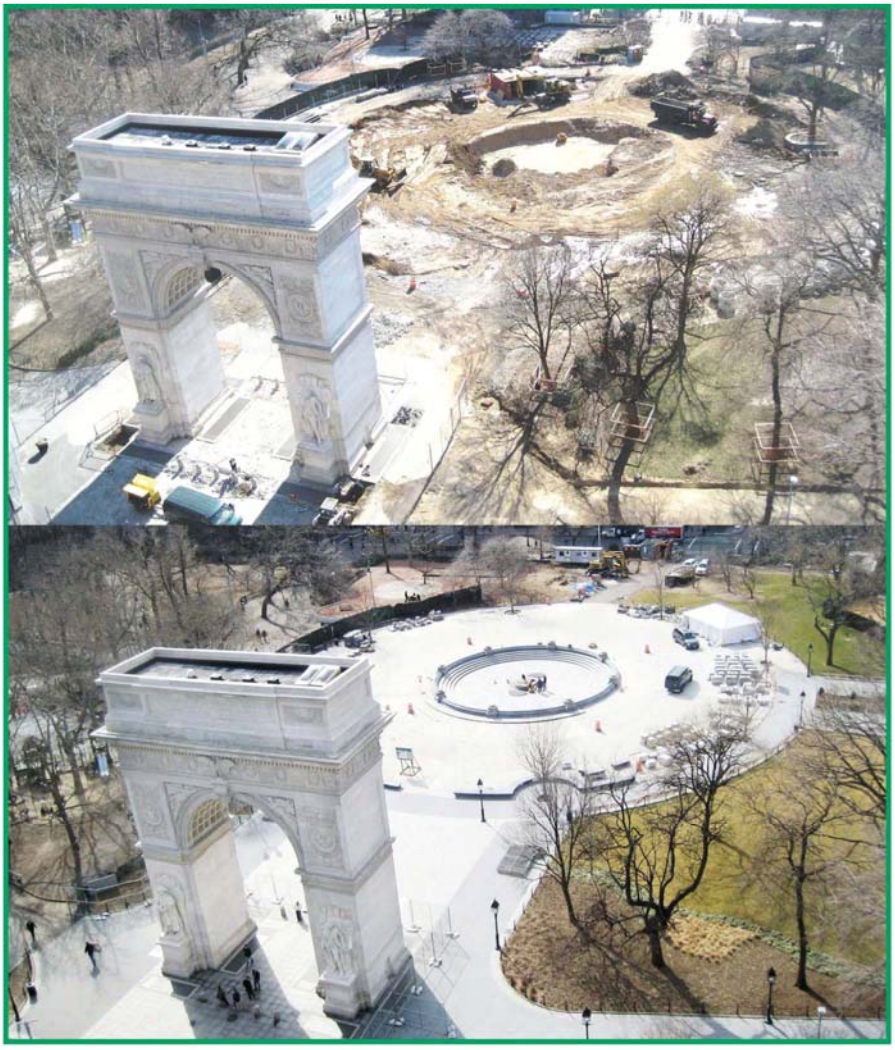
Washington Square Park
Greenwich Village, New York
Phase 1 Construction Field Testing Report

NYS Site Designation: Washington Square Park Potter's Field (WSPPF)
NYS Site No.: USN A06101.016915



Prepared for the New York City Department of Parks and Recreation
Prepared through AAH Construction Corp.
Prepared by Joan H. Geismar, Ph.D., LLC
March 2009/September 2009

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ABSTRACT

This report presents the methods and findings of archaeological testing undertaken intermittently from January 8 through May 7, 2008, during Phase 1 construction of Washington Square Park in Greenwich Village. It was prepared for the New York City Department of Parks and Recreation through AAH Construction Corp., by Joan H. Geismar, Ph.D., LLC, with contributions by Thomas Amorosi, the Bioarchaeolgist/Zooarchaeologist for this phase of the park's construction.

Field testing followed a scope of work approved by the New York City Landmarks Preservation Commission (NYCLPC) and was based on an earlier monitoring report and a 1A Archaeological Assessment that had determined the park's potential archaeological sensitivity (Geismar 2005; 2004). Identified potential archaeological resources included a late-18th-century domestic complex and a late-18th- to early-19th-century Potter's Field. Unless site conditions dictated otherwise, testing was carried out where construction-related excavation was planned more than 2 feet below the current park surface. While thirteen test trenches and six test pits were proposed, field conditions and findings resulted in a total of seventeen trenches and three pits. Testing did not reveal any evidence of the late-18th-century domestic complex, but ten intact burials in four test trenches proved that Potter's Field burials still remain despite land movement that created a Parade Ground in 1825 and subsequent park development. Following the protocol established by the NYCLPC for this phase of the park's construction, all intact burials were documented in the field and protected *in situ* while 515 isolated (disturbed) human bones were removed for analysis and later reburial in the park. Burials were identified as young to mature male and female adults, most likely of European descent. Testing highlighted the homogenous nature of the park's sandy soil and may have provided evidence of burial pits documented in the literature. Testing clearly revealed that burials are an issue where disturbance is minimal or an unknown within the limits of the former Potter's Field and determined that archaeological issues must be considered in any present or future park construction.

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Principal Author/Report Preparation and Production: Joan H. Geismar, Ph.D.
Human/Faunal Remains: Thomas Amorosi
Lab/Production: Shelly Spritzer
Graphics: Amy Geller

INTRODUCTION

This report presents the methods and findings of archaeological field testing at Washington Square Park (Block 549) in Manhattan's Greenwich Village (Figure 1). The project will hereafter be referred to as Washington Square Park Potter's Field (WSPPF), a designation assigned to the site by the New York State Historic Preservation Office (NYSHPO) along with its New York State site number (USN A06101.016915). Joan H. Geismar, Ph.D., directed and participated in the field testing and prepared the report.

The field testing was undertaken for the New York City Department of Parks and Recreation (Parks) through AAH Construction Corp., the constructors of Phase 1 of the park's redesign and restoration. Testing was based on the findings of a 1A documentary report (Geismar 2005) and followed a scope of work approved by the New York City Landmarks Preservation Commission (NYCLPC) (Geismar 2008).

Research for the 1A report, and for an earlier monitoring program carried out during infrastructure work at the Washington Square Memorial Arch (Geismar 2004), determined that in the late 18th century, the city established a Potter's Field on approximately the eastern two-thirds of what is now Washington Square Park. The burial ground, which extended well east of the park, was active for just over a quarter of a century and reputedly contained 20,000 burials. The western part of the of the park, however, remained private land, and the northwest corner was the location of Thomas Ludlow's country home, a property this wealthy New Yorker rented out once the city established the adjacent burial ground. Among his tenants were William Smith and his wife, Abigail Smith Adams Smith, son-in-law and daughter of John Adams, the second president of the United States. The Smiths rented the Ludlow property from at least 1804 until 1810, but it is unclear whether they, or their landlord for that matter, ever actually occupied the house meant as a retreat from their downtown residences (Geismar 2005:10). The Minetta Waters, described variously as a stream or brook, which once ran diagonally along the west side of the Washington Square Arch on Fifth Avenue to the southwest corner of the park, separated the Ludlow property from the burial ground.

Documentary research made it apparent that the park's flat expanse is the result of its use after the Potter's Field closed—first a parade ground and then a park. While filling in the vicinity of the Minetta Waters occurred while the Potter's Field was active,[1] the creation of the parade ground in 1825 entailed leveling the high ground and filling the low ground around the Minetta Waters as well as ultimately channeling and filling over the stream. The land movement that occurred since the burial ground closed in 1825 is an important factor in the potential for survival of intact burials.

In addition to the park's documented development history, soil borings and data from construction of the Memorial Arch in 1890 and from the park's fourth renovation in 1966 offered some information about subsurface conditions. The 1966 soil borings document 2 to 4 feet of disturbance above a sandy soil. Only in a single boring located on the east side of the existing fountain was there evidence of the organic soil that might be similar to that found associated with burials discovered approximately 10 feet below the surface during construction of the arch. The boring documented this organic soil 19 feet below the surface. This was well below the depth of planned excavations with the exception of a water holding tank in the southwest part of the Phase 1 project area. With this information, and with information about the park's several reconstructions

[1] Soil for this filling episode was taken from within the crowded burial ground and undoubtedly disturbed burials.

Figure 1 Location

in mind, the approved scope of work called for testing where excavation was planned at depths greater than 2 feet below the surface.

METHOD

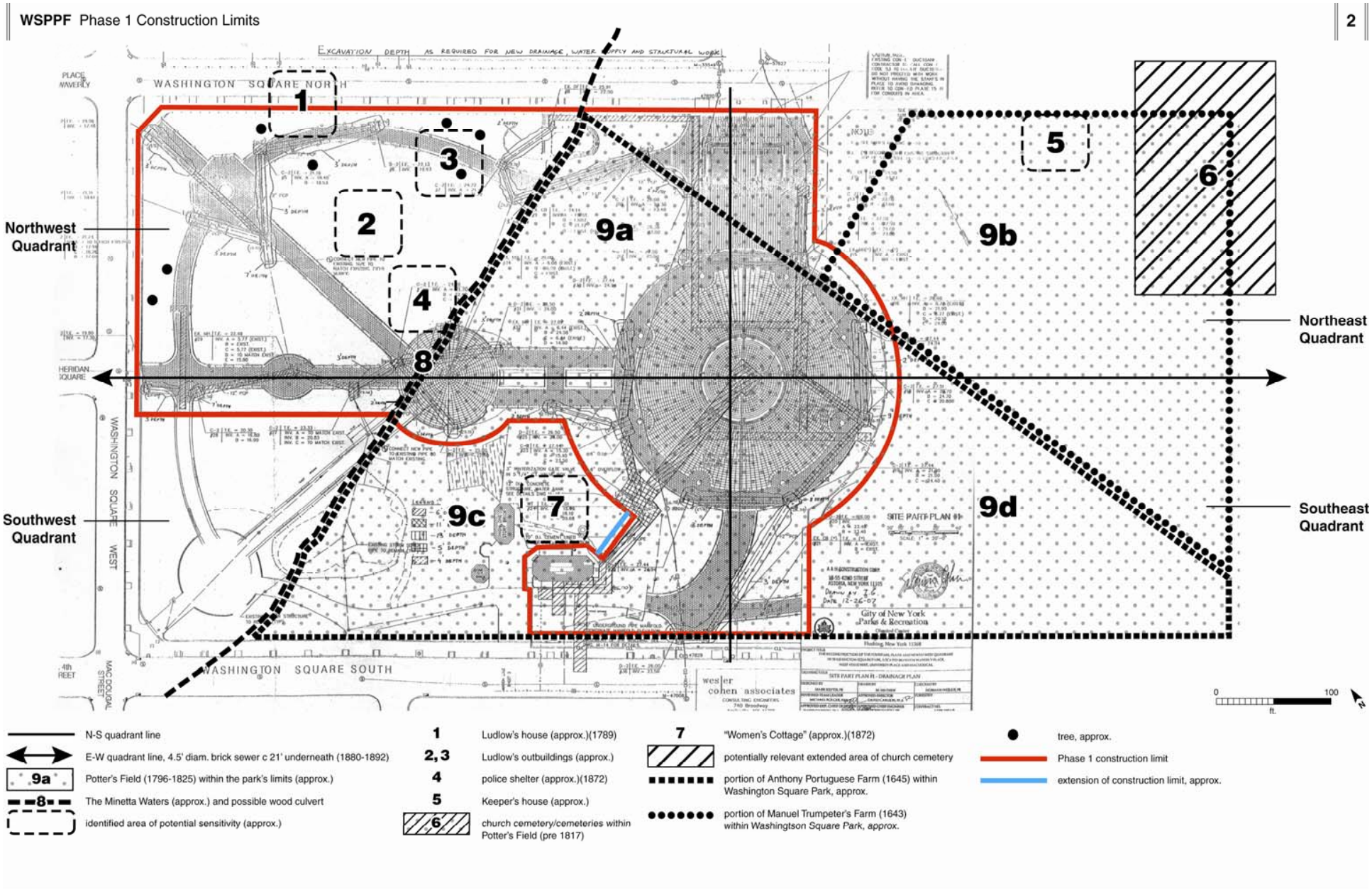
Phase 1 construction concentrated on the park's northwest corner and its central portion from Fifth Avenue in the vicinity of the arch through to Washington Square South (formerly 4th Street) (Figure 2). Because the northwest corner was beyond the limits of the Potter's Field, the testing program was divided into two sections: Section A in the northwest corner of the park, where burials were not an issue, and Section B within the known limits of the Potter's Field.

AAH Construction Corp. and Parks identified where construction depths greater than 2 feet would occur. Coordinating this information with the archaeological sensitivity model presented in the 1A documentary study (Geismar 2005:Figure 23), thirteen test trenches and six test pits were proposed. Both test trenches and test pits were to be excavated using heavy equipment (backhoe or excavator) augmented by hand-dug shovel tests while being carefully archaeologically monitored. In addition, a Bioarchaeologist/Zooarchaeologist was to be on call during testing in Section A and during relatively shallow excavations or where known disturbance had occurred (for example, in the vicinity of the park's existing fountain) in Section B. During deeper excavations, or where the degree of disturbance was unknown, he was to be on site at all times.

Test trenches and pits in Section A were located to address the issue of domestic structures on Ludlow's land and were associated with tree-ball and utility excavations. Those in Section B, all of them within the limits of the burial ground included in the project area, were meant to determine if planned excavations would disturb undocumented burials. Throughout, the tests were to be taken two feet deeper than the intended depth of the planned construction excavation or one foot into natural soil, whichever was reached first. It was always understood that field conditions might call for changes in this plan.

To address the issue of possible burials, the following protocols were established by the NYCLPC: bones from a disturbed burial, or "isolated bones," were to be collected for laboratory analysis and later reburial in the park at a place to be determined. If, however, a burial was intact, that is, undisturbed, the Bioarchaeologist/Zooarchaeologist was to hand excavate enough soil to facilitate documentation in place (*in situ*) through photographs and field plans. The burial would then be covered with clean sand and a custom-made wood cover. Geocloth, a breathable material, was to cover the box to mark the burial and protect it from future disturbance. The trench or excavation was then to be backfilled.

It should be remembered that burials discovered in 1890 during excavations for the arch were found 10 feet below the surface in an organic soil (Geismar 2004:12; NY Times 11890). It should also be remembered that only one of the soil borings drilled in 1966 documented an organic soil, and that this stratum was 19 feet below the surface. In addition, a book about Washington Square stated that the burials had been moved and relocated in trenches around the park's perimeter after the burial ground closed (Harris in Geismar 2004:12). However, the source of this information was unknown, and historical documents and references did not support this statement. Given the available information, the issue of burials at Washington Square Park remained a concern.


WSPPF Phase 1 Construction Limits
WASHINGTON SQUARE NORTH
WASHINGTON SQUARE SOUTH
WASHINGTON SQUARE WEST
Northwest Quadrant
Northeast Quadrant
Southwest Quadrant
Southeast Quadrant
1
2
3
4
5
6
7
8
9a
9b
9c
9d
N-S quadrant line
E-W quadrant line, 4.5' diam. brick sewer c 21' underneath (1880-1892)
Potter's Field (1796-1825) within the park's limits (approx.)
The Minetta Waters (approx.) and possible wood culvert
identified area of potential sensitivity (approx.)
Ludlow's house (approx.)(1789)
Ludlow's outbuildings (approx.)
police shelter (approx.)(1872)
Keeper's house (approx.)
church cemetery/cemeteries within Potter's Field (pre 1817)
"Women's Cottage" (approx.)(1872)
potentially relevant extended area of church cemetery
portion of Anthony Portuguese Farm (1645) within Washington Square Park, approx.
portion of Manuel Trumpeter's Farm (1643) within Washingtson Square Park, approx.
tree, approx.
Phase 1 construction limit
extension of construction limit, approx.
0
100
ft.

All field investigations were carried out by the writer assisted by Shelly Spritzer with further assistance from George Hambrecht. Thomas Amorosi served as Bioarchaeologist/Zooarchaeologist. AAH Construction Corp., the park's constructors under the supervision of Igor Gerber and Damiano Digioia, the site foreman, as well as George Vellonakis of Parks, the park's designer, and Joseph Atenga, a Parks' engineer, were wonderfully supportive throughout the investigation. Amanda Sutphin, Director of Archaeology at the NYCLPC, was frequently on site and available for consultation throughout the entire endeavor. In general, excavation was carried out with a CAT M315 Excavator with a 3- or, more often, a 5-foot, flat-blade bucket; however, smaller backhoes were used as warranted. Construction less than 2 feet deep progressed cooperatively during the archaeological testing.

Excavated test trench and test pit locations are shown in Figure 3.

FIELD

SECTION A: West of Minetta Waters—Thomas Ludlow's Land (Most of the Northwest Quadrant)

Field testing in Section A, the park's northwest corner, began on January 8, 2008, and was completed on January 9, 2008. Field conditions dictated modification of proposed testing in this section. For example, TT1 ultimately was deeper than planned to determine the type of soil encountered; it was wider than planned to investigate an abandoned, buried, 20th-century park feature; and it was reconfigured to protect established plantings. Planting considerations also eliminated a proposed test pit (TP1). In addition, a chain-link fence thought to mark the park's north property line proved to be set in 3 feet from that line. This miscalculation inadvertently shifted the location of the two completed test trenches in this section (TT1 and TT2) 3 feet south of the original plan. Despite these modifications, two test trenches (TT1 and TT2) adequately addressed archaeological concerns in this section that focused on evidence of Thomas Ludlow's late-18th-century domestic cluster and its inhabitants.

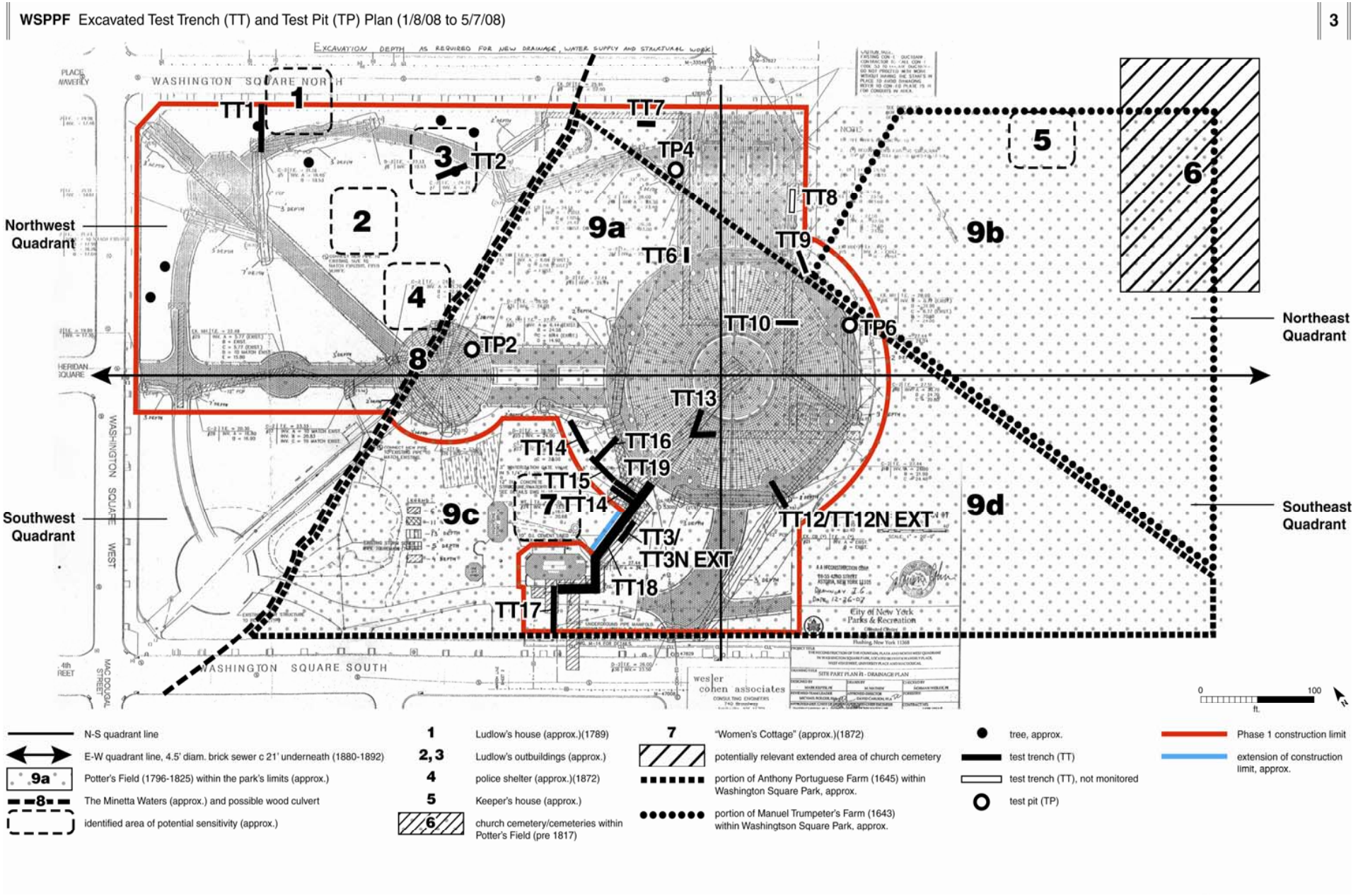
TT1

Length: 35.8 ft Width: 5.2 – 12.0 ft Depth: 10.0 – 12.0 ft (1/8/2008)

TT1 was located in the vicinity of a former Thomas Ludlow domestic structure. The goal was to assess the impact of a proposed tree ball excavation and a planned utility line in the vicinity of a former dwelling. To accomplish this, the trench was planned as a double-L-shape with a deep grade in its southern end to address the 6-foot deep utility excavation. The trench was to be 6 feet deep plus a 2-foot shovel test. Instead, however, it became a north-south trench ultimately 35.8 feet long. It was 6 to 10 or 12 feet deep, and from 12 feet wide at the south end, where excavation revealed an old, abandoned catch basin and an associated terra-cotta pipe, to 9.2 feet wide at the north end.

