11.5 acres was sold to the Village of Jamaica (Historic Sites Research 1986). In 1898, Jamaica was incorporated as part of the City of New York, and the property came under the supervision of NYC Parks. The grounds which are now known as Rufus King Park are managed by NYC Parks, while the manor house is managed by the King Manor Association, formed in 1900 (Cotz 1984).

Previous documentary studies and archaeological surveys conducted in Rufus King Park determined the area around the historic King Manor has archaeological sensitivity for cultural materials, outbuildings, and other architectural features related to the early nineteenth century manor house and its late nineteenth century conversion to a park. It is unknown if elements of earlier eighteenth century occupation of the site remain. Reports indicate grading and construction for the manor and park likely removed any potential for encountering significant precontact archaeological resources. A table listing the previous archaeological surveys completed in the park and their recommendations is included below, followed by a general map of their testing locations (Table 1) (Map 3).

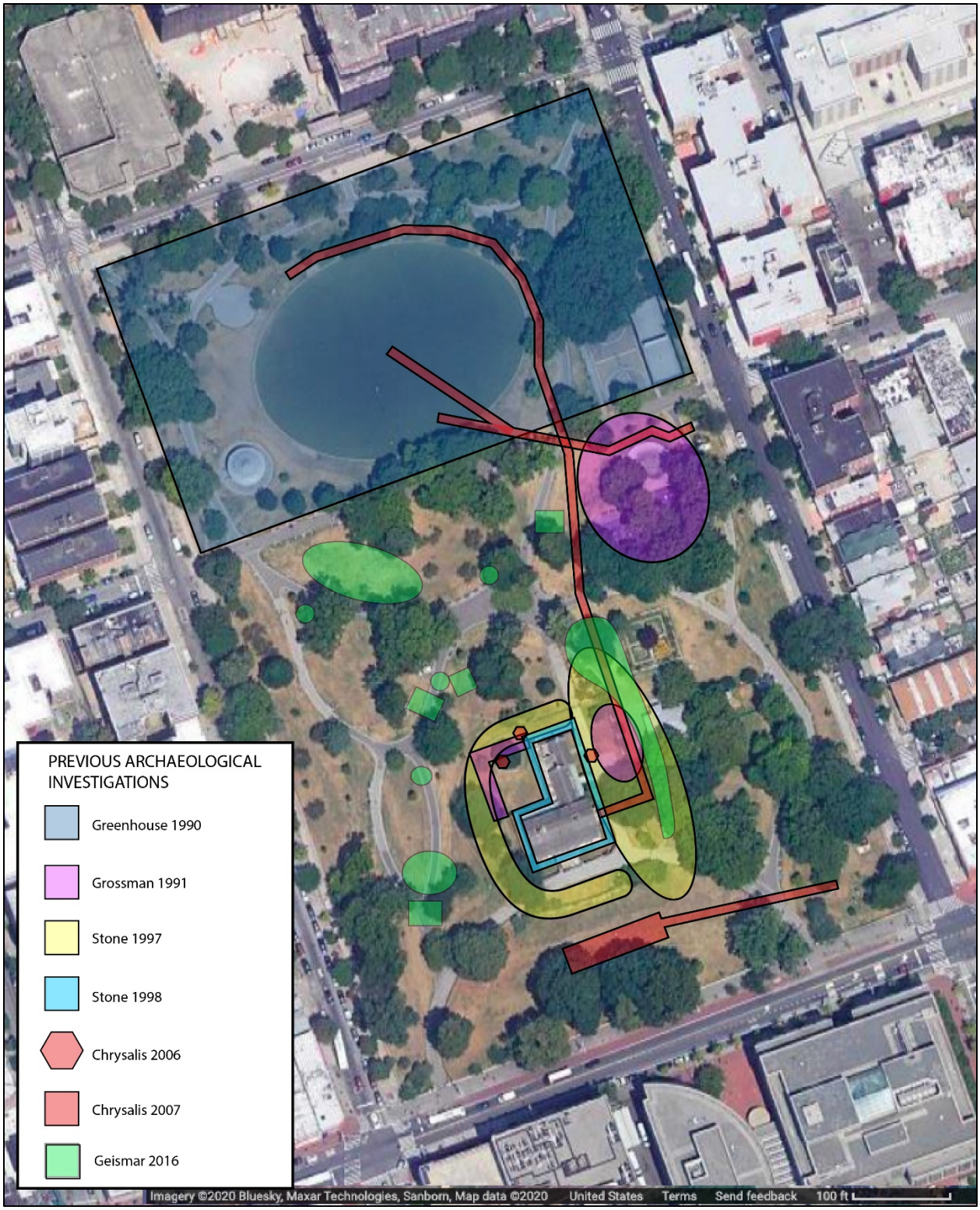
The project area for the Reconstruction of the Heating, Ventilation, and Air Conditioning System Project was considered archaeologically sensitive for possible historic cultural resources across its extent, notably eighteenth and nineteenth century household goods associated with land use predating the King Manor or usage of the King Manor house and its associated outbuildings; resources associated with nineteenth century residential or farming life including trash deposits and back yard shaft features; and architectural remnants of early farm buildings, associated refuse deposits, or support structures for the manor such as wells, privies, kitchen areas or cisterns.

Table 1: Summary of previous investigations around Rufus King Park.

YEAR	AUTHOR	TITLE	RELEVANT FINDINGS
1984	Cotz, Jo Ann E.	Archaeological Sensitivity Model for Rufus King Manor and Park, Jamaica, Borough of Queens, NYC	No verification of pre-contact period occupation but some potential based on location. Possible English military outpost in APE based on 1666 map. Rufus King Manor and associated outbuildings were located within park, probably remain. Archaeological excavation recommended if work isn't limited to existing utilities.
1986	Historic Sites Research	Cultural Resource Study of a tract at the northwest corner of 89th Avenue and Parson's Boulevard, Jamaica, Queens, New York City: CEQR No.: 86-322Q	No Native American sites recorded in the APE, low probability of precontact resources. APE falls in the NE corner of the Rufus King Estate, and subsequent outbuildings of the main manor would be present, although that part of the property used for agricultural orchards. Frame houses were built in the area in early 1900s and leveled in the 1980s. Believe little probability of disturbing archaeological resources. No further study recommended.

YEAR	AUTHOR	TITLE	RELEVANT FINDINGS
1990	Greenhouse Consultants	Phase IB Archaeological Survey Report on the Northern Portion of Rufus King Park, Jamaica Queens County, New York	Shovel tests pits recommended for all of the park, wherever subsurface impacts for park reconstruction had been proposed. 57 STPs dug, and 765 objects recovered. No pre-contact artifacts present. 1/3 of objects collected were glass, most associated with drinking bottles from park use. Few ceramics, 2 coins recovered. Conclusions: no features and few artifacts dating from period when the park was an active farmstead, most likely due to the park previously being graded. No potentially significant pre-contact or contact period resources are present.
1991	Grossman, Joel	Archaeological Tests and Artifact Analysis Results from Rufus King Park, Jamaica, Queens, New York.	Archaeological testing including probes, test pits, and test trenches in 4 study areas, resulting in the collection of 1840 artifacts, 241 of which were diagnostic and datable to the 18th and 19th centuries. Some structural remains relating to the Manor house and associated outbuildings were also disturbed. Data recovery to mitigate loss of cultural information is recommended for areas A and C, but not for B and D of the project.
1997	Stone, Linda	Report on Archaeological Testing in Advance of Improvement Associated with the Fence Project at Rufus King Park, Jamaica Avenue at 150-153 Streets, Jamaica, Queens, New York (Q023-295)	Probing, shovel testing, and monitoring undertaken during park improvements. Mortared brick feature likely associated with the Manor's summer kitchen was disturbed during excavation. Several flowerpot remnants also uncovered during excavation. Continued archaeological testing is suggested if work is to be done in the vicinity of the manor house.
1998	Stone, Linda	Report on Archaeological Resting in Advance of Improvement Associated with the Drainage and Termite Project at Rufus King Park, Jamaica Avenue at 150-153 Streets, Jamaica, Queens, New York (Q023-195) and (CNYG 497)	Archaeological testing and excavation in the form of shovel tests, units, and monitoring undertaken related to improvements around drainage and termite control within Rufus King Park. Numerous artifacts were recovered, as well as the excavation of 10 archaeological features, many likely associated with the Manor's summer kitchen. These extensive findings lead to the conclusion that more archaeological material and features remain recoverable within other locations of the park. Recommended that other archaeological investigations be carried out if more improvement work is to take place.

YEAR	AUTHOR	TITLE	RELEVANT FINDINGS
2006	Chrysalis Archaeological Consultants	Rufus King Manor, Rufus King Park – Tree Placement Monitoring Project, Queens, New York	Archaeological monitoring occurred prior to instillation of trees around Rufus King Manor. Wine/liquor bottle fragments and ceramic sherds recovered. Several brick and stone features were also disturbed during excavation. Continuing archaeological monitoring for the area is recommended.
2007	Chrysalis Archaeological Consultants	Rufus King Park Reconstruction Project-Phase IB Field Archaeological Monitoring Project, Jamaica, Queens (Queens County), New York – Project Number: 023-205M	Archaeological monitoring during infrastructure upgrades to the park. Although a few artifacts were recovered, including a pharmaceutical bottle, nails, and some ceramic sherds, the area in which the upgrades took place were found to be heavily disturbed, and would not reveal significant cultural information regarding the site. No furtherer cultural resource monitoring or testing is recommended for this APE.
2016	Geismar, Joan	Reconstruction of the Gazebo and Construction of Asphalt Pathways in Rufus King Park, Borough of Queens, Archaeological Monitoring and Testing, Parks Contract: Q023-112M	Archaeological monitoring of tree removals and transportations across the west side of the park, excavation for three new catch basins at the west and northeast ides of the park, and fence post holes along 90th Ave. Identified one dry-laid stone privy pit dating c.1897 and filled in first decades of 1900s, likely when comfort station built. No excavation in or around the manor house.



Map 3: General location of previous archaeological investigations mapped over 2020 satellite image of Rufus King Park (Google 2020).

III. CONTEXT AND RESEARCH DESIGN

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 work are extant within the APE. The project area was located adjacent to the National Landmark and local, state, and federal register-listed King Manor house, constructed by 1813 and possibly including older eighteenth century elements, in an area that has established sensitivity for historic eighteenth and nineteenth century archaeological materials or features related to the King Manor or farming operations on the manor grounds. Previous research has indicated filling, grading, and construction for the manor and farmland extensively disturbed the project area in the historic period and eliminated any sensitivity for intact prehistoric archaeological contexts.

Project plans isolated any subsurface impacts to a 100' long, 4' wide area at the King Manor's northwest perimeter with a maximum impact depth of 5' below ground surface, to be excavated by a mix of machine and hand digging (see Figure 1 above). As all work was planned to take place within an archaeologically sensitive area over an anticipated three-day excavation timeframe, and an impact depth of 5' was needed across the entire planned excavation area in order to install new HVAC piping, preconstruction archaeological testing was determined to be both time consuming and limited in its ability to expose a representative extent of the sensitive APE. The Archaeological Work Plan recommended archaeological monitoring to oversee all earthmoving and fully document the stratigraphy of, and any extant archaeological resources within, the APE (see Appendix A).

IV. PROJECT METHODS

Phase IB archaeological monitoring was utilized for all project activities that involved subsurface impacts. To better document localized changes in stratigraphy or archaeological materials, the single trench excavated as part of this project was divided into seven arbitrary sections up to 20'6" (6.25m) long.

Chrysalis staff maintained field site maps and profile drawings, photographs, and descriptions of the soils encountered and field conditions. Staff kept an up-to date log of all monitoring activities, including the date and duration of work episodes and an accompanying description of the activity being monitored and color, texture, and location and depth information for all soils exposed.

The project area elevation was very flat, and a NAVD88 elevation of 47.23', taken at the trench wall near trench center, was utilized as a ground surface measurement. All subsurface depths were recorded below ground surface from this starting elevation.

Any cultural materials encountered were documented and saved according to their unique provenience on field forms and in a project FS Log, using consecutive numbers for each context that yielded artifacts, in the order they were encountered in the field. Bulk refuse materials such as coal, coal ash, slag, broken brick and concrete were noted in the field but not retained unless they included temporal diagnostic details. Recovered artifacts were transported to Chrysalis'

laboratory for processing and analysis. All monitoring activities were compliant with NYC LPC's Guidelines for Archaeological Work in New York City (NYC LPC 2018) and NYAC's Guidelines for the Use of Archaeological Monitoring (NYAC 2002).

V. FIELD RESULTS

TRENCH 1

One trench was excavated by Arista from Wednesday, July 29 to Friday, July 31, 2020, overseen by Alex Agran of Chrysalis. The trench's east side was located 13' from the Rufus King House's west exterior wall and was excavated to a maximum depth of 5' (1.52m) below surface (Figure 2). The trench was oriented northwest by southeast, parallel with the orientation of the house. The monitoring and documentation of the trench was broken up into six arbitrary sections up to 20'6" (6.25m) long. A seventh arbitrary section 5'9" (1.75m) long was excavated on Tuesday, August 18, 2020, monitored by Roseanne Quinn of Chrysalis. Elevations are provided as depths below ground surface (bgs), with a NAVD88 ground surface elevation of 47.23' utilized as site datum across the level area.

