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Archaeological Site Examination of the Field East of the Grapery/Greenhouse, Drive Circle, Straight Walk, and South Lawn at Gore Place, Waltham, Massachusetts

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ARCHAEOLOGICAL SITE EXAMINATION OF THE FIELD EAST OF THE GRAPERY/GREENHOUSE, DRIVE CIRCLE, STRAIGHT WALK, AND SOUTH LAWN AT GORE PLACE, WALTHAM, MASSACHUSETTS

Prepared for:
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Fiske Center for Archaeological Research

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ABSTRACT

A landscape restoration plan for the 45-acre historic estate of Massachusetts governor and United States senator, Christopher Gore and his wife Rebecca, recommended archaeological investigations to identify the location, character, and integrity of Gore-period features that could potentially be included in restoration efforts. Investigations began in 2004, focusing on better known landscape elements including the carriage drive, carriage house foundation, greenhouse, vegetable and flower gardens, and the site of the grapery/fruitwall (Smith and Dubell 2006). The 2008 investigations focused on the new site of the carriage house (reported under separate cover) and on lesser known elements of the estate that functioned in the daily running of Gore's farm. Transects of staggered shovel test pits at 5, 10 and 20 meter intervals, along with 1×1 m excavation units and trenches, were employed in the archaeological site examination. Investigation of the drive circle north of the mansion showed the centrally-located well to have a wide builder's trench of large cobblestones covered at the ground surface by a hard-packed layer of silty sand with gravel and clay, potentially to prevent contaminants in the immediate vicinity from entering the water. Identified by subsurface testing and ground penetrating radar was a well access walk that joined a straight-edged carriage drive south of the well. Also revealed was a possible square fieldstone feature that surrounds the well. The bedding of Gore's historically documented straight walk east of the library was also found. A possible landscape feature of unknown form or function was found at the east terminus of the walk, and the walk's eastern extension was determined to have been removed in the 1930s during mining of topsoil. Testing of the field east of the grapery identified additional boundaries of the 1930s soil removal and an area measuring approximately 60 × 100 m that is not archaeologically sensitive that is suitable for planting crops to interpret Gore's agricultural use of the property. Examination of the south lawn revealed much of the area to have been plowed in the past and to have been subjected to fertilizing during the Gore period. A number of Gore-period and non Gore-period features were identified, including two dry wells, drainage pipes, post holes, buried fieldstones of unknown association, a deposit of reddened soil and stones of unknown function, golfing features associated with the use of the property by the Waltham Country Club during the 1920s, and a possible cellar or cesspool filled with Gore-period masonry from late 19th-century cellar and chimney alterations. Investigation of a known cistern revealed similar surface treatment to the drive circle well. Results of the south lawn work also identified an area on the flat, central section of the lawn that is not archaeologically sensitive and can be used for interpretative crop cultivation. An EM-31 conductivity meter survey identified a zone of the south lawn that appears to be the site of numerous anomalies, possibly related to the house's heating, cooling, or water systems. Recommendations specific to each area consist of examining the square feature surrounding the well in the drive circle and determining the nature of drive bedding that adjoins the well access walk, exploring the east end of the straight walk to determine the nature of the feature at that location, further investigating the south lawn cellar or cesspool feature to determine its function and age, and testing several other south lawn features to determine age and function.

MANAGEMENT SUMMARY

A master landscape plan was developed by Halvorson Design Partnership of Boston to restore the house and grounds of Gore Place, the late 18th- and early 19th- century estate of Christopher and Rebecca Gore in Waltham and Watertown, MA. Archaeological investigations were recommended by the master plan to determine the location and assess the integrity of landscape features that had the potential to be included in the restoration effort. The Gore Place Society, which presently owns and maintains the estate, contracted with the Fiske Center for Archaeological Research at the University of Massachusetts, Boston in 2004 to investigate the entrance drive, carriage house, greenhouse, vegetable and flower gardens and grapery/fruit wall. By 2008 additional investigations were desired by the Society to examine the new carriage house site and lesser known features associated with the daily running of Gore's farm, including a historically documented straight walk east of the mansion. Also sought were two archaeologically non-sensitive areas where crops could be planted to interpret Gore's farming activities to the public. This series of investigations, conducted under State Archaeologist permit #3052, succeeded in defining Gore's straight walk as well as an associated feature of unknown function. Investigation of the drive circle identified details of well construction and associated landscape treatments. Locations that can be used by the Society to interpret Gore's crop production were identified in the field east of the grapery site and in the south lawn. Recommendations call for additional investigation of specific features found in the drive circle, straight walk, and in the south lawn. Further exploration of the new carriage house site will be reported under separate cover.

ACKNOWLEDGEMENTS

The authors would like to thank the Gore Place Society for their commitment to using archaeology as part of the interpretation of their historical landscape and for their support of this project. At Gore Place, special thanks to Scott Clarke for sharing his memories of recent landscaping projects on the property and for his observations of anomalous areas and to Lana Lewis for helping to locate all of the historic maps and plans of the property. We would also like to acknowledge the hard work of the UMass Boston students who have contributed to this project. The field crew for this phase of the project included the members of Stephen Mrozowksi's 2008 summer archaeological field school, who spent a week at the site, and Kelley Duff, Stephanie Bennett, Mary Shia, Guido Pezzarossi, Ashley Peles, and Fred Sutherland. Sally Stephens was responsible for the bulk of the artifact processing and cataloging, Pete Gangemi georeferenced the historic maps, and Heidi Krofft assisted with cataloging, integrated the survey data into GIS, and produced the GIS-based figures. Additional thanks to Halvorson Design for assistance in scanning the large format maps, John Schoenfelder for helping to establish the site grid, and to Brian Damiata for contributions to the remote sensing data collection and analysis.

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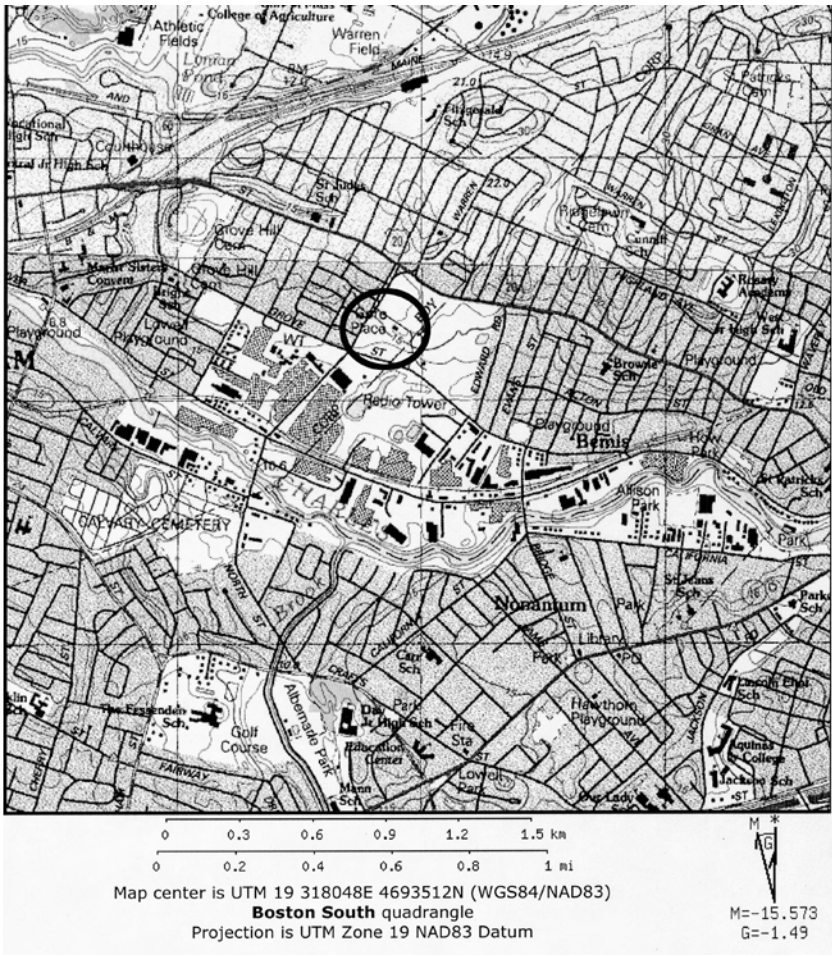
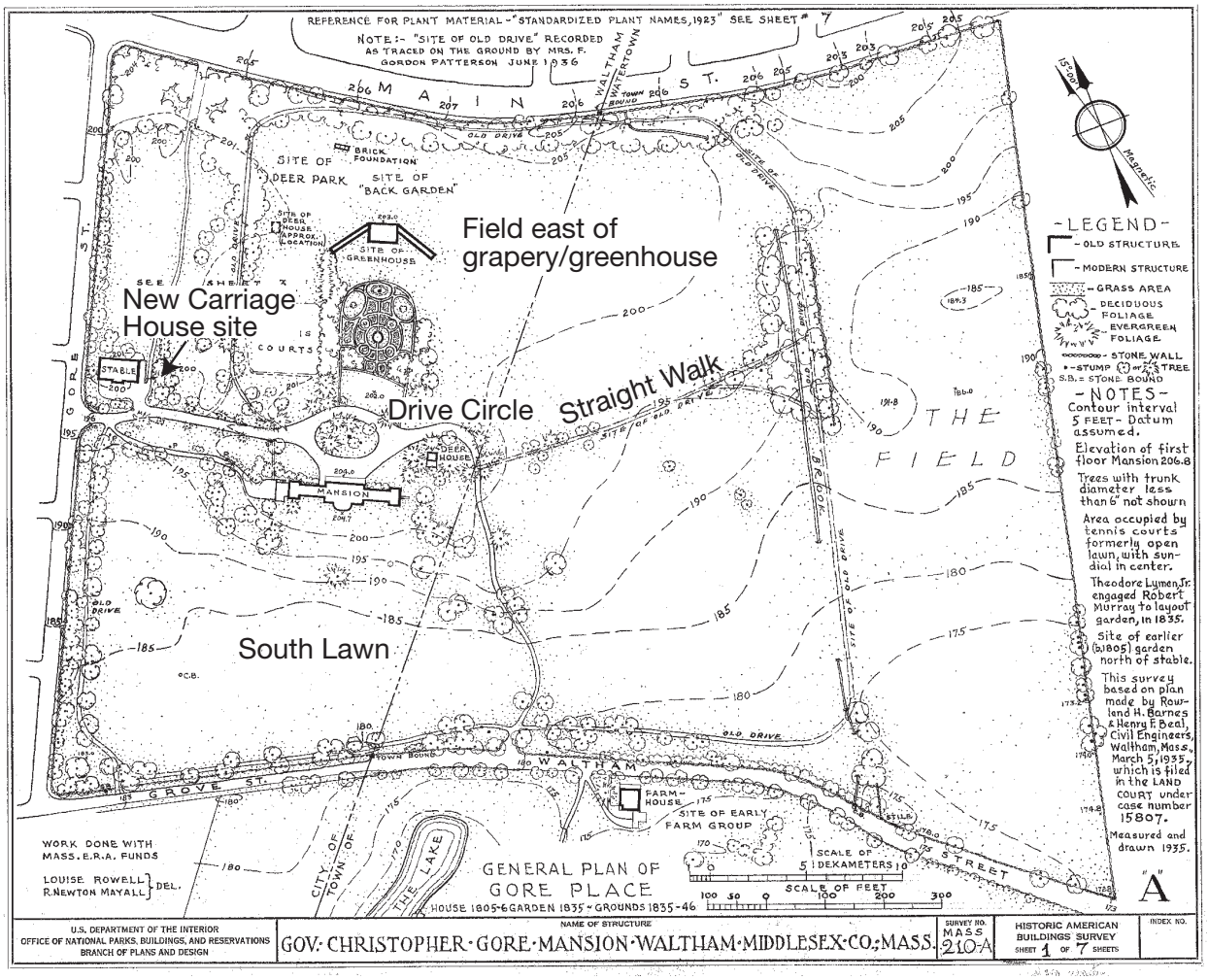
I. INTRODUCTION

Since 1935 the Gore Place Society has owned and administered Gore Place, the mansion and estate of Massachusetts Governor and U.S. Senator Christopher Gore and his wife Rebecca from 1791 to 1834. The Gore property, located at 52 Gore Street in the towns of Waltham and Watertown, Massachusetts, is a National Historic Landmark because of its historical connections to the Gore Family, its depiction of a Federal-period country estate, the design of the house by French architect, Jacques Guillaume Legrand, and its exemplary role in American labor history (Fig. I.1). The mansion with its extant 1793 carriage house and extensive grounds is one of a small number of Federal-period country seats in the greater Boston area that have been preserved for the purpose of public education and enjoyment. The preservation of the grounds is significant because of Gore's interest in scientific agriculture.

In 2000 the Gore Place Society hired Landscape Architects Halvorson Design Partnership Inc. of Boston to create a landscape master plan for Gore Place that incorporates the Society's mission of preservation and maintenance of the 1806 mansion, its collections, outbuildings and grounds. This collaborative effort has as its central focus a unique commitment to use the surrounding landscape to enhance the story of the Gore family. The goal of the landscape master plan is to restore the existing landscape to its early 19th-century form to the extent practicable, and it outlines procedures for preliminary investigation, rehabilitation and restoration that will occur in a series of phases.



I.1. Gore Place property on USGS Boston South Quadrangle.



I.2. Five areas of archaeological investigation for the agricultural periphery study shown on the 1936 Historic American Buildings Survey plan of Gore Place.

Archaeological investigations are included in the plan as an important means of identifying subsurface features that will aid the landscape rehabilitation effort.

Phase one of the plan includes a number of tasks, one of which is documentary research that focuses on the identification of known and unknown Gore-period resources. A detailed landscape history was completed by Brockway (2001), and this was followed by archaeological investigations that focused on the identification and assessment of six landscape features: the entrance drive, original carriage house foundation, early greenhouse, grapery and later greenhouse, vegetable garden and flower garden (Smith and Dubell 2006). Also included in this phase have been architectural investigations within the mansion house itself (Baker et al. 2001, 2007; Watts 2002; Kutrubes 2000), as well as exterior restoration work.

Compilation of this work as well as additional and ongoing archival research has revealed an emphasis on Christopher Gore's conception of his home as a working farm. Due to the Society's desire to include an agricultural component in its portrayal of the property, it became necessary to attempt to identify which portions of the grounds were historically associated with agricultural pursuits and which remained visually pleasing yet unproductive landscape. As a result, the

Gore Place Society contacted the Fiske Center for Archaeological Research at the University of Massachusetts, Boston in October 2007 for the purpose of conducting an archaeological survey of certain portions of the estate grounds. The goals of this investigation were to identify areas on the property that are likely to have been farmed during Gore's occupation, as well as landscape features that would have contributed to this agricultural environment and day to day running of the estate. Specifically, this entailed the search for plow scars indicative of cultivation as well as walks, wells and cisterns that would have been integral to sustaining a working farm. To this end five locations on the estate grounds were chosen for archaeological examination. These consisted of the field east of the grapery/greenhouse site, the drive circle, the straight walk east of the library, and the south lawn (Fig. I.2). Investigation of the original carriage house site that was included in the proposal for this study is reported under separate cover. A geographic information system (GIS) data storage and mapping component was included in this project to begin accurate mapping and documentation of archaeological finds, utilities and other cultural and natural features to assist with implementation of the landscape master plan as well as with future planning and interpretation.