Four soil strata were identified but the sandy soil in this area made it difficult to determine if natural soil had been reached. To aid in this determination, the excavation continued beyond the proposed trench depth. However, the distinct strata suggested natural deposits below the upper topsoil and fill.

At the northern edge of the 12 foot depth, north of the disturbance caused by construction of the abandoned catch basin and the introduction of a terra-cotta pipe, it was still difficult to tell if sterile soil—in this case, sand—had been reached. With the exception of several cigarette filters found in association with the brick catch basin, no artifacts were noted nor were any historical features found. After drawing a schematic profile of the northern part of the east trench wall and photographing


WSPPF Excavated Test Trench (TT) and Test Pit (TP) Plan (1/8/08 to 5/7/08)
EXCAVATION DEPTH AS REQUIRED FOR NEW DRAINAGE, WATER SUPPLY AND STRUCTURAL WORK
WASHINGTON SQUARE NORTH
WASHINGTON SQUARE SOUTH
WASHINGTON SQUARE WEST
PLACE
MACDOUGAL STREET
HERIDAN SQUARE
Northwest Quadrant
Northeast Quadrant
Southwest Quadrant
Southeast Quadrant
1
2
3
4
5
6
7
8
9a
9b
9c
9d
TT1
TT2
TT3/ TT3N EXT
TT6
TT7
TT8
TT9
TT10
TT12/TT12N EXT
TT13
TT14
TT15
TT16
TT17
TT18
TT19
TP2
TP4
TP6
City of New York Parks & Recreation
wesler cohen associates
0
100
ft.
N-S quadrant line
E-W quadrant line, 4.5' diam. brick sewer c 21' underneath (1880-1892)
9a Potter's Field (1796-1825) within the park's limits (approx.)
8 The Minetta Waters (approx.) and possible wood culvert
identified area of potential sensitivity (approx.)
1 Ludlow's house (approx.)(1789)
2,3 Ludlow's outbuildings (approx.)
4 police shelter (approx.)(1872)
5 Keeper's house (approx.)
6 church cemetery/cemeteries within Potter's Field (pre 1817)
7 "Women's Cottage" (approx.)(1872)
potentially relevant extended area of church cemetery
portion of Anthony Portuguese Farm (1645) within Washington Square Park, approx.
portion of Manuel Trumpeter's Farm (1643) within Washingtson Square Park, approx.
tree, approx.
test trench (TT)
test trench (TT), not monitored
test pit (TP)
Phase 1 construction limit
extension of construction limit, approx.

the trench and catch basin, the trench was backfilled. The profile and photographs are presented in Figures 4a to 6.

TT2
Length: 23.0 ft Width: 5.2 ft Depth: 8.0 – 13.0 ft (1/9/2008)

TT2 was located in the vicinity of a Ludlow domestic structure (in this case, an outbuilding) where another tree was to be planted. Like TT1, it was proposed as a 4-foot deep excavation plus the 2-foot shovel test (2 feet deeper than the tree ball excavation), or 1 foot into sterile soil if encountered above 5 feet. However, the actual depth and extent of excavation was again determined by ground conditions documented in the field. And, again, standing trees were a consideration (e.g., Figure 7). To accommodate existing plantings, the trench orientation became a diagonal northeast-southwest trench rather than the east-west trench originally proposed. And, once again, the nature of the soil was difficult to identify.

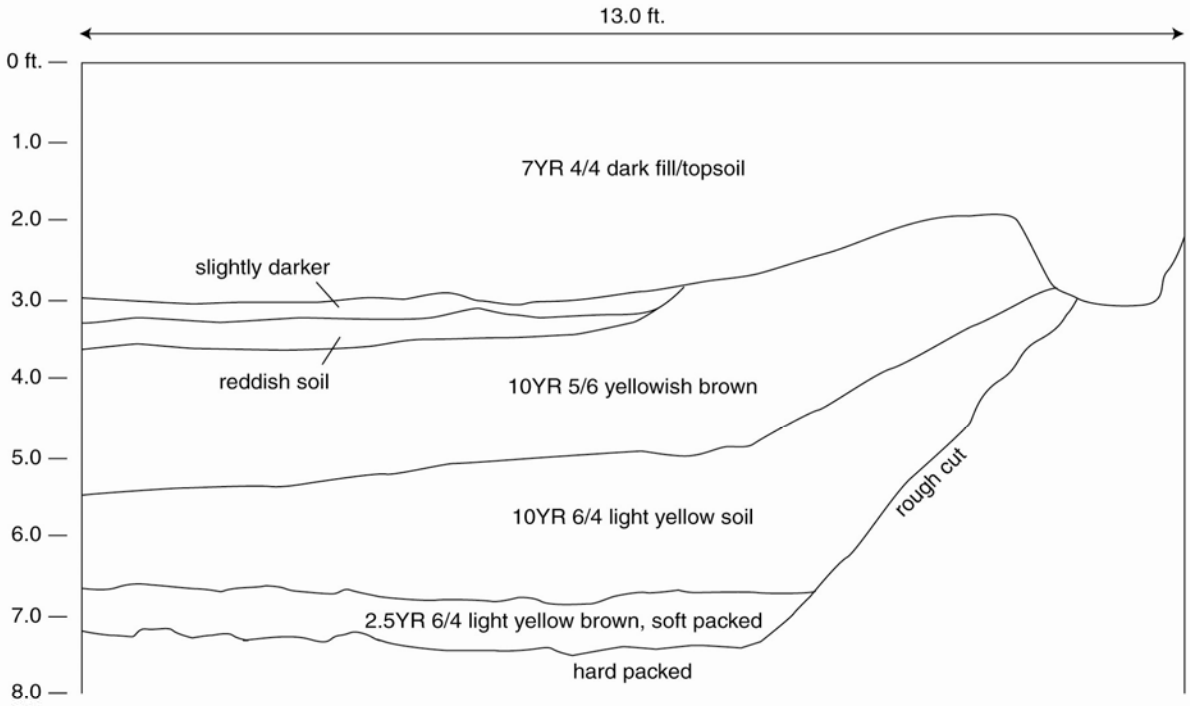
An old lead pipe was encountered about 4.5 feet below the surface (BGS) in the southwest corner of the trench. The soil (sand) appeared to be natural beneath a cluster of clam and oyster shell at a depth of 6 feet BGS in the south end of the trench. Two artifact caches, one of animal bones at 8 feet BGS on the north side of the trench, the other of early-19th-century ceramic sherds at about the same depth on the south side of the trench, refuted this assessment (see Figure 8). When trowel scraping along the partially backfilled west end of the trench exposed a small, sharp ceramic fragment at 7 feet BGS, it became clear that the trench soil was actually all fill. No evidence of the Ludlow structures was found, and TT2 was terminated at 13 feet below the surface of the eastern part of the trench. The deepest soils were troweled through while in the excavator bucket, but no cultural material was noted (see Figures 9a to 10c for photos and profiles). The trench was backfilled and testing in Section A was completed.

SECTION B: East of Minetta Waters—Potter's Field (Part of Northwest, Northeast, Southwest and Southeast Quadrants)

While eleven monitored test trenches were originally planned in this section, two were eliminated (TT5 and TT11), five were added (TT14, TT15, TT16, TT18, and TT19) and another, done by others (TT17 that replaced TP5), was monitored. Test Trench 8, a shallow trench adjacent to the arch in a highly disturbed zone, was not monitored. As for the test pits, of the five originally proposed in Section B, only three were excavated based on field conditions and the findings of the ongoing investigation.

It was in Section B that burials from the former Potter's Field were a potential issue. However, in the eastern part, planned construction trenches were located within the footprint of, or quite close to, the existing fountain and plaza where disturbance had occurred over time. Another was near the west side of the Memorial Arch. As for the middle of the park, construction of a 4.5-foot diameter brick sewer across the middle of the park sometime between 1880 and 1892 (Geismar 2005:22) would have required a wide, deep excavation that caused great disturbance. But in the southwestern part of the project area, where disturbance was unknown, possible burials were an identified issue, and this, indeed, proved to be the case.

Excavation in four test trenches (TT3/TT3N EXT, TT4, TT14, and TT18) exposed intact burials and/or, isolated human bone. Precisely defined soil discolorations in TT15 and evidence of decayed wood in TT4 suggested that burials might have been present, but none were encountered. During the excavations, it became clear that the park's natural soil and the introduced fill, both sand, had become homogenous over time. So much so, in fact, that indications of a burial—such



4a Test Trench 1 (TT1) Profile, North Part of East Wall

4b East wall of TT1 near the north end. (Geismar 1-8-08)

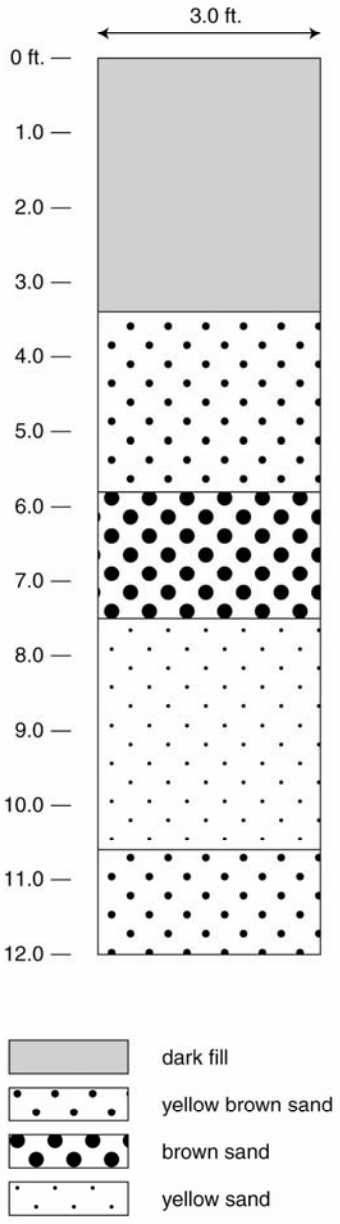
5 North end of TT1 in Area A. (Geismar 1-8-08)

6 Abandoned brick catch basin in south end of TT1. (Geismar 1-8-08)

F

7 View towards TT2 in Area A with Washington Square North in the background. (Geismar 1-9-08)

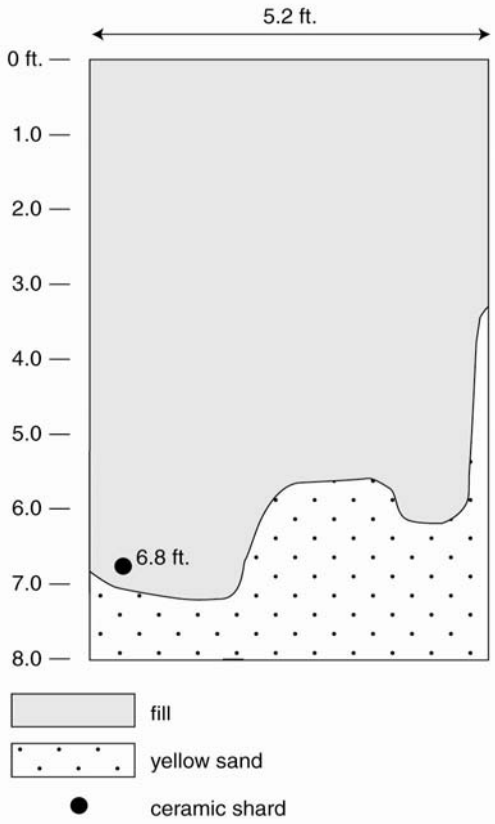
8 Samples of ceramics and animal bones from discrete caches in TT2. The ceramics are from the south side of the trench at about 8 feet BGS, the animal bones from the north side at about the same depth. (Geismar 1-9-08).



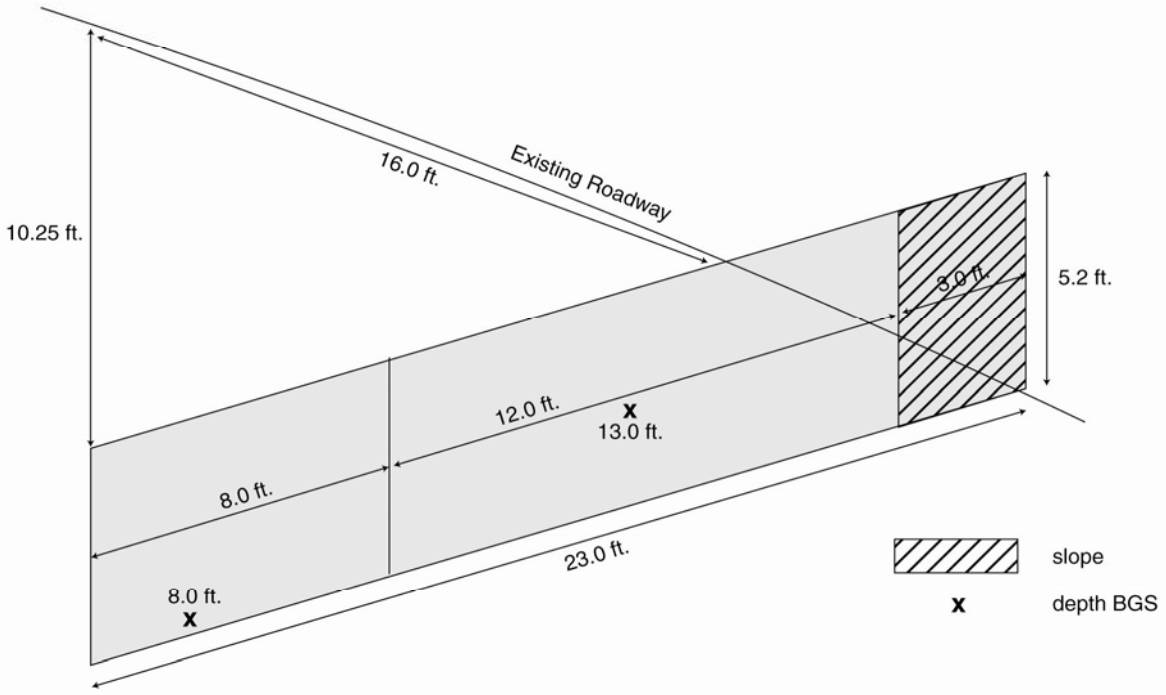
9a Test Trench 2 (TT2) North Wall Profile, Schematic

9b TT2 looking east. (Geismar 1-9-08)

10a West wall of TT2 after partial backfilling. (Geismar 1-9-08)



10b Test Trench 2 (TT2) West Wall Profile After Partial Backfilling, Schematic



10c Test Trench 2 (TT2) Plan, Schematic

as burial shafts or trenches—were not in evidence.[2] Consequently, the discovery of a burial at almost 12 feet below the surface was, in one instance (TT14), a complete surprise.

Following the project protocol regarding burials, excavation terminated in any trench where a burial was found. To find a location for the new fountain's water holding tank, additional test trenches were added. When it became apparent that the area proposed for the fountain's water holding system was highly sensitive, the system was redesigned to minimize disturbance.

The test trenches and test pits in Section B are discussed briefly here. Burials will be discussed in greater detail in a separate section.

Test Trenches (TT)

TT3/TT3N EXT
Length: 22.8 ft Width: 4.8 – 5.8 ft Depth: 5.3 – .3 ft (1/21 – 1/24/2008)
Standing trees made it necessary to use an uncharacteristically small backhoe (Cat 430D with a 2-foot bucket). TT3, located next to a park dog run and near a 1960s comfort station, where disturbance was implied, was not anticipated to be particularly sensitive. However, the opposite proved to be the case when hand excavation near and under water pipes revealed human bone material about 5.7 feet below the surface. Further hand excavation indicated a cache of what appeared to be disturbed bones below a pipe at about 6 feet BGS on the west side of the trench. Shoring was introduced the next day (1/22/08) and additional hand excavation indicated that the bone cache extended into the west wall (Figure 11). Scattered human bone material was also noted. Following the established protocol, Thomas Amorosi, the project's Bioarchaeologist/Zoo-archaeologist, collected all "isolated" bone material for analysis. Screening soil in the sensitive area through 1/4-inch wire mesh did not recover any associated artifacts.

Testing in TT3 continued north of the shoring as Test Trench 3 North Extension (TT3N EXT). Long bones that proved to be the lower part of an intact burial were exposed in the south end of the extension at approximately 5.7 feet BGS. Further exploration the next day revealed this intact burial, exposed from pelvis to toes in the test trench, extended east into unexcavated soils. After Tom Amorosi documented the burial in a field plan (see Figure 41), the exposed burial was photographed (Figure 12) and then covered with clean sand and a protective box constructed to fit as outlined in the field protocol. Geocloth, a breathable material, was then used to cover and mark the burial to protect it from future disturbance. On January 24, the shoring was removed and the trench backfilled under the supervision of Damiano Digioia, the construction foreman (Figures 13 and 14).

TT4
Length: 25.0 ft[3] Width: 5.2 – 8.6 ft Depth: 3.3 - 6.7 ft (1/23 – 1/24/2008)
Excavation immediately uncovered a shallow bank of electrical pipes in the west end of the trench. Once beyond the pipes, excavation continued down and two profiles were drawn, a schematic of the north wall (Figure15a) and a profile of the west wall (Figure 15b). A concrete shoring box was introduced to facilitate what was meant to be one of the deepest test trenches

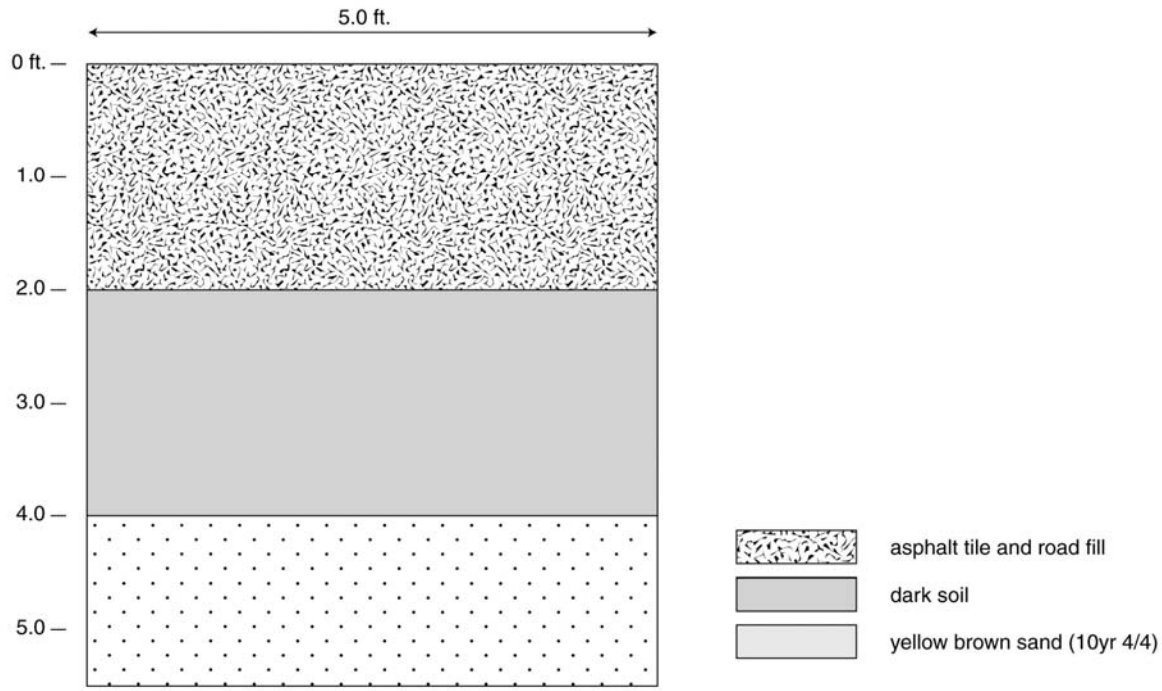
[2] The phenomenon was discussed with Joseph Schuldenrein, a geoarchaeologist, who confirmed this was the nature of the sands such as those found in Washington Square Park (Schuldenrein 2008:personal communication).
[3] This was the overall length including the shallow, western excavation of the electrical bank. The deeper part of the trench, where the burial was located, was approximately 15 feet long.