Few artifacts were encountered during excavation. Three historic ceramic sherds were encountered in a disturbed context in Section 1, underlying the porch deck. Three loose sandstone paving stones were noted immediately northwest of the porch deck in Section 2. One whiteware chamber pot was encountered in a disturbed context in Section 7, below the bluestone path (Tables 2–9) (see Section VI – Laboratory Results).

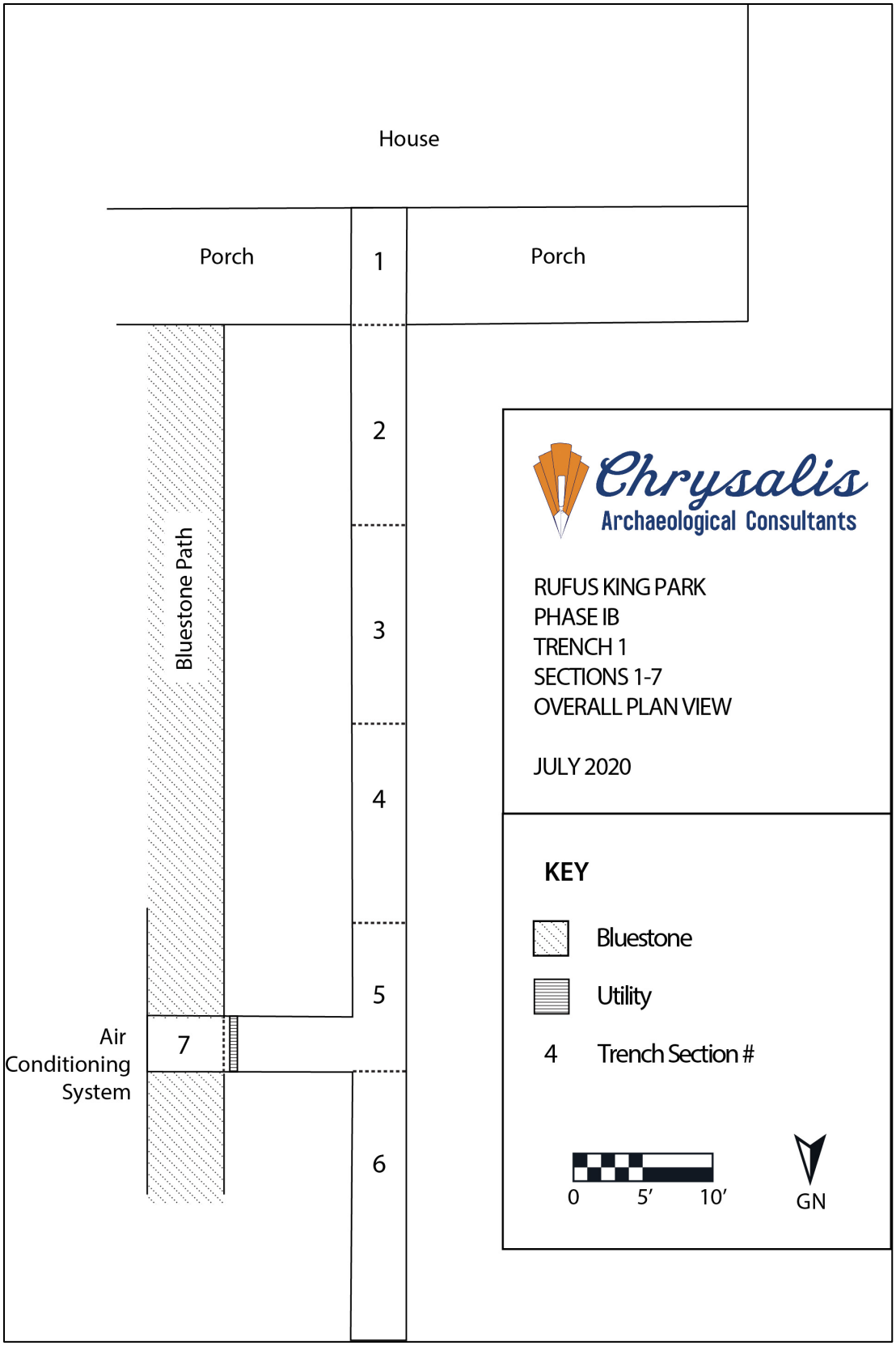


Figure 2: Site plan view map.

SECTION 1

Section 1 was located beneath the porch deck fronting the northwest face of the house. It measured 4' by 8'9" (1.22m by 2.67m), with its south wall abutting the house and its west wall 25'4" (7.72m) east of the house's west wall (Figure 2). Section 1 excavation was carried out by hand. Excavation reached a maximum depth of 5' bgs (1.52m). The soil stratigraphy of this section was made up of various fill layers down to a depth of 2' bgs (.61m), at which point a potential buried A horizon was encountered. The loamy texture and even distribution and thickness of stratum IV suggested it was a possible buried A horizon. This overlay a clayey, reddish C horizon (Figure 2) (Image 1) (Table 2).

FS#1, comprised of a polychrome-painted porcelain sherd, a plain porcelain sherd, and a plain whiteware rim sherd, were found in fill stratum II, along with modern trash including plastic and styrofoam fragments (Table 2). No cultural material was found in an intact context.

The house foundation, as revealed in the south wall of Section 1, was composed of concrete to a depth of 1' bgs (.3m) overlying a fieldstone wall (Figure 3) (Image 2).

Table 2: Section 1 west profile soil stratigraphy.

STRATUM	DEPTH RANGE	MUNSELL	DESCRIPTION
I	0'–8" bgs (0-.2m)	10YR 4/4 dark yellowish brown	Loamy sand with over 50% rounded gravel. Fill.
II	8"–1'3" bgs (.2m-.38m)	10YR 3/2very dark grayish brown	Sandy loam with some pebble inclusions. Loose brick, plastic fragments, styrofoam fragments, rubber ball. Fill. FS#1 found within this stratum.
III	1'3"–2' bgs (.38m-.61m)	10YR 4/6 dark yellowish brown	Coarse sand. Numerous large round pebble inclusions. Fill.
IV	2'–2'8" bgs (.61m-.81m)	7.5YR 3/2 very dark grayish brown	Sandy loam with few inclusions. Possible A_b horizon.
V	2'8"to 5' bgs (.81m-1.52m)	7.5YR 4/6 strong brown	Clay loam with some pebble and cobble inclusions. C horizon.

Image 1: Section 1 west profile at 5’ bgs (1.52m).

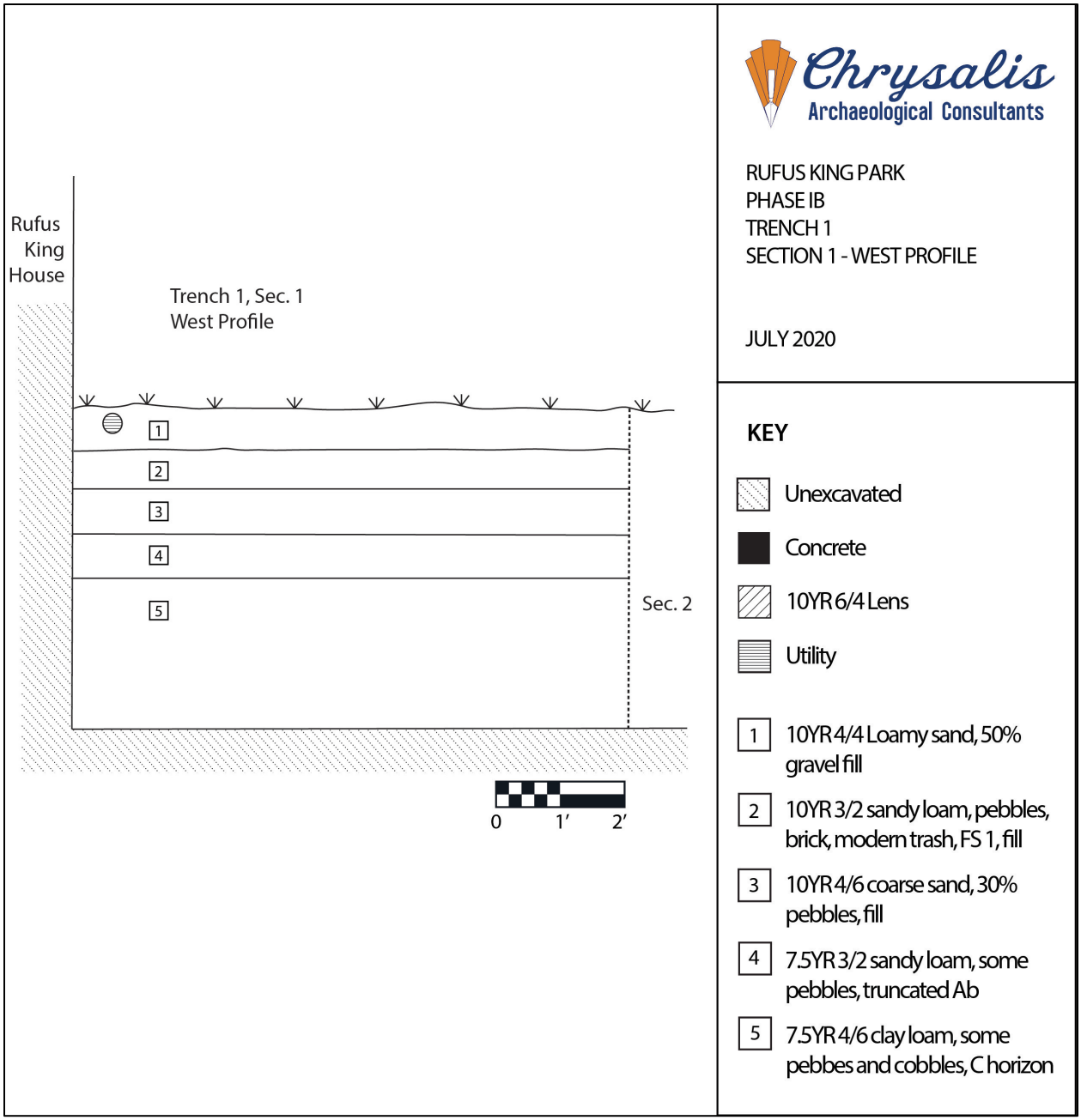


Figure 3: Section 1 west profile drawing.

Image 2: Section 1 south wall profile showing house foundation wall.

SECTION 2

Section 2 continued northward into the yard beyond the porch, measuring 4' by 15' (1.22m by 4.57m) (Figure 2). Excavation of Sections 2-7 was carried out by machine. Excavation reached a maximum depth of 5' bgs (1.52m). The soil stratigraphy of this section was made up of a landscaped A horizon overlying fill layers down to a depth of 2'2" bgs (.66m), at which point a potential buried A horizon was encountered, overlying a clayey, reddish C horizon, as seen in Section 1 (Figure 4) (Image 3) (Table 3).

Three sandstone paving stones were encountered loose in the stratum II fill at a depth of 1' bgs (.3m). These paving stones measured 1'6" by 2' (.46m by .61m) and were uncovered 3'4" (1.02m) north of the north edge of the porch (Image 4) . No other cultural material was encountered.

Table 3: Section 2 east profile soil stratigraphy.

STRATUM	DEPTH RANGE	MUNSELL	DESCRIPTION
I	0'–8" bgs (0-.2m)	10YR 3/3 dark brown	Sandy loam with some rounded pebble inclusions. Landscaped A horizon.
II	8"–1'2" bgs (.2m-.35m)	10YR 3/2 very dark grayish brown	Clayey sandy loam. Fill. Sandstone paving stones at 1' bgs (.3m).
III	1'2"–2'2" bgs (.35m-.66m)	7.5YR 4/4 brown	Clayey sandy loam. Fill. A lens of 10YR 6/4 light yellowish brown coarse sand is present in this layer from 1'3"–1'5" bgs (.38m–.43m). Fill.
IV	2'2"–2'7" bgs (.66m-.79m)	10YR 3/2 very dark grayish brown	Clay loam with some rounded pebble and cobble inclusions. Possible A_b horizon.
V	2'7"to 5 bgs (.79m-1.52m)	7.5YR 4/6 strong brown	Clay loam with few pebble inclusions. C horizon.

Image 3: Section 2 east wall profile, showing sandstone paving stone.