II. PROJECT LOCATION AND ENVIRONMENTAL CONTEXT

The Gore Place property is composed of 45 acres situated on the boundary between the towns of Waltham to the west and Watertown to the east in Middlesex County. It is bordered by Main Street (Route 20) on the north, Edward Road on the east, Grove Street on the south and Gore Street on the west. The property is approximately 2600 ft. (800 m) north of the Charles River and lies at the geographic boundary between the upper Charles River flood plain and northern upland. The entire parcel slopes gently southward toward the river. The eastern portion of the property contains a small north-south stream that originates north of Main Street. Although its banks have been altered by 20th–century fill, its general course appears have been little changed.

A. Soils

Soils in the project area are composed of two types that correspond to the site's topography. The lower Charles River floodplain consists of Hinckley loamy sand with 3-5% slopes (USDA 1995). The Hinckley series ranges from a friable and gravelly or very gravelly sandy loam to a loamy coarse sand, both of which have rapid permeability making them excessively drained. The substratum at 12-30 in. consists of stratified sands and gravels. These soils form on gravelly and cobbly, coarse textured glacial outwash plains, terraces, kames and eskers. Soils that make up the upland portion of the property consist of Canton fine sandy loam with 3-8% slopes. The Canton series soils are characterized as friable fine sandy loam with moderately rapid permeability. The substratum between 18 in. and 36 in. is a loamy, coarse sand. Canton soils form on well-drained upland glacial till and are typically stony, but this characteristic is generally absent from the northwestern upland portion of the property.

III. BACKGROUND

A. Historic Development of Waltham and Watertown

Watertown was one of the original town grants given to the Massachusetts Bay Colony in 1630 (Robinson and Wheeler 1930). The grant encompassed what was to become the towns of Waltham, Weston, Cambridge and Belmont. Initial settlement by 100 families was in the area of the Perkins Institute on the North side of the Charles River. Focus quickly shifted to the present Watertown Square area where a ford across the river was present, and where a small industrial center consisting of a corn mill and fish weir were established. By 1650 the numbers of families present in the area had grown to 160. Agriculture provided the primary economic base coupled with grazing and fishing. Watertown Square remained the industrial center, while civic and residential development took place along Mt. Auburn-Belmont Streets. This area also served as a crossroads for important routes north (Warren, Common and Lexington Streets) and south via a bridge over the Charles River at Galen Street and east and west via Mt. Auburn, Grove, Belmont and Main Street (Route 20) that came to be known as the Connecticut Path. By the latter 17th century the region's farms were providing vegetables to the more densely populated Boston along with mutton that had come to dominate over cattle. Timber was also transported from the head of navigation at Watertown Square via river barge to shipyards in Charlestown and Medford.

Population growth in the western portion of the Watertown grant led to the parceling off of Weston in 1692 and Waltham in 1720. Settlement in Waltham had commenced in the 1630s as farmsteads were established along the Connecticut Path (Route 20) and the Beaver-Lexington Street crossroads (Sanderson 1936). Early improvements to the area included the erection of gristmills by 1679 on Stony Brook and 1690 on Chester Brook. The early economy of Waltham paralleled that of Watertown with many farms providing a wide range of goods including corn, a variety of grains, hay, wool, butter, fruit and vegetables as well as anadromous fish, mutton and beef for the local and Boston market. This agricultural base contributed to a relatively dispersed and slow rate of growth that was maintained through the early 19th century.

By the mid 18th century a distinct residential pattern had been established that consisted of a string of rural estates constructed by an elite gentry along the major east-west thoroughfares that paralleled the north side of the Charles River. These estates stretched intermittently westward from Brattle Street in Cambridge to Main Street in Waltham and included a mansion house and barn on the Gore Place property constructed prior to 1744. More common residential dwellings and farms were located on some of these thoroughfares and at developing population centers that included Watertown Square and Piety Corner on Lexington Street in Waltham.

The region's centralized industrial heritage commenced with the construction of a paper mill on the Charles River at Farwell Street in Waltham in 1760 (MHC 1980a). The establishment of additional paper mills followed between 1780 and 1801, including Bois Mill (1788) that later became the Boston MFG Co., Gore's Mill (1800) and Upham's Mill (1801) (Hodges 1980; Ripley 1815; Sanderson 1957). Textile manufacture was introduced in Waltham in 1810, resulting in the conversion of Gore's Mill to the Cotton and Woolen MFG Co. This company was bought out in 1813 by the Boston MFG Co. that expanded to the Bois Mill and erected two new five-story mills in 1814. This company introduced the process of manufacturing cloth by starting with raw cotton and proceeding to finished cloth through use of the new power loom. These mill-related activities resulted in the creation of an important industrial center that led to a gradual shift from an agricultural economic base to one focused on industry. Mill development attracted not only new auxiliary businesses to the area, but also created jobs, resulting in an influx of Irish mill workers who contributed to an expanding population from 1014 in 1800 to 1677 in 1830.

These events were accompanied in Watertown by the expansion of gristmills on both sides of the Charles River at Bridge and Galen Streets and by the improvement of Mill Creek as a source of waterpower. Further improvements during the latter 18th and early 19th centuries led to the introduction of large-scale cotton spinning (1803) resulting in the establishment of several textile-related industries. Other mills in Watertown produced paper, dyes, medicines, soap and candles (MHC 1980b:4). Other industrial activities included the production of lace, using the first lace-making machines, and the relocation of the federal arsenal from Charlestown to Watertown (1816). Many of the new mill jobs here were filled by immigrants from the English midlands.

By the early 19th century area neighborhoods were well established with a major focus north and south of Main Street (Route 20) and on the south side of the Charles River (Moody Street Area) in Waltham, and in the Watertown Square area and east and west along the Boston turnpike in Watertown. Some suburban estates continued to be created by wealthy Bostonians, particularly in elevated settings. Transportation between Watertown and Waltham centers was improved by the extension of the railroad from Cambridge in 1847 and the addition of the horse railway via Mount Auburn Street ten years later. Waltham was connected to the railroad via the Fitchburg main line in 1845 that ran along Beaver Brook and the Charles River. The horse railway came to Waltham via Moody-Crescent Street from Newton in 1868.

Population in both towns rose steadily during the first half of the century, nearly doubling between 1830 and 1850. Growth was little influenced by the annexation of part of Newton in 1849 and the loss of town land through the establishment of Belmont in 1859. Immigrants by mid-century came primarily from Ireland, boosting the population of Waltham to over 9000 and Watertown to over 3400 by 1870. Mill and factory sites along the Charles River remained the focus of commercial and industrial activities throughout the century. At Watertown Square, textiles including satinet, cotton duck and Hathaway shirts were made along with paper products. The Pratt foundry specialized in wood and later wood/coal stoves that became nationally known. Other metal work consisting of the casting of cannons, cannon balls and shells was performed at Arsenal Square. Factories and mills near Waltham Center produced chemicals as well as tar and other oil-based derivatives including kerosene. The textile industry was dominated by the production of cloth sheeting (Boston Manufacturing Co.) and other textile-related businesses. By the 1860s timepieces were being produced by the famous Waltham Watch Company. Market farms located in the northern portion of town along Lexington-Lincoln and Trapello roads continued to produce agricultural products including vegetables, fruit, milk, beef, and pork for local and regional markets.

Residential development by mid century consisted of well-established working class districts adjacent to the industrial centers, while affluent areas came to characterize much of Mount Auburn-Common Streets in Watertown and the Main Street and Piety Corner area in Waltham. Accompanying this residential growth was the erection of many civic, commercial and institutional structures including banks, hotels and places of worship that still survive.

During the latter 19th and early 20th centuries, population continued to rise in the two towns, in part as a result of improved streetcar and trolley service that linked Boston with Watertown-Waltham resulting in the formation of streetcar suburbs particularly in Watertown. Access was also improved by construction of new bridges in Waltham center. Population in Watertown soared to more than 16,500 by 1915. Foreign-born immigrants were dominated by Irish, Italians and toward the end of the century, by Armenians. Helping to fuel this population boom was a period of prosperity and expansion of Watertown's industries. The largest of these was the Aetna Woolen Mills that by 1865 were producing $938,000 worth of goods. A secondary, but equally important busi-

ness was the Hood Rubber Company (1896) that by 1920 employed 10,000 workers. Additional businesses produced a range of products including paper (Hollingsworth and Whitney) that encouraged the further development of French dyeing and cleansing (Lewando's), the manufacture of laundry machinery that was used by Lewando's and the Metropolitan Laundry, and starch and soap production (Warren Soap Mfg. and Barker and Crystal Springs). Bicycles began to be produced in the 1880s leading to a number of design innovations that included inflatable tires. The bicycle factory was later used for the production of photographic dry plates and steam-powered automobiles starting by 1897. Watertown retained a surprising tie to its agricultural past through the creation of Union Stock Yards, one of the largest facilities of its kind in the country. Cattle were shipped from here to Brighton for slaughter or were shipped for sale overseas. Activities at the Arsenal continued to be focused on weapons manufacture and materials analysis of metals.

The same period in Waltham followed a similar course of development. Access to the town was improved by the creation of new streetcar routes that connected Waltham Center to Watertown via Main Street, Lexington via Lexington Street and Newton via Moody-High Street. A number of trolley lines were also added. Industrial growth remained focused on textile production, principally by the Boston Mfg. Co. and also expanded to include the manufacture of watches and clocks that made Waltham nationally known as the "Watch City." Several competing manufactories arose, including the American Waltham Watch Co., the U.S. Watch Co., Columbia Watch Co., and Waltham Clock Co. A number of associated clock parts manufacturers were also established with centers on Rumford Ave. at Crescent Park. Additional industries included the Davis and Farnum Foundry that specialized in water and gas pipes, and a rivet and riveter factory that came to be one of the largest in the country. A button manufactory focusing on shell buttons was established ca. 1911 and this was followed in 1916 by a separate factory that produced products made of mica. The manufacture of bicycles by the Waltham Mfg. Co., also on Rumford Ave., and later the American Waltham Mfg. Co. commenced in 1894, making Waltham a major production and bicycling center. One of the founders of the parent company was Charles Metz, who owned and occupied Gore Place between 1909 and 1921, the period during which Metz had incorporated the Metz Co. that manufactured motorcycles and automobiles until 1926. This combined industrial success resulted in continued population growth, although not as great as that in Watertown. Immigrants to the town derived principally from Ireland and increasingly from Nova Scotia. Residential areas continued to expand, particularly north and west of the town, and many institutional and commercial structures were constructed such as those present on Moody Street at the town center.

The first half of the 20th century saw the expansion of transportation thoroughfares into auto roadways and the filling of the few remaining areas in both towns by residential construction. Commercial centers remained focused at Watertown Square and in east Watertown along Grove Street. In Waltham, areas west and south of Waltham Square were heavily commercialized and filled with two and three family housing. Other commercial centers formed east of the center along River Street as well as Lake Street. The more affluent housing around Piety Corner expanded to Lexington-Beaver Streets and Lyman Street. Waltham Highlands and Prospect Hill in the western part of town also increased in affluence during the first half of the century. Middle classes came to dominate the Lakeview area around Hardy's Pond and in Cedarwood along Weston Street and Stony Brook. Only the northeast portion of town remained undeveloped until the 1940s and 1950s. The demand for land for residential development in both towns created pressure on the large estates established in the eighteenth and nineteenth centuries. As a result, many were sold and/or subdivided to provide room for housing, schools and country clubs. It was at this time (1921) that

Gore Place became the Waltham Country Club with much of the grounds made into a golf course and other recreational facilities.

Industries remained centered within the Charles River corridor in both towns. By 1924 there were 24 manufacturing plants in Watertown and 94 in Waltham. Industry in the former was dominated by the Hood Rubber Company that was bought out by B.F. Goodrich in 1929 and closed in 1959. Lewando's cleaning and dyeing company founded in the mid 19th century continued to expand, so that by 1930 it was the largest company of its type with its headquarters on Watertown Square. The greater number of Watertown's industries by this time came to be located east of the square in the Arsenal area. In 1931 General Electric opened a center for its electronics manufacture here. In neighboring Waltham, the watch industry remained the largest employer and this status was strengthened in 1929 by the ceasing of textile production by the Boston Mfg. Co. The Raytheon Mfg. Co. opened its doors in 1934, occupying and eventually replacing many of the older manufactories (Davis and Farnum Foundry, Boston Mfg. Co. bleachery, and the Howell and Son button manufactory) in the southeast part of town and south of Gore Place. Much of this factory complex remains in place today.

B. Summary History of the Gore Place Property

1. Seventeenth- and Early Eighteenth-Century Ownership/Occupation

The present Gore Place property was originally part of a tract of land granted to the Reverend George Phillips, co-founder with Sir Richard Saltonstall of Watertown, as early as the 1630s. In 1651 the parcel was sold by Phillips' heirs to Edward Garfield. The lands were sold by Samuel Garfield to Samuel Brown of Leicester, Massachusetts in 1742. Over the remainder of the year ownership passed through several hands, ultimately, ending with John and Hannah Brown who purchased "the mansion house and barn with 12 acres of plowing and pasture land." In 1744 the property was sold to James Davenport together with a "mansion house and barn and other buildings." Davenport kept an inn known as "Davenports Corner" that was located on the southeast corner of Main and Cross (renamed Gore) Streets (Fig. III.1). The property again changed hands in 1752 when Davenport sold to John Gould, "a parcel of land with the mansion house, barn, and all other buildings." Gould held the property for investments, renting the inn to Thomas Wellington Jr., who ran it until 1769. The land and inn were sold to Jonathan Brewer in 1770. Soon the inn became known as "Brewer's Tavern." According to an oral account by Benjamin Worcester and William Farwell in 1904, the tavern was built ca. 1745, was divided in half, and in 1834/5 one half was moved across Main Street and became the residence of Isaac Farwell. The remnants of that structure survived on the southeast corner of Gore and Main Streets until after 1922 (Hammond 1986). The widening of Gore Street in the late 1960s likely impacted much of the tavern site.

III.1. Detail of 1831 Hales Plan of Waltham depicting the Gore Place property.