11 Disturbed human remains (arrow) under pipe in west wall of TT3. (Geismar 1-22-08)

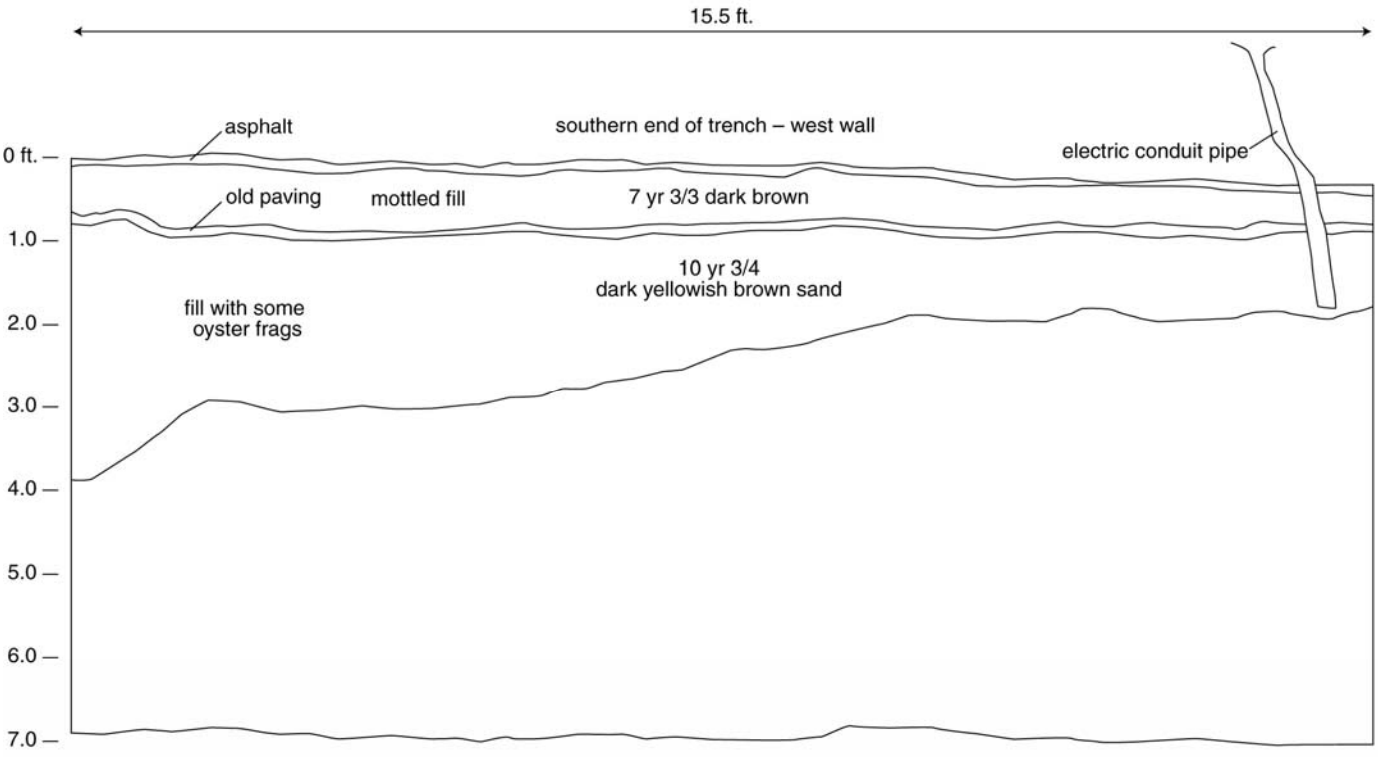
12 Lower torso of intact human burial in TT3N EXT after hand cleaning. The upper part of the burial is assumed to extend to the left beyond the trench. (Geismar 1-23-08)

13 Protective wood cover, specially made, temporarily in place over intact burial in TT3N EXT after introduction of clean sand. (Geismar 1-24-08)

14 Damiano Digioia, the construction foreman, beginning to backfill TT3N EXT. (Geismar 1-24-08)



15a Test Trench 4 (TT4), North Wall Profile, Schematic



15b Test Trench 4 (TT4) West Wall Profile

(13 feet BGS; Figure 16). However, excavation halted when an intact burial with evidence of associated decayed wood was discovered at 6.2 to 6.7 feet BGS in the west part of the trench. The burial was documented the next day (Figure 17; also see Figure 49, a field plan of the intact burial). Cleaning brought the depth of the burial down to c. 7.2 feet BGS). Evidence of decayed wood to the east, as well as a femur fragment and other human bones, indicated three additional burials were, or perhaps had been, present. However, since discovery of the first intact burial determined the trench was sensitive, no further exploration occurred and the trench was terminated.

TT6
Length: 7.0 Width: 5.0 – 5.2 Depth: 7.2 ft with 2 ft ST (1/15/2008)
Asphalt was noted under about 2 feet of overburden with yellow sand to bottom of shovel test (ST) at 7.2 feet. A proposed length of 25 feet was limited by the plaza's retaining wall in this disturbed area (Figure 18).

TT7
Length: 7.5 ft Width: 7.0 ft Depth: 6.5 ft with ST (1/15/2008)
Proposed at 10 feet long, this was truncated by utilities and the drain from the Memorial Arch made it necessary to relocate the trench 9 feet south of the planned location. Area disturbed by previous construction (Figure 19).

TT8
This was a shallow trench located in a disturbed area just east of the Washington Memorial Arch. The trench was not monitored.

TT9
Length: 26 ft Width: 5.5 ft Depth: 6.2 - 9.2 ft at N end (1/16/2008)
The trench was relocated slightly east of its planned location to avoid the plaza retaining wall. Asphalt from a former road was encountered 2 feet BGS (Figures 20a). A shovel test extended the trench to 6.2 feet BGS in the south end. The north end of the trench was excavated to 9.2 feet BGS in yellow fill (Figure 20b). A pipe running parallel to the trench was exposed on the east side of the trench.

TT10
Length: 10 ft Width: 5.5 ft Depth: 4.0 – 6.5 ft with backhoe (1/21/2008)
Machine-assisted excavation to 4 feet BGS on the west side of the trench encountered the plaza floor. The backhoe hammer was used to break through the .5-foot thick concrete floor to expedite a 2- foot deep shovel test. The east end of the trench was taken down to 6 feet with the excavator. Several fill strata were noted under the reinforced concrete floor reached at 4.0 feet BGS. All were sterile (Figure 21).

TT11
Eliminated because of plantings (trees) and the presence of a deep, late-19th-century storm sewer.

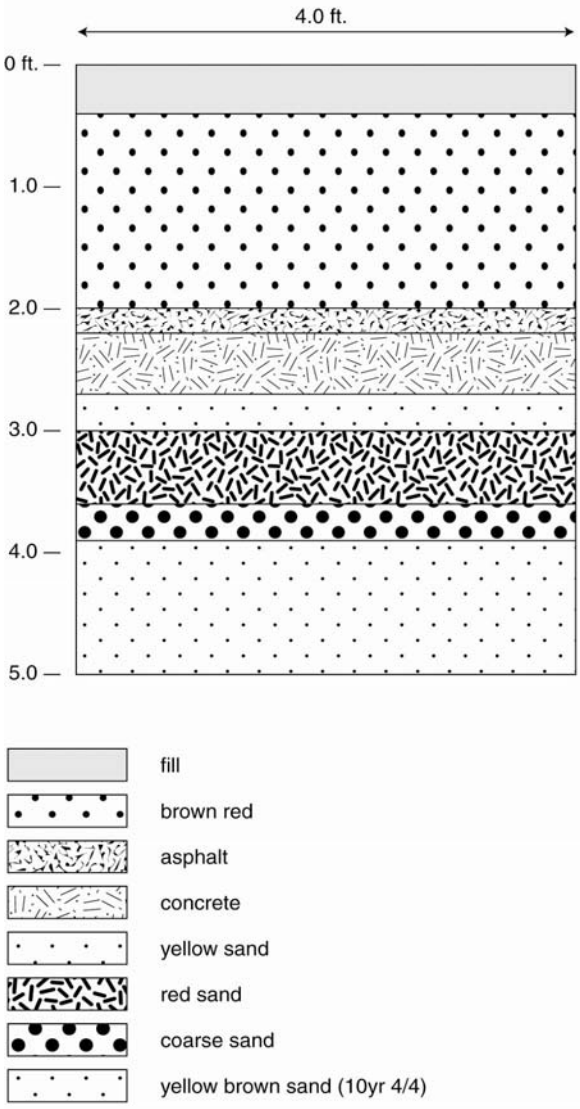
TT12/TT12 EXT
Length: 22.0 Width: 5.2 – 7.0 ft Depth: 5.8 – 10.0 ft (1/16/2008)
Planned as a "V" shape to accommodate various utilities, field conditions dictated a 2–part trench of uneven segments on either side of the plaza wall. A pipe was exposed on the west side of the plaza wall about 3.5 feet BGS as was bluestone curbing on the west side of the trench. The trench

16 Shoring box about to be lowered into TT4. (Geismar 1-24-08)

17 Documenting intact burials in TT4 within shoring box. (Geismar 1-24-08)

18 TT 6 with shovel test. (Geismar 1-15-08)

19 East end of TT7. (Geismar 1-15-08)



20a Test Trench 9 (TT9) South End Profile, Schematic

20b Looking toward south end of TT9. (Geismar 1-16-08)

was shifted about 5 feet from the plaza wall where a stain was documented at 3.9 feet BGS, but with no cultural association. A 12-inch diameter terra-cotta pipe was exposed in the west wall at about 3.8 feet BGS (Figure 22). Below this was a dark yellow-brown soil. The trench was extended north into the plaza (TT12 EXT) where 1 foot of rubble was followed by the yellow soil found throughout the plaza but with some white sand inclusions.

TT13
Length: 22.0 ft Width: 5.2 – 6.5 ft Depth: 5.5 – 8.0 ft with ST (1/21/2008)
Like TT12, TT13 was planned in a "V" shape to accommodate various utilities, but field conditions resulted in an L-shaped excavation. A water pipe encountered 4 feet BGS was 3 feet from the north end of the trench. At about .64 feet BGS, another pipe with a large joint was exposed in the west end of trench (Figure 23). Isolated ceramic fragments noted in fill. South end of the trench was excavated to 7 feet BGS with the excavator and then taken to 8 feet with a shovel test.

TT14 (substituted for TT4)
Length: 27.5 ft Width: 8.0 ft Depth: 5.6 – 11.9 ft (12.0) ft (1/24 – 1/25/2008)
Excavation uncovered a deeply buried intact burial, identified in the field as female by Tom Amorosi, in the southwest corner of the trench. The burial sloped down from the skull, which was exposed at 11.2 feet BGS, to the knees at 11.9 BGS. Since there was no evidence of a shaft, the discovery of a burial in homogenous yellow sand at this great depth was a complete surprise. Small, fragmented artifacts, such as miscellaneous ceramic sherds, a kaolin pipe stem, bricks, and an animal bone, were noted at about 3.0 feet BGS, well above the burial level. Other highly fragmented items, such as shell and coal, were noted at about 6 feet BGS, but in the same sand found throughout the trench under the initial layer of asphalt and roadway fill. Once the burial was found, backdirt soils from the sensitive area were screened through 1/4-inch wire mesh.

The burial was cleaned off and documented *in situ* according to the project protocol. Photographs were taken (Figure 24-26) and Tom Amorosi produced a field plan (see Figure 43). The burial was then covered with clean sand, a wooden cover, and Geocloth before the shoring box introduced for safety was removed and the trench backfilled. A double molar, an interesting anomaly, was photographed (Figure 27).

This burial, as well as those discovered in nearby TT4, made it necessary to rethink the proportions of the water holding tank needed for the new fountain. The result was a redesign that called for somewhat shallower excavation in a new trench.

TT15
Length: 26.0 ft Width: 13.1 ft Depth: 6.0 ft (2/20/2008)
TT15 was added when TT14, the original location of the proposed water holding tank, was terminated after uncovering a burial almost 12 feet below the surface. The goal was to find a viable location for a redesign that now called for two shallower holding tanks.

Two parallel, defined patches of squared-off yellow sand at 5.9 to 6.0 feet BGS in the southwest corner of the trench suggested burials (Figure 28), but with no bone material in association. A plasticized drink wrapper ("DAIRYLEA CHOCOLATE DRINK"; see Figure 48) was recovered between 5.5 and 6.0 feet BGS in association with the buried remnant of a stone wall. The wrapper proved to be manufactured post-1969 (see Cat. No. 203-6 in the artifact catalog, Appendix C, for details). Also in association with the wall were a 5-foot long, 1.2-foot wide piece of plywood, mortar and undecorated ceramic fragments, a corroded nail, and oyster and

21 North wall of TT10 during excavation. (Geismar 1-21-08)

22 TT12 on east side of the plaza wall with terra-cotta pipe exposed in west trench wall. (Geismar 1-16-08)

23 Large-jointed water conduit about 4 feet below the surface at west end of TT13. (Geismar 1-21-08)

24 Human burial (arrow) in southwest corner of TT14, within shoring box. (Geismar 1-25-08)

26 Detail of skull and face (arrow) of female burial in southwest corner of TT14. (Geismar 1-25-08)

25 Burial in southwest corner of TT14 after cleaning. (Geismar 1-25-08)

27 Double molar from female burial in TT14. (Geismar 1-25-08)

clam shell fragments. The buried wall, located 5.6 feet BGS, ran diagonally across the northern part of the trench (Figure 29) and, based on the drink wrapper, was apparently associated with the 1970 park renovation. The documented disturbance determined TT15 was a suitable location for the redesigned water tanks.

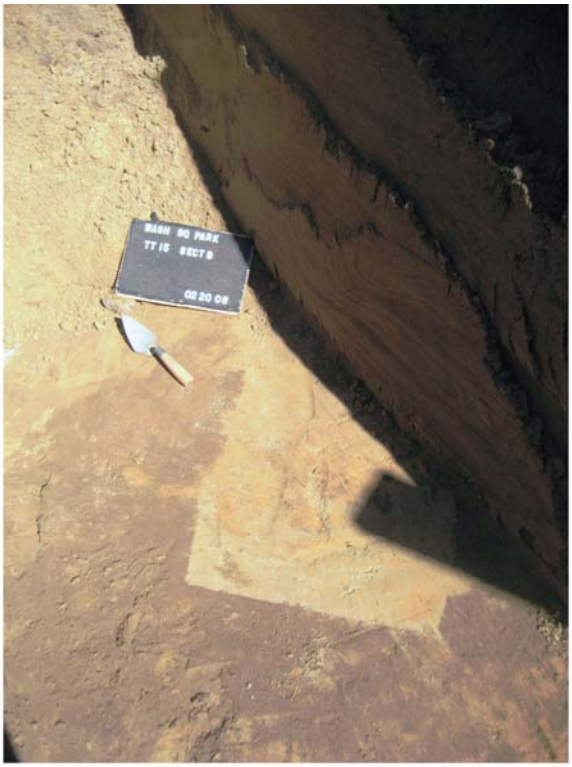
TT16
Length: 27.5 ft Width: 4.5 – 6.5 ft Depth: 4.5 – 7.1 ft (2/20/2008)
Testing in TT16 addressed the connection between TT15, the new location of the water holding tanks, and water pipes to the relocated fountain. Testing began in the northeast corner of TT15 and proceeded northeast where it crossed to the north side of the existing plaza wall (Figure 30). The trench then extended into the disturbed area of the fountain plaza. The plaza wall proved to be a 6-foot high, stepped construction about 4.5 feet deep and with 1.5 feet above ground. A sheep femur was noted in the backdirt, but no burials were encountered.

TT17 [excavated by others]
Length: 31.0 ft Width: 3.0 ft Depth: 4.0 – 5.0 ft (4/2/2008)
This segmented north-south trench, which was interrupted by the sidewalk north of Washington Square South (formerly 4th Street) and a park path, was excavated by New York Water, a private company, and archaeologically monitored by Shelly Spritzer. It contained a relatively modern fill and was devoid of human bone or burials (Figure 31).

TT18 (redesigned dimensions) (located in vicinity of TT3/TT3N EXT, only shallower)
Length: 145.0 ft Width: 14.0 ft Depth: 2.5 – 4.0 ft (4/30, 5/1, 5/2, 5/7/2008)
This long, L-shaped, 7-foot wide trench was added to identify a location for pipes needed to conduct water from the basement of the existing comfort station in the southeast segment of the park to the new fountain. An established park dog run located north of the comfort station was shifted west to accommodate the new trench. The earlier finding of isolated human bones and an intact human burial in TT3/TT3N EXT adjacent to TT18 indicated the trench was in an area of potential sensitivity. As it turned out, this was a realistic concern.

Branches of several surrounding trees were tied back to protect them before testing began on April 30, 2008 (Figure 32). Excavation then proceeded using a small CAT 305CR with an 18-inch bucket. In the south leg of the trench, which ran in front of the comfort station (and encompassed part of TT17), excavation was in fill that included animal bones, reinforced concrete debris, brick, and plastic (some of these bones were collected as a grab sample for later analysis; see Appendix B). Any isolated human bone was collected from this obviously disturbed area, and a metal pipe, first seen in TT3, was cut and removed. Once the trench turned north (along the east side of the comfort station), a larger machine (CAT 430 with a 24-inch bucket) was substituted. Testing indicated about 3.0 feet of overburden and fill followed by yellow sand (Figure 33a) and isolated human bone was again an issue in the yellow sand at the interface (Figure 33b), the sand at this juncture also included some cultural material (shell and ceramic fragments).

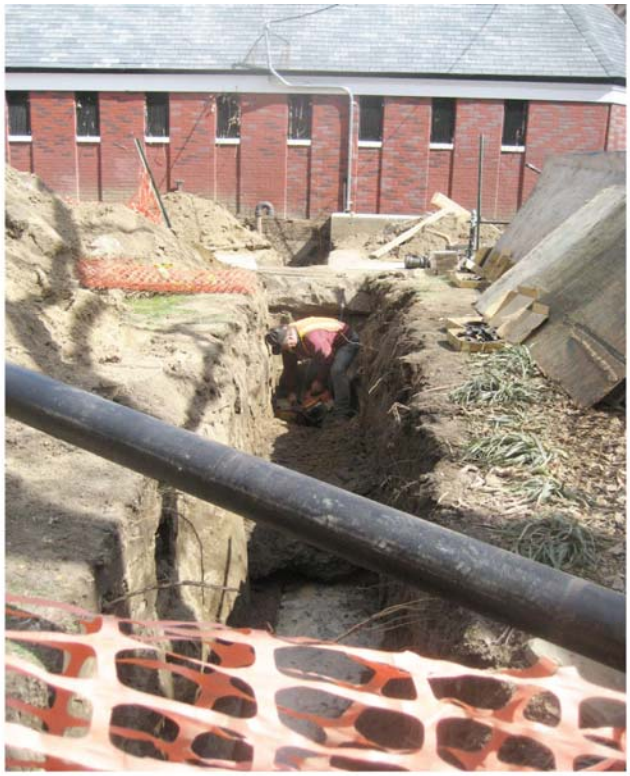
Excavation on May 1, 2008, uncovered four burials northeast of the comfort station at a depth of about 3.5 feet BGS. Following the established protocol, work immediately stopped and Tom Amorosi hand cleared enough soil to determine the extent and location of these shallow burials that, although not well preserved, appeared to be *in situ.* Photographs were taken, (e.g., Figure



28 Squared-off patch of light sand at the bottom of TT15. (Geismar 2-20-08)

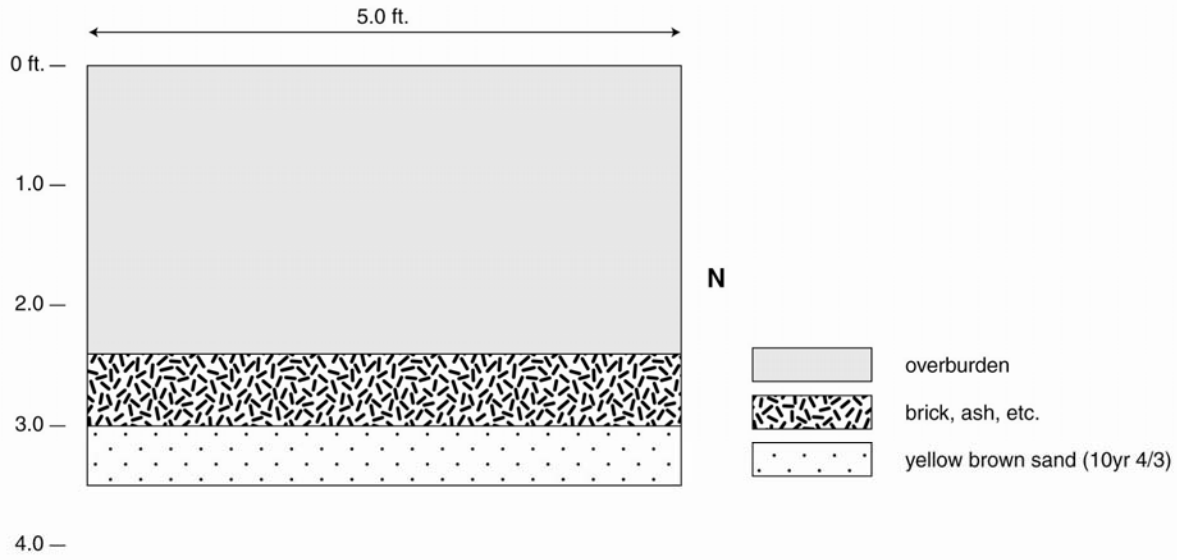
29 Remnant of a stone wall (arrow) uncovered in the north end of TT15 at about 5.6 to 6.0 feet BGS. Its association with 1970 park construction came from a dateable chocolate milk wrapper (see Figure 48). (Geismar 2-20-08)