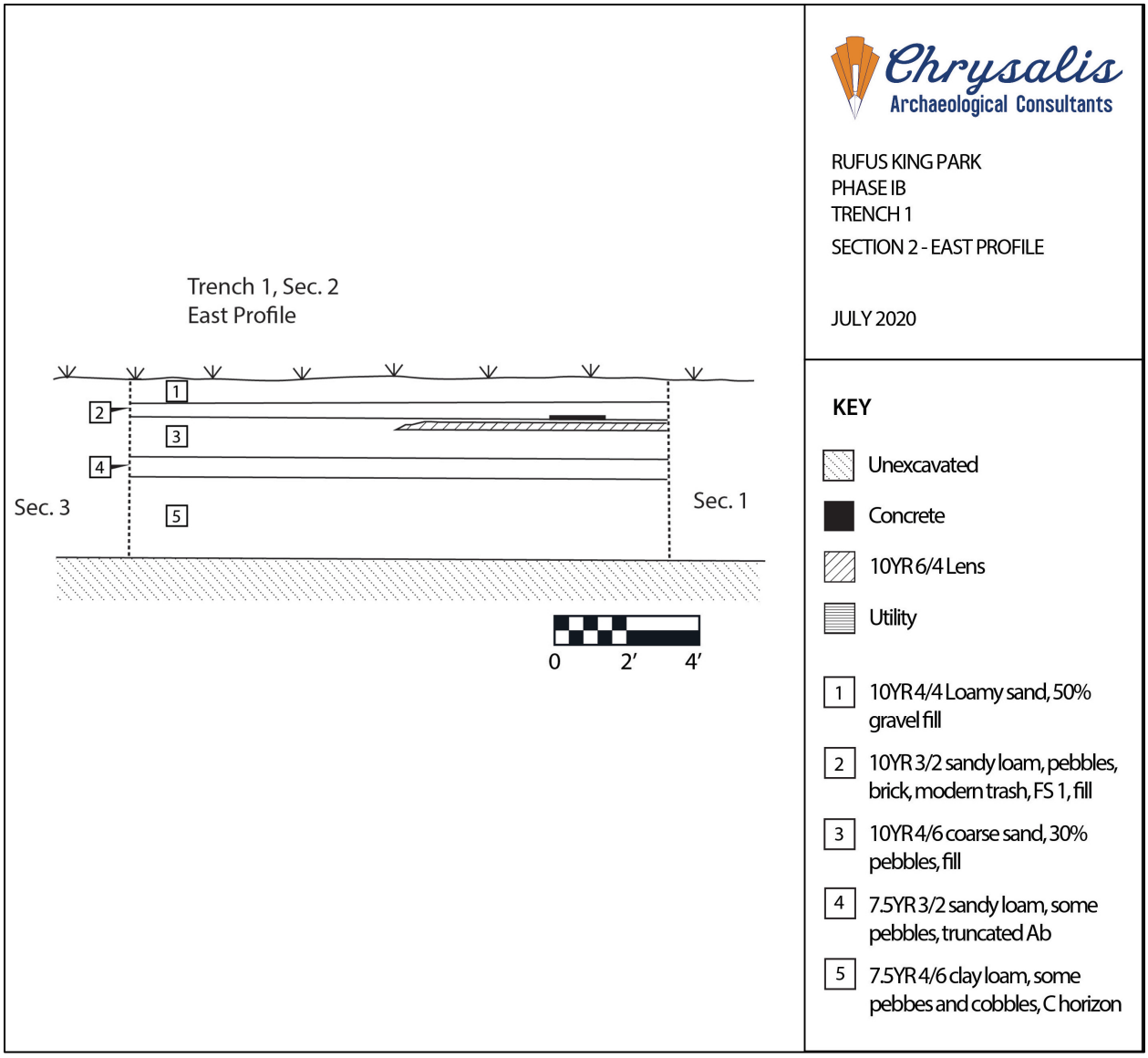


Figure 4: Section 2 east wall profile drawing.

Image 4: Section 2 sandstone paving stone detail.

SECTION 3

Section 3 continued northward into the yard beyond the porch, measuring 4’ by 15’ (1.22m by 4.57m) (Figure 2). Excavation reached a maximum depth of 5’ bgs (1.52m). The soil stratigraphy of this section was made up of a landscaped A horizon overlying a fill layer down to a depth of 2’ bgs (.61m), at which point a potential buried A horizon was encountered overlying a clayey, reddish C horizon, as seen in previous sections (Image 5) (Table 4). No cultural material was encountered.

Table 4: Section 3 west profile soil stratigraphy.

STRATUM	DEPTH RANGE	MUNSELL	DESCRIPTION
I	0'–1' bgs (0-.3m)	10YR 4/3 brown	Sandy loam with some rounded pebbles. Landscaped A horizon.
II	1'–2' bgs (.3m-.61m)	10YR 4/2 dark grayish brown	Sandy loam with many rounded pebbles. Fill.
III	2'–3' bgs (.61m-.91m)	10YR 3/2 very dark grayish brown	Clay loam with very few pebble inclusions. Possible A_b horizon.
IV	3'–3'6" bgs (.91m-1.07m)	10YR 4/6 dark yellowish brown	Clay loam with few rounded pebbles. C or transitional B/C horizon.
V	3'6"to 5' bgs (1.07m-1.52m)	7.5YR 4/6 strong brown	Sandy loam with many rounded pebbles and cobbles. C horizon.

Image 5: Section 3 west wall profile at 5' bgs (1.52m).

SECTION 4

Section 4 continued northward into the yard beyond the porch, measuring 4' by 15' (1.22m by 4.57m) (Figure 2). Excavation reached a maximum depth of 5' bgs (1.52m). The soil stratigraphy of this section was made up of a landscaped A horizon overlying two distinct fill layers down to a depth of 2'1" bgs (.64m), overlying a reddish C horizon The C horizon beginning from Section 4 onward had a lower clay content than in Sections 1-3. The possible buried A horizon found in Sections 1–3 tapered off at the Section 3-4 transition and did not appear here; the C horizon began at a shallower depth, perhaps indicating a previous natural elevation rise that had been truncated and had fill added (Image 6) (Table 5). No cultural material was encountered.

Table 5: Section 4 east profile soil stratigraphy.

STRATUM	DEPTH RANGE	MUNSELL	DESCRIPTION
I	0'–10" bgs (0-.25m)	10YR 4/3 brown	Sandy loam with few pebble inclusions. Landscaped A horizon.
II	10"–1'6" bgs (.25m-.46m)	10YR 3/2 very dark grayish brown	Sandy loam with very few pebble inclusions. Fill.
III	1'6"–2'1" bgs (.46m-.64m)	10YR 4/6 dark yellowish brown mottled with 10YR 3/2 very dark grayish brown	Loamy sand with many rounded pebble inclusions. Disturbed.
IV	2'1"–5' bgs (.64m-1.52m)	7.5YR 4/6 strong brown	Loamy sand with some rounded pebble and cobble inclusions. C horizon.

Image 6: Section 4 east wall profile in progress.

SECTION 5

Section 5 continued northward for 7’ (2.13m), then turned eastward for 9’6” (2.9m) where it ran into the bluestone path adjacent to the house’s north wing (Figure 2). The section measured 4’ wide (1.22m) with an overall length of 20’6” (6.25m). The eastern portion of Section 5 was highly disturbed down to a depth of 3’3” bgs (.99m) with modern trash in stratum I, and a styrofoam layer and electrical utility line encountered in stratum III (Figure 5) (Images 7–9) (Table 6).

The highly disturbed stratum III was not present in the north-south oriented portion of Section 5 (Image 10) (Table 7). No archaeologically sensitive material was encountered.

Table 6: Section 5 north profile soil stratigraphy.

STRATUM	DEPTH RANGE	MUNSELL	DESCRIPTION
I	0'–9" bgs (0-.23m)	10YR 4/3 brown	Sandy loam with very few small rounded pebble inclusions. Modern trash – pull tab can lid. Landscaped A horizon.
II	9"–1'3" bgs (.23m-.38m)	10YR 3/2 very dark grayish brown	Sandy loam with few small rounded pebble and brick fragment inclusions. Fill.
III	1'3"–3'3" bgs (.38m-.99m)	10YR 3/3 dark brown	Sandy loam with very few brick fragment inclusions. A layer of styrofoam present in the north and east wall at 1'8" bgs (.51m). A utility line is present in this stratum at 2'5" bgs (.74m). The bottom of this stratum slopes downward west to east from 2' to 3'3" bgs (.61m–.99m).
IV	2'–5' bgs (.61m-1.52m)	7.5YR 4/6 strong brown	Loamy sand with some round pebble inclusions. C horizon.

Table 7: Section 5 west profile soil stratigraphy.

STRATUM	DEPTH RANGE	MUNSELL	DESCRIPTION
I	0'–11" bgs (0-.28m)	10YR 4/3 brown	Sandy loam with very few small rounded pebble inclusions. Landscaped A horizon.
II	11"–1'10" bgs (.28m-.56m)	10YR 3/2 very dark grayish brown	Sandy loam with few small rounded pebble and brick fragment inclusions. Fill.
IV	1'10"–5' bgs (.56m-1.52m)	7.5YR 4/6 strong brown	Loamy sand with some round pebble inclusions. C horizon.

Image 7: Section 5 stratum I modern trash detail.

Image 8: Section 5 north wall profile showing styrofoam at 1’8” bgs (.51m).

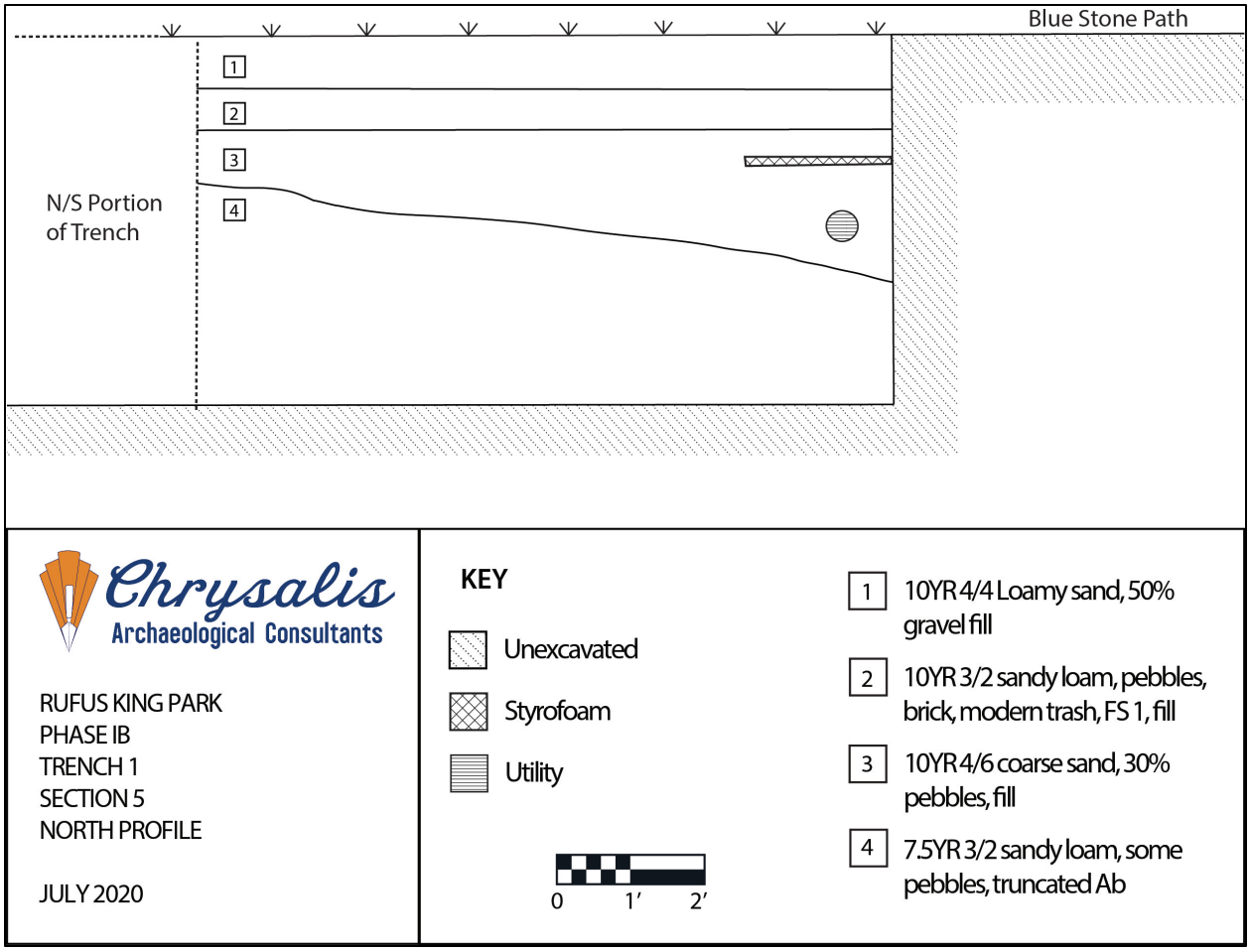


Figure 5: Section 5 north wall profile drawing.

Image 9: Section 5 east wall profile showing electrical utility line at 2’5” bgs (.74m)

Image 10: Section 5 west wall profile at 5’ bgs.

SECTION 6

Section 6 continued northward from the north-south portion of Section 5, measuring 4’ by 20’ (1.22m by 6.1m) (Figure 2). Excavation reached a maximum depth of 5’ bgs (1.52m). The soil stratigraphy of this section was made up of a landscaped A horizon overlying an extremely compact, concreted fill layer down to a depth of 1’7” bgs (.48m), overlying a reddish C horizon (Image 11) (Table 8). No cultural material was encountered.

Table 8: Section 6 west profile soil stratigraphy.

STRATUM	DEPTH RANGE	MUNSELL	DESCRIPTION
I	0’–7” bgs (0-.18m)	10YR 3/2 very dark grayish brown	Sandy loam with moderate root disturbance. Landscaped A horizon.
II	7”–1’7” bgs (.18m-.48m)	10YR 4/2 dark grayish brown	Sandy loam with some rounded pebble inclusions. Extremely compact and concreted. Fill.
III	1’7”–2’8” bgs (.48m-.81m)	7.5YR 4/6 strong brown	Loamy sand with many rounded pebble and cobble inclusions. C horizon.
IV	2’8”–5’ bgs (.81m-1.52m)	7.5YR 5/6 strong brown	Coarse sand with few rounded pebble inclusions. C horizon.