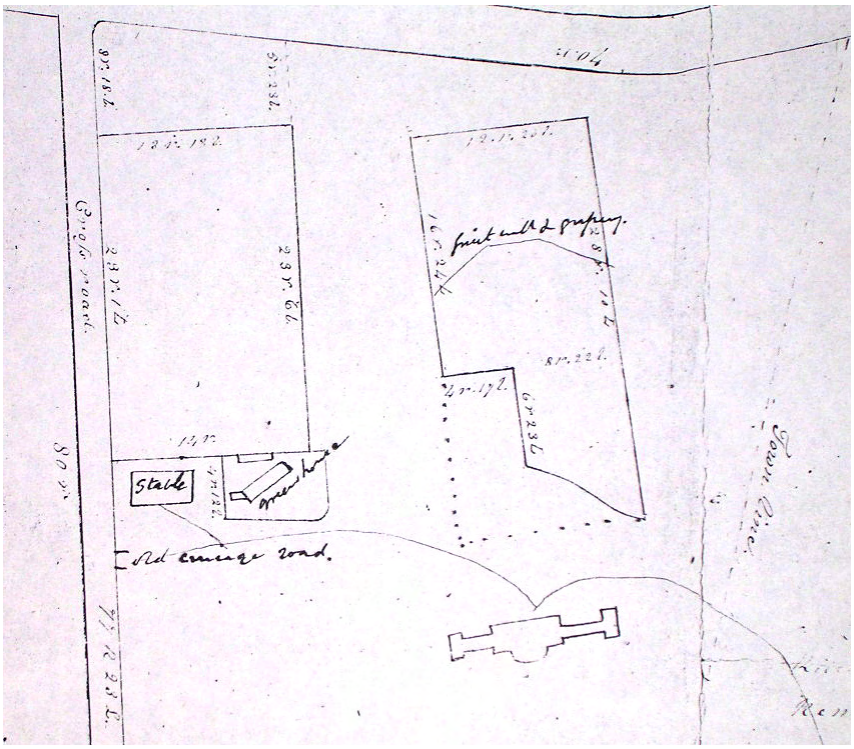
2. Gore Occupation ca. 1786-1834

The history of the Gore family in Waltham begins in 1786 when Christopher and Rebecca Gore purchased 50 acres of land from Aaron Dexter. This transfer consisted of a 33-acre parcel, known as the "mansion house lot," that contained a mansion house, barn and other outbuildings, and a separate parcel of 18 acres with no improve-

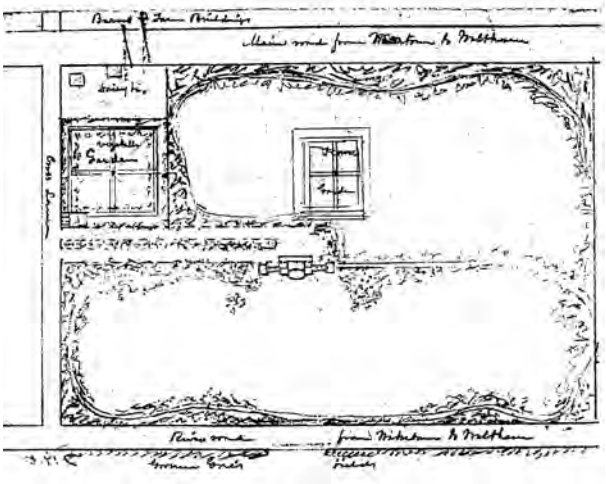
III.2. Conjectural plan of the Gore Estate drawn by the Radcliffe seminar in 1985.

ments. Additional acreage purchased by the Gores in 1791 included the 34 acre "homestead lot" or "forty acre lot" to the north and the 75-acre "Ward farm" that bordered the Charles River to the south. The acquisition of additional wood lots created a total of 197 acres owned by the Gores at the time of Rebecca Gore's death in 1834 (Fig. III.2). The mansion house lot and an adjacent 12 acre parcel to the east that was not actually owned by the Gores make up the present 45-acre Gore Place estate (see Fig. I.2).

The presence of an existing mansion house at the time of Gore's 1786 purchase suggests that he may have rehabilitated the old structure for his own mansion and at the same time (1793) constructed a new carriage house at the west end of the entrance drive. The mansion house consisted of a central block plan with flanking wings (Brockway 2001:23) situated on the crest of a glacial flood plain terrace of the Charles River. From 1796-1804, while the Gores were living in London, Rebecca Gore's brother, William Payne, served as caretaker of the house and grounds, and he later claimed to have "layed out many of the



III.3. Estate of Theodore Lyman drawn between 1834 and 1838.



III.4. Col. Henry Lee sketch of 1881 from memory of an 1834 visit.

present walks" (Hammond 1986). Waltham tax records for 1798 list a number of tracts of land owned by Christopher Gore as well as a house, barn, and paper mill on the Charles River. The grapery/fruitwall that was located approximately 130 m (427 ft) north of the mansion house was either present or constructed around this time as was the flower garden, since both landscape features are aligned with the pre-1805 house. A greenhouse was attached to the end of the east wing of the mansion, and it was here that a fire started in 1799 that destroyed all of the house but the west wing. This wing served as temporary living quarters before being moved off the property.

The Gores constructed a new brick mansion on the same site between 1805 and 1806. Other improvements made to the property around this time were the construction of a greenhouse located immediately east of the carriage house, a vegetable garden north of the carriage house (this may have existed previously), an ice house and other support buildings (Brockway 2001:23). Both the original grapery or fruit wall and the greenhouse were important components of Gore's intense interest in scientific agriculture that focused on plant propagation and soil composting among other pursuits (Hammond 1982). In addition, a 10-acre field was present northeast of the house and a twelve-acre field was to its south. The main farm complex lay across Main Street to the north, leaving much of

the grounds surrounding the mansion house to be used for pleasure.

Actual occupation of the property by the Gores was intermittent between 1793 and 1834, during which time they also stayed in Boston, Paris and London. As noted, William Payne stayed at the house beginning in 1796 when the Gores left for seven years in London. William was living in the house at the time of the 1799 fire and may have remained on the property until the new house was completed in 1806. Other potential occupants of the property include house servants, slaves, gardeners and farm managers. Occupation by Rebecca after the death of Christopher in 1827 is unclear, but by the time of her death in 1834, Judge Charles Jackson was renting the property.

3. Lyman Occupation ca. 1834-1838

The Gore property, containing the "mansion house, stable, vinery and sheds," was purchased by Theodore Lyman Jr. in 1834 (Figs. III.3, III.4). Theodore and his wife, Mary, maintained a keen interest in scientific agriculture and in further developing the pleasure gardens on the property. Changes made during their ownership included redesigning the formal flower garden north of the house following a modern European style that stressed curves over the earlier rectilinear forms of the 18th century. They also may have improved greenhouse facilities and the grapery and were responsible for painting the house white. Mary Lyman died in 1836 prompting Theodore to put the property up for auction.

4. Greene Occupation ca. 1838-1856

John Singleton Copley Greene purchased the estate on October 23rd, 1838 and continued to employ a gardener and farm manager who maintained the pleasure garden character of the property. Cartographic evidence from an 1841 plan of the estate (Fig. III.5) provides the earliest clear depiction of many landscape features including the entrance and service drives, straight walk east of the east wing and the mile walk that stretched around the perimeter of the property. Depiction of the greenhouse east of the carriage house in this plan indicates this structure was still extant in 1841, as is the greenhouse along the fruitwall.

5. Walker Occupation ca. 1856-1907

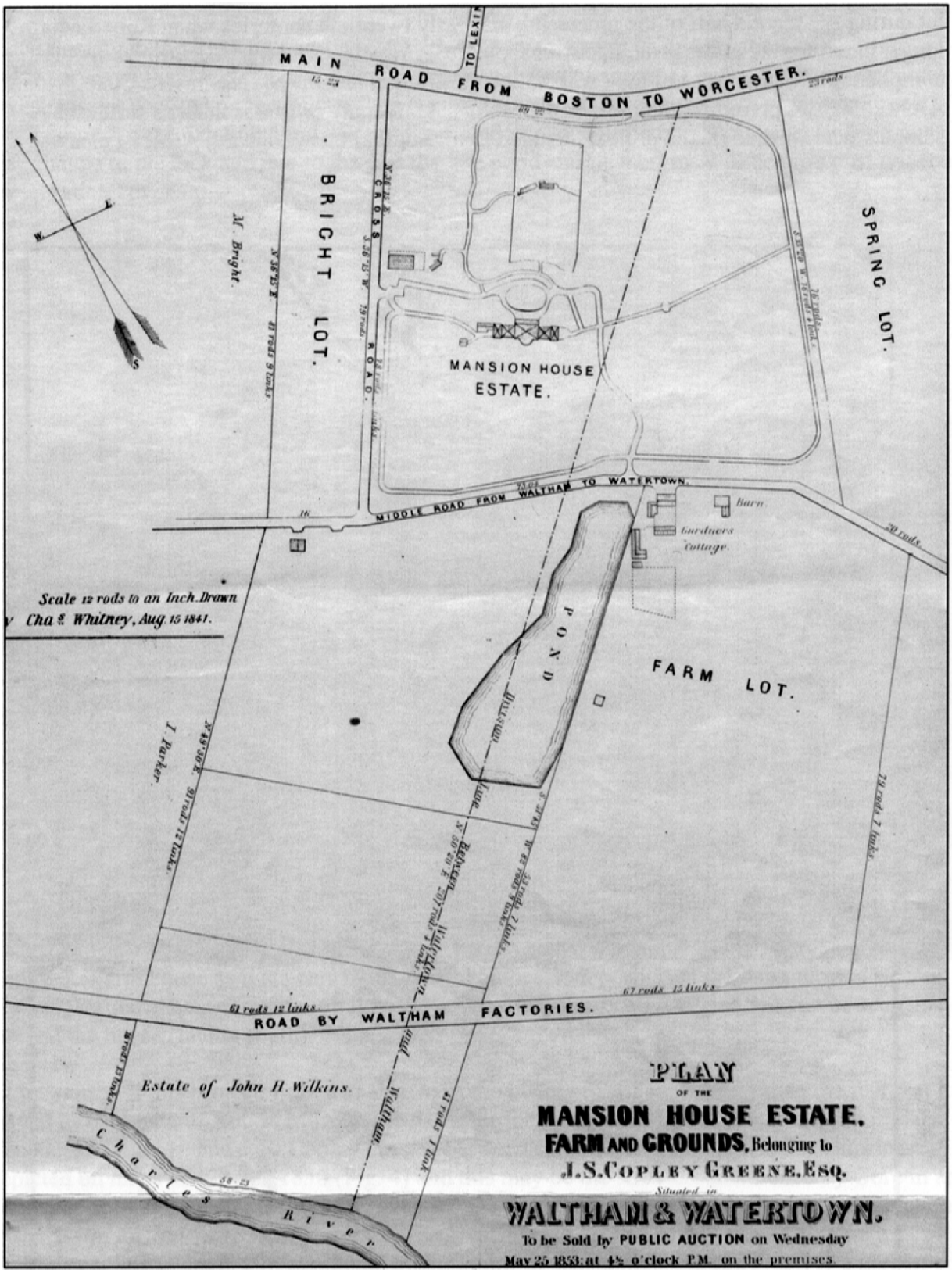
After 18 years of occupation the Greenes sold the mansion house lot in 1856 to Theophilus Walker, who in turn sold it to his nieces, Mary Sophia and Harriet Sarah Walker in 1890 (Fig. III.6). A number of changes appear to have been made to the property during this period that include removal of the vegetable garden north of the carriage house and removal of the greenhouse east of the carriage house. This scenario is based on the absence of the greenhouse in the 1889 Eliot sketch of the property (Fig. III.7). It is possible that abundant tree growth depicted in the sketch so reduced sunlight as to render the greenhouse of little use. In such a scenario, greater efforts may have been made to maintain and/or even improve the grapery greenhouse with its superior solar exposure. Such improvements are indicated by the addition of what appears to be a central structure on the south side of the original grape wall.

6. Episcopal Church Ownership ca. 1907-1911

Mary Sophia Walker bequeathed the property to the Episcopal Church on October 10th, 1907. The church sold the property after only four years, but not before a company based in Colorado to whom the property had been leased, caused considerable damage by removing trees and household furnishings. The company set up a sawmill on the estate to cut down some of Copley Greene's "tasteless plantations" (Hammond 1986).

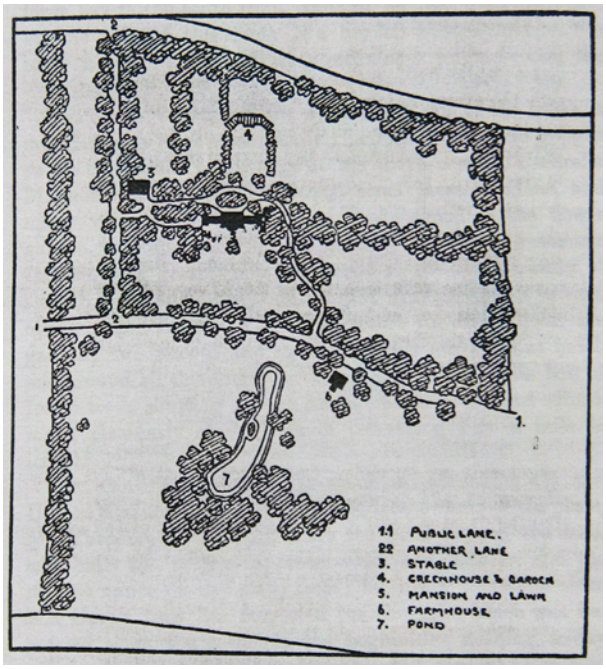
7. Metz Occupation ca. 1911-1921

The estate was purchased in 1911 by Charles H. Metz, who used the house for office and living space. Metz was one of the 1894 founders of the Waltham Mfg. Co. that produced bicycles, namely the "Orient" at the Rumford Avenue Plant. He later experimented with motorcycles and in 1909 incorporated the Metz Co. that produced automobiles until 1926. It was during Metz's ownership



III.5. Estate of J. S. Copley Greene Esq. drawn in 1841.

III.6. Detail of 1875 Atlas of Middlesex County depicting Walker family property. Gore mansion is at center adjacent to Waltham/Watertown line.



III.7. Sketch of Gore Place grounds drawn by Charles Eliot in 1889.

that the surrounding neighborhood changed significantly with development of residential housing and expansion of industrial buildings, including his own, along the Charles River to the south.

8. Waltham Country Club, 1921-1935

On July 11th, 1921 "the old Gore estate" was sold to Henry Beal and the trustees of the Waltham Country Club (Hammond 1986). Substantial changes were made to the property during this period as much of the landscape was transformed into a golf course with additional recreational facilities (Fig. III.8).

9. Gore Place Society, ca. 1935-Present

The Waltham Country Club went bankrupt in 1935 and the estate was sold to the newly formed Gore Place Society that has preserved and maintained the estate to the present (see Fig. I.2). Changes made to the property soon after the 1935 purchase include moving the Robert Murray farm house from its original location on the south side of Grove Street to its present location southeast of the mansion, and sale of topsoil from the field between the flower garden and the stream that crosses the property to provide badly needed income for the estate.

III.8. Plan of the Waltham Country Club depicting golfing greens and other recreational facilities.

IV. ARCHAEOLOGICAL SITE EXAMINATION

A. Research Design

By the eighteenth century the gardens of country estates had taken on a dual function that combined utilitarian needs with an increasingly popular colonial aesthetic that favored the creation of visually appealing landscapes. Over time the arrangement of plantings within the utilitarian vegetable garden was combined with fruit trees and shrubs to create spaces that were not only functional, but were also aesthetically pleasing. Thus, the concept of the garden was transformed from a place of work to a place of recreation and beauty. Because it was the wealthy who maintained the means of creating and maintaining such spaces, formal gardens and associated landscapes became synonymous with the image of the colonial gentleman and came to serve, in addition to the estate house, as a symbol of one's wealth and status (Yentsch 1994). The popularity of the garden with its romantic associations and its connection to a purer perception of the past (Beaudry 1996:3) extended the appreciation of landscape gardens through the nineteenth century.

Gore Place is a well-preserved example of a gentleman's country estate, and even today instills an image and feeling of beauty that derives from the landscape that Christopher and Rebecca Gore created. While the present vision of the estate affirms the pleasure garden conception of the grounds, historically there was much more to the estate than meets the eye today. Recent investigation of Gore's writings reveal a personal vision of the estate as a highly productive working farm composed of several interrelated facets. These included soil production through composting, plant propagation in the setting of what is believed to be a state-of-the-art greenhouse and grapery, and crop production in a number of fields that surrounded the estate. This was a farm in which Gore was not only deeply involved with the planning and layout of the grounds, but also in the day to day management and production of market vegetables and a variety of food crops.