30 TT16 looking west where the concrete plaza wall was exposed. TT15 is in the background. (Geismar 2-20-08)

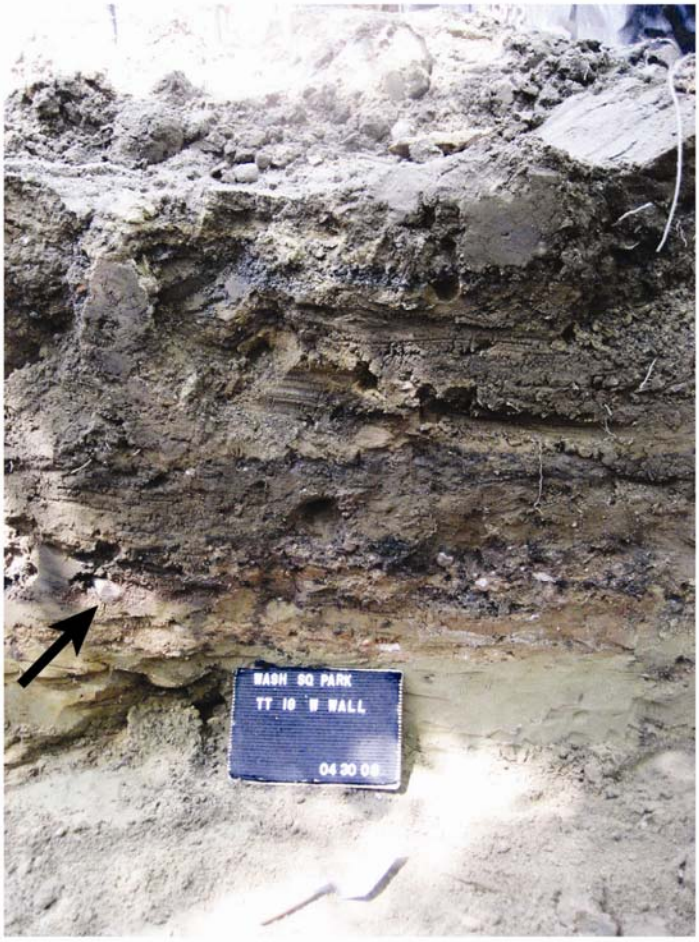


31 TT17, archaeologically monitored but excavated by NY Water. View is looking north toward the park's comfort station. (Geismar 4-3-08)

32 Tying tree branches back to accommodate excavation of TT18. (Geismar 4-30-08)



33a Test Trench 18 (TT18) North Leg, West Wall Profile, Schematic (Near Intersection with South Leg) (4-30-08)



33b Isolated human bone (arrow) in fill in west wall of the north leg of TT18. (Geismar 4-30-08)

34), one of them indicating decayed wood from a coffin and a coffin nail (Figure 35), and they were to be documented in a field plan the next day.

On May 2, 2008, Tom Amorosi returned to the site to draw the burials *in situ*. Parks' GIS specialists also returned to the site, but the data proved insufficient to plot the trench (this was corrected months later via photographs and a GIS map was created; see Figure 46). The southernmost burial, designated Individual 1, was disturbed by a large root. Individual 2, just to the west, was less well defined but included evidence of a wood coffin. The exposed elements of two additional burials (Individuals 3 and 4), located north of the others and limited to skull and upper torso elements, were protected by wooden boxes similar to those used in TT3N EXT. After marking the locations of the burials with clean white sand (Figure 36), the trench was partially backfilled until the water system was redesigned.

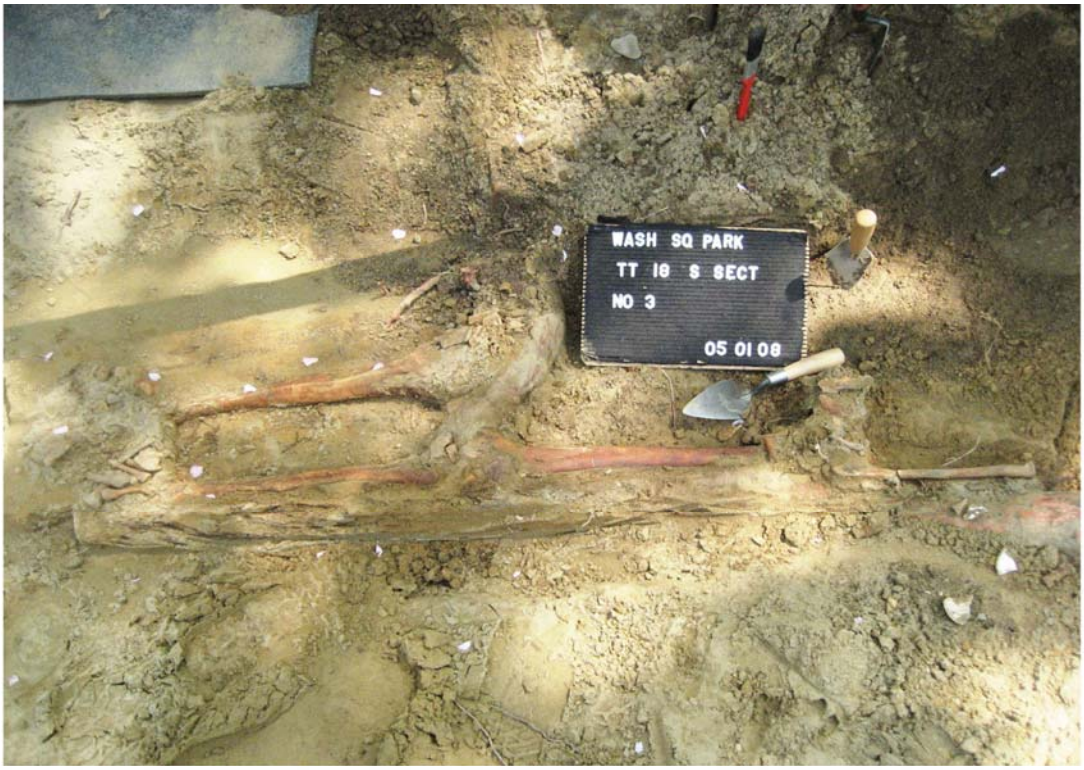
On May 7, testing began for the redesigned, water pipe trench, one that was shallower (only 2.5 feet deep) and wider (14 rather than 7 feet wide) than originally planned. Excavation with a CAT M315 with a 5-foot, flat blade bucket again began south of the comfort station and proceeded east and then north in the L-shaped trench. Testing uncovered an abandoned, concrete catch basin and several additional pipes. One pipe was buried, the others were cut and removed, and the trench reached the plaza wall without incident (Figures 37 and 38). Additional isolated human bone was recovered from this wider trench as were some ceramic fragments for dating purposes. Brick fragments and other fill material were noted in the upper levels of the trench none of it was collected. No additional intact burials were encountered.

TT19
Length: 18 ft Width: 12.0 Depth: 2.5 - 6 ft (5/7/2008)
This was a sloped trench that ran between the north end of TT18 and the deeper south end of TT15, partially within the footprint of TT4. The trench was meant to test where pipes carrying water pumped from the basement of the standing comfort station would connect to the holding tank (TT15). The connection between the two trenches was made when testing encountered plywood that had been placed at the south end of TT15 during backfilling (Figure 39). The soil in TT19 proved to be a fill that contained animal bones (one of them identified as cow) and a "YAHOO" bottle, dating from 1969, but no burials.

Test Pits (TP)

Information from test trench excavations, coordinated with the location of the proposed test pits, as well as the method of excavation, resulted in tests with the dimensions of trenches rather than pits. Consequently, the test pits, like the trenches, have length, width and depth measurements rather than diameter measurements. Test pit excavations, like most of the test trenches, were carried out using a CAT M315 Excavator with a 5-foot, flat-blade bucket.

TP2
Length: 8.0 ft Width: 5.5 ft Depth: 5.6 ft (1/15/2008)
This test, located along a paved walkway 19 feet from the former location of the Holly Statue, required removal of asphalt block from the east-west path. It should be remembered this part of the park had been disturbed by the introduction of a brick sewer during the late-19th century.



34 Intact burial (Individual 1) exposed on east side of the north leg of TT18 in Area No. 3. (Geismar 5-1-08)

35 Coffin nail and decayed wood under burial (Individual 1) in north leg of TT18 in Area No. 3. (Geismar 5-1-08)

36 Light sand (arrow) introduced to mark location of burials after temporary backfilling. (Geismar 5-1-08)

37 Shallow burial of metal pipe exposed in TT18. (Geismar 5-7-08)

38 Plaza wall (arrow) reached at north end of TT18. (Geismar 5-7-08)

39 TT19 where plywood marks the intersection with the south end of TT15. (photographer unknown 5-7-09)

Consequently, it was not surprising to find fill (Figure 40a) with typical artifacts under the paving. These included oyster shell, animal bone, and ceramic fragments, in other words, redeposited trash.

TP4
Length: 7.5 ft Width: 7.0 ft Depth: 6.7 ft with ST (1/15/2008)
Located just southwest of the arch, this pit was moved east and slightly north of its planned location to avoid damage to the canopy and roots of a nearby tree. Asphalt from a former roadway was exposed 2 feet BGS. This was followed by rubble that included brick, road debris, and a clam shell fragment. As shown in a schematic south wall profile, yellow sand with some ash was encountered below the rubble (Figure 40b).

TP6
Length: 11.0 ft Width: 7.0 ft Depth: 9.3 ft (1/16/2008)
Trees were again an issue in this TP located just east of the plaza. The test pit was moved south where a subsurface sequence was documented similar to that found in TT9, that is, a former roadbed followed by a somewhat more extensive rubble fill (4.5 feet BGS rather than the 3.5 feet BGS documented in TT9) (Figure 40c). A metal pipe in the east trench wall at 6 feet BGS, asphalt and brick fragments more than 7 feet BGS, and ceramic fragments from 8.3 to 9.2 feet BGS was indicative of deep disturbance.

A summary of the TT and TP findings is presented in Table 1.

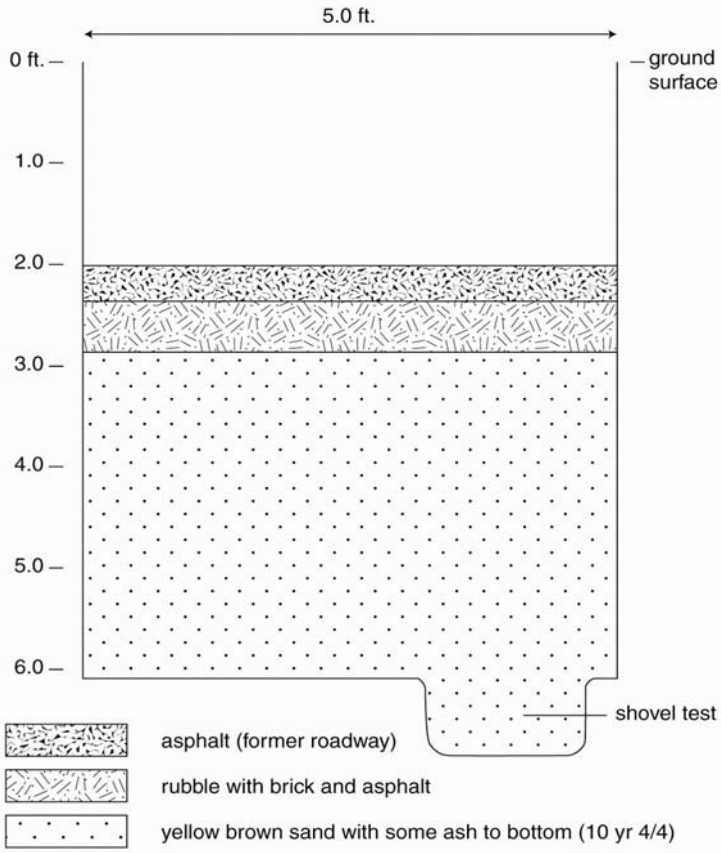
HUMAN REMAINS

Following the project's established protocol regarding human remains, Tom Amorosi, the Bioarchaeologist/Zooarchaeologist during the park's Phase 1 construction, was on call or, if warranted, on site to address any burials that might be encountered during archaeological testing, to record intact burials *in situ,* and to remove and analyze disturbed bones (designated isolated finds) in his lab. The methods and findings are presented in a report that documents ten burials left *in situ* and 515 human bones and bone fragments collected and analyzed in the laboratory. This report is presented in Appendix A with the extensive data base for his findings and an annotated bibliography of references cited and consulted included as a PDF file on a CD (Appendix A1). A summary of these findings and additional field data are presented here.

As noted in the description of the test trenches and pits, what appeared to be a cache of isolated human bone was recovered from under a pipe on the west side of TT3, and one intact burial was documented *in situ* in TT3/TT3N EXT. The trench and its extension were located in the southern part of the project area, adjacent to a park dog run. The bone cache was discovered at, or just below, the interface of a dark fill with yellow sand 5 to 6 BGS. The location makes it hard to imagine burials were not revealed when the pipe was laid in the late 1960s or early 1970s.

Only the lower torso of the intact burial in TT3N EXT, as well as evidence of decayed wood that implied a coffin, were within the limits of the test trench. The upper torso and skull, assumed to be intact, undoubtedly remain in unexcavated soil just east of the trench. The orientation of this burial, and most if not all the others, was basically north to south. Initially identified in the field as a male, closer examination revealed it was a female. A field plan that notes the initial identification is presented in Figure 41.

40a TP2 looking north. (Geismar 1-15-08)



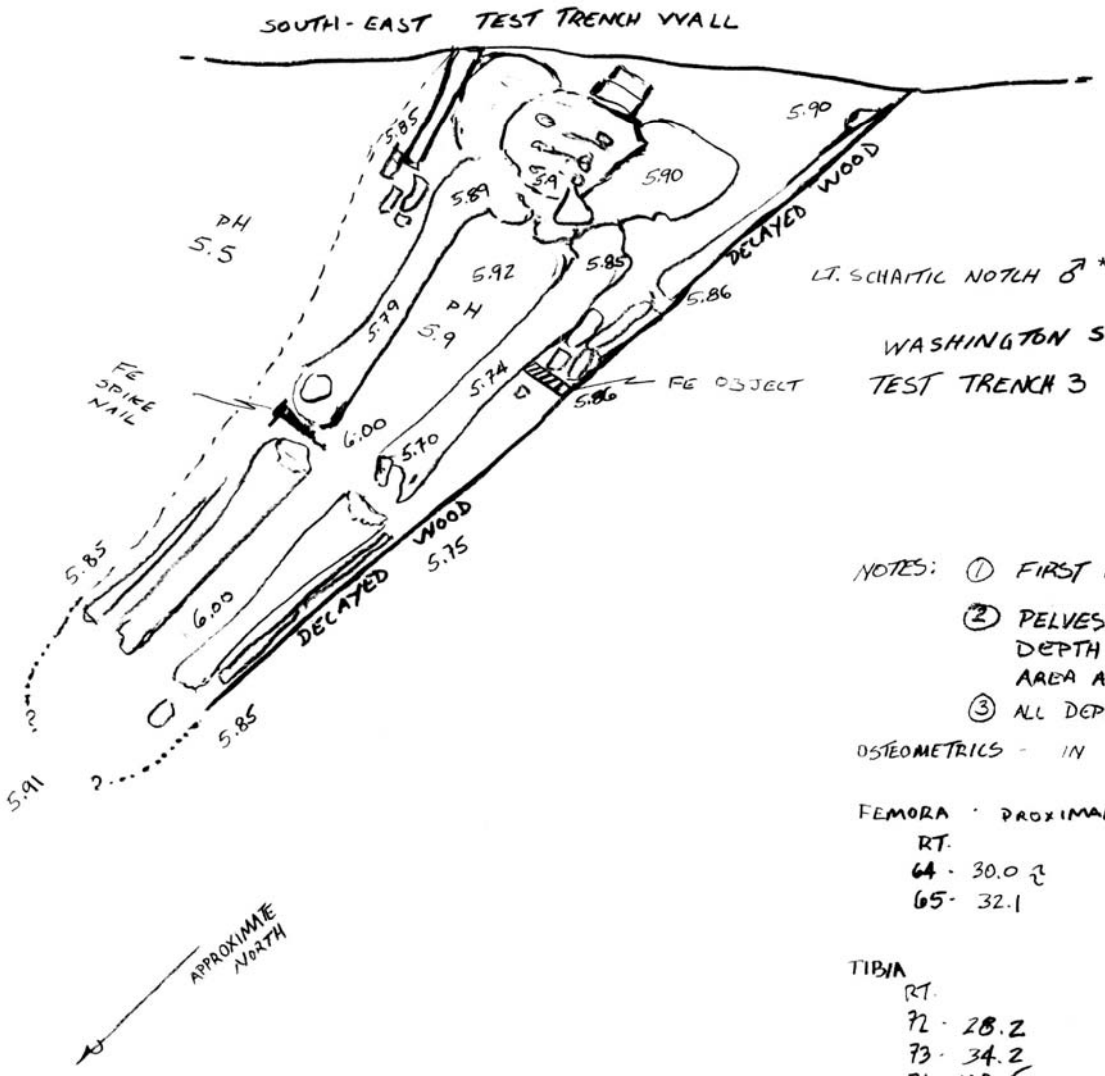
40b Test Pit 4 (TP4), South Wall Profile, Schematic

40c TP6 looking north. (Geismar 1-16-08)

Table 1. WSPPF Test Trench (TT) and Test Pit (TP) Summary*

TT/ TP	Construc-tion Depth +2–ft ST	Proposed TT Length /TP Diam	Actual Dimensions L × W × D	Burial/ Isolated Bones (BGS)	(Date) Remarks
TT1	6–8	60, double L	35.8 × 5.2-12×10-12	–-	(1/8/08) Pipe, catch basin
TT2	6	35	23 × 5.2 × 8–13	–-	(1/9/08) Deep fill
TT3/ TT3NE × t	8	15	22.8 × 4.8–5.8 × 5.3–7.3	(5.9)† (7.0)††	(1/21/0–81/23/08) Human bones in profusion at N end of TT3 at c.7 ft (below pipe); intact burial in N wall (partially obscured) and S wall (5.9 BGS); isolated bones in vicinity of pipe (bones removed; (identified as female); terminated at depth of burials
TT4	13	15	25 × 5.2–8.6 × 3.3–6.7	(6.2–6.7)† ‡‡‡	(1/23/08–1/24/08) Proposed fountain holding tank; intact burial 6.2 to 6.7 BGS in southern part of trench; bone material and decayed wood suggest as many as 3 more burials, but not explored; TT terminated
~~TT5~~	~~15~~	~~25~~			Deepest planned excavation; ELIMINATED
TT6	5–7	10	7 × 5–5.2 × 7.2		(1/15/08) With 2 ft ST
TT7	6	10	7.5 × 7 × 5.2– .5		(1/15/08) With ST; bisected by pipe
TT8	5–7	20	–-		Not monitored
TT9	6–9	20	26 × 5.5 × 6.2–9.2		(1/16/08) 9.2 at N end
TT10	6	20	10 × 5.5 × 4–6.5		(1/21/08) With ST
~~TT11~~	~~6–7–11~~	~~40~~			ELIMINATED Trees, utilities
TT12/ TT12 EXT	5–10–5	40	22 × 5.2 – 7 × 5.8–10		(1/16/08)2 parts, E of plaza (terra-cotta pipe at c. 3.8 ft) and in plaza; 10 ft deep in SW corner
TT13	6–8	30 (V-shape)	L-shaped 22.5× 5.2–6.3× 5.5–8		(1/21/08) N–S leg ST to 6.3; E–W leg to 8–ft depth
~~TP1~~	5	10–15			ELIMINATED Not necessary
TP2	5	10–15	8×5.5× 5.6		(1/15/08) Fill throughout
~~TP3~~	~~6~~	~~10–15~~			ELIMINATED Beyond contract
TP4	5	10–15	7.5×7× 6.7		(1/15/08) ST 6.7 ft
~~TP5~~	~~8~~	~~10–15~~			Replaced by TT17 (see below)
TP6	9	10–15	11× 7 × 9.3		(1/16/08) Moved E; plaza not accessible; also to avoid tree canopy although trees in "pots"
TT14	14	–-----	27.5 × 8 ×5.6 – 11..9	(c 12)†	(1/24/08-1/25/08) Burial 11.2-11.9 BGS in SE corner (female?); TT terminated c 11.9 (12.0) ft BGS
TT15 (added)	6.0	26 Long 13 wide	26 ×13.1 × 6		(2/20/08) Water tanks (2) location; questionable soil stains, but no bone material
TT16 (added)	6.5	------	27.5 × 4.5 – 6.5 × 4.5 – 7.1		(2/20/08) Water line to catch basin; trench in two sections divided by plaza wall
TT17 (replaced TP5)	5 (S section); 4 (N section)	------	31× 3 × 4 –5		(4/2/08) NYC Water Works (private); replacement of water line by hand and backhoe; manhole; mixed artifacts, including a 1982 qt beer bottle
TT18 (added)	3.5 initial plan; 2 ft revised plan	L-shaped, 133 ft long 14 ft wide	N-S leg 110 × c 14+ × c 2.5 ft, deeper in fill near wall; E-W leg c 35 × 14+ × 3.5–4. ft	(c 3–4)† (c 3–4)† (c 3–4)† (c3-4)††	(4/28/08–5/7/08) Removed existing water/utility pipes S of comfort station in vicinity of TT3; TT to be 7-ft wide, depth to be determined; discovery of 4 intact burials initiated new design with trench c. 2.5 ft deep, c. 14 feet wide; deeper near plaza wall; no additional burials
TT19 (added)	6–8	------	18 × 12 × 2.5 – 6	2– 6	(5/7/08) A sloped trench where pipes will connect to water tank (TT15 to TT18)

*all measurements are in feet; ST=shovel test; BGS=below ground surface; _____ trench with human bone material;
†intact burial; ‡ intact burial?, not investigated; ††disturbed burial/isolated human bone



WASHINGTON SQUARE PARK
TEST TRENCH 3 - NORTH EXTENSION

NOTES: ① FIRST EXPOSED AT 5.7" BGS
② PELVES FIRST MEASURED DEPTH AT 5.6" BGS, FEET AREA AT 5.5" BGS
③ ALL DEPTHS IN 10TH OF FEET

OSTEOMETRICS - IN MM

FEMORA - PROXIMAL

RT.	LT.
64 - 30.0 ?	64 - 28.6
65 - 32.1	65 - 33.2

TIBIA

RT.	LT.
72 - 28.2	72 - 28.5
73 - 34.2	73 - 35.9
74 - 110.5mm	74 - 110 mm

FIBULA

RT.	LT.
76 - 13.6	76 - 13.5

FEMORA - MIDSHAFT

RT.	LT.
66 - 29.9	66 - 29.4
67 - 25.8	67 - 25.6
68 - 90.0 mm	68 - 90.0 mm

* subsequently identified as female but symbol not changed

0 .656 ft
0 20 cm

First located about 5.7 feet BGS, this burial was situated partially under plywood shoring introduced on either side of the trench for safety. Preservation appeared to be good. Once the field plan was done (see Figure 41), clean white sand, a specially constructed wooden covering, and then Geocloth were introduced before the trench was backfilled, in this case, after the shoring was removed (see Figures 13 and 14 for photographs).