Image 11: Section 6 east wall profile at 5’ bgs (1.52m).

SECTION 7

Section 7 continued eastward from the east-west portion of Section 5, measuring 4’ by 5’9” (1.22m by 1.75m). Section 7 was excavated below a bluestone path running alongside the house (Figure 2). The bluestone path, constructed over concrete as a modern addition to the grounds, was temporarily removed to allowed excavation.

Section 7 excavation reached a maximum depth of 5’ bgs (1.52m). The bluestone pavement overlay a concrete foundation 1’3” thick (.38m) (Image 12). Beneath this layer, the stratigraphy of the section was highly disturbed to a depth of 3’5” bgs (1.04m), as stratum III was associated with the electrical utility line encountered in Section 5. Stratum III also contained a high density of asphalt fragments (Image 12).

The east wall of the section encountered the concrete pad for the house’s air conditioning system down to a depth of 3’4” bgs (1.02m) (Image 13). Below the depth of the air conditioning pad disturbance was the reddish loamy sand C horizon (Table 9). FS#2, a mostly intact white granite chamber pot, was found at the bottom of the highly disturbed stratum III at a depth of 3’5” bgs (1.04m) (Image 14).

Table 9: Section 7 north profile soil stratigraphy.

STRATUM	DEPTH RANGE	MUNSELL	DESCRIPTION
I	0'–1'4" bgs (0-.41m)	N/A	Bluestone paving stones overlying concrete slab.
II	1'4"–2'4" bgs (.41m-.71m)	10YR 3/2 very dark grayish brown	Sandy loam with few small, rounded pebbles and brick fragment inclusions. Fill.
III	2'4"–3'5" bgs (.71m-1.04m)	10YR 6/1 gray	Sandy loam with a high density of asphalt fragment inclusions. Fill. FS#2 found within this stratum.
IV	3'5"–5' bgs (1.04m-1.52m)	7.5YR 4/6 strong brown	Loamy sand with some round pebble inclusions. C horizon.

Image 12: Section 7 north wall profile at 4' bgs (1.52m).

Image 13: Section 7 east wall showing concrete pad.

Image 14: FS 2, a white granite chamber pot recovered from Trench 1, Section 7, stratum III.

VI. LABORATORY RESULTS

All cultural materials were saved according to their unique provenience recorded on field forms and in a project FS Log (Appendix B). As few artifacts were recovered (n=4), the Artifact Catalog is divided into a line for each of the two FS contexts that yielded cultural materials. A brief description of each artifact found within their context is provided using the same FS numbers applied to contexts in the field, but individual artifacts are not given additional catalog numbers. Artifacts were processed and analyzed at the Chrysalis Laboratory.

A total of 4 artifacts were recovered during Phase IB archaeological monitoring at the Rufus King House (Table 10). While no artifacts were recovered from intact stratigraphy, the information gleaned from their analysis speaks towards the extensive modern modifications the property has undergone. In many cases, artifacts signify the level of disturbance in the areas being tested. All artifacts were found in either Section 1 beneath the porch or Section 7 beneath the bluestone path. No artifacts were found within the open portion of the yard.

Of the four artifacts recovered, the porcelain sherds were not dateable. The whiteware rim sherd found in Section 1 has a possible production date ranging from 1815 to the present day. The white granite chamber pot has a tighter production date range, from 1842 to 1870 (Miller et al. 2000). However, all four artifacts were found in association with modern trash including plastic and asphalt debris, obscuring reliable use or deposition dates.

As the artifacts were from mixed contexts and non-descript, there are not considered "significant" requiring stabilization or retainage in the New York City Archaeological Repository. Therefore, it is the recommendation that the remains be discarded. As the white granite chamber pot is mostly intact, it may have use as a teaching tool, despite lack of ability to definitively associate it with use at the manor. Chrysalis will offer this item to the Rufus King Museum for their reference collection.

Table 10: Cultural materials recovered from Trench 1 monitoring.

SECTION	STRATUM	HORIZON	CONTENTS	TOTAL COUNT
1	II	Fill	1 plain porcelain sherd, 1 polychrome-painted porcelain sherd, 1 plain whiteware rim sherd	3
7	III	Fill	1 mostly intact white granite chamber pot	1
Total				4

VII. CONCLUSIONS AND RECOMMENDATIONS

Trench 1, measuring 4’ wide with a cumulative length of 100’ across seven sections, was excavated 13’ northwest of the Rufus King House, with Section 1 directly abutting the house. Archaeological monitoring of this excavation did not yield any significant cultural resources. Stratigraphic information suggests that much of the project APE was subject to extensive modern disturbance and deposition of at least two fill layers across a possible buried A horizon from around 2’ to 3’ bgs in Sections 1-3, near the northwest corner of the house. No cultural materials appeared within the possible buried A horizon, which tapered off between Sections 3 and 4.

Previous work around the house perimeter to install electric lines, an air conditioning system upon a concrete pad, and a concrete base for a bluestone path disturbed the surrounding soils from 1’4” (bluestone concrete base) to 3’5” (concrete pad) below ground surface.

No additional work is planned for this project at the Rufus King House, and the monitored activities did not have adverse effects on National Register contributing portions within the APE.

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Appendix A:
Archaeological Work Plan

Chrysalis
Archaeological Consultants

To: City of New York - Landmarks Preservation Commission
City of New York – Department of Parks and Recreation
Arista Plumbing, Heating and Piping Corp.

From: Alyssa Loorya, PhD, R.P.A., Lisa Geiger, M.A., R.P.A., and Christopher Ricciardi, PhD, R.P.A.

Re: The Reconstruction of the Heating, Ventilation, and Air Conditioning System at the King Manor House, Phase IB Archaeological Monitoring Plan, Unanticipated Discoveries Plan and Human Remains Protocol for The City of New York Parks and Recreation

Date: May 12, 2020

I. INTRODUCTION

Chrysalis Archaeological Consultants, Inc. (Chrysalis) has been retained as the archaeological contractor for all the necessary Cultural Resource Management/Archaeological tasks and undertakings as part of this project by Arista Plumbing, Heating and Piping Corp. (Arista). Construction work for this project will begin in 2020, in areas that have been identified as being archaeologically sensitive.

This Archaeological Work Plan consists of three components: Archaeological Monitoring, Unanticipated Discoveries, and Human Remains Plan. The City of New York – Department of Parks and Recreation (NYC PARKS) established the overall project area. The Area of Potential Effect (APE) for archaeological sensitivity was defined by the City of New York – Landmarks Preservation Commission (NYC LPC). Several previous reports confirmed and defined the area of archaeological sensitivity surrounding the King Manor in Rufus King Park (Table 01).

This plan is provided to the NYC LPC and the NYC PARKS for review, approval and implementation. It describes the procedures and tasks to be performed as part of the Cultural Resources portion of the project, as well as what is to occur in the event that archaeological and/or human remains are exposed when the project archaeologist is not on site.

The purpose of the overall cultural resources project guided by this Archaeological Work Plan (AWP) is to: 1) monitor construction activities in archaeologically sensitive areas of the project; 2) determine whether the project APE contains significant cultural resources (i.e. National Register Eligible, etc.) and/or human remains; 3) recover potentially significant buried cultural resources; 4) develop a historical and archaeological context(s) for the interpretation and evaluation of any potential cultural or archaeological resources that are, or may be, present within the APE; 5) outline the lines of communication and protocols that will be employed throughout the cultural resources process; 6) detail what steps will be taken in the event that significant unanticipated archaeological remains, including, but not limited to, fragmentary or in situ human remains, are uncovered; 7) outline the laboratory process to be followed, if required; and 8) provide all necessary services related to the cultural resource process during the overall project.

The archaeological tasks required as part of the project based upon the Scope of Work provided by Arista include:

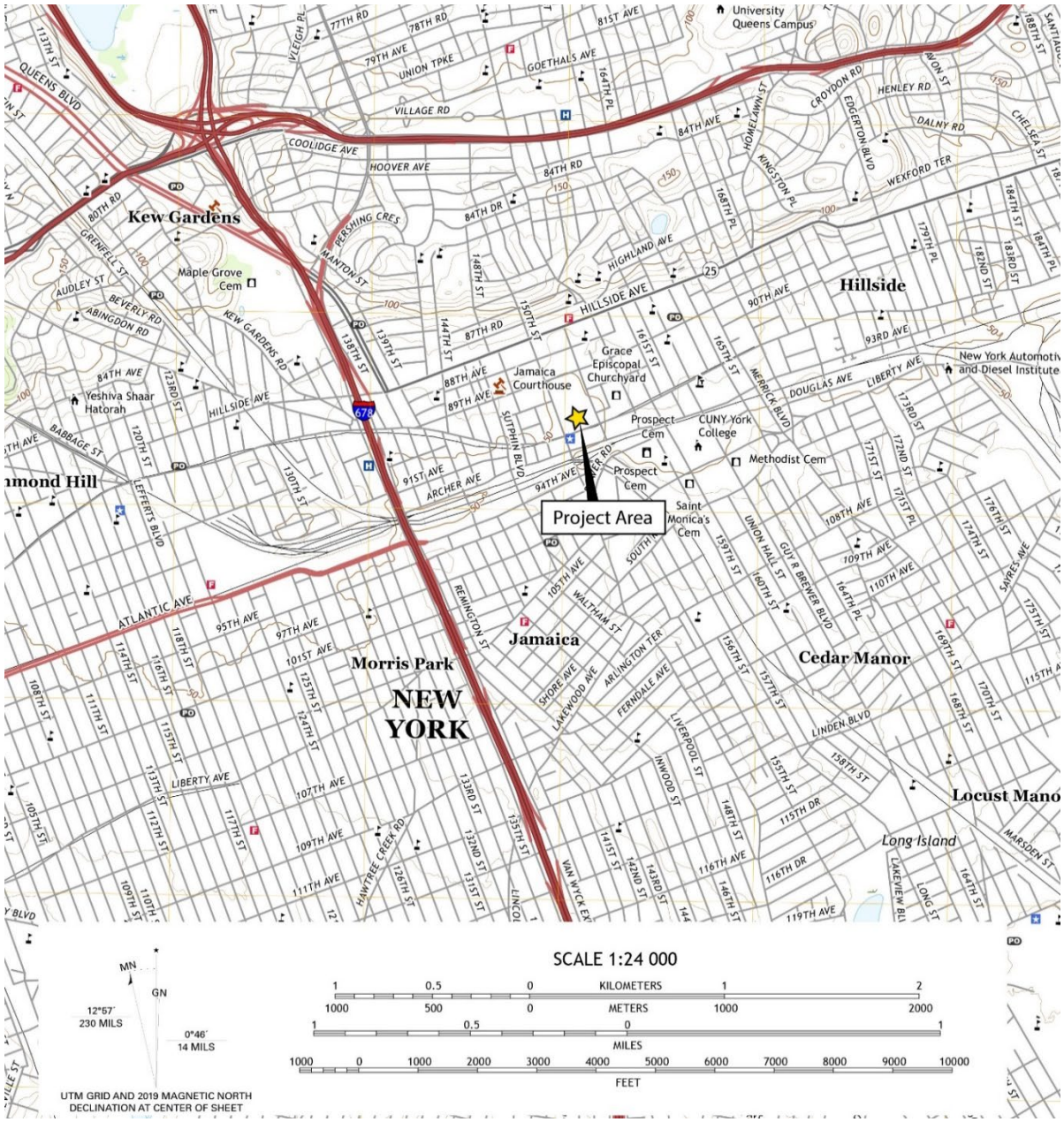
1. Preparation and development of an Archaeological Work Plan that includes Monitoring and Unanticipated Discoveries, and a Human Remains Plan and Protocol based on the Scope of Work provided by Arista and NYC PARKS.
2. Outline procedures and protocols to be followed by the project if significant cultural material or human remains are exposed during the course of the project, including in areas where archaeological monitoring is not required. (Note - the Human Remains Protocol Plan pertains to any and all areas where human remains may be exposed.)
3. Conduct Archaeological Monitoring and/or Testing within archaeologically sensitive areas, as determined by previous Phase IAs and Phase IB work in the area.
4. Conduct laboratory analysis of any material remains recovered.
5. Produce a draft and final report of the results of field and laboratory work.
6. Based on the results of what is uncovered in the field, develop either Phase II or Phase III Mitigation Plans, if needed.
7. Provide all additional related cultural resource management services that may arise, including participation in project delivery team meetings and consultation with review agencies and interested parties.