Archaeology has become a valuable tool in the identification and restoration of historically important landscape features (Kelso and Most 1990; Leone 1984, 1988; Yentsch 1994). A multidisciplinary approach to landscape research that combines non-destructive remote sensing techniques along with documentary research, careful excavation and soil analysis, and detailed mapping is now considered standard in such settings (Metheny et al. 1996; Yentsch 1994).

B. Scope of Work

The purpose of the archaeological site examination is the identification of landscape features specifically associated with the agricultural function of Gore's estate. Such features include cultivated fields as well as walking paths, wells and cisterns that were part of the working landscape and would have facilitated both the domestic and agricultural components of the estate. Documenting the locations of these will contribute to a more historically accurate understanding of the estate grounds and provide the Gore Place Society with options for future restoration and interpretation. Archaeological investigations focused on four specific areas: the field east of the grapery/greenhouse site, the drive circle, the library walk and the south lawn. This work made use of a geographic information systems (GIS) database to aid documentation and interpretation of archaeological findings.

1. Field East of the Grapery/Greenhouse

The field east of the grapery and later greenhouse site is considered to be an ideal area in which to present the concept of Gore's home as a working farm through the raising of appropriate crops. Approximately one half acre is desired for this purpose. Historically, this area lay immediately east of Gore's grapery that was later incorporated into a large greenhouse that was demolished around 1921. The general locations of the grape wall and greenhouse were identified by the 2005 archaeological survey. Nothing is known of the Gore period use of the east field, but sometime

after the purchase of Gore Place by the Society, records document that topsoil from much of this area was removed and sold to raise badly needed funds. This area was cultivated in the 1980s by DeVincent Farms for beans, spinach, and corn. According to director of grounds, Scott Clarke, who has maintained the grounds for the past 23 years, excessive drainage and extremely gravelly soil hampered more recent growing of grass. The presence of gravelly top soils is atypical of the Gore Place property, suggesting that considerable amounts of soil were removed, leaving little potential for intact archaeological deposits.

Two tasks were required for the northeast field. The first was to identify the location of the eastern edge of the greenhouse/grapery structures using a combination of remote sensing equipment and shovel testing to prevent impacts from the proposed agricultural use of the area. The second was to systematically test the area to search for potential intact archaeological deposits and early plow scars that would suggest early cultivation of the field. Expectations for either of these were low considering the known disturbances to the area.

2. Drive Circle

One of the changes recommended by the landscape restoration plan will be the removal of the asphalt surface from the entrance drive to create the appearance of a roadbed more appropriate to the Gore period. The location of the original Gore period drive as defined by specific bedding of silty sand and gravel, characterized herein as 'Gore fill,' was determined by previous archaeological investigations (Smith and Dubell 2006). The drive circle in front of the mansion house, however, was not investigated during the 2005 archaeological work. In addition this area is known to contain a well, and historic photographs show a large tree was removed from the circle probably in the 1930s. The historic use of this area, including a means of accessing the well during the Gore period is not known. The goals of archaeological investigations were to define the edges of the Gore period drive bedding and to identify well-related features including potential indications for a cover structure, specific treatment of the well surround and a walk used to access the well. The degree of disturbance across the circle was also determined.

3. Straight Walk

On July 3rd, 1823, Christopher Gore lamented his condition of poor health to his friend, Rufus King; "I have walked round the little turn from my own house to the farm house, & then up the straight walk to my own door. For a week past I have not walked at all and have been quite sick" (NYHS, Rufus King Papers #214). The straight walk is one of only a few landscape features that are noted in Gore's writings, triggering a desire by the Gore Place Society to determine its location. Based on landscape features depicted on several historic maps, and the known location of Gore's farm buildings on the north side of Route 20 at the site of the present Shell station, one interpretation of Gore's writing suggests he passed northward from the front of the mansion house toward the farm buildings and then turned right to head east on the north section of the perimeter walk. He would have crossed the stream and then turned south on the walk. At an approximate midpoint of the east leg of the perimeter walk he turned right again to cross the stream and pass up the gentle slope of the straight walk that returned him to the east end of the mansion. Another interpretation is that Gore headed southeast toward the original site of the caretaker's house, then turned to head north and then west on the straight walk to the mansion. Depiction of a straight cart path or drive northeast of the library on several historic maps suggested a probable location, and in this area today is a 150 m-long thoroughfare lined by trees of varying ages that is parallel and adjacent to the present sheep pasture. Determining the location and composition of this landscape feature was desired so that it could be included in the planned rehabilitation of the grounds. Investigation of the area commenced with a comparative study of cartographic depictions. This was followed by archaeological investigation of the observable roadbed and its borders.

The focus of testing was on the thoroughfare's composition, physical extent and its age based upon stratigraphic associations and artifacts.

4. South Lawn

The south lawn consists of a grass-covered slope that extends approximately 50 m (164 ft) southward from the mansion house (see Fig. I.2). At the base of the slope the lawn becomes a slightly sloped to level plain that extends an additional 80 m (262 ft) southward to Grove Street. The main goal of investigation was to define what portions of the present lawn were historically maintained as lawn and which, if any, may have served for agricultural purposes during Gore's ownership. As with the northeast field the criteria used to identify formerly cultivated areas was evidence of plowing in the form of a well-defined plow zone and plow scars in the surface of the underlying subsoil. Planting holes, if identifiable, were also searched for as a means of suggesting cultivation of some type. The presence of plow scars or planting holes would provide evidence of planting, but a chronological determination of this activity was dependent on clearly associated artifacts or soil/feature associations. If no artifacts or associations were available, then it was not expected to be possible to differentiate between the 17th-, 18th- and early 19th-century farming of the property. The identification of plowed areas that are without other cultural resources, nevertheless, would provide the Society with options for the creation of cultivated plots or fields. The systematic archaeological survey of this expansive area also served as a necessary first step in identifying other potential cultural resources present on the property. The survey, thus, included investigation of one of two cisterns known to be present on the sloped lawn as well as investigation of two depressions and a stone feature that were observed at the ground surface during the systematic survey.

5. GIS Component

Investigations proposed for the 2005 intensive survey were hindered by the absence of a current, detailed map to both plan and document the archaeological investigations. Due to this situation the Society agreed to fund the creation of a geographic information system (GIS). A GIS essentially consists of a series of relational databases containing content and locational information for any landscape feature or object that is desired. Thus, structures, walks, utility lines, planting beds, plants, trees and the locations of archaeological investigations can be entered into the system to store information about those objects as well as their locations on the landscape within a few centimeters. The utility of having such a system in place is that it allows for the documentation of existing conditions as well as continuous tracking of changes identified on or made to the landscape. For example, all three locations of the carriage house, original, present and future, can be documented and displayed, just as the layouts of the various flower gardens that have been present through the years can be mapped and displayed as they are archaeologically investigated and as they appear on historic renderings, aerial photographs and satellite images.

The goals of GIS creation for this project included establishment of a site-wide horizontal grid necessary for the archaeological survey, compilation and georeferencing of all historic maps and plans of the Gore Place property to aid in predictive modeling and interpretation of survey results, and storage of data obtained from both the remote sensing survey and subsurface excavations. The mapping component of the GIS compiled topographic data and both historic and modern landscape features. This information enhances the GIS for use as a working planning tool to assist with the long term completion of the landscape master plan and future grounds maintenance and preservation.

C. Field Methods

Prior to any investigations a grid system was established for the project area. We established a Massachusetts Mainland State Plane grid using North American Datum of 1983 (NAD83). All

of the geophysics and excavation units on the site are accurately located within this projected grid. For instance, all MASSGIS products (http://www.mass.gov/mgis/massgis.htm) use this grid. To establish this grid, we obtained the GPS coordinates of manhole covers on the surrounding streets from the Town of Waltham. We corrected these points with a Trimble Geo XH with antenna that yielded fairly accurate sub-foot post-processed accuracy. We used these known points (e.g., manhole covers at Winsom and Gore streets and Whitman Road and Main Street) to establish the initial location for the Topcon GPT-9005A robotic total station on the property. From this point, we shot in multiple secondary benchmarks around the property on durable points such as window wells, manhole covers, and drainage grates. During all subsequent excavations, we used these secondary benchmarks to establish the position of the total station, allowing us to survey in a grid for the STP locations. A list of these points and descriptions will be provided in the electronic documentation. The grid used for this project can be used for all future work at Gore Place. Grid coordinates can be seen on the edges of many of the figures.

Subsurface investigations were implemented by the excavation of systematic and judgmental 50 × 50 cm shovel test pits (STPs) and by 1 × 0.5 m and 1 × 1 m excavation units (EUs). Each excavation unit location was temporarily flagged prior to excavation, and the southwest corner of each unit was identified by a northing and easting State Plane coordinate. Arbitrary numbers were also assigned to each unit in the field to simplify identification and later analysis. Excavation proceeded well into the upper portion of the sterile B-horizon or C-horizon. The latter generally consists of glacial till. All soil was screened through ¼ in mesh hardware cloth to retrieve cultural material. Artifacts were placed in ziplock bags labeled with appropriate provenience information. Bagged artifacts were taken to the archaeological laboratory at the Fiske Center where they were washed, dried, catalogued and rebagged for long term storage during the winter of 2008-2009. Field methods employed for each of the areas investigated are presented below.

1. Field East of the Grapery/Greenhouse

The first task in this area was the establishment of georeferenced points on the ground that were then used to create a horizontal grid needed for the remote sensing and for later shovel testing. An area measuring 100 × 100 m was demarcated on the ground running from what was believed from previous testing to be the eastern end of the later greenhouse over the area proposed for future agricultural use. The whole area was surveyed with the EM-31 conductivity meter (Fig. IV.1) that can indicate soil disturbances and subsurface features generally below a depth of 50 cm. At the end of this phase, two shovel tests were completed in the eastern portion of the field to gain an understanding of a large area that provided strong electromagnetic signals. The west portion of the field was not ground truthed since this area would be tested by systematic shovel testing. Following the remote sensing, shovel test pit locations were established over a 60 m N-S × 100 m E-W area on a 20 m-interval grid of five transects. An additional transect of two tests was added in the northwest to further delineate disturbance from activities associated with the former greenhouse.

2. Drive Circle

Investigation of the drive circle was performed by excavation of a series of 14 shovel test pits spaced at intervals of 10 m to identify the degree and locations of disturbance from tree removal and to identify past use of this area through the potential presence of features. Examination of the well surround and a search for evidence of a cover structure and access walk was carried out by excavating one additional STP and four 1 × 1 m excavation units and associated extensions.

3. Straight Walk

The search for the straight walk commenced with a study of existing cartographic sources that depict a thoroughfare passing generally east to

northeast from the library in the mansion's east wing to or toward the stream that historically bordered the east side of Gore's property. This assessment was followed by the excavation of four 20 m-interval shovel test pits located along what appeared to be the center line of the existing roadbed to determine if a historic walkway was indeed present and how it was characterized. Additional tests were completed north and south of the initial tests to identify the potential course of the path and to ascertain its width. Additional tests were completed further east to determine if the pathway extended to the stream.

4. South Lawn

Investigations of the south lawn were conducted in three phases. The first consisted of establishing points for the site-wide horizontal grid and laying out nine east-west transects of 20 m-interval, staggered shovel test pits covering an area measuring approximately 130 × 230 m. After establishment of the grid, an EM-31 conductivity meter was carried in transects across the western portion of the lawn to establish the reliability of this particular instrument in discerning general subsurface conditions and features. This area was focused upon due to the perceived potential of an elevated area to be a structure location. The next phase consisted of systematic shovel test excavation including investigations of subsurface anomalies, followed by investigation of three ground surface depressions and an enigmatic stone with mortar at the ground surface. Additional non-systematic testing focused on the site of the east cistern. The shovel testing and exploration of anomalies were followed by a second phase of remote sensing with the EM-31 conductivity meter to search for additional anomalies in the central and western portions of the lawn.

5. Remote Sensing

Remote sensing is a noninvasive means of identifying the presence of subsurface anomalies through the use of instruments that detect either differing magnetic signatures through use of a magnetometer or conductivity meter, or differences in density through the use of sound waves transmitted and received by ground penetrating radar. Use of such instruments ahead of actual digging can greatly facilitate excavations by pinpointing feature locations and providing general information on soil conditions and depths. We used two different remote sensing techniques at Gore Place: ground penetrating radar (GPR), with Mala 250 MHz and 500 MHz antennas, and conductivity, using an EM-31-MK2 conductivity meter. The GPR was used in the Drive Circle. Transects were irregularly spaced and oriented with an average spacing of 50 cm between transects. The GPR-slice images were created with 10 to 15 cm thick slices. The EM-31 was used in the field east of the grapery and in two areas on the south lawn. We used an EM-31-MK2, an updated version of the standard EM-31. The MK2 incorporates the data logger into the control console, which can be removed for easy data handling, or hand carried during the survey. The EM-31-MK2 maps any subsurface feature associated with changes in the ground conductivity using an electromagnetic inductive technique that makes the measurements without electrodes or ground contact. With this inductive method, surveys are readily carried out in all regions including those of high surface resistivity such as sand, gravel, and asphalt. The effective depth of exploration is about six meters with a "sweet spot" at about 1.2 m below the surface.

The EM-31 conductivity meter sends out an alternating current from the back end of the instrument which induces a secondary magnetic field. The strength of the resulting magnetic field is measured at the front end. Measurements of the magnetic field (stations) are recorded between 0.1 m and 1.0 m, apart depending on the desired data density. The strength of the magnetic field has two components: the quadrature (Q) or conductivity component and the in-phase (IP) component. Readings of apparent ground conductivity use the quadrature component. Bulk conductivity (Q) is measured in milliSiemens per meter (mS/m). The in-phase component (IP) is measured in parts per

million. The Q and IP readings are plotted along the transects that are walked. Following Bevan (1983), we used a transect spacing of 0.5m, 1 m, and 2 m as necessary.

There are some rules of thumb that can serve as a guide to interpreting conductivity readings. Negative conductivity (Q) numbers are usually a result of encountering metal. A common metal pipe signature consists of high readings on either side of a negative reading. Very low Q numbers are usually indicative of void spaces. Moderately low conductivity readings suggest resistive targets such as dry soil, sand, and rocks. High conductivity readings are usually indicative of soils with higher clay contents, wet soils, salty soils, and contaminated soils. On the whole, sudden changes in conductivity are more likely to be caused by humans while gradual changes tend to be natural. In-phase (IP) readings are useful for assessing metal in the survey lines. Conductivity (Q) and IP readings are not absolute, but should be interpreted with ground truthed anomalies on a relative scale.

The EM-31 has a 3.6 m separation between the antenna and receiver. Therefore, objects can have very different signatures depending on the geometry of the encounter. Using the example of the metal pipe from above, the high-low-high signature will be more dramatic if the pipe is encountered perpendicular to the orientation of the machine. However, the overall rise in conductivity will be more dramatic if the pipe in encountered parallel to the machine.

When interpreting EM-31 Q readings, or any conductivity readings for that matter, one must keep in mind that these are bulk or average readings rather than readings from a specific depth or spot. On the other hand, specific and small anomalies can have a substantial effect on bulk conductivity. We have found that at depths of about 1 m, the EM-31 is sensitive to changes over distances of well less than 50 cm. The EM-31 will not pick up anomalies that are 0.5 m or closer to the ground surface unless they contain metal.