The second intact burial, discovered in Test Trench 4 (TT4), initially meant to be the location of the water holding tank and, therefore, the deepest of the planned excavations, was located in the southern part of the trench north of a shallow bank of pipes. This burial, which was more ephemeral than the burial in TT3N EXT, was first encountered at a depth of about 6.2 to 6.7 feet BGS (after cleaning, approximately 7.4 feet BGS). Like the burial in TT3N EXT, decayed wood was associated with the burial. The burial was identified as possibly a male, and based on field examination of the bones, less than thirty-five years old. Decayed wood in the north and east parts of the trench associated with human remains indicated the presence of three other burials, but the discovery and identification of the first intact burial halted any further exploration. A field plan was made (Figure 42) prior to protecting the burials and backfilling the trench. Later laboratory analysis of collected isolated bones indicated the trench contained remnants of three additional burials, two possible females and the other possibly a male (see Appendix A, Table 1).

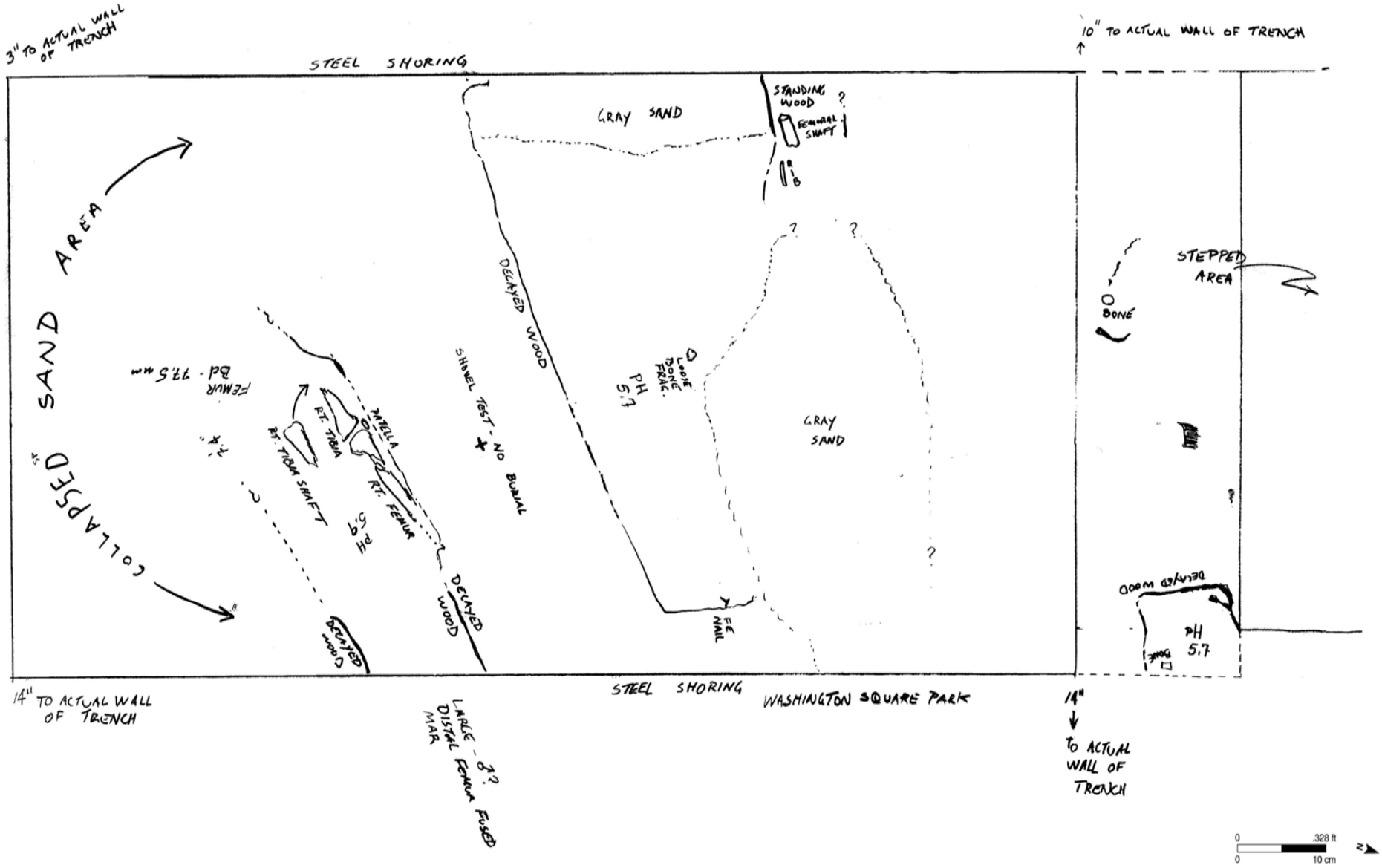
As mentioned earlier, the discovery of another intact burial almost 12 feet BGS in the southern part of TT14, a trench added to determine a new location for the water holding tank after TT4 proved unsuitable, was a surprise. Since testing in TT14 did not reveal evidence of a burial shaft, it was a discovery that highlighted the homogeneous aspect of the site's sandy soils noted elsewhere in the project site.[4]

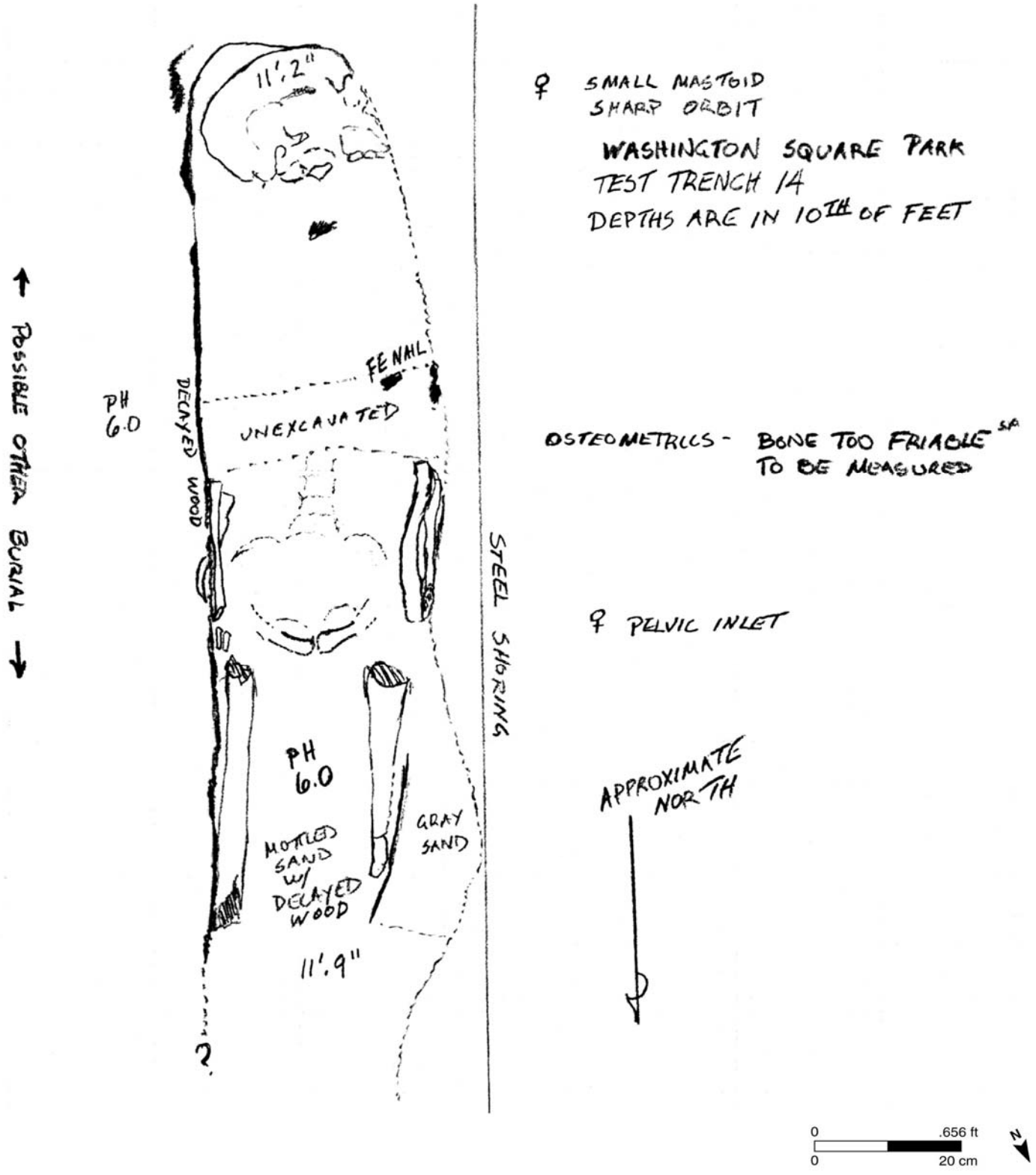
Tom Amorosi cleaned the burial and identified it as a female less than 35 years old. A field plan documented the burial (Figure 43; also see Figures 26 to 27). A dentist, who was shown a photo of the aforementioned double molar (see Figure 27), indicated it was not uncommon. Like the others, this burial was protected prior to backfilling.

As mentioned earlier, TT18 was located just west of TT3/TT3N EXT and, therefore, in an area of known sensitivity. The trench, intended to explore a long stretch where water pipes to the new fountain were to be laid, was to be 2 feet shallower than the depth of the burial found in TT3N EXT. It was hoped that this shallower depth would not impact any additional burials.[5] However, a cluster of four intact burials encountered in the northern leg of the trench at approximately 3.0 to 3.5 feet BGS proved this was not to be the case. The finding of these shallower burials adjacent to the burial in TT3N EXT not only suggests disturbance to burials in TT3/TT3N EXT, but also that burials in this area might have been stacked, a circumstance that can only be speculated upon given the established burial protocol for this phase of the park's reconstruction. Taking this a step further, since no burial shafts were associated with any of these burials, the absence of a burial shaft may also be evidence for the pit burials documented in a newspaper article (Geismar 2005: 11). However, as noted earlier, the absence of burial shafts merely may reflect the homogenous nature of the park's sandy soil.

[4] See footnote 2.

[5] It had been mathematically calculated that 2 feet of soil would be protective of any burials below the proposed water holding tanks. Pipes, because they impose minimal weight, would not be an issue.


3" TO ACTUAL WALL OF TRENCH
STEEL SHORING
10" TO ACTUAL WALL OF TRENCH
COLLAPSED SAND AREA
GRAY SAND
STANDING WOOD
FEMORAL SHAFT
DECAYED WOOD
SHOVEL TEST - NO BURIAL
PH 5.9
LOOSE BONE FRAG.
GRAY SAND
STEPPED AREA
BONE
FEMUR
Bd - 77.5 mm
PATELLA
RT. TIBIA
RT. FEMUR
RT. TIBIA SHAFT
PH 5.9
DECAYED WOOD
DECAYED WOOD
FE NAIL
PH 5.7
14" TO ACTUAL WALL OF TRENCH
STEEL SHORING
WASHINGTON SQUARE PARK
LARGE - ? DISTAL FEMUR FUSED MAR
14"
TO ACTUAL WALL OF TRENCH
0 .328 ft
0 10 cm
N


11'.2"
FEMAL
PH 6.0
DECAYED WOOD
UNEXCAVATED
STEEL SHORING
PH 6.0
MOTTLED SAND W/ DECAYED WOOD
GRAY SAND
11'.9"
POSSIBLE OTHER BURIAL
♀ SMALL MASTOID
SHARP ORBIT
WASHINGTON SQUARE PARK
TEST TRENCH 14
DEPTHS ARE IN 10TH OF FEET
OSTEOMETRICS - BONE TOO FRIABLE SA TO BE MEASURED
♀ PELVIC INLET
APPROXIMATE NORTH
0 .656 ft
0 20 cm

The four burials in TT18 were also documented in field plans (Figure 44), photographed (e.g., see Figure 34), and protected prior to backfilling. GIS maps provided by Parks indicate the location and relationship of the three sensitive test trenches (Figures 45 and 46).

In summary, testing identified ten intact burials left *in situ*. Seven were examined in the field and all ten were documented in field plans. In addition, laboratory analysis of 515 isolated human bones removed from the site indicated that at least six additional burials were present in the tested trenches (see Appendix A). Following the established site protocol, the analyzed bones will be reinterred in the park when the entire project is completed. In addition, soil stains or sand patterns suggest there may have been at least four additional burials within the tested trenches. Field observations also suggested that the all were of European descent, but this could not be verified based on available data.

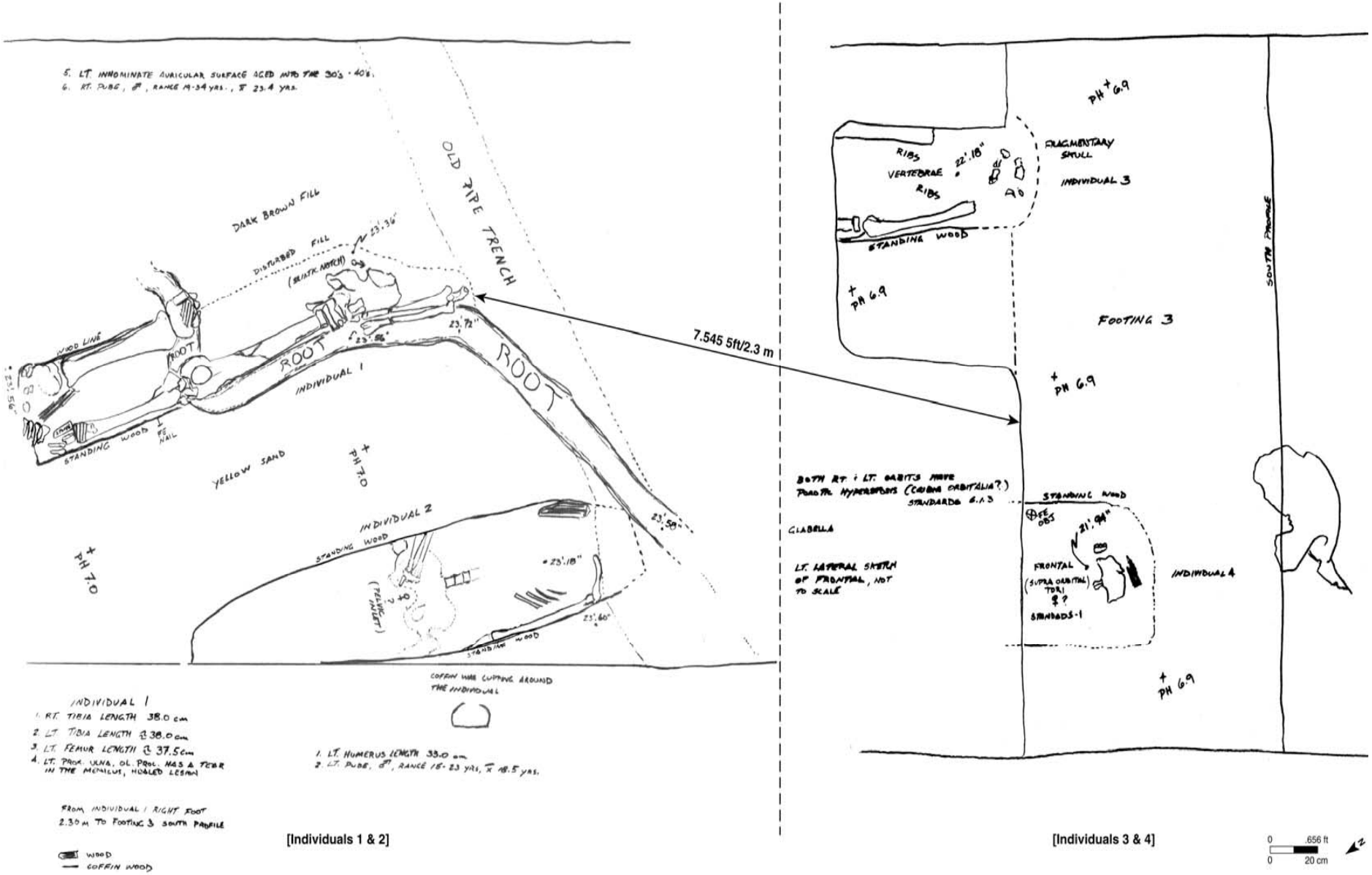
FAUNAL MATERIAL

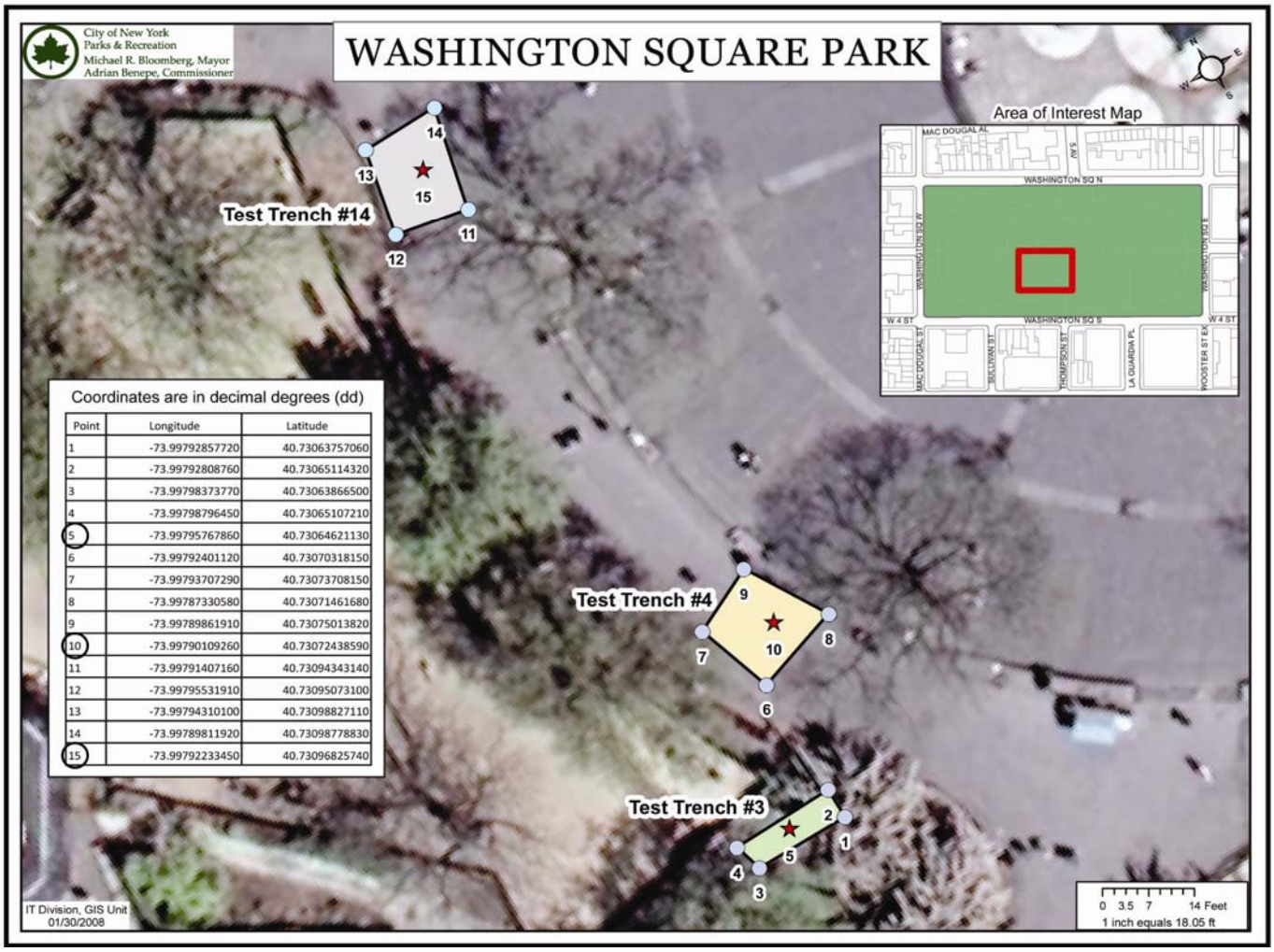
Faunal material, a ubiquitous component of urban fill that comprises animal bones and mollusk shell, was encountered sporadically during archaeological testing. Because the scope of work and protocols for testing the park's Phase 1 construction focused on the recovery and analyses of human remains, faunal material was not an integral part of the investigation. Not only was it rarely found, but also, if found, it was usually noted, if possible, identified in the field, and discarded. Tom Amorosi, the project's Bioarchaeologist/Zooarchaeologist, did collect a faunal grab sample of seventy-five specimens from TT18. In this trench, small caches of animal bones and some shell were found mainly in the southern leg of the trench. He notes it is a sample governed by size, by chance, and by the vicissitudes of preservation. The identifications and findings of his analysis of this grab sample are presented in Appendix B in this report. Faunal material noted in other parts of the site is briefly mentioned here.