PROJECT DESCRIPTION

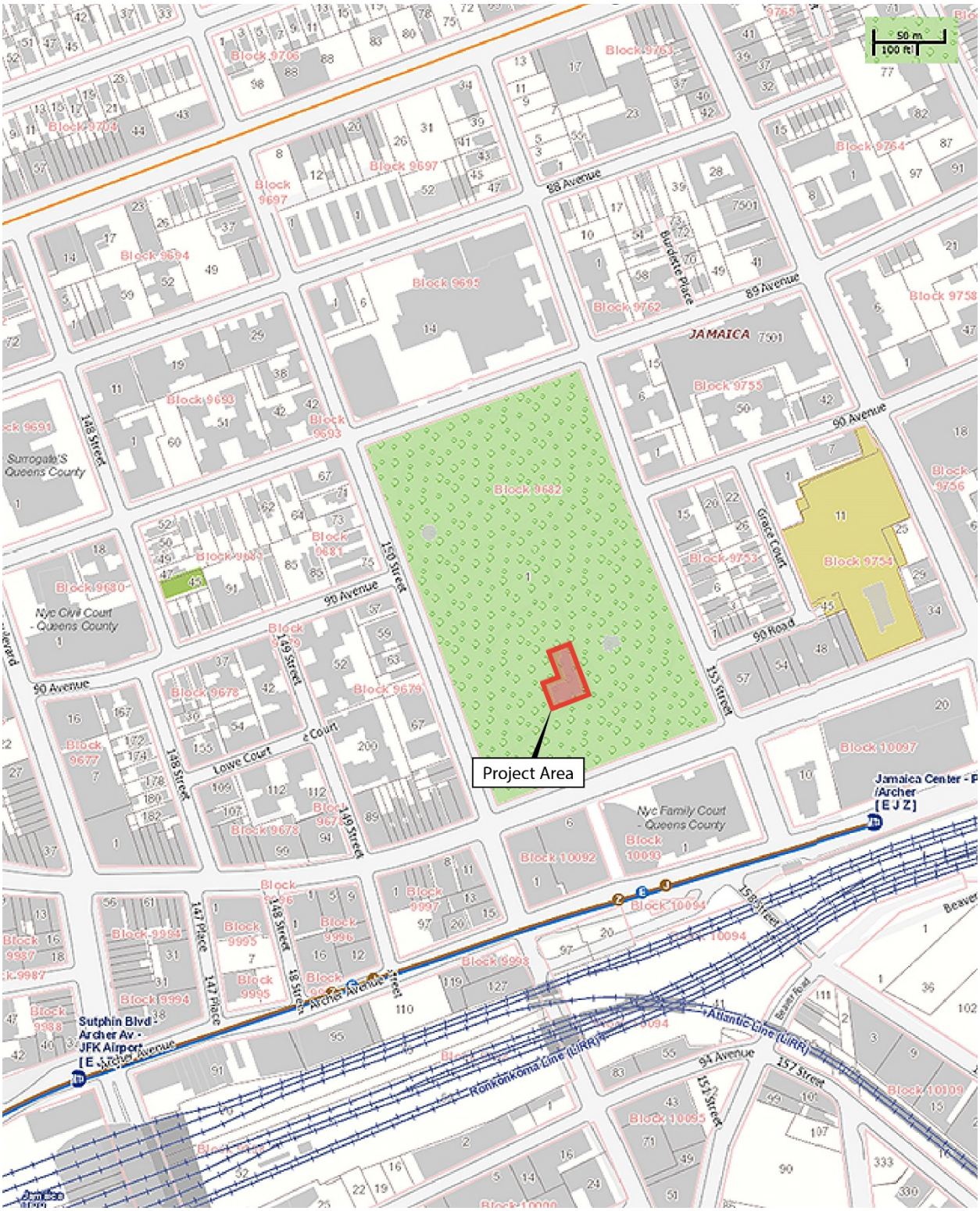
The Project Area is located within Rufus King Park in Jamaica, Queens, around the King Manor Museum, which operates within the historic King Manor, also known as the Rufus King House (Maps 01 - 02). The Park is bounded by 150th Street to the west, 89th Avenue to the north, 153rd Street to the east, and Jamaica Avenue to the south. The King Manor Museum is located in the southern portion of the park.

Project plans are focused on the northwest portion of King Manor to update the building's HVAC system. Project tasks include the removal of existing condensing units, capping existing refrigeration piping in the basement crawl space and summer kitchen, and installation of new refrigeration lines. Earthmoving activities include excavation of an approximately 85' long trench running parallel to and west of an existing bluestone path at the northwest side of the manor. Excavation is planned to create a 3' wide, 4' deep trench for installation of new refrigeration piping

and require removal and reinstallation of a small area of existing bluestone pavers and 6’ of wooden decking (see Appendix A – Project Work Plans for detailed drawings of these work locations in relation to the extant structure).



Map 01: Project Area on U.S. Geological Services 7.5 Minute Topographic Map, Jamaica Quad (USGS 2019).



Map 02: Project Area across the footprint of King Manor Museum within Rufus King Park (OASISnyc 2019).

CULTURAL RESOURCE REGULATIONS

The proposed work will be conducted in accordance with the NYC LPC's Guidelines for Archaeological Work in New York City (LPC 2018). A copy of the NYC LPC Guidelines for Archaeological Work in New York City (NYC LPC 2018) will be provided to NYC PARKS and Arista for reference.

II. ENVIRONMENTAL AND HISTORIC CONTEXT

The APE is located in the Jamaica neighborhood of Queens, New York within Rufus King Park, in the direct vicinity of the King Manor Museum, the site of the original King Manor. There is some documentary evidence that an inn or farmhouse was present in the early 1700s, and a parsonage around 1730, on the site where the King Manor now stands (Cotz 1984). Rufus King established his home here on land purchased by 1805 (Historic Sites Research 1986). King was a member of the Continental Congress, the Philadelphia Convention and a signer of the U.S. Constitution in 1787. His original purchase included 59 acres of land, expanded to 90 acres. An 1813 map shows three outbuildings on the property, which was mainly used as farmland. Two of these structures were located about 475' north of the rear of the manor (Cotz 1984: 9).

In 1827, upon Rufus King's death, the estate and farm passed to his son, John King. By 1842, new buildings had been built north and east of the manor house. There was steady decline of the farm after this time. 1873 maps show no additional structures, and by 1895-1897 only one outbuilding was still standing (Cotz 1984: 11). Cornelia King, John's daughter, was the last King relative to live on the property until her death in 1896.

In 1897 the manor house and surrounding 11.5 acres was sold to the Village of Jamaica (Historic Sites Research 1986). In 1898, Jamaica was incorporated as part of the City of New York, and the property came under the supervision of the NYC Parks. The grounds which are now known as Rufus King Park are managed by NYC Parks, while the manor house is managed by the King Manor Association, formed in 1900 (Cotz 1984).

PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS

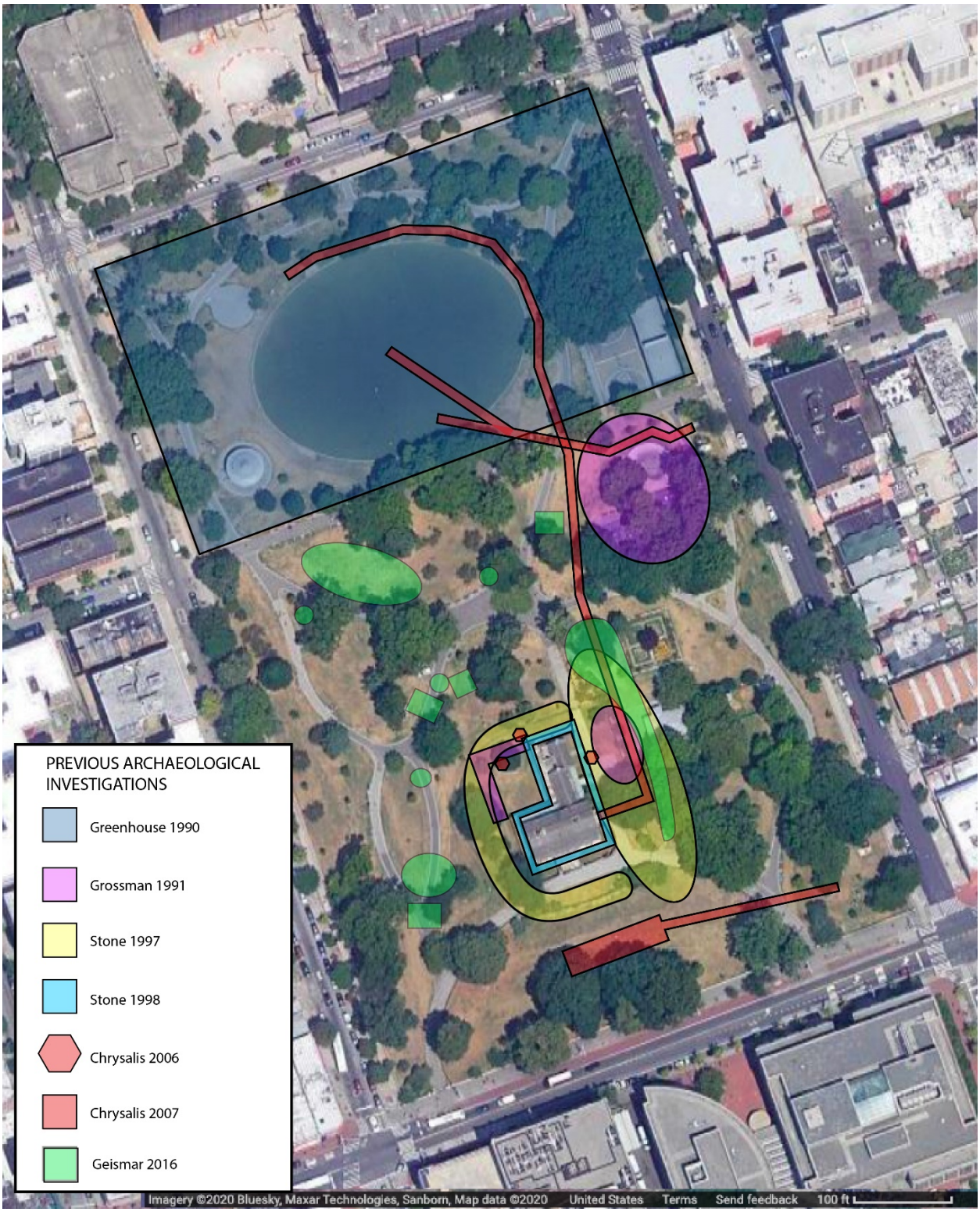
Previous documentary assessments and archaeological surveys conducted in Rufus King Park determined the area around the historic King Manor has archaeological sensitivity for materials and architectural features related to the manor and its late nineteenth century conversion to a park. These reports indicate grading and construction for the manor and park likely impacted any potential for encountering significant precontact archaeological resources. A table listing the previous archaeological surveys completed in the park and their recommendations is included below, followed by a general map of their testing locations (Map 03).

Table 1: Summary of previous investigations around Rufus King Park.

YEAR	AUTHOR	TITLE	RELEVANT FINDINGS
1984	Cotz, Jo Ann E.	Archaeological Sensitivity Model for Rufus King Manor and Park, Jamaica, Borough of Queens, NYC	No verification of pre-contact period occupation but some potential based on location. Possible English military outpost in APE based on 1666 map. Rufus King Manor and associated outbuildings were located within park, probably remain. Archaeological excavation recommended if work isn't limited to existing utilities.
1986	Historic Sites Research	Cultural Resource Study of a tract at the northwest corner of 89th Avenue and Parson's Boulevard, Jamaica, Queens, New York City: CEQR No.: 86-322Q	No Native American sites recorded in the APE, low probability of precontact resources. APE falls in the NE corner of the Rufus King Estate, and subsequent outbuildings of the main manor would be present, although that part of the property used for agricultural orchards. Frame houses were built in the area in early 1900s and leveled in the 1980s. Believe little probability of disturbing archaeological resources. No further study recommended.
1990	Greenhouse Consultants	Phase IB Archaeological Survey Report on the Northern Portion of Rufus King Park, Jamaica Queens County, New York	Shovel tests pits recommended for all of the park, wherever subsurface impacts for park reconstruction had been proposed. 57 STPs dug, and 765 objects recovered. No pre-contact artifacts present. 1/3 of objects collected were glass, most associated with drinking bottles from park use. Few ceramics, 2 coins recovered. Conclusions: no features and few artifacts dating from period when the park was an active farmstead, most likely due to the park previously being graded. No potentially significant pre-contact or contact period resources are present.
1991	Grossman, Joel	Archaeological Tests and Artifact Analysis Results from Rufus King Park, Jamaica, Queens, New York.	Archaeological testing including probes, test pits, and test trenches in 4 study areas, resulting in the collection of 1840 artifacts, 241 of which were diagnostic and datable to the 18th and 19th centuries. Some structural remains relating to the Manor house and associated outbuildings were also disturbed. Data recovery to mitigate loss of cultural information is recommended for areas A and C, but not for B and D of the project.