The goal of the survey was to identify any anomalies that correspond to known, suspected, or unknown features. The range of readings used in displaying remote sensing data can be a determinant in the identification of anomalies (Zhurbin and Malyugin 1998). Therefore, each grid surveyed is displayed with its own range. The display of conductivity also emphasizes the changes within the bulk of the readings, rather than the range.

We surveyed three distinct areas with different general conductive features: the field east of the grapery/greenhouse, the southeast lawn, and the south lawn (Fig. IV.1). These areas provide some assessment to the amount of variability in the subsurface characteristics and their potential for preservation of earlier remains.

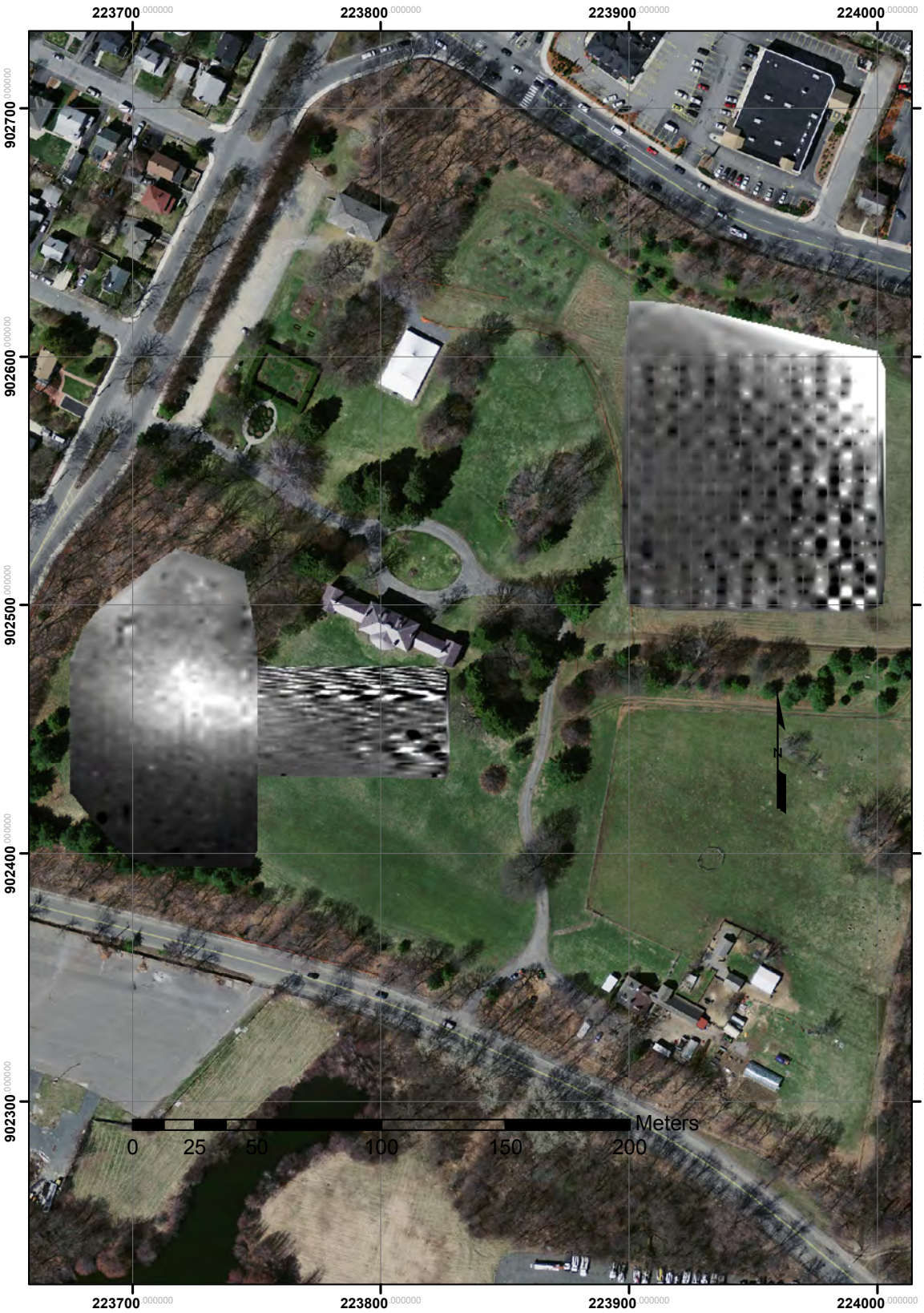
D. Site Examination Results

A total of 160 shovel test pits, 8 excavation units and 5 excavation trenches were completed during the subsurface component of the archaeological site examination. In addition, four areas were investigated with remote sensing equipment to identify the presence of potential anomalies and to examine specific anomalies identified by subsurface excavations. No evidence of Native American occupation was identified, but historic period artifacts and features derived from a number of the shovel tests and excavation units (Table IV.1). Results of testing in each of the four areas are provided below.

1. Field East of the Grapery and Later Greenhouse

The EM-31 conductivity survey of the field east of the grapery and later greenhouse is the most straightforward. It was surveyed on a partly cloudy day under dry conditions. The survey started from E3900 N2500 and went north and east for 100 m in an intersecting pattern. Transects were 5 m apart and readings (stations) were taken every 1 m. North-south transects were walked before east-west transects. The grid was moderately extended to the northwest in hopes of encountering parts of the later greenhouse (Fig. IV.2).

Historical accounts record that substantial



IV.1. Areas surveyed with the EM-31 conductivity meter.

Table IV.1. Identified features.

Feature Number	Description	Location
1	Shallow dry well with metal pipes	N2414 E3689
2	Deep dry well	N2435.5 E3691 (edge)
3	Brick filled feature	N2450 E3773 (edge)
4	Segmented ceramic drain pipe	Crosses Feat. 3
5	East cistern	N2448 E3813 (center)
6	West cistern (not identified archaeologically)	
7	Drainage trench	N2480 E3769.5 (center)
8	Area of reddened soil	N2490 E3697.5
9	Perimeter walk bedding	N2440 E3635
10	Drainage trench and pipe	N2480 E3730
11	Post hole	N2400 E3830
12	Post hole	N2480 E3750
13	Post hole	In Feat. 8

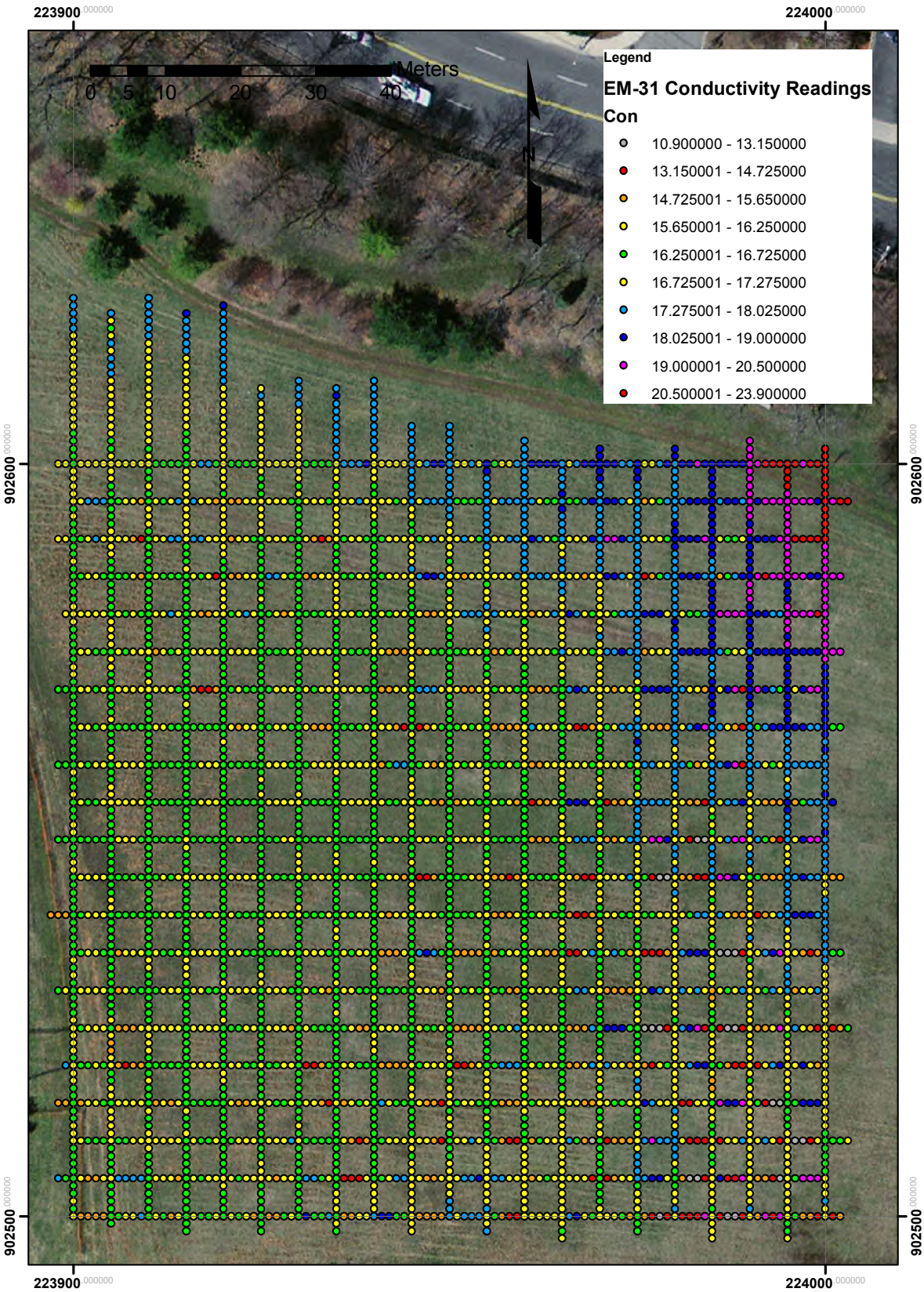
Table IV.2. Testing proposed and completed for the field east of the grapery/ greenhouse.

Quantity Proposed	Quantity Completed	Unit Type	Location/Purpose
6	2	STPs	Verify remote sensing anomalies
24	27	STPs	Test proposed agricultural field

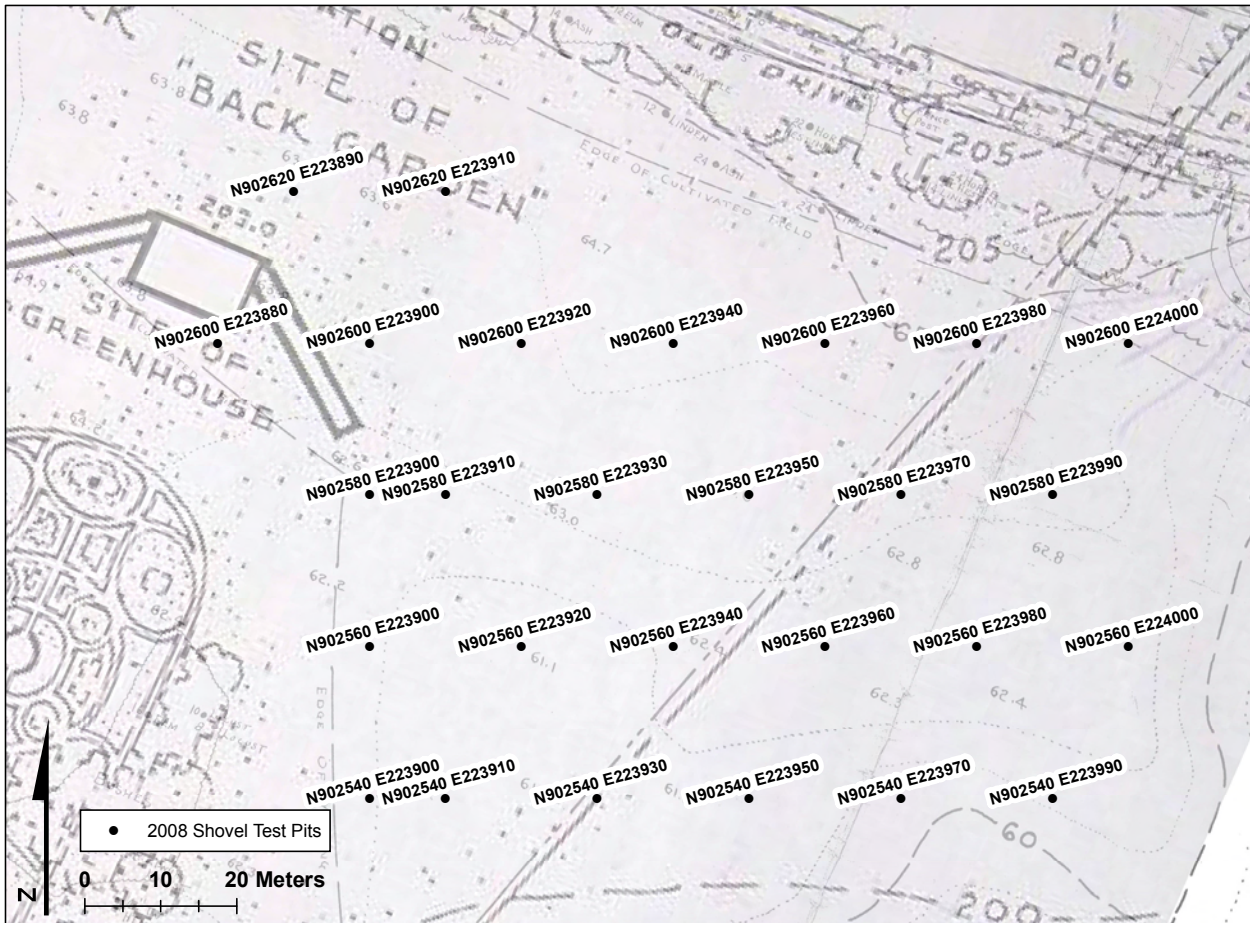
amounts of topsoil were removed from parts of the property. This is entirely consistent with the readings in Figure IV.2. The northeast corner (about 1/8 of the survey grid) where conductivity is represented by blue and violet (17 mS/m to 23 mS/m) is consistent with natural soil conductivity as represented in Figure IV.23 (between 16 and 23). In the southwestern 7/8 of the grid in Figure IV.2 the conductivity is reduced (generally 16 mS/m and below), indicating sandier and better drained soils. That the data exhibits little consistency between adjacent or crossing transects (creating a checkerboard pattern in the rendition in Figure IV.1) is consistent with removal of homogenous topsoil, and a majority of bulk conductivity readings falling into poorly sorted glacial till with a few distributed glacial erratics.

In the conductivity data, there is no sign of the greenhouse or other artificial anomalies such as a structure in the northwest extension of the remote sensing grid. Greenhouse remains were detected during the excavation of test pits further west (see below).

The field was further examined with a total of 27 shovel test pits arranged in five, staggered transects oriented E-W (Fig. IV.3; Table IV.2). Two different soil profiles were identified in the area. The more common consists of an A-horizon of compact dark grayish brown or dark brown, sandy loam with a high percentage of gravel and cobbles that extends to a depth of 34-47 cmbs. Below this is a B-horizon of yellowish brown or dark yellowish brown, silty coarse sand with some gravel and small cobbles. This profile represents the fill that was deposited in the area after removal of the loamy topsoil sometime after 1935. In two tests, N2560/E3900 and N2560/E3980, the loamy gravel and cobble fill overlay a truncated remnant A-horizon of very dark brown sandy loam over a natural B-horizon of dark yellowish brown sandy loam. The second profile consists of 35-41 cm of dark brown sandy loam plow zone over a dark yellowish brown sandy loam or sand and gravel B-horizon. Locations of this soil profile represent areas that were not disturbed by the mid 1930s topsoil removal and backfilling (Fig. IV.4). A



IV.2. Field east of the grapery/greenhouse site showing areas investigated with the EM-31 conductivity meter.