Faunal material was noted in TT2 (animal bone, clam shell, and many oyster shells); TT14 (animal bone and oyster and clam shell); TT15 (clam and oyster shell); TT16 (animal bone [a sheep femur]); TT17 (a bird bone); TT18 (animal bones [sheep and cow] and clam and oyster shell, mainly in the southern arm of the trench but also in footings excavations on the west side of the north arm of the trench); TT19 (animal bone [cow] and oyster shell).

ARTIFACTS

Like faunal material, recovery of artifacts was not an integral part of the testing plan. Therefore, a grab sample of only seventy-one artifacts was collected, mainly for dating purposes. Mostly they comprise small, decorated ceramic sherds or those with a marker's mark, but one plasticized drink wrapper, the aforementioned Diarylea Chocolate Drink wrapper, was collected to date the buried remnant of a stone wall in the north end of TT15 (the wrapper provided a 1969 date; see Appendix C, Cat. No. 203-6 and Figure 48). The relative cleanliness of the park's fill is worth mentioning. And, based on other 19th-century fills documented at historical sites, the paucity of glass was particularly noteworthy. Typically, these are bottle fragments, a dominant component of mid- to late-19th-century fill (at WSPPF, bottles mainly comprised the occasional modern beer or other beverage bottle). The apparent absence of old bottle glass (the exception was TT18 where some examples were collected in a grab sample [see Figure--]) suggests the relatively early age of the fill, one that predates the increasingly common use of glass following the introduction of improved manufacturing techniques that began in the middle of the 19th century and intensified over time.

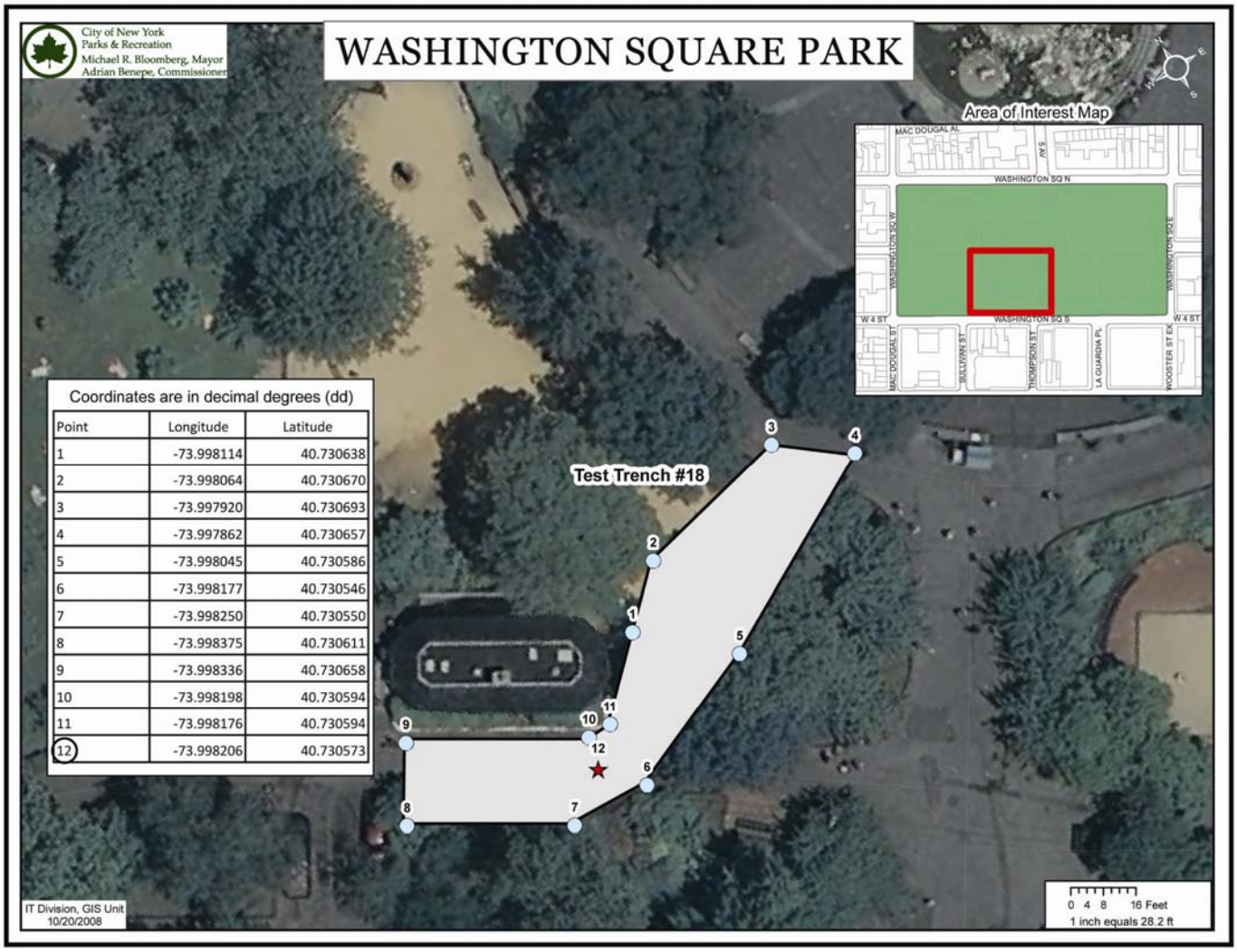

5. LT. INNOMINATE AURICULAR SURFACE AGED INTO THE 30's - 40's.
6. RT. PUBIC, ♂, RANGE 19-34 yrs., X 23.4 yrs.
OLD TIRE TRENCH
DARK BROWN FILL
DISTURBED FILL
(SLANTS NORTH)
N 23.36'
WOOD LINE
ROOT
ROOT
ROOT
23.72"
23.86'
INDIVIDUAL 1
STANDING WOOD
FE NAIL
YELLOW SAND
PH 7.0
INDIVIDUAL 2
STANDING WOOD
23.59'
23.18"
(FEMUR INLET)
23.60'
PH 7.0
COFFIN WAS CUTTING AROUND THE INDIVIDUAL
INDIVIDUAL 1
1. RT. TIBIA LENGTH 38.0 cm
2. LT. TIBIA LENGTH ≥ 38.0 cm
3. LT. FEMUR LENGTH ≥ 37.5 cm
4. LT. PROX. ULNA, OL. PROL. HAS A FEAR IN THE MEDULLA, HEALED LESION
FROM INDIVIDUAL 1 RIGHT FOOT 2.30 M TO FOOTING 3 SOUTH PROFILE
WOOD
COFFIN WOOD
1. LT. HUMERUS LENGTH 33.0 cm
2. LT. PUBIC, ♂, RANGE 18-23 yrs, X 18.5 yrs.
[Individuals 1 & 2]
7.545 5ft/2.3 m
PH 6.9
RIBS
VERTEBRAE
RIBS
22.18"
FRAGMENTARY SKULL
INDIVIDUAL 3
STANDING WOOD
PH 6.9
FOOTING 3
SOUTH PROFILE
PH 6.9
BOTH RT & LT. ORBITS ARE PORTH. HYPERSTOSIS (CRIBRA ORBITALIA?) STANDARDS 0-1-3
STANDING WOOD
FE OBJ
21.94"
GLABELLA
LT. LATERAL SKETCH OF FRONTAL, NOT TO SCALE
FRONTAL
(SUPRA ORBITAL TORI ♀?
STANDARDS-1
INDIVIDUAL 4
PH 6.9
[Individuals 3 & 4]
0 .656 ft
0 20 cm



Point	Longitude	Latitude
1	-73.99792857720	40.73063757060
2	-73.99792808760	40.73065114320
3	-73.99798373770	40.73063866500
4	-73.99798796450	40.73065107210
5	-73.99795767860	40.73064621130
6	-73.99792401120	40.73070318150
7	-73.99793707290	40.73073708150
8	-73.99787330580	40.73071461680
9	-73.99789861910	40.73075013820
10	-73.99790109260	40.73072438590
11	-73.99791407160	40.73094343140
12	-73.99795531910	40.73095073100
13	-73.99794310100	40.73098827110
14	-73.99789811920	40.73098778830
15	-73.99792233450	40.73096825740

★ location of human remains, approx.

○ coordinates for human remains



★ location of human remains, approx.

○ coordinates for human remains

The site's collected ceramics were reviewed and identified by Meta F. Janowitz, Ph.D., a ceramic specialist. Her evaluation is quoted in its entirety:

> The ceramic sherds from the current excavations at Washington Square [Park] appear to come from redeposited secondary refuse. They were probably inadvertently included in the soils used for fill at the site. Their manufacturing date ranges cluster in the second and third quarters of the 19th century, based on the ware types and styles of decoration. One partial maker's mark was attributed to the Staffordshire company of William Ridgway and Son,[6] operating between 1838 and 1848 (Godden 1964:538). It is not possible to associate them with any specific household or house-holds, although it is possible they came from primary refuse deposits in the neighborhood (Janowitz 2009:personal communication via e-mail).

To take it a step further, if the ceramic fragment with a William Ridgway maker's mark found in a mixed context, and other mixed context finds, are eliminated from the analysis, the fragmented ceramics collected as a grab sample throughout the site tend to support the historical fact that it was graded and filled in the second decade of the 19th century. This was when the former domestic cluster and burial ground were transformed into a flat, even terrain suited to a Parade Ground. The association of the fill with this transformation is supported by the *terminus post quem* (TPQ) dates derived from the collected grab sample (see Table 2), that is, the earliest date of manufacture and, therefore, the date after which it had to be deposited. The mixed contexts for many of the artifacts are a reflection of the park's several land-moving and landscaping episodes over the years.

Table 2. WSPPF Manufacture Date Range and TPQ Date of Grab Sample Artifacts

TT/TP	Cat No.	Section	Manufacture Date Range	TPQ	Remarks
TT1	101	A		---	Cigarette filters from abandoned catch basin S end of trench
TT2	102	A	1820-1835	1820	Ceramic cache 8-9 ft BGS on south side of trench
TT3N EXT	201	B	1810-1860	1810	Ceramic from upper strata of dark soil
TT14	202	B	1815-1830	1815	Ceramic, in sand
TT15	203	B	----	1969	Dairylea Chocolate Drink wrapper 5.5 ft BGS in association with the buried remnant of a stone wall in N end of trench
TT15	204	B	1780-1835	1780	Ceramic, E side of trench, 18 ft from S end, 6-6.1 ft BGS
TT15	205	B	1815-1830	1815	Ceramic, SE side of trench, 5.5 ft. BGS
TT15	206	B	1795-1825	1795	Ceramic, S center, 5.3 ft. BGS
TT17	208	B	1820-1870	1820	Ceramic, mixed context in association with beer bottle
TT18	209	B	1851-1853	1851	Ceramic, adjacent to TT3 0-3 ft BGS
TT18	210	B	1838-1848	1838	Ceramic with maker's mark, "WILLIAM RIDGWAY, SON & CO." N leg in mixed context (Footing 2, in association with Styrofoam, paper, electrical conduit)
TT18	211	B	1830-1870	1830	Ceramic, N leg of trench under metal pipe in association with 20th C materials (sunglass label, post-1920 bottle fragment)
TP6	212	B	1785-1830	1785	c. 8.3 ft BGS, possibly an early fill

mixed context

[6] This relatively late artifact, an unidentified, small body fragment decorated with blue transfer print, was recovered from a footing extension in the north leg of TT18. It was found in association with Styrofoam, paper, and electrical conduit, in other words, in a mixed and disturbed context.

Appendix C is a catalog of the collected grab sample artifacts and Figures 47 to 53 present photos of selected artifacts (see also Figure 8). Appendix D is a catalog of four artifacts collected as a grab sample during monitoring of the Washington Square Arch in 2004.

SUMMARY AND CONCLUSIONS

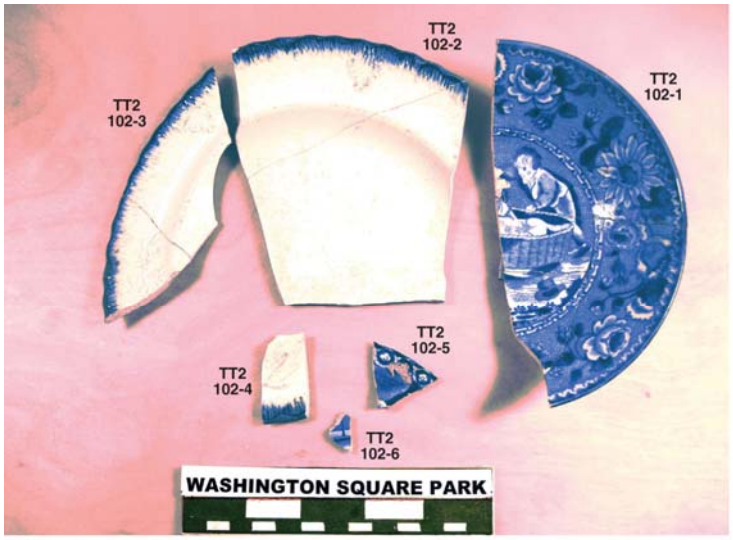
In summary, fifteen test trenches located throughout the Phase 1 construction area of Washington Square Park (TT1, TT2, TT3/TT3N EXT, TT4, TT6, TT7, TT9, TT10, TT12, TT13, TT14, TT15, TT16, TT18, TT19) and three test pits (TP2, TP4, TP6) were excavated to determine archaeological sensitivity, and one test trench excavated by others (TT17) was monitored archaeologically. Another test trench within the project limits, TT8 located on the east side of the Washington Memorial Arch in an area of known disturbance, was not monitored (see Table 1 for a summary of details and Figure 3 for locations).

Archaeological testing verified that a major part of the project area (Section B) had served as a Potter's Field active from 1797 until 1825. Testing in this section determined that four test trenches (TT3/ TT3N EXT, TT4, TT14, and TT18) were sensitive in regard to both intact human burials and isolated, or disturbed, human bones. The ten intact burials evidenced varying degrees of preservation. Several were at relatively shallow depths (3.0 to 3.5 feet BGS in TT18) while at least one was deeply buried (about 12 feet BGS in TT14). Following the project's established protocol, intact burials were documented and protected in the field while isolated human bones were removed for laboratory analysis and eventual reburial in the park. The burial data collected in the field and analysis of 515 isolated bones by Tom Amorosi, the project's Bioarchaeologist/Zooarchaeologist, identified the presence of an adult but relatively young male and female burial population. While it was determined that these individuals had led lives of hard labor, and that one female had probably borne at least one child, it was not possible to identify definitively the ethnicity of the burials based on available information. However, in the absence of evidence to the contrary, a European ethnicity is postulated for the sample (see Appendix A; also see Appendix A1 for bioarchaeological measurements and other details of the analysis).

All four trenches with intact burials were located in the southwest part of Section B, adjacent to a park dog run (to accommodate TT18, the dog run was shifted slightly west). Evidence of decayed wood representing coffins was found in association with almost all the intact burials.

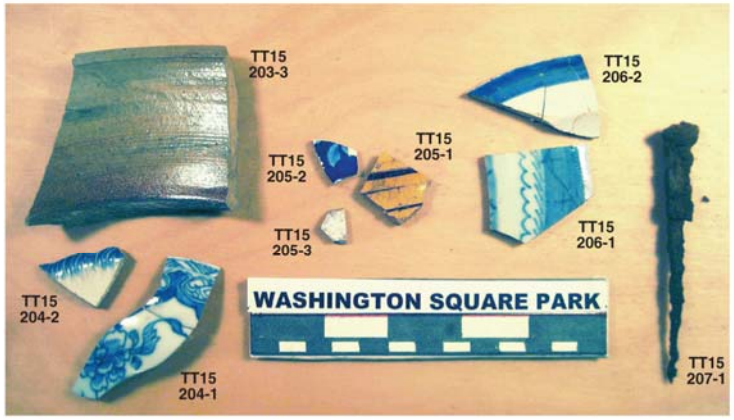
A minimum number of sixteen individuals (MNI) was derived from field-documented intact burials and the isolated bones analyzed in the laboratory. The homogeneity of the sample—its lack of infant or juvenile burials as well as those of the elderly—surely speaks to the small sample size and randomness of the collection rather than the burial population.

The detailed analysis of New York's African Burial Ground (ABG), active from about 1650 until 1795, offers the most relevant and available data to compare with the Potter's Field sample (see Perry *et al*. 2006), but the difference in sample size (MNI of sixteen at the Potter's Field versus 435 burials at the ABG), cultural parameters, research design, and field documentation warrant only observational comparisons. While both are assumed to represent low socio-economic populations, similarities as well as differences abound: coffin burials appear dominant in both populations, but those in the ABG were predominantly oriented with the head to the west, Potter's Field burials were basically north to south. Personal items, such as buttons, beads, and coins, were recovered at the ABG, while, with the exception of nails, there were no artifacts associated with the Potter's Field burials. The 435 burials documented at the ABG provided a sample that ranged from infants to the elderly, but the twelve individuals in the Potter's Field sample that could be aged more precisely than merely "adult" were all young to relatively young. That said, both the ABG and Potter's Field burial populations indicate



47 Grab sample from cache of ceramics noted in the south side of TT2. All TPQ dates for datable artifacts are from the first quarter of the 18th century or earlier. (Geismar 1-13-09)

48 Grab sample artifacts from TT3N EXT (upper soils) and TT15. Notable among them is the Dairylea Chocolate drink wrapper (center) from TT15 first produced in 1969. Also two corroded nails (right) from the north end of TT15 where testing found no burials. (Geismar 1-13-09)



49 Grab sample artifacts also from TT15 that, in addition to ceramic sherds, include a large, corroded nail (right). (Geismar 1-13-09)

50 Grab sample artifacts from TT17, a ceramic and two kaolin pipe stem fragments (to the left), and from the north leg of TT18 in mixed contexts. (Geismar 1-13-09)

51 Grab sample artifacts from a mixed context in TT18. A printed ceramic sherd (210-1) with a maker's mark (WR&S), dated to 1838-1848, was found in association with Styrofoam and other modern material. (Geismar 1-13-09)

52 Grab sample artifacts from TT18, again, from a mixed context. The earliest manufacture date comes from what is possibly a cup base (211-5) with a manufacture date range of 1680 to 1785. In association, however, was a "MAXIMUM PROTECTION" sunglass label (211-13). This sample included one of the site's few 19th-century bottle fragments (211-10). (Geismar 1-13-09)

53 This single grab sample artifact from 8.2 feet BGS in TP2 (212-1), with a manufacture date range of 1785 to 1830, might represent an early fill episode. (Geismar 1-13-09)

harsh lives with little or no medical intervention. However, the ABG archaeological report notes this will be "evidenced in both free and enslaved individuals in an 18th-century urban environment" (Wilcziak *et al*. in Perry *et al*. Vol. 1 2006: 449), a situation that undoubtedly persisted into the early years of the 19th century. Should burials be encountered in the park's northeastern quadrant historically associated with church cemeteries within the Potter's Field, it will be interesting to see if they present a similar picture.