YEAR	AUTHOR	TITLE	RELEVANT FINDINGS
1997	Stone, Linda	Report on Archaeological Testing in Advance of Improvement Associated with the Fence Project at Rufus King Park, Jamaica Avenue at 150-153 Streets, Jamaica, Queens, New York (Q023-295)	Probing, shovel testing, and monitoring undertaken during park improvements. Mortared brick feature likely associated with the Manor's summer kitchen was disturbed during excavation. Several flowerpot remnants also uncovered during excavation. Continued archaeological testing is suggested if work is to be done in the vicinity of the manor house.
1998	Stone, Linda	Report on Archaeological Resting in Advance of Improvement Associated with the Drainage and Termite Project at Rufus King Park, Jamaica Avenue at 150-153 Streets, Jamaica, Queens, New York (Q023-195) and (CNYG 497)	Archaeological testing and excavation in the form of shovel tests, units, and monitoring undertaken related to improvements around drainage and termite control within Rufus King Park. Numerous artifacts were recovered, as well as the excavation of 10 archaeological features, many likely associated with the Manor's summer kitchen. These extensive findings lead to the conclusion that more archaeological material and features remain recoverable within other locations of the park. Recommended that other archaeological investigations be carried out if more improvement work is to take place.
2006	Chrysalis Archaeological Consultants	Rufus King Manor, Rufus King Park – Tree Placement Monitoring Project, Queens, New York	Archaeological monitoring occurred prior to instillation of trees around Rufus King Manor. Wine/liquor bottle fragments and ceramic sherds recovered. Several brick and stone features were also disturbed during excavation. Continuing archaeological monitoring for the area is recommended.
2007	Chrysalis Archaeological Consultants	Rufus King Park Reconstruction Project-Phase IB Field Archaeological Monitoring Project, Jamaica, Queens (Queens County), New York – Project Number: 023-205M	Archaeological monitoring during infrastructure upgrades to the park. Although a few artifacts were recovered, including a pharmaceutical bottle, nails, and some ceramic sherds, the area in which the upgrades took place were found to be heavily disturbed, and would not reveal significant cultural information regarding the site. No furtherer cultural resource monitoring or testing is recommended for this APE.

YEAR	AUTHOR	TITLE	RELEVANT FINDINGS
2016	Geismar, Joan	Reconstruction of the Gazebo and Construction of Asphalt Pathways in Rufus King Park, Borough of Queens, Archaeological Monitoring and Testing, Parks Contract: Q023-112M	Archaeological monitoring of tree removals and transportations across the west side of the park, excavation for three new catch basins at the west and northeast ides of the park, and fence post holes along 90th Ave. Identified one dry-laid stone privy pit dating c.1897 and filled in first decades of 1900s, likely when comfort station built. No excavation in or around the manor house.



Map 03: General location map of previous archaeological investigations at Rufus King Park (Google 2020).

Historical resources that might be encountered within the APE include:

1. Eighteenth and nineteenth century household goods associated with land use predating the King Manor or usage of the King Manor house and its associated outbuildings.
2. Resources associated with nineteenth century residential or farming structures including trash deposits and back yard shaft features.
3. Architectural remnants of early farm buildings, associated refuse deposits, or support structures for the manor such as wells, privies, kitchen areas or cisterns.

III. RESEARCH DESIGN

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. In this instance, resources likely to be found within the project area household goods or architectural elements from support structures related to the King Manor or farming operations on the manor grounds.

Project impacts will immediately surround the extant King Manor Museum in the form of 85' of trenching around the northwest manor perimeter. As this work will all be conducted in an archaeologically sensitive area over an anticipated three-day excavation timeframe, preconstruction archaeological testing would prove to be both time consuming and limited in its ability to expose a representative extent of the sensitive APE. Archaeological Monitoring will be employed to oversee all earthmoving and fully document the stratigraphy of and any extant archaeological resources in the APE.

IV. PROJECT METHODS

The following sets forth the plan for Phase IB Archaeological Monitoring and investigation for the project. It describes additional mitigation measures that will be undertaken should archaeological resources be encountered during the archaeological investigations, including artifact analysis such as laboratory work, written reports, and further documentary research, if necessary.

It should be noted that the determination for archaeological monitoring was made by the NYC Parks as defined in the Scope of Work for the project (Appendix B).

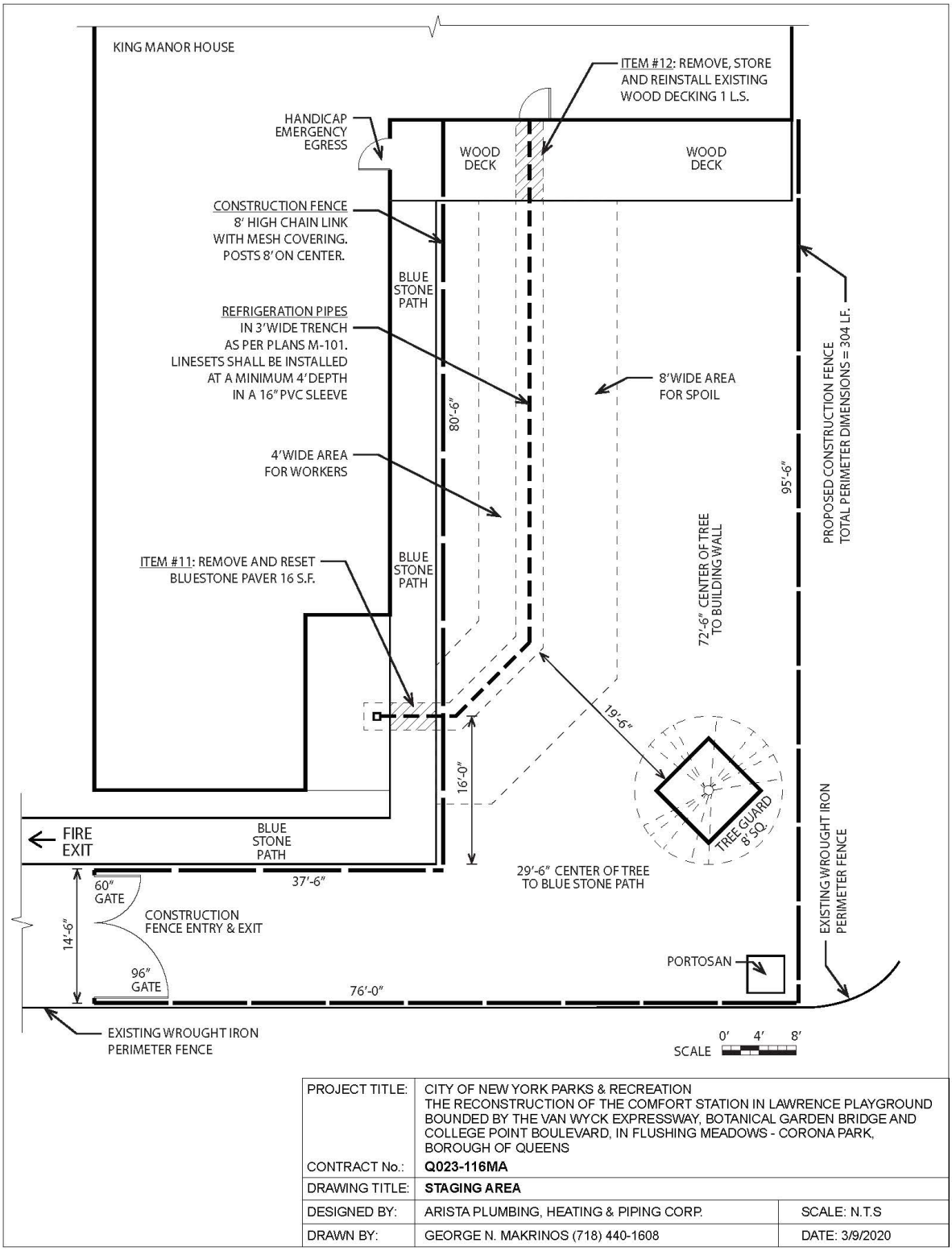
ARCHAEOLOGICAL MONITORING

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). It is the "archaeological supervision of subsurface construction work to ensure that archaeological resources are not disturbed" (LPC 2018:79).

All monitoring activities will follow the NYC LPC's Guidelines for Archaeological Work in New York City (LPC 2018). 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 as appropriate.

Archaeological Monitoring will occur throughout the designated trench that Arista's Scope of Work calls for, including during the removal of any extant pavers or decking that overlay the trenching area (Map 04). Monitoring will occur until the final construction depths are reached in all archaeologically sensitive areas and/or if the archaeological monitor determines the excavation area to have reached sterile soil (with regard to potential for archaeological deposits and resources). Throughout the course of the project the archaeologist(s) will be permitted to temporarily halt construction excavation at regular intervals to examine the soil, photograph and draw stratigraphic profiles as per the NYC LPC Archaeological Guidelines (LPC 2018). It is anticipated that this trench will only require up to three days to excavate.

An archaeological monitor is required for each active excavation area within the APE. If excavations are occurring simultaneously in more than one archaeologically sensitive 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.



PROJECT TITLE:	CITY OF NEW YORK PARKS & RECREATION THE RECONSTRUCTION OF THE COMFORT STATION IN LAWRENCE PLAYGROUND BOUNDED BY THE VAN WYCK EXPRESSWAY, BOTANICAL GARDEN BRIDGE AND COLLEGE POINT BOULEVARD, IN FLUSHING MEADOWS - CORONA PARK, BOROUGH OF QUEENS	
CONTRACT No.:	**Q023-116MA**	
DRAWING TITLE:	**STAGING AREA**	
DESIGNED BY:	ARISTA PLUMBING, HEATING & PIPING CORP.	SCALE: N.T.S
DRAWN BY:	GEORGE N. MAKRINOS (718) 440-1608	DATE: 3/9/2020

Map 04: Area of Archaeological Monitoring.

In the event that any archaeological resources are encountered, the archaeologist(s) will halt construction work and inform NYC LPC of the potential archaeological deposits or resources via email. NYC LPC may request the discovery be documented in a Memorandum for the Record (MFR) and may also wish to visit the site. No construction work will occur in the area of the potential discovery until NYC LPC have responded in writing to acknowledge they have been informed of the discovery and concur that the archaeologist will move forward with the assessment of the potential resources.

The archaeologist will then be allowed time for photography, drawing of plan views and profiles, screening of removed soil 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 for each discovery. Additional documentary research may be also necessary in order to further understand the potential significance of deposits before a determination by NYC LPC can be made.

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 48-hour notification period for staffing changes, to monitor this additional area while work documenting the cultural resource occurs.

If the resources encountered are deemed significant, it will be necessary to further consult with NYC LPC. All consultation will be in writing. Submissions to NYC LPC will be made via email.

If the resources encountered do not appear potentially significant, the on-site professional archaeologist will notify NYC LPC in writing. Both agencies must respond, in writing before construction may resume. Upon concurrence from NYC LPC, the archaeologist will notify the Arista RE and appropriate construction personnel.

GENERAL METHODOLOGY

During all excavation, the construction contractor will aid the archaeological team, as needed. This may include, but is not limited to, meeting all OSHA regulations, pumping water from excavation areas, providing additional shoring to trenches, and machine 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 and observe soils and stratigraphy within the excavation area.

Although not anticipated, if excavation depths extend below 5 feet (1.5 meters), the archaeologist will observe the excavation from the ground level and may request specific soil deposits be temporarily piled beside the excavation in order to closely examine them. It may be necessary to temporarily halt excavation to enter the construction excavation area in order to observe the deeper deposits.

If any archaeological deposits are encountered NYC LPC must be notified in writing (LPC 2018:C4). All work must halt in the area of the discovery until a response is received from YC LPC. Following confirmation from the NYC LPC, professional standards for excavation, screening, recording of features and stratigraphy, labeling, mapping, photographing, and cataloging will be applied. If intact deposits are identified below 1.5 meters (5 feet), all health and safety concerns will be addressed prior to the archaeologists entering the confined space to examine the deposits.

It is noted that NYC LPC may request a discovery specific work plan for each discovery. If required, the archaeologist will provide an estimate of the time needed to develop said discovery specific work plan. The discovery specific work plan will be submitted the NYC LPC for approval prior to being implemented. Upon approval, in writing from NYC LPC, the archaeologist will proceed. No work by the contractor may occur in the area until approval is received, in writing, from NYC LPC.

Documentation of archaeological deposits may require soil sampling or the hand excavation of features, cultural layers or test units. Screening of soils (i.e. sample percentage) from the excavation will be based upon the judgment of the archaeologist based on the specific deposit. Soils will be screened through ¼ inch-mesh screen and excavated by natural strata or in pre-determined controlled levels. Soils from both the trenches and units 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 depth and location of each recovered artifact, will be created. A permanent datum will be established to record depths of any archaeological deposits or features. Soil profiles, cultural features, etc. will be described, photographed in digital format and illustrated by measured drawings in Imperial and metric 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. Materials remains may require temporary storage prior to transportation to Chrysalis' laboratory facility.

Permanent site datums will be utilized in recording archaeological deposits or features. Every effort will be made to use the North American Datum 1983-NAV83 with a vertical datum of NAVD-88. However, it is noted that construction circumstances may require in-field adjustments to recording methodologies (for example, a deposit or feature located in an extremely constrained space that limits access). General excavation trench monitoring results or discussion of utilities that do not directly refer to archaeological deposits or features may rely on below ground surface measurements so as not to impede the construction progress and schedule. Additionally, below surface measurements are commonly referenced by the construction contractor and utilized in general documentation of the excavation work.

DETERMINATION OF SIGNIFICANCE

If upon further investigation the encountered archaeological resources are determined 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, Arista, NYC PARKS and NYC LPC.

If any NR-eligible cultural resources are identified, all work will cease in the area of the discovery pending consultation with NYC LPC and until NR eligibility evaluation (Phase II) and, if necessary, mitigation through data recovery (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 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.

The specific time required for the documentation effort will be coordinated with the project team. The construction contractor should plan, schedule, and execute their work in a manner such that work stoppages will not result in a total shutdown of any construction work.

Upon completion of the Phase II or Phase III work and receipt of concurrence and approval from NYC LPC, the archaeologist will notify the construction contractor/manager that work may resume.