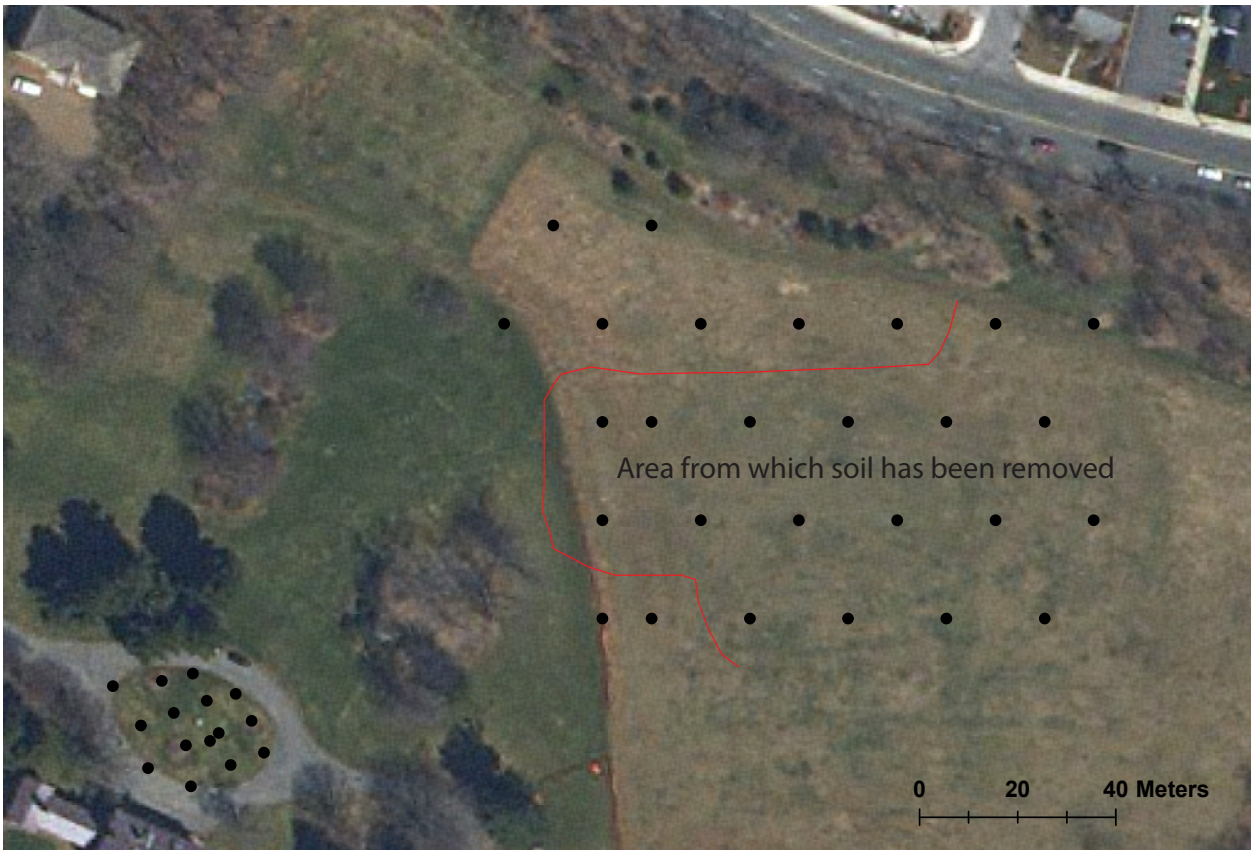


IV.3. Shovel test pit locations in the field east of the grapery/greenhouse site.

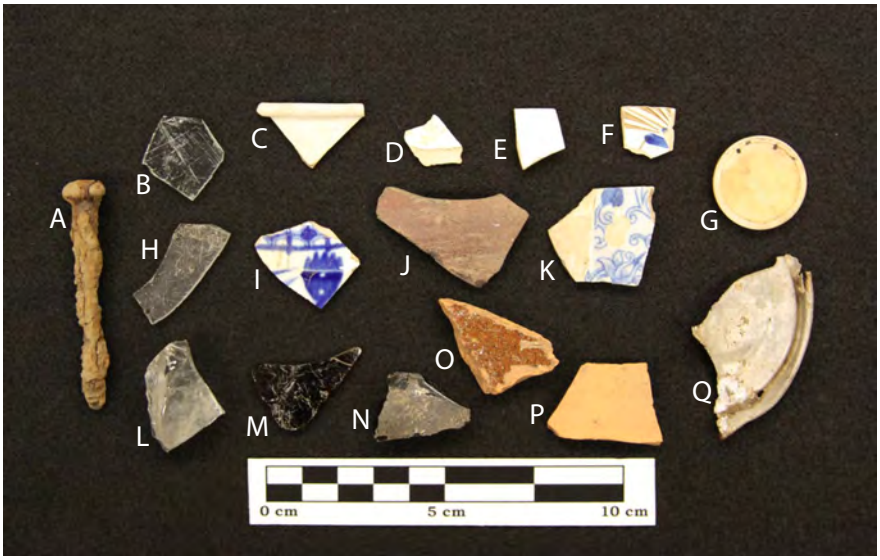
remarkably consistent low density of artifacts was found across the area, very similar to distributions observed for the south lawn. These included fragmented brick, window glass, nails, bone, coal, bottle glass and ceramics including redware, creamware, pearlware and whiteware (Fig. IV.5).

Evidence of early plowing in the east field was identified by the presence of plow scars at the surface of the B-horizon in two STPs, N2540/E3900 that was not disturbed by topsoil removal, and N2560/E3920 that was disturbed by topsoil removal. The identification of the plow scar in the latter was due to the fact that the surface of the B-horizon was left intact when the upper A-horizon soil was removed. Two other soil anomalies defined by irregular deposits of A-horizon soil in the upper portion of the B-horizon were found in two tests, N2540/E3930 and N2580/E3970. Both of these are interpreted as disturbance resulting from soil removal activities.

Disturbance resulting from construction, use and demolition of the later greenhouse was identified by a particularly high density of artifacts in N2600/E3880, N2600/E3900, N2620/E3890 and N2620/E3910. These included fragmented brick, coal, bone, window and bottle glass, smoking pipe fragments, and ceramics including redware planting pots and other vessels, creamware, pearlware and whiteware (Fig. IV.6). Dark brown sandy loam soil with artifacts was encountered in STP N2600/E3880 to a depth of nearly 70 cm. This deposit may in fact represent planting medium inside the greenhouse structure, similar to that found during the 2005 testing in this area. Irregularly shaped features in the surface of the B-horizon were present in both STP N2620/E3890 and



IV.4. Area of topsoil removal as defined by shovel test soil profiles.



IV.5. Artifacts from field east of grapery/greenhouse. A) Iron screw; B and H) window glass; C) white salt-glazed stoneware, burned (ca. 1720-1805); D) creamware (ca. 1775-1820); E) whiteware (1820+); F) polychrome painted pearlware (ca. 1795-1820); G) plastic button; I) blue printed whiteware (ca. 1820+); J) stoneware; K) printed pearlware (ca. 1783-1830); L) tumbler base; M and N) wine bottle glass; O) lead glazed redware; P) earthenware planting pot; Q) tin can lid.

IV.6. Artifacts from greenhouse area. A) Lead glazed redware; B) blue printed willow pearlware (ca. 1795-1830); C) bottle and window glass (ca. 20th century); D) earthenware planting pots; E) factory slipped pearlware; F) creamware (ca. 1775-1820); G) yellowware (ca. 1840-1930); H) porcelain (ca. 1850+).

Table IV.3. Testing proposed and completed for the drive circle.

Quantity Proposed	Quantity Completed	Unit Type	Location/Purpose
14	14	STPs	Soil integrity of circle
3	4+ / 1	EUs / STP	Search for/examine features

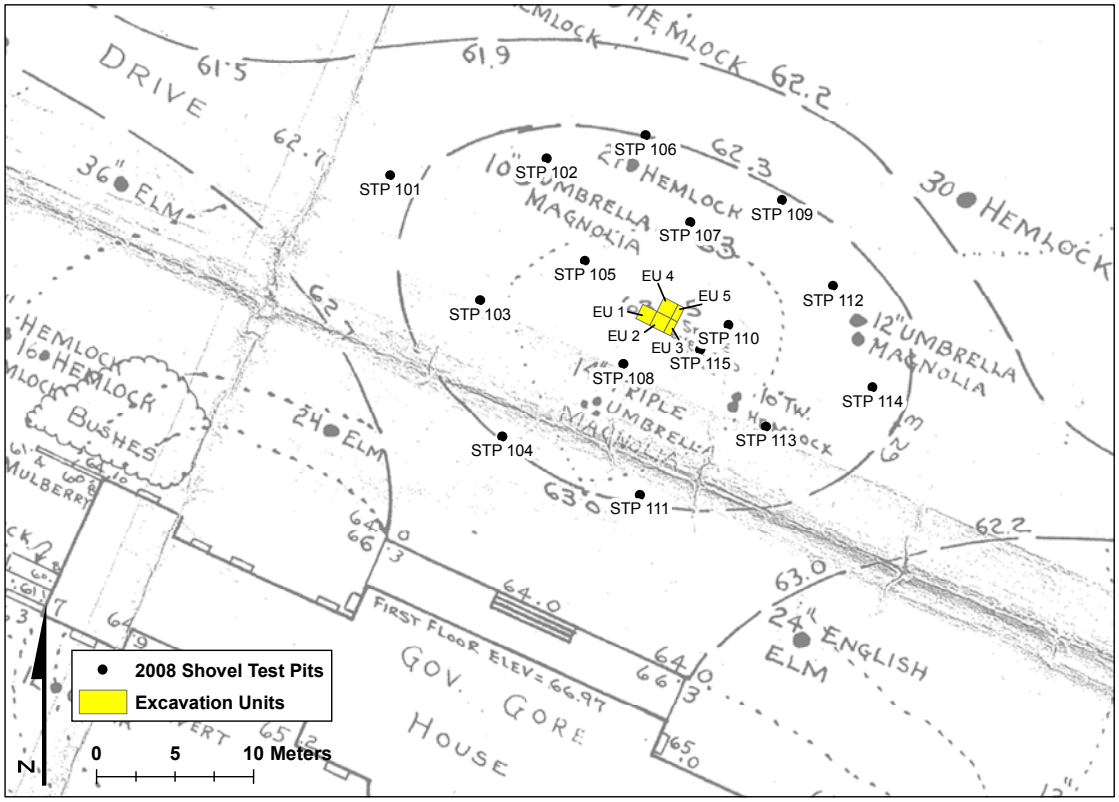
N2620/E3910. These do not appear to be plow scars and may be associated with grape wall and/or greenhouse construction or demolition or other use of the area.

2. Drive Circle

The drive circle was examined with 14 shovel tests spaced at intervals of 10 m (Figs. IV. 7, IV.8; Table IV.3). A general soil profile for the area consisted of approximately 19 cm of dark grayish brown sandy loam landscaping fill over approximately 30 cm of dark brown sandy loam plow zone that extended to 50-55 cm below surface (cmbs). Below the plow zone was a yellowish brown to brownish yellow sandy loam B-horizon. This profile differed in a number of tests across the circle. Carriage drive bedding consisting of light olive brown silty medium and coarse sand, gravel, small cobbles and a few clay inclusions was encountered in drive circle border STPs 101, 104 and 111 at depths of 18, 20 and 40 cm respectively. This sandy gravel bedding is generally referred to as 'Gore fill' for its specific use in many areas across the estate grounds. Its presence implies that the carriage drive once extended further into the circle at these locations than the surface asphalt does today.

STPs 106 and 109 on the north border of the circle revealed the very edge of drive bedding between 8 and 9 cmbs. The fact that this bedding, consisting of coarse sand and gravel in dark brown loam, was higher up and of a different consistency suggests this may be associated with a later episode of driveway improvements. It is likely that the 'Gore fill' lies further north of these tests. Drive circle border test STP 114 did not reveal gravel bedding, suggesting the present asphalt drive surface extends further west here than the original drive bed.

STPs 103 and 113, situated equidistant in the



IV.7. Arrangement of Drive Circle shovel test pits and excavation units.

IV.8. Archaeological investigations of drive circle, facing south.

south portion of the circle were characterized by exceedingly deep A-horizon sandy loam soil that extended to 70 and 66 cmbs respectively. Two features of dark brown sandy loam in the underlying yellowish brown B-horizon soil of STP 103 were interpreted as possible root disturbance for lack of a better explanation given the considerable depth Results of the GPR survey, however, suggest that the deep disturbance may be due to cultural activities associated with landscape transformation (see below).

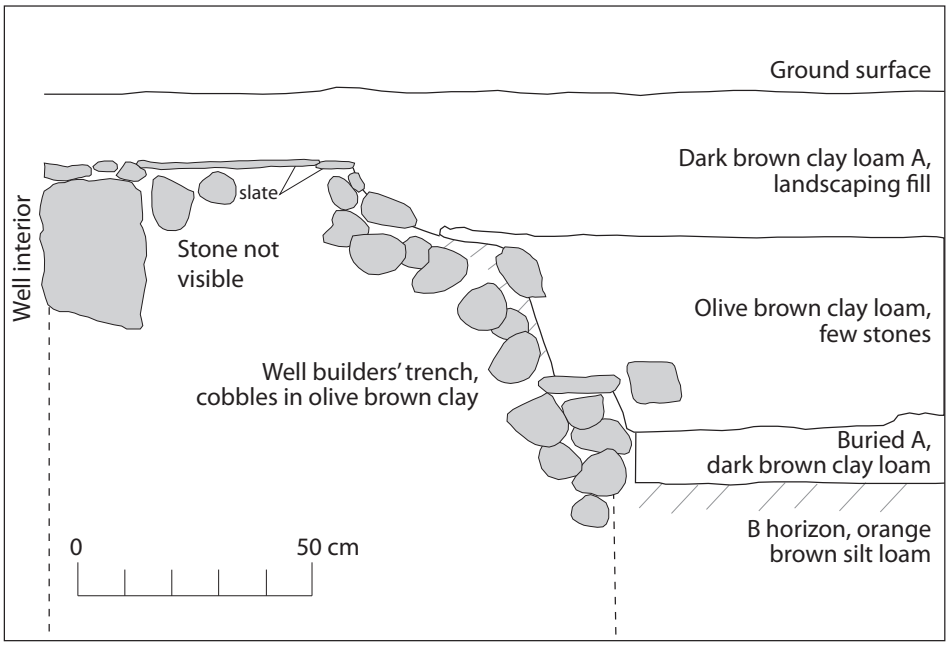
STPs 105, 108 and 110 all exhibited differing disturbance from well construction. A redeposited A-horizon soil in STP 105 consisted of dark brown sandy loam mottled with yellowish brown sandy loam to a depth of approximately 55 cmbs. Below this was a 5 cm layer of yellowish red silt loam followed by three layers of dark yellowish brown and yellowish brown sandy and clayey loam that sloped eastward toward the well. STP 108 revealed mixed sand and gravel starting at 30 cmbs and extended to at least 50 cmbs that resembles the 'Gore fill.' In STP 110 hard packed, light olive brown sandy silt and gravel was encountered at 45 cmbs and was found to extend to at least 56 cmbs. STP 115 was excavated to see if the buried stony fill of STP 108 and 110 was present roughly between them. The same light olive brown sandy

IV.9. View of drive circle well opening facing north showing the remaining bricks and the hard-packed sandy silt seal.

silt was found in STP 115 at a similar depth of 43 cmbs. This same soil was also found to surround the well as evidenced in the excavation units. The buried hard-packed surface and 'Gore fill' in STPs 108, 110 and 115 is interpreted as a Gore-period access walk and surface treatment to protect the well water from contamination.