No evidence of Thomas Ludlow's domestic buildings was found in Section A, the known location of his country retreat west of the Minetta Waters and, therefore, west of the Potter's Field. However, here deep fill was documented, albeit a fill difficult if not impossible to distinguish from the park's natural sandy soil. Nor were there many artifacts found throughout the site, and those noted or collected were mainly ceramics. For dating purposes, a grab sample of seventy-one artifacts was collected for laboratory processing and analysis (see Appendix C). Caches of ceramic sherds and animal bones exposed in fill in TT2 in Section A were photographed in the field with only a few examples of the ceramics recovered for processing. However, these artifacts, like most others collected for analysis, mainly date from the first quarter of the 19th century and appear to be associated with the grading that created the Parade Ground after the Potter's Field closed in 1825. Analysis of a grab sample of faunal material, a typical fill component, from TT18 is presented in Appendix B.

Land movement to create the Parade Ground was suggested by the aforementioned homogenous sand fill found throughout the minimally disturbed parts of the Phase 1 construction area. Not surprisingly, sub-surface conditions documented in the test trenches suggest that much of Ludlow's land in Section A was graded down while parts of the former Potter's Field (Section B) were filled up to create the Parade Ground.

Former park construction and disturbance was documented in TT15 where a wrapping from a chocolate drink first produced in 1969 was found in association with the buried remnant of a stone wall related to 1970 park construction. A similar situation was documented in TT1 and TT18, where abandoned catch basins were found, and in TT6, TT9, TT10, TT12, TT13, TT18, TP4 and TP6, all situated adjacent to or within the long-established park plaza and/or former road beds. TP2, which also documented disturbance, was located where a deeply-buried brick sewer was constructed from east to west through the park sometime between 1882 and 1890. TP7, on the west side of the Memorial Arch, and TT17, the monitored, relatively shallow north-south trench excavated by others that ran from the south side of the park's 1970 comfort station into the roadbed of Washington Square South, were also in disturbed contexts.

To conclude, field testing prior to and during Phase 1 park construction did not reveal any evidence of Thomas Ludlow's late-18th-century domestic structures but it did verify that burials from the former Potter's Field remain in the eastern two-thirds of the park. It also is possible that burials still remain in the northeastern part of the park, the location of two early-19th-century church burial grounds within the larger Potter's Field. And it is more than likely they will be found east and north of the 1970 comfort station where testing for Phase 1 park construction documented both shallow and deep burials. Moreover, it appears the lack of evidence for burial shafts usually associated with graves is a result of the homogenous nature of the park's natural sandy soil and its sand fill. However, the absence of burial shafts may also be evidence of large burial pits at the Potter's Field mentioned in early-19th-century newspaper accounts. Consequently, any present and future construction within the documented limits of the Potter's Field, where subsequent ground disturbance is either unknown or known to be minimal, should be considered archaeologically sensitive.

"Aerial" photos that record the progress of Phase 1 construction are presented here, one from February 28, 2008, the other from February 27, 2009 (Figures 54 and 55).

54 "Aerial" view of fountain plaza during park construction, February 28, 2008. (Geismar 2-28-08)

55 "Aerial" view of fountain plaza during park construction, February 27, 2009. (Geismar 2-27-09)

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Re: Dairylea Cooperative, Inc. 2008. www.agri-edge.com/aboutUs/history

APPENDIX A

Human Remains from the Washington Square Park Potter's Field (WSPPF)
2008 Archaeological Monitoring, the Washington Square Park Project
Greenwich Village, New York
by Thomas Amorosi

INTRODUCTION

Based on the findings of the Washington Square Park 1A documentary study, human remains were recognized as a potential issue during the park's proposed reconstruction (Geismar 2005). Consequently, advance monitoring carried out according to a scope of work approved by the New York City Landmarks Preservation Commission was implemented (Geismar 2008). This entailed archaeologically monitored backhoe excavation that included the services of a Bioarchaeologist/ Zooarchaeologist. The monitoring was carried out as needed from January 8, to May 3, 2008.

Human remains, first encountered on January 21, 2008, in Trench 3, were discovered under water pipes from nearby park buildings located along the park's south-central border (the Thompson Street area). As work progressed additional intact graves were discovered in Test Trenches 3 and 18 on the eastern side of this building complex and Test Trenches 4 and 14 west of the current dog walk area. Test trenches 4 and 14 (TT4 and TT14) were proposed locations for the new fountain's holding tank; the others, Trenches 3 and 14 (TT3 and TT14) were where associated pipes were planned. (For further descriptions of the monitoring in this area and site stratigraphy see Geismar, this volume).

This report presents the skeletal biology of the human remains encountered in Test Trenches 3 and 3 North Extension, 4, 14 and 18. This sampling of graves does not represent a true mortuary population of late 18th and early 19th century New Yorkers (1790s-1820s). Rather it is a sample of graves to be impacted by Park's current construction. Throughout this project, a New York City Landmarks Preservation Commission (NYCLPC) protocol established for this project to leave intact interments as undisturbed as possible, was followed. All isolated and isolated jumbles of associated bones were recovered in the field and later analyzed by this author. Field documentation and lab analysis identified a minimum number of sixteen individuals (MNI). The data are presented in the form of an inventory of results (Amorosi 2006, nd.) rather than an integrated report such as the African Burying Ground report (Blakey and Rankin-Hill 2004; Perry *et al.* 2006).[1]

METHODOLOGY

Throughout these analyses the international "Standards" protocols developed in 1991 (Buikstra and Ubelaker 1991) were followed. These protocols were designed for maximum data collection in a systematic manner for repatriation and reburial cases such as the Washington Square Park (WSPPF) project. These protocols are now followed worldwide by the Bioarcheological community and have become what the many authors that helped write this protocol had hoped, a standard for Bioarchaeological and Forensic research. In addition, Bass (1995) and occasionally the osteo-metric guide of von den Driesch (1976), were followed. The attached bibliography to this report has been briefly annotated into sections to further indicate supporting studies used in conjunction with this research. For the sake of brevity, readers and reviewers are referred to this bibliography. All field work was accomplished in close cooperation with NYCLPC, NYC Parks and Recreation (Parks) and the New York City Medical Examiners Office (NYCMEO).

[1] A comparative study is planned of 19th century samples from the Staten Island Courthouse site (Amorosi nd.), The New Museum (Amorosi 2006), and Washington Square Park Potter's field (Amorosi this report), along with comparative materials at the American Museum of Natural History.

Field recovery was accomplished in two ways. Intact interments were identified by careful hand excavation, then field planned (by the author) and photographed (see Geismar this volume). Following the field protocol established by the NYCLPC for this project, disturbance to the graves was minimal. All in-field forensic assessments were based upon the human remains "first encountered/exposed" by the archeologists working with construction crews. Every attempt to retrieve anatomical details from the minimally exposed bones was done while field planning the graves. When practical, soil pH was measured to monitor the organic preservation of the interment (essentially, to determine if the soil was either acidic or basic). This monitoring also helped decide if the excavators were within or outside a coffin.[2]

Isolated and associated isolated remains (such as those found in Test Trench 18) were either recovered by hand or by sieving "hot spots" of associated soils through a 1/4- inch wire mesh screen. Aluminum foil and acid free tissue paper were used to support fragile articular ends of long bones, a condition caused by water saturation, so they could be safely transported to the laboratory. All collected bone material was individually wrapped in acid free tissue paper, each was labeled with context information, placed in plastic bags, and transported to the laboratory.

After consultation with conservators from the Division of Anthropology at the American Museum of Natural History, it was decided that a slow air drying process would prevent any further damage and help to harden the bone materials for laboratory study. The site's sandy soils were left on the surface of the bones to help the drying process. But drying depended on the size of the bone fragment, with relatively complete long bones needing several months to dry so they could be safely handled. Although this slowed the analyses, much more accurate anatomical and forensic detail could be obtained.

The isolated remains were cataloged by a numbering sequence that started with the test trench designation followed by the skeletal element number. If associated remains were noted in the field, or were identified in the laboratory, an additional sequential number was assigned. These catalog numbers are italicized in this report, for example *18.30.7*. Occasionally an additional fourth extension number is listed. This was added when the third number had associated multiple fragments. This numbering system is used by many Bioarchaeologists and Zooarchaeologists to sort comingled remains. A total of 515 isolated bones were catalogued (see Appendix A1 for Biological Descriptions and Human Biological References).

BURIAL TREATMENT

Although the WSPPF sample is not a mortuary sample, there are a number of observations to note:

1) There are two orientations that might represent different phases of burial or interment at WSPPF. These orientations might offer a way to date the burial sequence. A similar observation was noted at the African Burying Ground site in lower Manhattan (Blakey and Rankin-Hill 2004; Perry *et al.* 2006).[3] The WSPPF sample suggests Test Trench 14 is the oldest in the

[2]Based upon the author's excavation experience, soil pH represents a very localized set of conditions. Features, especially graves or burials, have a noticeable difference in soil pH from the surrounding earth. Monitoring soil pH can be useful when first encountering a burial or grave shaft to determine the limits of the interment.

[3] The Staten Island Courthouse sample demonstrates the opposite pattern. At this site there are individual graves and slit trench graves (most likely rushed during the Yellow Fever epidemics years in the 1840s-1850s) (Amorosi nd.)

sequence as it is the deepest interment at nearly 12 feet below the current ground surface. Test Trench 18 might represent the youngest (highest stratigraphically) in the burial sequence.

2) A lack of discernable grave shafts at WSPPF may reflect burials in large pits rather than individual graves (Geismar 2004, 2005). A paucity of grave shafts is also found on Staten Island at the Staten Island Courthouse site, another potter's field under investigation (Amorosi nd.). Also, the burial ground soils, which are very sandy (possibly from the Minetta Creek river terrace), seem to erase strata as might the various construction episodes in the park (see Geismar text). Essentially the sandy/silty soils would compact helping to erase noticeable color and texture differences.

3) Grave goods and careful burial treatment are both lacking. Only in TT18 was copper staining found on the lower arms, hips and lumbar spine that might indicate the use of a shroud with either copper pins or attachments. This also has been noted at the aforementioned Staten Island Courthouse site, another burial ground for the lower socioeconomic class.

4) Estimates of stature for four individuals fall within the same range as those at the Staten Island Courthouse site (Amorosi nd.). The WSPPF estimations are from 4.9 feet (149 cm) to 6 feet (182.9 cm).

5) The burial orientation in Test Trenches 3/3N EXT, 4, 14, 18 are all North-South.

SUMMARY OF FINDINGS

General Findings:

1) There was a lack of noticeable grave shafts at WSPPF. In all probability, this indicates that individuals were interred in pits (Geismar 2004, 2005). It should be noted that a paucity of grave shafts is also found on Staten Island at the Staten Island Courthouse site, another local area potter's field site (Amorosi nd.). In addition, given that all the WSPPF interments were encountered in very sandy/silty soils (possibly from the Minetta Creek river terrace), stratigraphic signs of grave shafts might have been erased by the various construction episodes in the park, as well as the nature of the soil (see Geismar, this volume). Essentially the similar colored sandy/silty soils would compact helping to erase noticeable color and texture differences.

2) Grave goods are absent and there is no evidence of careful burial treatment. Only in TT18 was copper staining found on the lower arms, hips and lumbar spine that might indicate the use of a shroud with either copper pins or attachments. This also has been noted at the aforementioned Staten Island Courthouse site.

3) Soil pH conditions indicated a neutral to acid pH in and around grave areas. This indicates that organics such as bone will preserve well, as will macroplants but to a lesser degree, while metals other than iron might not be preserved. Also the sandy/silty conditions of the soil allowed water to saturate and preserve the graves.

4) There is evidence of previous disturbance of the WSPPF interments. In Test Trenches 3 and 18, there is ample evidence of earlier grave disturbance during construction of the Park's comfort station and maintenance building and associated pipelines. The fact that several individuals could

be sorted from the isolated remains is evidence of this. Also many of the isolated bones had tumbled, worn, and broken edges indicating movement and secondary or tertiary deposition.

Skeletal Biology:

Forensic details and the many analyses [1) paleopathology 2) ethnicity 3) aging 4) stature 5) sexing 6) osteometrics 7) burial treatment] of the WSPPF burials are presented in Appendix A1. Despite an extremely small analytic sample—ten intact burials (in varying degrees of preservation) left *in situ* and 515 isolated human bones comprising approximately six additional individuals (see Appendix A Table 1 below)--several trends are noted here:

1)The pathologies found in the WSPPF sample relate to either work load/work stress traumatic injuries or early nutritional stress. For the most part these injuries indicate that the WSPPF buried population was hard working laborers. Gender does not seem to play a role. However, this statement should be viewed with caution as the sample is skewed. Nutritional stress (Linear Enamel Hypoplasia [LEH] noted in Individual 2 from TT3N EXT) occurs either in early childhood or in early adulthood (porotic hyperostosis was noted in Individual 4 in TT18). This pattern is also noted in the Staten Island Courthouse sample (Amorosi nd.). A dental pathology —a double molar--was documented in the female burial in TT14 (see Figure 27 in the report text). Other relatively common pathologies that were noted included tooth decay and plaque, iron based anemia, arthritis, fractures, and at least one herniated disc (see Appendix A1 for details).

The male individual from TT3N EXT (Individual 2) lead an extremely hard working life but survived well into adulthood. If anything, this individual is a perfect example of what Bioarchaeologists refer to as the "Osteological Paradox." He suffered from catastrophic fractures of the long bones, which healed without a high degree of infection, followed by an extreme degree of biomechanical modification and arthritis especially in the lower spine, before a non-bone marking event killed him. Likewise the female burial from TT18 (Individual 5) suffered from one or more episodes of birthing events. It is clear that this lower economic New York population rarely, if ever, received any medical intervention during their lifetime.

2) The Ethnicity of the WSPPF sample is for the most part assumed to be of European descent. This is based on a few bone fragments that tend to verify this assumption. No evidence of Native American or African ethnicity was noted either in the burials documented in the field or in the isolated human remains subjected to careful measurement in the laboratory.

3) The WSPPF sample comprised only adults, none of them older than their mid forties (fifteen of the sixteen MNI could be aged to some degree). It is assumed that the absence of a more representative population is a reflection of the small sample size and the vicissitudes of chance since the location of the intact burials and recovery of isolated bone material for analysis was governed solely by construction impacts.

4) Estimates of stature available for four individuals, all based on osteometic longbone measurements, fall within the same range as those in the Staten Island Courthouse sample (Amorosi nd.). The WSPPF estimations are from 4.9 feet (149 cm) to 6 feet (182.9 cm).

5) The twelve burials that could be sexed were evenly divided between males and females (four each were positively as male or female while two each were possibly male or female; see Table 1 below).

6) Osteometrics (bone measurements) of the *in situ* burials and of the 515 isolated bones collected in field and analyzed in the laboratory are presented in Appendix A1.

7) Discernable burial treatments included wooden coffins evidenced by decayed wood and traces of copper associated with a burial in TT18 suggested the presence of shroud pins. Of the seven *in situ* burials where burial position could be identified, six were supine and the other, which was badly decayed, was possibly supine.

RECOMMENDATIONS

General Recommendations:

1) A Skeletal Biology data base for samples such as those from WSPPF needs to be developed. This would enhance future analyses of similar potter's field populations.

Specific Recommendations:

2) The southern part of the park, in the vicinity of TT 3 and TT3N EXT, TT4, TT14, and TT18 should be designated as highly sensitive in all future planning of Park construction projects. This area has proven to be highly sensitive for both shallow and deep human burials.

3) The sidewalk and street adjacent to this sensitive part of Washington Square Park should be flagged as moderately sensitive.

APPENDIX A Table 1. WSPPF Summary of Human Burials

Note: Intact Burials are indicated in bold type and by shading

Test Trench 3/Test Trench 3 North Extension (TT3/TT3N EXT)

Biology

Individual	Sex	Age (yrs.)	Stature (cm.)	Descent	Pathology
1	Female	>18-20	149-157	European ?	-
2*	Male	>35.9+	160-173	European ?	Yes

*individual identified in the laboratory.

Burial Treatment

Individual	Body Position	Arms	Cardinal Directions Body	Head	Coffin Shape	Wood	Soil pH
1	Supine	At Sides	S-N	S	Form Fit	Pine	5.5
2*	-	-	-	-	-	-	-

*individual identified in the laboratory, possible use of burial shroud and copper pins.

Test Trench 4 (TT4)

Biology

Individual	Sex	Age (yrs.)	Stature (cm.)	Descent	Pathology
1	Male ?	Mature Adult	-	-	-
2†	-	-	-	-	-
3†	-	**Adult**	-	-	-
4†	-	**Adult**	-	-	-
5*	Female ?	Mature Adult	-	-	-
6*	Male ?	Mature Adult	-	-	Yes
7*	Female ?	Mature Adult	-	-	-

*individuals identified in the laboratory; intact burial; † intact burial, not explored;
estimated age related to dimensions of decayed wood and bone fragments; counted in MNI

Burial Treatment

Individual	Body Position	Arms	Cardinal Directions Body	Head	Coffin Shape	Wood	Soil pH
1	Supine	-	S-N	S	Stain	Pine sp.	5.9
2†	-	-	S-N	-	Stain	Pine sp.	5.7
3†	-	-	S-N	-	Form Fit	Pine sp.	-
4†	-	-	S-N	-	Form Fit	Pine sp.	-
5*	-	-	-	-	-	-	-
6*	-	-	-	-	-	-	-
7*	-	-	-	-	-	-	-

**individuals identified in the laboratory; intact burial; † intact burial, not explored;
estimated age related to dimensions of decayed wood and bone fragments; counted in MNI

Test Trench 14 (TT14)

Biology

Individual	Sex	Age (yrs.)	Stature (cm.)	Descent	Pathology
1	**Female**	**>35**	**-**	**European ?**	**Yes**

Burial Treatment

Individual	Body Position	Arms	Cardinal Directions Body	Head	Coffin Shape	Wood	Soil pH
1	Supine	-	S-N	S	Form Fit	Pine sp.	6.0

1) Head turned to the left.

Test Trench 18 (TT18)

Biology

Individual	Sex	Age (yrs.)	Stature (cm.)	Descent	Pathology
1	Male	19-40+	169-180	European ?	-
2	Male	15-23	170-179	European ?	-
3	-	Adult	-	-	-
4	Female	Yar-Mar	-	-	Yes
5*	Female	Mature Adult	-	-	Yes
6*	Male	Mature Adult	-	-	-

1) Abbreviations Yar - Mar refers to Young to Mature Adult.
2) * - Individuals 5 and 6 were identified in the laboratory.

Burial Treatment

Individual	Body Position	Arms	Cardinal Directions Body	Head	Coffin Shape	Wood	Soil pH
1	Supine	At Sides	W-E	W	Form Fit	Pine	7.0
2	Supine	At Sides	W-E	W	Form Fit	Pine	7.0
3	Supine	At Sides	W-E	W	Form Fit	Pine	6.9
4	Supine	-	W-E	W	Form Fit	Pine	6.9
5*	-	-	-	-	-	-	-
6*	-	-	-	-	-	-	-

*Individuals 5 and 6 were identified in the laboratory.

Total MNI = 16

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APPENDIX B

FAUNAL REMAINS (GRAB SAMPLE) FROM WASHINGTON SQUARE PARK POTTER'S FIELD (WSPPF), TT18 MONITORING, 2008

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INTRODUCTION

Because the Research Design and Protocols for Phase 1 Construction of Washington Square Park (referred to here as the WSPPF) focused upon the recovery and analyses of human remains, faunal material (animal remains) was not an integral part of the investigation. In most cases, they were merely noted, and if possible, identified in the field. However, a grab sample from TT18 was collected for more detailed analysis by Tom Amorosi, the project's Bioarcheoarchaeolgist/ Zooarchaeologist. The identifications and findings of this analysis are presented in Appendix C in this report. presented in this report focused on those fauna recovered as a grab sample from Test Trench 18 (TT18).

Tables 1 to 6 list basic information for the TT18 WSPPF Archaeofauna. Table 1 presents the species diversity of this faunal assemblage. This is followed by Tables 2, 3, and 4 that examine the weathering patterns and fragmentation data from faunal material from Test Trench 18. The osteometric data for the measurable portion of the faunal assemblage are listed in Table 5. Finally, an inventory of the faunal remains (a catalog) is presented in Table 6.

The faunal assemblage from TT18 was recovered from fill-like sandy soils. These soils date from the early-19th to the late-20th centuries (see Geismar 2005, 2004 and this volume for more detail).

METHODOLOGY

Field Methodology:
Recovery of the faunal remains from TT18 was accomplished by hand collection and minimal sieving through 1/4-inch (6.36 mm) wire mesh screen. Excavation of the trench utilized large excavators (M315 and others) and smaller backhoes. Initially the tooth interval of the was set at 1/2" (approximately 12.72 mm). All remains from the trench were then placed in labeled plastic bags for laboratory analysis.