LARGE SCALE DISCOVERIES

In the event of a significant large-scale discovery, defined as a significant discovery containing a large volume of materials and/or features that will require additional archaeological excavation for data recovery, all project shareholders including Arista, 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 or Phase III 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:

1. Chrysalis will notify Arista and NYC PARKS. Chrysalis will also notify NYC LPC.

2. A meeting will be held to discuss how to best address the discovery with. If NYC LPC determines that extensive excavation and recovery are required (i.e. Phase II or Phase III Mitigation), Chrysalis will create a SOW for the specific discovery that includes necessary tasks, time and budget, within ten business days. The SOW will be provided to Arista and NYC PARKS for approval.

3. Upon written approval from Arista, 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.

HUMAN REMAINS

Although the likelihood of uncovering human remains associated with this historic area is minimal, there remains a possibility that the project may encounter human remains.

Special consideration and care is required if 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, NY SHPO's (Appendix A), 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 as defined by Section 3001 of the Native American Graves Protection and Repatriation Act (NAGPRA) 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 section of this document.

ARTIFACT ANALYSIS AND CURATION

All artifacts will be cleaned, catalogued and stored in archival safe materials. Pre-contact and historic artifacts will be analyzed in terms of material type, form, function, and temporal attributes (e.g., Noël Hume 1969, South 1977, Miller 1991). Detailed 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.

Depending on the materials recovered, and in consultation with NYC LPC, a detailed Laboratory Analysis Work Plan may be required. This document would detail the artifact analysis to be undertaken, including specialized analysis by material culture specialists, and recommended specialized conservation. This Laboratory Analysis Work Plan will be submitted to NYC LPC for approval before work can begin. A separate cost estimate will be provided to Arista and NYC PARKS.

Any artifact collection removed from the project site will be the property of the project site owner, in accordance with current NYC LPC guidelines. It is the responsibility of NYC PARKS to arrange for the long-term curation of the collection in an appropriate facility. The New York City Archaeological Repository (NYCAR) may accept significant and representative materials recovered from the site for curation. NYC LPC cannot make this determination until the analysis and report are completed.

Any significant deposits that will be curated at the NYCAR will be prepared in accordance with NYC LPC's curation guidelines (NYC LPC 2018). In accordance with NYC LPC Guidelines all artifacts must be catalogued in a database, to be included in the final report and labelled with a catalog number (see NYC LPC 2018 Section C8 for requirements regarding Archaeological Collections).

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 according to the standards of the receiving repository or according to current archaeological standards.

As noted, NYC LPC cannot make a determination if a collection will be accepted for curation at NYCAR until the analysis and report are complete. As a result, the artifact collection cannot be processed for final curation (storage) until a decision regarding the final receiving repository or disposition of the materials is known. NYC PARKS and Arista should note that this must be factored into the project close-out date.

Arista and NYC PARKS will arrange for the transportation of the collection from Chrysalis' laboratory facility to the repository.

REPORT RESULTS

A report documenting the results of the monitoring, analysis, any background and/or documentary research, and any other field efforts will be prepared according to NYC LPC standards. This report will incorporate the artifact analysis and address research based on the analysis. This may require additional documentary research. In addition, the report will include recommendations regarding the potential National Register eligibility of any artifact deposits and/or features and recommendations for additional investigation or mitigation, as necessary.

As part of the final report process all potentially significant archaeological resources (artifact deposits or features) will be submitted via CRIS as an archaeological site so that it may be assigned a Unique Site Number (USN).

A work plan and outline, including research design and questions, and final report outline, will be developed at the end of fieldwork when the initial significance of the cultural resources can be assessed. This plan, including an estimated schedule, will be submitted to NYC LPC for approval before work can commence. A separate cost estimate will be provided to Arista and NYC PARKS.

A digital, preliminary draft report will be submitted to Arista and NYC PARKS for initial review. Upon approval, the formal draft report will be submitted digitally to NYC LPC. Upon approval of NYC LPC, a final version will be provided digitally to NYC LPC, NYC PARKS and Arista. In addition, NYC LPC will receive one printed copy of the final report.

V. 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 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 Arista RE will coordinate with the professional archaeologist for implementation of the Unanticipated Discoveries Plan. The Arista RE will obtain, review, and file on site this Unanticipated Discoveries Plan. The Arista 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 Arista RE include (but are not limited to):

1. Any human remains including coffins, burial vaults or other evidence of burials.

2. Any recognizable, potential concentrations of artifacts, features, faunal material or other evidence of human occupation.

3. 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.

In the event that previously unanticipated archaeological resources are found during construction in any portion of the project site, the following procedures will be followed:

1. If an unanticipated discovery of artifacts or historic structural remains, as defined above, occurs during construction, all work will immediately stop in the area of the find to protect the integrity of the find. Work may not resume in the area of the find until the archaeologist and the Arista RE has granted clearance.

2. The construction foreman will immediately notify the designated on-site Arista RE of the find. The Arista 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 Arista 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 Arista 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 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 Arista RE to direct the contractor to 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 Arista RE has granted clearance, after receiving word from the archaeologist that the archaeological resource has been fully examined.

6. The archaeologist will then promptly notify the Arista RE and NYC PARKS of the preliminary significance, if any, of the find.

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

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

1. The archaeologist will promptly notify Arista, NYC PARKS and NYC LPC of the find. This notification will explain why the archaeologist believes the resource 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 area of potential effect.

2. The archaeologist will conduct a more detailed assessment of the material remains significance and the potential effect of construction.

3. The archaeologist will document the find in accordance with the guidelines presented in the Archaeological Plan/Protocol.

4. Arista 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 more of the resource, then the archaeologist, Arista 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 other parties
- Preparation of a mitigation plan for approval by NYC LPC
- Implementation of the mitigation plan
- Approval to resume construction following 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 Arista RE, NYC PARKS and NYC LPC and will request approval to resume construction, subject to any further mitigation that may be required by NYC LPC.

7. The Arista RE will notify the Construction Contractor of clearance to resume work.

VI. HUMAN REMAINS PROTOCOL

Special consideration and care is required if 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, NY SHPO's (Appendix A), 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 as defined by Section 3001 of the Native American Graves Protection and Repatriation Act (NAGPRA) will be taken into consideration – providing they do not conflict with the City of New York statute regulations.

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 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. 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 Arista 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

- If suspected human remains are exposed, the archaeologist in conjunction with the Arista RE and/or the on-site Construction Foreman or Supervisor will immediately halt all work in the area of the discovery.

- 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 Arista 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 Arista RE and/or the on-site Construction Foreman or Supervisor will cover and protect the discovery from any further disturbance.

- The archaeologist (once on site) will enter the construction area to inspect the discovery. Chrysalis' Forensic Anthropologist may be called to site to make a determination if the skeletal remains are human or not.

- If the identified skeletal material is not human, the archaeologist will inform the Arista RE and/or the on-site Construction Foreman or Supervisor that work may continue.

- If the skeletal material is human, the archaeologist will inform the Arista 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 Arista RE will notify the NYC PARKS. Chrysalis will notify NYC LPC.

2. The Arista RE will immediately notify the New York City Police Department (NYPD) and the archaeologist will notify the Medical Examiner's office (OME) of the find. The project will cooperate with the OME and NYPD, providing access to the site if required.

3. Once the NYPD and OME have determined they have no concerns regarding the discovery[1], the Arista 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.

4. Chrysalis will draft a Memorandum to LPC detailing the discovery, including recommendations as to how to proceed.

5. It is the preference of NYC LPC that human remains remain in place and not be disturbed, if possible. Due to the nature and location of the project, it is assumed that removal of the human remains may be necessary. Permits from the City of New York Department of Health and Mental Hygiene (DOH) are necessary for the disinterment and disposition of any human remains. Permits are required for intact burials, partial burials, and fragmentary 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 Arista RE will notify any parties, including next of kin, if known, as directed by the NYC LPC or as indicated by City/State law.

[1] NYC Department of Health requires that this be obtained in writing.

8. Once the proper permits have been obtained, the archaeological team will proceed as appropriate depending on the context of the discovery and based on consultation with NYC LPC.

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 begin 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 remains are present.

3. If no further human remains are present, the archaeologist will notify the Arista RE and/or the on-site Construction Foreman of Supervisor that work may continue.

Protocol for Partial Burials or Intact and in situ Human Remains

If it is determined that intact interments are present and may be disturbed by continuing construction, the archaeologist will consult with the 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 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 to be disinterred or any burials to remain *in situ* are appropriately protected, the archaeologist and the Arista RE will inform the project that construction may resume.

All human remains will be brought the Chrysalis' laboratory facility in Brooklyn, NY. Final disposition of the remains following conclusion of the project will be arranged with the project.

VII. ARCHAEOLOGICAL SCHEDULE AND PROJECT MANAGEMENT

As this is a monitoring project, the time to complete field work is dependent upon the schedule of the construction contractor. Chrysalis has no input or control over the schedule of the contractor.

It is noted that:

1. Chrysalis needs a minimum of 72 hours' notice to schedule personnel to be available for fieldwork.
2. Chrysalis requires 24 hours' notice for cancellation of personnel to monitor excavation work.

Calendar dates cannot be provided for the completion of field work. Additionally, time and schedule estimates cannot be made for laboratory work or report writing, as this is dependent upon whether the project encounters any archaeological deposits or other resources. A proposed schedule for laboratory work and final report production will be provided following completion of archaeological monitoring.

It is anticipated by the construction contractor that the total excavation time should not exceed three days for the trench determined by NYC PARKS for archaeological monitoring.

VIII. COMMUNICATION PLAN

Parties to be notified and consulted are noted throughout the AWP. Contact information for all parties is listed below. All formal communication will be in writing, via email, and follow-up with phone calls, if necessary and/or time constraint. Chrysalis will provide the team with a weekly email update regarding the monitoring project.

Chrysalis Archaeology

Alyssa Loorya, Ph.D., R.P.A., Principal Investigator
Chrysalis Archaeological Consultants, Inc.
4110 Quentin Road
Brooklyn, New York 11234-4322
Phone: (718) 645-3962
Cell: (347) 922-5581
Email: aloorya@chrysalisarchaeology.com

Arista Plumbing, Heating and Piping Corp.

George N. Makrinos
Arista PH&P Corp.
590 78th Street
Brooklyn, NY 11209
Phone: (718) 440-1608
Email: aristaplumbing@gmail.com

City of New York – Department of Parks and Recreation

Hicham Osman
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: (347) 672-2103
Email: hicham.osman@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
Phone: (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
5th Precinct
19 Elizabeth Street
New York, NY, 10014
(212) 334-0711

IX. REFERENCES

Chrysalis Archaeological Consultants

2006 Rufus King Manor, Rufus King Park Tree Placement Monitoring Project, Queens, New York.

2007 Rufus King Park Reconstruction Project- Phase IB Field Archaeological Monitoring Project, Jamaica, Queens (Queens County), New York- Project Number: 023-205M.

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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. Department of Design and Construction NYCLPC # DOT/HWMWTCA7E

Cotz, Jo Anne E. – Archaeological Research Consultants, Inc.

1984 Archaeological Sensitivity Model for the Rufus King Manor & Park Jamaica, Borough of Queens, NYC.

Geismar, Joan

2016 Reconstruction of the Gazebo and Construction of Asphalt Pathways in Rufus King Park, Borough of Queens, Archaeological Monitoring and Testing, Parks Contract: Q023-112M Report on file with the City of New York – Landmarks Preservation Commission. New York, New York.

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1991 Archaeological Tests and Artifact Analysis Results from Rufus King Park, Jamaica, Queens, New York.

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1986 Cultural Resource Study of a Tract at the Northwest Corner of 89th Avenue and Parson's Boulevard Jamaica, Queens, New York City.

New York Archaeological Council.

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

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2018 State Historic Preservation Office/New York State Office of Parks, Recreation and Historic Preservation Human Remains Discovery Protocol.

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1990 Phase IB Archaeological Survey Report on the Northern Portion of Rufus King Park, Jamaica Queens County, New York.

Stone, Linda
1997 Report on Archaeological Testing in Advance of Improvements Associated with the Fence Project at Rufus King Park Jamaica Avenue at 150-153 Streets Jamaica, Queens, New York Contract #Q023-295.

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Appendix B:
Artifact Database

APPENDIX B - Artifact Database						
Chrysalis Archaeology - Rufus King Park - HVAC Project 2020						
FS #	**Trench**	**Section**	**Stratum**	**Contents**	**FS Total Count**	**Date**
1	1	1	II	1 plain porcelain body sherd, 1 polychrome painted porcelain body sherd w/ floral motif, 1 plain whiteware rim sherd	3	7/29/2020
2	1	7	III	1 plain white granite chamber pot, mostly intact	1	8/18/2020
				Project Total Count:	4	

Appendix C:
Personnel Summary

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

Ms. Loorya is founder and president of Chrysalis Archaeological Consultants. For more than 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.