Four 1 × 1 m excavation units along with extensions were opened to the south and east of the well to document details of the well's construction. The well is presently covered by a square wooden platform constructed of 1 × 6 in planks that lie flush with the grassy ground surface. Lifting the cover reveals the 19 ft.-deep well shaft that is constructed of large, dry-laid cobble stones. Sitting on top of the upper course of stones and adjacent fill stones are whole and partial bricks and pieces of roofing slate that are or showed signs of having been mortared in place (Fig. IV.9). The bricks showed little patterning with the exception of a single course of parallel bricks on the south side of the well's opening that indicate a square rather than round brick wall above ground.

Excavation units (EUs) 1 and 2 were situated south of the well and EU 4 to its east (see Fig. IV.7). All of these units revealed a thin layer of dark brown landscaping loam over mixed dark brown sandy loam fill. The fill sat on top of a hard-packed surface of light olive brown, sandy silt (clay) and gravel encountered between 14 and 18 cmbs. This hard surface sloped gently away from the well and extended outward between 1.10 and 1.40 m to form a water-resistant sandy clay seal over the surface of the well builder's trench fill (Fig. IV.9). The outer border of the clay was irregular in shape, appearing to have been affected by erosion. The gray clay is 6-8 cm in thickness and overlies a yellow to yellowish brown clay with sand and gravel that in turn sits on top of the 'Gore fill.' These deposits were left in place in all units during excavation with the exception of a 40 cm-wide trench along the north edge of EU 4 and



IV.10. North wall profile EU4 and the western half of EU5, east of the drive circle well showing extent of well pit and stone-filled builder's trench.

IV.11. View of profile east of drive circle well.

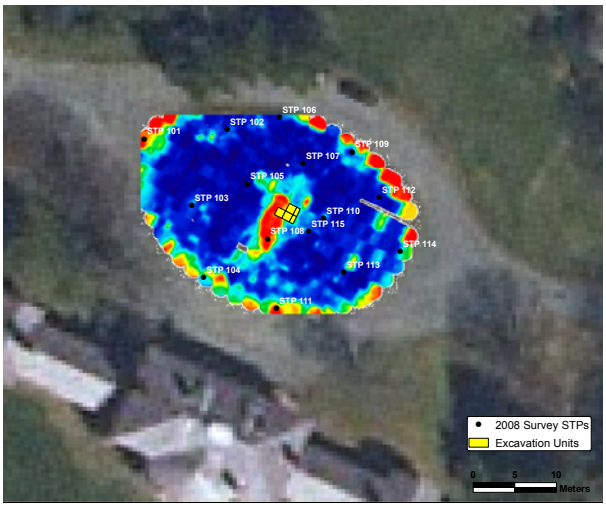
west half of EU 5 to create a profile of deposits and define the border of the well builders pit. This trench excavation showed the original well pit to extend approximately 1.25 m from the interior well wall (Figs. IV.10, IV.11). This makes the original pit approximately 3.30 m in diameter. The builder's trench was filled with medium and large sized cobbles as the well wall stones were set in place. Voids remain between many of the stones due to the clay covering at the ground surface that prevented contaminants from entering the well.

Features that potentially predate the digging

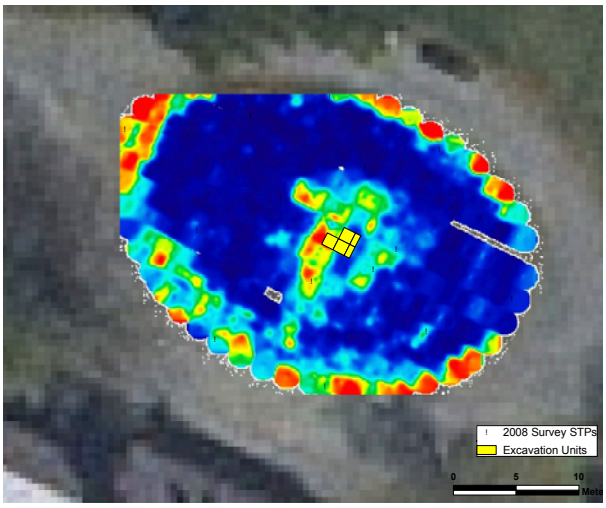
IV.12. Artifacts from the drive circle test excavations. A) Blue shell-edged pearlware plate rim, burned (ca. 1800-1835); B) molded pearlware plate rim, burned (ca. 1780-1830); C) printed pearlware (ca. 1783-1830), underglaze blue painted pearlware (ca. 1775-1830); D) Nottingham stoneware (ca. 1638-1810); E) Rhenish stoneware (ca. 1690-1775); F) tin-glazed earthenware (ca. 1620-1800); G) factory slipped creamware (ca. 1780-1820); H) pearlware (ca. 1775-1830); I and L) lead glazed redware; J) earthenware planting pots; K) window glass (above), tableware and wine bottle glass (below); M) clay pigeon targets; N) plastic golf tee (ca. 1920s); O) tobacco pipe stem; P) firearm flint; Q) wrought nails.

of the well and the Gore period were identified in STPs 106, 109 and 107. STPs 106 and 109 revealed small cobblestones and a thin layer of dark brown sandy loam on top of the underlying B-horizon at about 50 cmbs. The dark soil may represent an early occupation surface or truncated early A-horizon due to its high organic content. Immediately below this surface in STP 109 was a small pit feature containing dark brown clay loam that extended 45 cm into the B-horizon or to 84 cmbs. The function of this feature is unknown, but its size and depth suggest it may have been a hole for a wooden post. STP 107, approximately 5 m north of the well revealed no dark soil lens, but did contain small and large buried stones on or just above the surface of the B-horizon soil between 65 and 83 cmbs. It is unclear if these stones are associated with a structure. It is unlikely they are associated with well construction since they occur at the base of the A-horizon plow zone that was created prior to completion of the well. Artifacts from the drive circle included some earlier ceramics that may date to the pre-Gore occupation including tin glaze, Staffordshire slipware, and white salt glazed stoneware along with creamware, pearlware, redware and bottle glass (Fig. IV.12).

A ground penetrating radar (GPR) survey was conducted on the drive circle to define the borders of the walkway bedding to the well and to further investigate the deeply buried stones to determine if they lie in a particular configuration suggestive of an early structure or other feature. The GPR survey made use of two different antennas, a 250 MHz and a 500 MHz, that provide different levels of resolution. The 250 MHz can penetrate deeper, while the 500 MHz provides higher resolution images of anomalies. The two data sets show many of the same anomalies, but with some variation based on the types of anomaly best detected by each antenna. The data from these surveys were processed and are presented as horizontal slices at different depths below the ground surface.



A



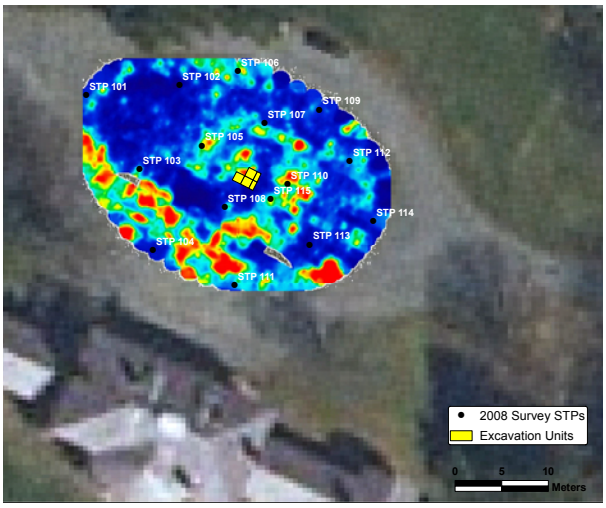
B

IV.13. Results of GPR survey of drive circle showing approximate configuration of A) drive circle access walk (21-45 cmbs); and B) moisture seal (31-55 cmbs).

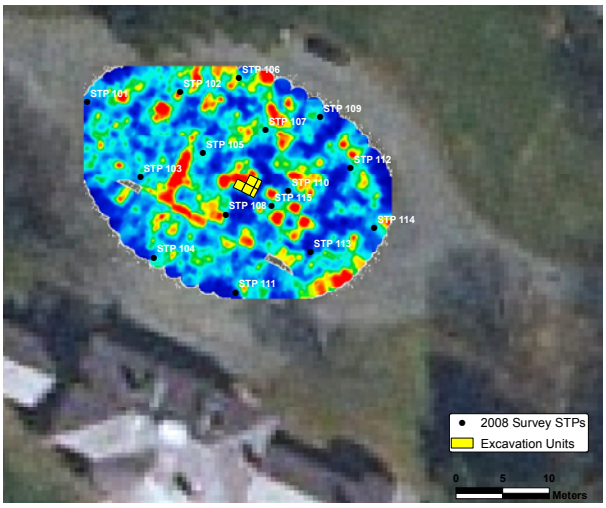
The upper-most slices (Fig. IV.13A; 250 MHz antenna, 21-45 cmbs) show former driveway bedding extending a short way under the grass of the oval along the northwest, south, and northeast sides, consistent with the excavations results in STPs 101, 104, and 111. This suggests that prior to the asphalt being laid, the grassy oval was somewhat smaller than it is today. (Results from deeper levels suggest that further in the past, the oval was configured much differently than it is today, see discussion below.) This upper slice also shows the extent of the mixed sand and gravel layer encountered from 30 to 50 cm below the surface in STP 108 and in the western excavation units south of the well. The GPR shows that there is a 2.6 m (8.5 ft) wide patch of this material extending from the well towards the front of the house, possibly a path for accessing the well. This path ends before reaching the edge of the oval (6.6 m/21.6 ft from the edge). Deeper GPR slices explain this termination. Another slice (Fig.IV13B; 250 MHz, 31-55 cmbs) shows the general extent of the packed surface and sand and gravel that was put down around the well that likely served to prevent surface water from entering the feature.

A slightly deeper slice (Fig. IV.13C; 500 MHz, 58 to 68 cmbs) shows a broad, straight edged, reflective surface along the south edge of the oval. This suggests that in the past, there was a broader, sandy gravel walking area or drive in front of the house, with a straight edge, possibly indicating that the present oval was square or rectangular in the past. This anomaly corresponds with the deep sand, gravel, and cobble layers at 73 cm below the surface encountered in STP 104 and is consistent with the thick layer of sand and gravel over a possible buried topsoil at 60 cm below the surface in STP 111. This suggests that as he had done elsewhere along the entrance drive (Smith and Dubell 2005), Gore built up the area immediately in front of the house with a prepared sand and gravel mixture, possibly after removing much of the existing topsoil.

Significantly, the pathway visible in the upper slices ends at the straight edge visible in this third slice, suggesting that the well path connected to the sand and gravel drive. Furthermore, appearing in Figure IV.13C and becoming clearer in the next deeper slices (Fig. IV.13D; 500 MHz, 64 to 74 cmbs) is the outline of a square 11 by 11 m (or 36 by 36 ft) anomaly with the well at its center. STPs 105 and 107 happened (by chance) to fall along the edges of this feature. The large stones at 83 cm below the surface in STP 107 probably represent an edge of this structure, and the sloping layers of sandy silt, loam, and clay loam that



C



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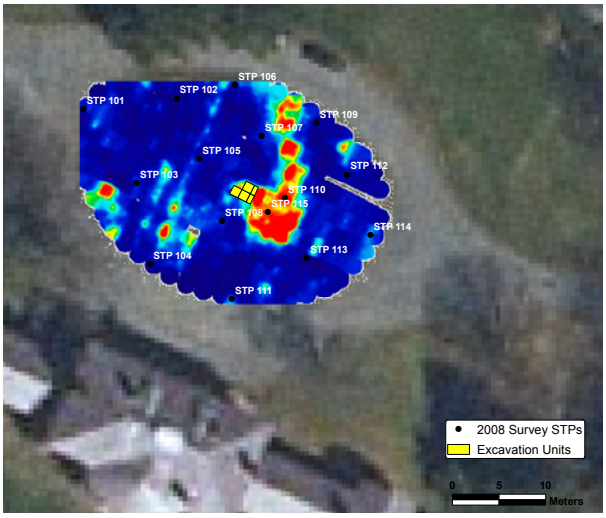


E

IV.13, cont. Results of GPR in the drive circle showing C) surface in front of mansion (58-68 cmbs); D) square feature surrounding the well (64-74 cmbs); and E) a deep, possibly geological anomaly (1.75-1.99 mbs).

end around 80 cm below the surface may also be related to the construction of this feature. Together, these slices suggest that the well was surrounded by a square enclosure, possibly bordered by stones, which had a path or trampled surface inside it leading to the well, and that this enclosure abutted a sand and gravel paved area in front of the mansion, wider than the current asphalt driveway. The top of this paved area is present at 20 and 40 cm below the current surface in STPs 104 and 111 respectively, suggesting that the historic ground surface may have been that much lower than today.

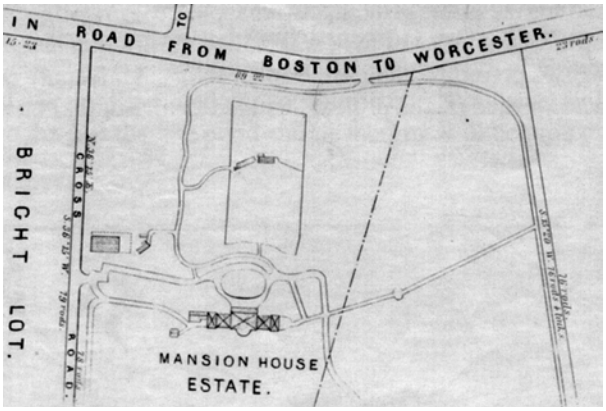
Deeper GPR slices (Fig. IV.13E; 250 MHz, 1.75 to 1.99 mbs) show a large, strongly reflective anomaly entering the oval near the center of its north edge and ending just east of the well. The nature of this large, deep anomaly, appearing in slices between 1.24 and 2.82 meters below the surface, is not known. It may be related to water movement and storage, or it might be the remains of an earlier structure (these would have to be very substantial). Most likely, it is a feature of the surrounding geology. STPs 110 and 115 were located over this anomaly, but ended at what was interpreted as subsoil at 56 and 66 cm below the surface, respectively. The soil at that depth in both was an olive brown sandy silt, slightly different from the yellowish brown subsoils encountered in other STPs in the oval that are outside any anomalies (102, 112, and 114, for example). This deep slice also shows two pipes in the west part of the oval running perpendicular to the facade of the house. These appear as the narrow, lighter lines and have been interpreted as 20th-century, possibly associated with the country club era.

3. Straight Walk

Assessment of the straight walk was initiated by a search for its depiction on a series of Gore

Table IV.4. Testing proposed and completed for the library walk.