Laboratory Methodology:
The laboratory methodology used in this analysis follows standards established in Amorosi (1996) and have been successfully applied in a number of Cultural Resource Management (CRM) and research projects by the author for Mid to Lower Hudson Valley and Long Island areas (Amorosi 2007a-b, 2006a-c, 2004a-b, 2003a-b). Socioeconomic aging parameters follow Amorosi (1989), Ruscillo (2006) and Wilson et al. (1982) for dental eruption and epiphyseal union. The osteometric protocol used here is von den Driesch (1976) for the measurement of all identified vertebrate species and Claassen (1998) for molluscan species. Bone weathering data follow a modified protocol first established by Behrensmeyer (1978).

RECOVERY BIAS

There is a noticeable recovery bias for medium to large sized terrestrial mammal bone and large domestic bird and shellfish fragments in this Archaeofauna. What is missing in this assemblage are the smaller sized species reported for many New York City and other urban historic sites. There are several reasons for this bias:

1. Larger sized species were better able to survive the very disruptive phases of 19th and 20th century building construction and demolition.

2. These materials were also more visible to the field team when monitoring digging by large excavation machinery. Site safety concerns required all team members to stand away from the excavation bucket (usually by a minimum distance of 3 to 5 feet). As depth increased in the excavation trench, the distance from the excavation also increased, making for even poorer visibility (at times, shadows made white rocks look like bones, causing "bone fever"). These factors helped select for only the more noticeable and larger bone fragments.

As a result (and this has been noted by many Zooarchaeologists over the past 30 years), hand collected samples often suffer from the size-range bias. This appears to be the situation in regard to the isolated animal bone fragments from the WSPPF that proved to be represented by medium to large size mammal bone and molluscan shell.

SOME OBSERVATIONS WITHIN THE TT18 ARCHAEOFAUNA

The Behrensmeyer bone weathering scale (1978) is set at 5 stages, where 0 indicates no weathering and 5 the most extreme stage of weathering. This scale is often used to explain how long bone was exposed to bio-chemical and geological attrition agents. In this case, there is a high frequency of weathered bone, falling mostly between stages 1-2 on the Behrensmeyer scale (see Table 3). This indicates that the animal bone was exposed to attritional agents for a moderate period of time before burial.

The larger the bone fragment the shorter the time a mechanical attrition agent (such as trampling or dog gnawing) had access to reduce a bone's surface area. In the WSPPF materials, the bone remains were subjected to a heavy rate of fragmentation. The majority of the archaeofauna falls between 1-2 inch fragments (greatest linear length, see Table 5), indicating that these remains are not from a primary depositional context.

FINDINGS

Although project constraints do not allow for a more detailed presentation of this archaeofauna, the faunal remains from TT18 represent a concentration of 19th to early 20th century domestic refuse.

Appendix B Table 1. TT18 Grab Sample: Species Diversity List

	NISP[1]	%GROUP	%NISP
Class Mammalia – Mammals			
Order Artiodactyla			
Family Bovidae			
Bos taurus - Domestic Cattle	16	64%	50.00%
Ovis aries - Domestic Sheep	2	8	6.25
Ovis/Capra - Domestic Caprines	3	12	9.37
Note: Sheep and goat distinctions are difficult to assign. None of the standard species distinctions (cf. Boessneck 1969) were noted for these remains and the higher genus level taxonomic designations is used here.			
Family Suidae			
Sus scrofa - Domestic Pig	4	16%	12.50%
	25	100%	78.125%
Class Aves - Birds			
Order Galliformes			
Family Tetraonidae			
Gallus gallus - Domestic Chicken	1	100%	3.25%
	1	100%	3.125%
Class Bivalvia - Marine Bivalves			
Family Ostreidae			
Crassostrea virginica - Oyster	2	33.33%	6.25%
Family Veneridae			
Mercenaria mercenaria - Quahog	4	66.70%	12.50%
Note: Quahog or Hard-Shell Clam			
	6	100%	18.75%=100%

NISP[1] Total = 32

Appendix B Table 2. TT18 Grab Sample: Fragmentary Remains Identified to Class

	TNF[1]	%
Class Mammalia		
Large Terrestrial Mammal	32	71.1
Medium Terrestrial Mammal	13	28.9
	45	100%

Assemblage Breakdowns	CT.	%
NISP	32	41.5
TNF[2]	45	58.5
Assemblage Total	77	100%

NISP Counts	CT.	%
Mammals	25	78.125
Birds	1	3.125
Shellfish	6	18.750
	32	100%

[1]NISP refers to Number of Identified Species per Taxon
[2]TNF refers to Total Number of Fragments

Appendix B Table 3. TT18 Grab Sample: Degree of Weathering Stages (modified weathering stages listed below are those described by Behrensmeyer [1978]). TT18, southern end of trench

Stage	CT.	%
B 0-1	2	2.67
B 1	58	77.33
B 1-2	11	14.67
B 2	4	5.33
	75	100%

Appendix B Table 4. TT18 Grab Sample: Bone Fragmentation Sorted by Size Class Test Trench 18, southern end of trench

Size	CT.	%
.75"	2	2.7
1"	8	10.8
1.25"	7	9.5
1.5"	8	10.8
1.75"	9	12.2
2"	11	14.9
2.25"	4	5.4
2.5"	3	4.1
2.75"	3	4.1
3"	5	6.8
3.25"	1	1.4
3.5"	5	6.8
4"	2	2.7
4.25"	2	2.7
4.5"	1	1.4
5"	1	1.4
5.5"	1	1.4
7.5"	1	1.4
	74	100.5%

Appendix B Table 5. TT18 Grab Sample: Osteometric Data from a Grab Sample (Measurements follow protocols established by von den Driesch [1976] for mammalian and avian species and Claassen [1998] for bivalve species.) Measurements are in millimeters (mm)

Bos taurus
1) Left proximal femoral head, MAR, DC - 56.58 mm.
2) Distal tibia, MAR, Bd - 80.27 mm.

Ovis aries
1) Left humerus, MAR, SD - 20.57 mm, Bd - 35.63 mm, BT - 32.64 mm.

Ovis/Capra
1) Radial shaft, (AR - MAR?), SD - 14.33 mm.

Sus scrofa
1) Left distal femur, MAR, Bd - 52.44 mm.
2) Patella, (AR - MAR?), GL - 33.20 mm, GB - 18.63 mm.

3) Patella, (AR - MAR?), GL - 37.87 mm., GB - 21.73 mm.

Gallus gallus
1) Proximal Scapula, MAR, Dic - 15.24 mm.

Oyster
1) Right shell, LVL - 9.91 mm, LHL - 65.34 mm, ASH - 90.51 mm.
2) Right shell, ASH - 55.49 mm.
3) Left shell, LVL - 48.87 mm, ASH - 53.66 mm.

Appendix B Table 6. TT18 Grab Sample: Catalog of Animal Remains

Test Trench 18, southern end of the trench:
Bos taurus: Two cervical vertebra centrum fragment (MAR),[4] 1 thoracic vertebra centrum epiphysis (AR)[3] first/second sacral vertebrae fragment, 2 ventral rib fragments (AR -2), 1 scapular spine fragment (AR), 1 ilium neck fragment (AR - MAR?), 1 ilium blade fragment (AR), 1 left proximal femoral head (MAR), 1 distal femoral shaft (AR), 1 tibia shaft fragment (AR - MAR?), 1 distal tibia (MAR), 1 distal metacarpal fragment (MAR), 1 scaphoid (MAR), and 1 accessory carpal (MAR),
Ovis aries: One left mandibular ramus and condyle (MAR) and 1 left proximal radius (MAR).

Ovis/Capra: One left mandibular ramus and condyle,1 left humeral trochlea fragment (MAR) and 1 radial shaft fragment (AR - MAR?).
Sus scrofa: One ventral rib fragment (AR), 1 left distal femur (MAR), 2 patellae (AR - MAR?)
Large Terrestrial Mammal: One rib fragments, 4 vertebrae fragments, 15 long bone shaft fragments and 12 flat bone fragments.
Medium Terrestrial Mammal: Three rib fragments, 2 vertebrae fragments and 8 long bone fragments.
Gallus gallus: One proximal scapula (MAR).
Crassostrea virginicia: Two right shells.
Mercenaria mercenaria: One left valve, 1 right valve and 2 fragments.

[3] Two developmental aging abbreviations are used here, AR for Adult Range and MAR for Mature Adult Range. Please refer to Amorosi 1989 for definitions of developmental age in Mammals. For Bird, only the distinction between Adult and Fledglings stages are made.

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APPENDIX C

WASHINGTON SQUARE PARK POTTER'S FIELD (WSPPF)
GRAB SAMPLE ARTIFACT CATALOG (2008)

APPENDIX C. WASHINGTON SQUARE PARK POTTERS FIELD (WSPPF)
(NYS SITE NO: USN A06101.016915)
ARTIFACT CATALOG (GRAB SAMPLES)

SECTION A (West of Minetta Waters)

Test Trench 1 (TT1) South End (Abandoned and Broken Catch Basin)

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
101	1	-----	Fiber-glass (?)	6	White	Cigarette filters	1950+ (?)	No paper wrappers; no catalog number on artifacts

Test Trench 2 (TT2) East Side

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
102	1	c. 8 ft	Ceramic	5	Pe	(M) Saucer rim, body, & base frags; c.1/2 (exterior base rings); blue TP interior; large floral pattern edge to center ring; boy with dog in basket; no well	1815 - 1835	Printed maker's mark on base "STEVENSON'S STONE CHINA" (Godden 1964: 596); partial impressed circle: "…[STAF]FORDSHIRE…"; probably "A. STEVENSON/ WARRANTED/ STAFFORDSHIRE," crown in center (Godden 1964: 596); some wear
	2	c. 8 ft		2	Pe	(M) Plate rim, body & base frags; c.1/4; blue shell edge with embossed floral pattern	1820-1835	Finely embossed edge; well painted; small embossed star/flower on base possibly decorator's mark; heavy wear; probably same as 102 -3, 4 below, no mends
	3	c. 8 ft		2	Pe	(M) Plate rim frags; blue shell edge with embossed floral pattern; scalloped edge	1820-1835	Same pattern & detail as 102-2 above & 4 below, probably same saucer; no mends
	4	c. 8 ft		1	Pe	Plate rim frag; blue shell edge; embossed floral pattern; scalloped edge	1820-1835	Same pattern & detail as 102- 2, 3 above; probably same saucer, no mend
	5	c. 8 ft		1	Pe	Small plate (muffin) rim frag; Old Blue TP; repetitive floral pattern on edge, sword	1815-1830	
	6	c. 8 ft		1	Pe	Tableware, unidentified; tiny body frag; blue painted	1810-1835	Possibly Chinese design

All Depths are Below Ground Surface (BGS)

SECTION B (East of Minetta Waters)

Test Trench 3 (TT3) North Extension (TT3N EXT) (Upper Strata of Dark Soil)

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
201	1	-----	Ceramic	1	WW	Small dish rim frag; interior pseudo blue marble design (TP?); paneled; undecorated exterior, no foot ring		Soap/serving dish; transitional piece; some wear
	2	-----		1	Pe	Mug (?), small body frag; fancy dipped (annular) leaf design painted green underglaze; trace blue above	1810-1860	

APPENDIX C. WASHINGTON SQUARE PARK POTTERS FIELD (WSPPF)
(NYS SITE NO: USN A06101.016915)
ARTIFACT CATALOG (GRAB SAMPLES)

SECTION B (East of Minetta Waters)

Test Trench 14 (TT14) (in Sand)

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
202	1	-----	Ceramic	1	Pe	Hollowware, possibly a cup; tiny rim frag; Old Blue TP (with stippling) interior & exterior	1815-1830	Popular design of the period

Test Trench 15 (TT15) North End

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
203	1	5.6 ft	Ceramic	1	C	Plate base & body frag; small, undecorated; curved	1762-1820	
	2	5.6 ft		1	S	Jug (?) body frag; undecorated; natural exterior; heavily spalled; interior salt glazed; very under fired		Probably locally made; possibly a waster
	3	5.9 ft		1	Kaolin	Smoking pipe stem frag		
	4	5.6 ft	Metal	1	Iron	(W) Coffin nail (?); square cut (?); heavily corroded		No catalog number on artifact
	5	5.6 ft		1	Iron	(W) Coffin nail (?); heavily corroded		No catalog number on artifact
	6	5.5 ft	Plasticized Paper	1		Bottle wrapper (Associated with wall apparently introduced during 1970 park renovations)	1969+	"PASTEUIZED/ CHOCOLATE DRINK/ 16 FL. OZ. (1 PT)/ DAIRY-LEA COOPERATIVE, INC. N.Y. N.Y. 10001/WITH PLANTS AT (1) 31-5950, (2) 31-9205 PROCESSED AT PLANT STAMPED ON TOP"; "Dairylea" 1923; becomes "Dairylea Cooperative, Inc." 1969 (www.agri-edge.com/aboutUs/history)
	7	5.6 ft	Mortar	2		Sample frags	20th C	Associated with wall apparently introduced during 1970 park renovations

Test Trench 15 (TT15) East Side (18 Feet from South End of Trench)

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
204	1	6.0 – 6.1 ft	Ceramic	2	P	(M) Lid rim & body frags; floral blue painted exterior; blue line design interior	1700-1800	Chinese export? Wear along edge
	2	6.0 – 6.1 ft		1	Pe	Plate rim frag; shell edge; blue scalloped edge	1780-1835	
	3	6.0 – 6.1 ft		1	SG	Hollowware rim frag; salt glazed exterior; graduated light brown to brown interior (glaze?); thick frag		Possible churn top or pan

APPENDIX C. WASHINGTON SQUARE PARK POTTERS FIELD (WSPPF)
(NYS SITE NO: USN A06101.016915)
ARTIFACT CATALOG (GRAB SAMPLES)

SECTION B (East of Minetta Waters)

Test Trench 15 (TT15) Southeast Side

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
205	1	6 ft	Ceramic	1	E	Hollowware body frag; basic Bristol, yellow slip-ware; brown striped exterior	c. 1700-1785	
	2	5.5 ft		1	Pe	Base frag; small; Old Blue TP exterior; undecorated interior	1815-1830	
	3	6 ft		1	C	Base frag; tiny; possibly undecorated	1762-1820	One side spalled

Test Trench 15 (TT15) South Center

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
206	1	5.3 ft	Ceramic	1	P	Plate rim frag; interior blue painted; Canton rim pattern; exterior undecorated	1785-1830	Chinese Export
	2	5.3 ft		2	Pe	(M) Plate rim & body frags; painted; simple floral band over broad blue band	1795-1825	Unusual underglaze & overglaze painting; overglazed pattern on stripe barely visible

Test Trench 15 (TT15) General Area

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
207	1	5.5 ft	Metal	1	Iron?	(W) Nail; heavy corrosion; c. 3 3/4 inches long		Large; possibly coffin nail

Test Trench 17 (TT17) Test Pit 5 (North of Pathway South of Existing Comfort Station)

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
208	1	-----	Ceramic	1	Pe/ WW	Jug/pitcher/teapot body frag; trace of handle; blue TP	1820-1870	Probably Chinoisserie motif
	2	-----		1	Kaolin	Smoking pipe stem frag; white ball clay		Possible trace of glazed mouthpiece
	3	-----		1	Kaolin	Smoking pipe stem frag; white ball clay		

Test Trench 18 (TT18) Adjacent to TT3/TT3N EXT

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
209	1	-----	Ceramic	1	Pe	Plate rim frag; green shell edge; scalloped edge	1780-1835	
	2	-----		1	WW	Plate; small rim frag; blue Willow TP	Post 1820	
	3	-----		1	WW	Tableware rim frag; very small; blue floral TP	1820-1870	Possible plate

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SECTION B (East of Minetta Waters)

Test Trench 18 (TT18) Adjacent to TT3/TT3N EXT (continued)

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
209	4	-----	Ceramic (cont'd)	1	Pe	Hollowware; small body frag; blue floral TP; spalled	c. 1810-1830	
	5	-----		1	WW	Cup rim & body frag; trace of ornate handle; undecorated	1820-1880	
	6	-----		1	WG	Tableware base frag; undecorated; partially spalled	1851-1853 (?)	Impressed maker's mark, "G. WOLL (ISCROFT(?) (Godden 1964:691) …BAL …" around registration mark "IV/D (?) /B"
	7	-----		1	WG	Unidentified body frag; undecorated; spalled	1842-1930	

Test Trench 18 (TT18)
Footing Extension 2 (in Association with Styrofoam, Paper, Electrical Conduit, etc)

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
210	1	-----	Ceramic	1	WW	Unidentified; small body frag; light blue TP	1838-1848	TP floral design with urn & anchor "WRS &/ C…" ; William Ridgway, Son & Co .(Godden 1964:538)
	2	-----		1	Pe	Tableware; small base frag; floral blue TP	1810-1840	
	3	-----		1	Pe	Hollowware; tiny body frag; blue floral TP	1810-1840	
	4	4.5 ft		1	P	Unidentified base frag; thick porcelain; blue floral hand painted TP	Pre 1840 (?)	Chinese Export possibly before 1840; not well made
	5	4.5 ft		1	P	Bowl base frag; thick; hand painted red floral sprig in center of base interior	1785-1820	Chinese Export

Test Trench (TT18) North Leg (Under 4" Pipe)

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
211	1	-----	Ceramic	1	Pe	Plate rim & body frag; beaded edge; floral blue TP; spalled	1830-1870	Probably same vessel as 211-2 below; no mend
	2	-----		1	Pe	Plate base & body frag; blue TP	1830-1870	Probably same vessel as 211-1 above; no mend
	3	-----		1	Pe	Hollowware; small body frag; Old Blue floral TP; spalled	1815-1830	
	4	-----		1	Pe	Tableware; small rim frag; blue banded; partially spalled	1800-1840	
	5	-----		1	E	Hollowware base; British slipware; clear glazed interior, unglazed exterior; 1 5/8 inch diam	1670-1785	Possibly a cup
	6	-----		1	Red E	Hollowware body frag; clear lead glaze; dark brown splotches exterior; turned	1750-1850	

APPENDIX C. WASHINGTON SQUARE PARK POTTERS FIELD (WSPPF)
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ARTIFACT CATALOG (GRAB SAMPLES)

SECTION B (East of Minetta Waters)

Test Trench (TT18) North Leg (Under 4" Pipe) (continued)

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
211	7	-----	Ceramic (cont'd)	1	P	Cup body frag; trace of handle; gothic shape (?)	Post 1840	
	8	-----		1	C	Unidentified; small body frag; undecorated; spalled	1762-1820	
	9	-----		1	Pe	Unidentified; small body frag; undecorated; spalled	1775-1840	
	10	-----	Glass	1	Aqua	Medicine bottle; large; neck & part of shoulder; applied tooled lip for cork stopper; 1 inch interior opening; mold seam to middle of neck; some vitrification	19th C	Not well made
	11	-----		1	Dark Green	Medicine bottle panel frag;	19th C	Embossed "…OWO" or "… OMO…"
	12	-----		1	Green	Bottle (?) small body frag	Post 1920	
	13	-----	Plastic	1	White	Sunglass lens label; 5/8 inches diam	20th C	Printed around label "MAXIMUM PROTECTION-.ANSI UV STAN-DARD."; In center "UV LENS"; no catalog number on artifact
	14	-----	Metal	1		Coffin (?) nail; heavily corroded; c. 2 inches long		No catalog number on artifact
	15	-----		1		Coffin (?) nail; heavily corroded; 3 inches long		No catalog number on artifact

Test Pit 6 (TP6)

Cat No.	Art No.	Depth*	Material	No. Pcs	Ware/ Color	Description	Date	Remarks/Sources
212	1	c. 8.3 ft	Ceramic	1	P	Soup plate/small dish rim & body frag; underglazed blue painted design	1785-1830	Chinese export? Possibly Canton; this depth may represent early fill

TOTAL FRAGMENTS 71
TOTAL ITEMS/VESSELS 63

Abbreviations:
Art No. = Artifact number; C = creamware; Cat No. = Catalog Number; Diam = diameter E = earthen ware; Frag(s) = fragment(s); (M) = mend; P = porcelain; Pe = pearlware; S = stoneware; SG = salt glazed; TP = transfer print; (W) = whole;
WG = White Granite ware; WW = whiteware

APPENDIX D

WASHINGTON SQUARE MEMORIAL ARCH
GRAB SAMPLE ARTIFACT CATALOG (2004)

APPENDIX D. WASHINGTON SQUARE PARK POTTERS FIELD (WSPPF)
(NYS SITE NO: USN A06101.016915)
MEMORIAL ARCH ARTIFACT CATALOG (GRAB SAMPLES)

MEMORIAL ARCH ARTIFACTS 2004

Art No.	Depth*	Material	No. Pcs	Ware/ color	Description	Date	Remarks/Sources
1	3.3 ft	Ceramic	1	Pe	Plate/dish rim frag; blue shell edge	Early 19th C	
2	3.3 ft		1	M	Jar, pitcher or bowl body frag	Early 19th C	
3	-----	Paper	2		(M) Label? (torn)		Printed "COFFEE DISTRIB-UTING" with sketch of old fashioned coffee grinder set into a square
4	c. 4 ft	Faunal	2		(M) Mandible (lower jaw) with canine tooth		Identified as horse (*Equus caballus)* (Perdikaris 2004)

Abbreviations:
Frag(s) = fragment(s); M = Mochaware; Pe = pearlware

TOTAL FRAGMENTS 6
TOTAL ITEMS 4