SELECTED PROJECTS

New York City:
Brooklyn Navy Yard (Steiner Studio) – Phase IB (2017-2018)
Coney Island Utility Upgrade – Phase IB/Monitoring (2017-2018)
Downtown Brooklyn Reconstruction – Phase IB/Monitoring (2012)
Elias Hubbard House – Phase IB (2001)
Hendrick I. Lott House – Phase IB/Monitoring (2004, 2013)
Marine Park – Phase IB/Monitoring (1997, 2003)
79 Christopher Street Burial Vault Project – Phase II (2008)
Chambers Street – Phase IB (2005)
City Hall Reconstruction Project – Phase IB and II (2010-2015)
Myrtle Avenue - Ingersol Senior Housing—Phase I/II (2016-2020)
Fulton Street Reconstruction – Phase I and II (2009-2018)
High Bridge Park – Phase IB/Monitoring (2014-2015)
Peck Slip – Phase I and II (2011-2018)
South, South Street – Phase IB/Monitoring (2017-2018)
Stone Street – Phase IB/Monitoring (1998)
Wall Street Water Main Project – Phase I (2007-2008)
Washington Square Park – Phase IB/Monitoring (2015-2020)
Worth Street—Phase I/Monitoring (2018 to 2020)
Bartow-Pell Mansion – Phase IB/Monitoring (2008, 2012)
Newtown Playground – Phase IB/Monitoring (2018-2019)
John Bowne House – Phase IB/Monitoring (2016)

Greater New York Region:
Hofstra University – Historical Research Report (2015-2017)
Fire Island National Seashore – Phase IB/Monitoring (2014)
Sharswood, Philadelphia Housing Authority – Phase IA (2018)
Tappan Zee Bridge Replacement – Phase I (2014-2016)

Over 100 publications and conference papers in CRM and popular magazines published. For full listing see: www.chrysalisarchaeology.com

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 Archaeologists

10-Hour OSHA Construction Safety

30-Hour OSHA Construction Safety

40-Hour OSHA HAZWOPER

SWAC - Secure Worker Access Consortium

PROFESSIONAL EXPERIENCE

1995-2001: Brooklyn College Archaeological Research Center

2001-Present: Chrysalis Archaeological Consultants, President and Principal Investigator

2006-2010: URS Corporation, Principal Investigator

2007-2010: Gray & Pape, Supervisory Consultant

CONTACT INFORMATION

aloorya@chrysalisarchaeology.com

Alexander Agran|

Field Director

Mr. Agran has twelve years of experience working in all phases of archaeological excavation and reporting. His specializations include both prehistoric and historic contexts in the Middle Atlantic, New England, and Midwest regions. He has extensive knowledge of laboratory analysis and archival preparation techniques for prehistoric and historic artifacts and has experience with in-field GPS devices.

SELECTED PROJECT EXPERIENCE

Worth Street Reconstruction – Phase IB (2018-2020)

New York City, NY

Monitored excavation during the upgrading of water, gas, and other utilities along Worth St in lower Manhattan, in the vicinity of the 18th century African Burial Ground and 19th century Five Points.

Washington Square Park Water Mains – Phase IB (2015-2018)

Manhattan, NY

Oversaw excavations and conducted excavation of human remains around Washington Square Park and its surrounding area in order to replace and upgrade water main, sewer, and additional utility services.

The High Bridge Rehabilitation – Phase IB (2012-2014)

New York City, NY and Bronx, NY

Under hazmat conditions, conducted monitoring of excavation for new footings as well as the removal of toxic lead dust from within the bridge, mapping and architectural investigation of the 19th century bridge spanning the East River.

I-95 /Girard Interchange Project – Phase II, Phase III (2009-2011)

Philadelphia, PA

Performed extensive excavation across three miles of 18th and 19th century residential and commercial areas in one of Philadelphia's first communities. Conducted artifact analysis of historic and prehistoric materials as well as floatation analysis.

Rockies Express Pipeline – Phase III (2008)

Pittsfield, IL

Excavated Phase III prehistoric upland occupation site, including structural, hearth, storage, and tool production areas. Analysis included tool microanalysis and storage vessel lipid testing to assess local faunal resources utilized for food and hides.

AREAS OF EXPERTISE

Archaeological Survey and Excavation

Construction Monitoring

Prehistoric Artifact Analysis

Laboratory Preparation

EDUCATION

B.A., Anthropology: 2008, Temple University

CERTIFICATIONS

30-Hour OSHA Construction Safety Training (2020)

8-Hour Annual HAZWOPER Refresher Course (2012)

10-Hour OSHA Construction Safety Training (2010)

40-Hour HAZWOPER Safety Training (2009)

PROFESSIONAL EXPERIENCE

2014: Commonwealth Cultural Resources Group

2011-Present: Chrysalis Archaeological Consultants

2008-2011: URS Corporation

CONTACT INFORMATION

aagran@chrysalisarchaeology.com

Roseanne Quinn, B.A.| Archaeologist

Ms. Quinn has over 10 years of experience working in all phases of archaeological excavation. Her specializations include both prehistoric and historic contexts in the Northeast, West and Mexico. 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

St. Peter's Episcopal Church -Phase 1B (2019 - 2020)
Bronx, NY
Conducted excavation units to locate and expose possible remains of the early 18th Century Quaker Meeting House in an area of high sensitivity for human remains.

Sailfish – Phase IB and Phase 11 (2018 - 2019)
Montgomery, New York
Conducted shovel testing and subsequent excavation units in areas that tested positive for historic and prehistoric cultural material and archaeological features.

Governors Island Redevelopment Project (2012 - 2016)
Governors Island, NY
Monitored construction activities in areas of historical interest on Governors Island. Conducted excavation and laboratory analysis, report preparation and writing contributions.

World Trade Center PHR Phase III (2010 and 2013)
Staten Island, New York
Sifting Operations; conducted screening operations directed towards the recovery of human remains and personal effects.

North American Archaeology/AMNH (2012)
New York, NY
Laboratory processing (ceramic and lithic, cataloging, database management). Excavations on St. Catherines Island, Georgia.

Wind Farm Survey Phase I (2018)
Hand County, SD
Conducted pedestrian surveys and shovel testing with tribal monitors investigating and mapping areas of prehistoric and historic sensitivity.

Hawaii Scientific Drilling Project (HSPD) Phase II (2005)
Hilo, Hawaii
Assembled recovered core into trays aligning fracture faces, recorded composition and type of rock from Mauna Kea volcano core and determined what each stratigraphic section represents. Conducted rock slicing and shrink wrapping in preparation for core archival.

AREAS OF EXPERTISE

Archaeological Survey and Excavation

Public Outreach and Education

Prehistoric and Historic Materials Identification

EDUCATION

B.A., Archaeology: 2006
Hunter College, CUNY

CERTIFICATIONS

10-Hour OSHA Construction Safety Training (2019)

30-Hour OSHA Outreach Training for the Construction Industry (2020)

PROFESSIONAL EXPERIENCE

2019 – Present: Chrysalis Archaeological Consultants

2018 – Present: Archaeology and Historic Resource Services, LLC (AHRS)

2018 - Burns & Mc Donnell

2017 – 2018: AKRF Environmental Planning and Engineering Consultants

2016 – 2017: Landmark Archaeology, Inc

2012- 2016: Linda Stone, RPA

2013: Emal Archaeological Project

2012: SWCA Environmental Consultants

2012: North American Archaeology/American Museum of Natural History

2011: Central Yucatecan Archaeological Cave Project

2010 and 2013: NYC Dept of Health and Mental Hygiene, Office of the Chief Medical Examiner

2005: Hawaii Scientific Drilling Project

2005: University of Hawaii @ Hilo/ Archeology Internship

CONTACT INFORMATION

roseanne.quinn@gmail.com

Lisa Geiger, MA, MS, RPA | Field Director

Ms. Geiger has ten years of experience working in all phases of archaeological excavation and reporting. Her specializations include both prehistoric and historic contexts in the Middle Atlantic, New England, and Midwest regions. Her professional focus centers on historic urban infrastructure and consumer culture. She has extensive knowledge of laboratory analysis and archival preparation techniques for prehistoric and historic artifacts.

SELECTED PROJECT EXPERIENCE

Washington Square Park Water Mains Improvements – Phase IB (2020)
New York City, NY
Conducted monitoring of street bed excavation surrounding three-quarters of Washington Square Park and surrounding roadways for water main upgrades and replacements. Excavation uncovered historic interments and potter's field burials.

Peck Slip Rehabilitation – Phase IA, Phase II (2011-2014)
New York City, NY
Conducted Phase II monitoring, mapping, and feature-specific excavations during road reconstruction and utility replacements at Peck Slip, an 18th and 19th century shipping area and Historic District in downtown Manhattan.

Lenape Farms Wetland Restoration Project – Phase IA/IB (2015)
Atlantic County, NJ
Conducted site assessment research and shovel test pit excavation in a WWI munitions plant historic district and prehistorically sensitive surrounding area in advance of wetland enhancement activities.

Archaeological Investigations, City Hall Park – Phase II-III (2010-2011)
New York City, NY
Performed Phase II and III excavations at City Hall pinpointing historic architecture and features. Highlighted discoveries include a pre-revolution British jail, early water management features, and large scale refuse deposits. Performed in conjunction with URS.

I-95/Girard Interchange Project – Phase II-III (2008-2011)
Philadelphia, PA
Performed extensive excavation across three miles of 18th and 19th century residential and commercial areas in one of Philadelphia's first communities. Conducted for PA Dept. of Transportation (PADOT).

AREAS OF EXPERTISE

Archaeological Survey and Excavation

Public Outreach and Education

Laboratory Preparation and Data curation

EDUCATION

M.S., Library and Information Science: 2018, University of Illinois at Urbana-Champaign

M.A., Anthropology: 2015, Hunter College (CUNY)

B.A., Archaeology, Classical Studies: 2008, Dickinson College

CERTIFICATIONS

30-Hour OSHA Construction Industry Training (2020)

40-Hour OSHA HAZWOPER Safety Training (2009)

10-Hour OSHA Construction Safety Training (2010)

SWAC - Secure Worker Access Consortium (2014)

PROFESSIONAL EXPERIENCE

2019-2020: Chrysalis Archaeological Consultants

2017-2019: Field Museum of Natural History

2011-2016: Chrysalis Archaeological Consultants

2013: AIA/Carr Plantation Outreach

2008-2011: URS Corporation

Christopher Ricciardi, Ph.D., RPA | Principal Investigator

With over 30 years of experience in the field, Dr. Ricciardi is an expert on Section 106 and Federal, State, and Local regulatory criteria for compliance. His research has focused on 17th through 9th century rural communities, highlighting the development of New York City's outer boroughs and its surrounding area. Dr. Ricciardi served as an archeologist for the U.S. Army Corps of Engineers New York District from 2001 - 2009. He has been President of the Professional Archaeologists of New York and the Metropolitan Chapter of the New York State Archaeological Association and is committed to local historic preservation.

SELECTED PROJECT EXPERIENCE

New York:

63/65 Columbia Street – Phase IA (2004)
147 Hicks Street – Phase IB (1998)
Brooklyn Navy Yard (Steiner Studio) – Phase IB (2017-2018)
Downtown Brooklyn Reconstruction – Phase IB/Monitoring (2012)
Gravesend Cemetery – Phase IB (2001)
Gowanus Canal Study – Phase IA (2012)
Hendrick I. Lott House – Phase IB/Monitoring (2004, 2013)
Marine Park – Phase IB/Monitoring (1997, 2003)
156 Rivington Street – Phase IA (2012)
79 Christopher Street Burial Vault Project – Phase II (2008)
City Hall Reconstruction Project – Phase IB and II (2010-2015)
Columbus Park – Phase I (2007)
Dyckman Farmhouse Project – Phase IB/Monitoring (2007)
Fulton Street Reconstruction – Phase I and II (2009-2018)
High Bridge Park – Phase IB/Monitoring (2014-2015)
Liberty Island – Phase IB/Monitoring (2001)
Peck Slip – Phase I and II (2011-2018)
Roger Morris Park – Phase IB/Monitoring (2005)
Stone Street – Phase IB/Monitoring (1998)
Wall Street Water Main Project – Phase I (2007-2008)
West Village Housing – Phase IA (2007)
Worth Street—Phase I/Monitoring (2018 to 2020)
Bartow-Pell Mansion – Phase IB/Monitoring (Barn) (1993)
Bartow-Pell Mansion – Phase IB/Monitoring (Cemetery) (2004)
Bronx River Greenway – Phase IB/Monitoring (2015-2016)
Elmhurst Cemetery – Phase IA (1997)
Wayanda Park – Phase IB/Monitoring (2003)

Greater New York Region:

NYC DEP Water Tunnel – Catskill and Delaware (2013)
The Edwards Homestead; Sayville – Phase IB (2001)
Timothy Knapp House; Rye – Phase IB (1997)

Over 150 professional and public lectures/presentations. See www.chrysalisarchaeology.com for full listing.

AREAS OF EXPERTISE

Archaeological Survey and Excavation

Public Outreach

Laboratory Preparation

Section 106-National Historic Preservation Act

EDUCATION

B.A., 1987, Brooklyn College, CUNY (History and Anthropology and Archaeology.

M.A., 1997, Syracuse University (Anthropology and Archaeology)

Ph.D., 2004, Syracuse University (Anthropology and Archaeology)

CERTIFICATIONS

Register of Professional Archaeologists

10-Hour OSHA Construction Safety Training

30-Hour OSHA Construction Safety Training

SWAC -Secure Worker Access Consortium

PROFESSIONAL EXPERIENCE

2001-Present: Chrysalis Archaeological Consultants

2001-Present: U.S. Army Corps of Engineers

1990-2001: Field and Laboratory Director – Brooklyn College Archaeological Research Center, Brooklyn College, CUNY

CONTACT INFORMATION

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