Quantity Proposed	Quantity Completed	Unit Type	Location/Purpose
8	17+	STPs	Verify walkway and borders
10	5+	STPs	Examine east walk terminus
0	4	Trenches	Verify walkway and borders



IV.14. Detail of 1841 plan of J. S. Copley Greene estate depicting the straight walk.

Place maps that were scanned and placed in a GIS database for this project. Assessment results are noted below by map.

Plan of Watertown, 1830: not shown, but part of carriage drive is depicted and two possible structures or trees are shown immediately south of where the walk should be.

Hales Plan of Waltham, 1831: not shown, but parts of perimeter walk are present (Fig. III.1).

Lyman Estate Sketch, 1834-38: not shown, nor is the perimeter walk that existed at this time (Fig. III.3).

J.S. Copley Greene Estate, 1841: first image to depict a walk extending from east wing of mansion. Walk is shown as a narrower thoroughfare than the entrance drives and of equal width to the perimeter walk. The thoroughfare is shown to consist of two sections separated by a circular feature (Fig. IV.14). The shorter segment extends east/southeast from the house to the circular feature, while the longer section passes nearly due east from the circle to the perimeter walk. While this map is known to contain some inaccuracies, the thoroughfares appear to be well represented.

Waltham 1875: not shown (Fig. III.6).

Col. Henry Lee sketch, 1881 from memory of an 1834 visit: clear thoroughfare similar in scale to perimeter walk and smaller than entrance drive extends off east wing and curves southward to join the perimeter walk (Fig. III.4).

Charles Eliot Sketch 1889: depicts an alignment of trees that extends eastward to the perimeter walk that is similarly depicted (Fig. III.7).

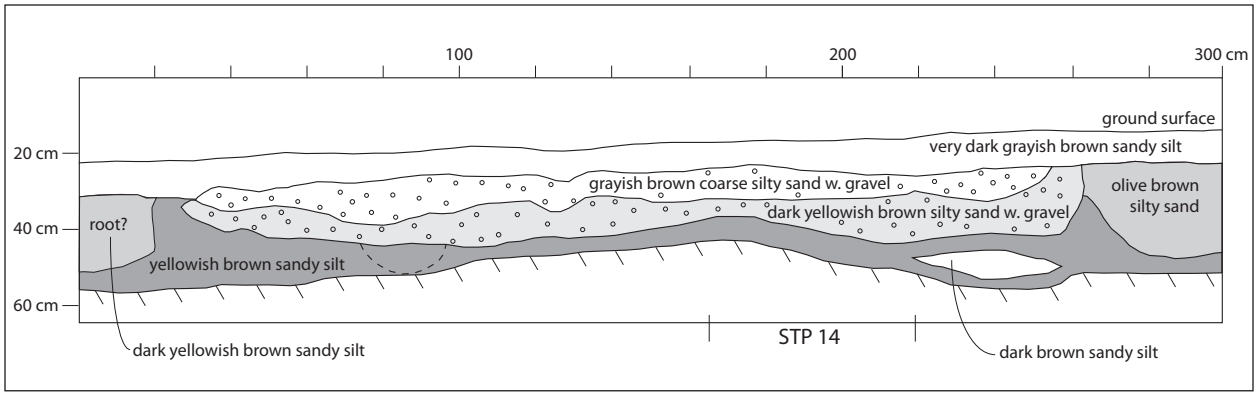
Based on available cartographic information, the present thoroughfare flanked by trees of varying ages heading east to northeast of the library wing was a likely candidate for the straight walk, and this area, thus, became the focus of archaeological investigations. A transect of five STPs spaced at 20 m intervals was first laid out down its center (Fig. IV.15; Table IV.4). The transect commenced approximately 65 m east of the house where the beginning of the walk was suggested by a slightly depressed grassy surface with patches of fine gravel, and by the commencement of the two discontinuous alignments of trees (Fig. IV.16). The westernmost shovel test (STP 14) revealed two distinct layers of walkway bedding. The upper consists of 10 cm of grayish brown silty sand and gravel, while the lower consists of 10 cm of dark yellowish brown silty sand and gravel. The two layers of walkway bedding lay below 10 cm of recently deposited dark brown sandy loam A-

IV.15. Plan of straight walk area depicting test pit locations.

IV.16. View of straight walk facing east.

horizon, and sat on top of a yellowish brown sandy loam B-horizon. The STP was extended 120 cm to the north and 160 cm to the south to define the north and south borders of the walkway bedding. This required removal of the overlying dark brown sandy loam and excavation of a portion of the trench to document the bedding in profile. The walk at this location is approximately 2.30 m (7.5 ft) wide (Fig. IV.17).

STP 13, 20 m to the east, also revealed similar walkway bedding below 9 cm of sandy loam A-horizon soil. The bedding consists of 7-10 cm of olive gray silty sand and gravel over 10 cm of yellowish brown silty sand and fine gravel. This lower bedding lies on top of 20 cm of a dark brown sandy loam buried A-horizon, indicating that the original ground surface in this area may have sloped gently downward toward the stream, and that the area was leveled at the time the walkway was laid down. The only artifact from



IV.17. West profile of west end of straight walk at STP 14.

the A-horizon below the walk was a nail fragment. The slightly elevated borders of the walk at this location were tested by STP 16, 5 m to the north and STP 15, 4 m to the south. Both of these tests revealed natural soil profiles of dark brown, sandy loam A-horizon (41 and 34 cm in depth respectively) over a dark yellowish brown, loamy sand B-horizon. A fairly high density of artifacts derived from the A-horizon soil that included small and large pieces of brick, a nail, window glass, bone, ceramics consisting of redware, creamware, pearlware, porcelain and Nottingham stoneware (ca. 1638-1810), and wine bottle glass and other vessel glass. The greater than usual quantity of artifacts, especially brick, prompted the excavation of an additional STP 4 m south of STP 15 to search for evidence of a structure or other feature. A natural soil profile was observed here consisting of a 39 cm-deep A-horizon of black fine sandy clay loam over a dark yellowish brown sandy clay loam B-horizon. A coarse sand and gravel C-horizon was present by 56 cmbs. Artifacts from the test were similar to those across the area and were not of particularly high density. No evidence of a structure was found.

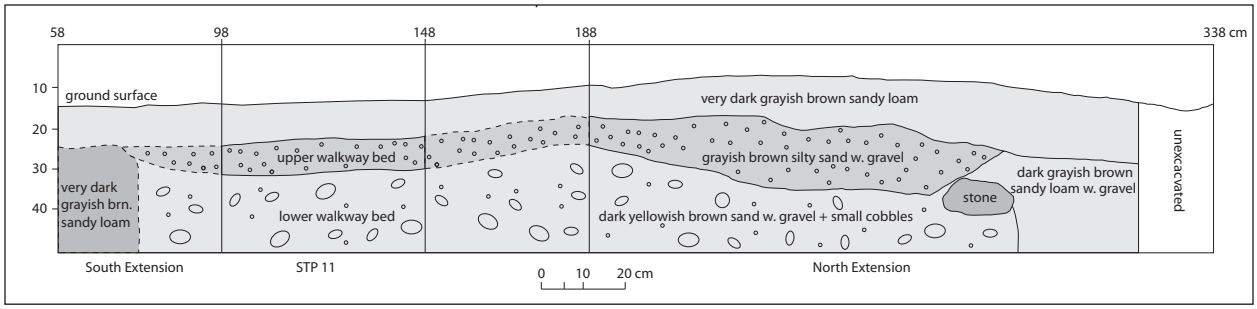
The next test 20 m further east, STP 12, revealed more dark grayish brown compact sand and gravel bedding that extended from the ground surface to a depth of 20 cmbs. The same lower bedding of yellowish brown, coarse sand and gravel is present between 20 and 32 cmbs. The walk bedding sits on top of a dark brown sandy loam buried A-horizon. No artifacts were encountered and no additional north/south tests were completed at this location since it was clear that the walk continued further eastward. The next test in the transect, STP 5, revealed 48 cm of very dark grayish brown sandy loam with gravel and stones underlain by dark yellowish brown silty sand with gravel and stones. There was no evidence of walkway bedding and the soil appeared to consist of fill containing a small assortment of brick, coal slag, modern bottle glass and asphalt along with redware, whiteware and white salt glazed stoneware ceramics.

Because no evidence of the sandy walk bedding was found, the next shovel test was placed 10 m back toward the west. STP 6 revealed 40 cm of dark brown sandy loam fill over what appeared to be a buried A-horizon of darker brown sandy loam that covered yellowish brown sand and gravel encountered at 60 cm. A feature containing dark brown sandy loam was present in the south portion of the shovel test, prompting an extension of the STP 30 cm south. More of the dark brown feature fill was revealed in the extension and removal of this soil showed it to extend 20 cm into the sandy B-horizon. The darker, buried A-horizon soil and feature fill contained a low density of fragmented brick and mortar, window glass, coal and nail fragments, and redware, creamware and pearlware ceramics. The absence of the path at this location and presence of the portion of a feature of unknown function prompted the placement of two

IV.18. Artifacts from straight walk test excavations. A) Wrought nail; B) Nottingham stoneware (ca. 1638-1810); C) polychrome pearlware (ca. 1795-1820); D) tin-glazed earthenware (ca. 1620-1800); E) blue printed pearlware (ca. 1783-1830); F) blue vessel glass; G) wine bottle glass; H) lead glazed redware; I) creamware (ca. 1775-1820); J) engraved table glass; K) lamp chimney glass. At right, stemware with the same pattern as artifact J (Illustration from Frances Dupont Winterthur Museum).

additional tests to the north and one to the south in an attempt to further characterize this area and search for the continuation of the walk. STP 7, placed one meter south of STP 6, also revealed 40 cm of dark brown sandy loam plow zone, but here this soil sat directly on a dark yellowish brown B-horizon surface except in the north and north-east portion of the test where a feature of dark sandy loam continued to a depth of 57 cmbs. A portion of the edge of this feature was bordered by small cobblestones. Artifacts from the A-horizon included brick and mortar fragments, a wrought nail, redware and creamware ceramics, wine bottle glass and a fragment of a cut and engraved tumbler or goblet typical of the latter 18th century (Fig. IV.18). The feature fill contained no cultural material.

STPs 8 and 9 to the north revealed slightly different soil profiles. The upper 40 to 52 cm consisted of dark brown loamy sand and gravel. This was underlain in STP 8 by dark brown silty sand with gravel and cobbles, and in STP 9 by darker sandy loam that extended beyond 60 cmbs. This darker soil appeared to be the same darker soil encountered in STP 6. Artifacts from the two tests included fragmented brick, a cut nail, window glass, bone, redware and creamware ceramics and glass. In a continued effort to find the east end of the walkway bedding, the next shovel test, STP 11, was placed 5 m further west, equidistant between STPs 6 and 12 (see Fig. IV.15). STP 11 revealed 12 cm of dark brown sandy loam to overlie approximately 8 cm of light grayish brown silty sand walkway bedding. The clear presence of the walkway here prompted the expansion of the STP north and south to document its width and construction. The extension showed the upper grayish brown bedding to be underlain by 30 to 40 cm of dark yellowish brown silty sand with gravel and small cobbles. This lower bedding resembles the coarse sand and gravel fill used by Gore in many localities across the property including the carriage drive. This fill sits on top of a yellowish brown medium sand C-horizon. The walk at this location is approximately 2 m (6.5 ft) wide (Fig. IV.19). Only a single piece of creamware was found in the lower bedding, while the soil immediately south of the walk contained both redware and creamware

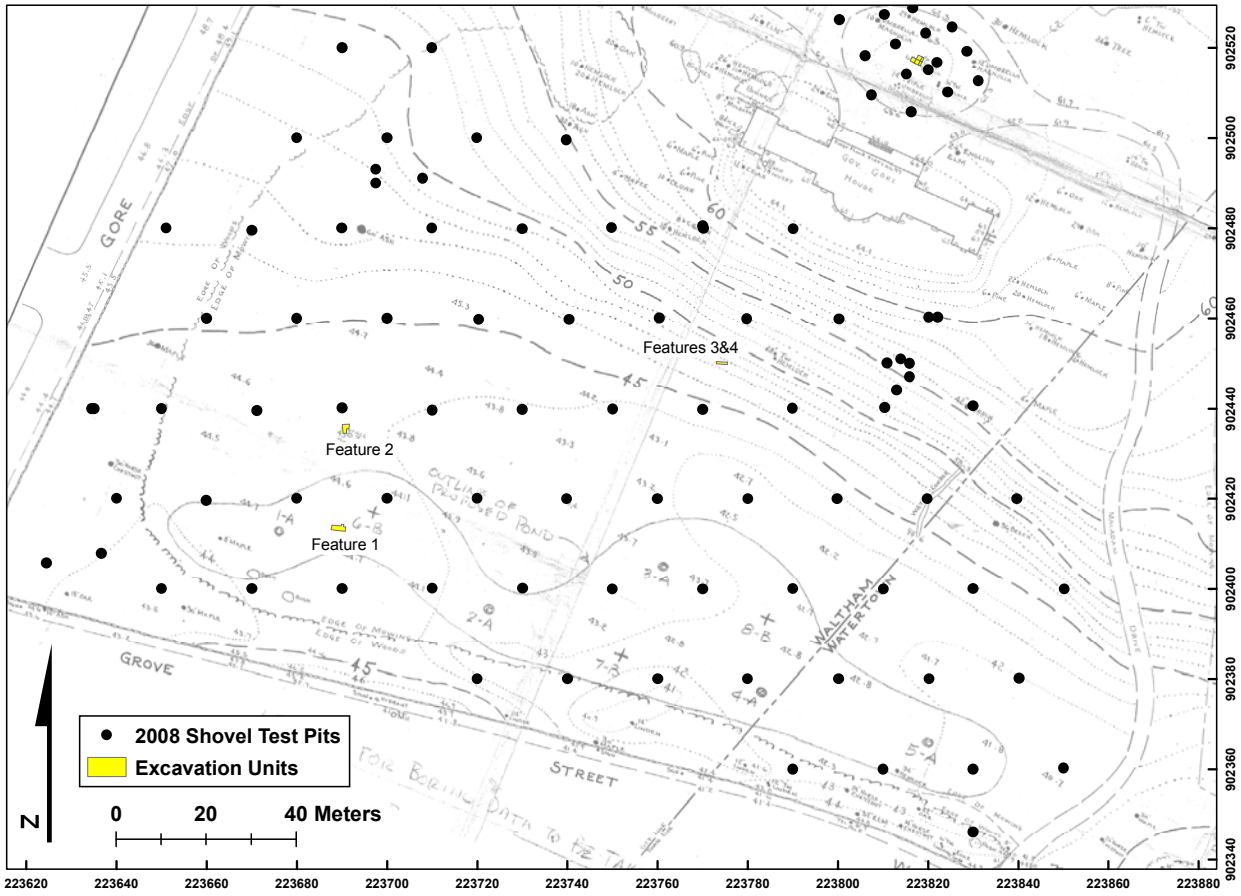


IV.19. West wall profile of straight walk at STP 11.

ceramics, fragmented brick, a nail fragment and wine bottle glass.

Since STP 11 and its extension clearly revealed walkway bedding and STP 6 did not, an additional test, STP 10, was placed midway between these to identify a possible walk end. STP 10 revealed a thinner, grayish brown upper bedding, 5 cm in thickness, and the lower, light yellowish brown silt bedding to be reduced to 2 cm in thickness. The walkway here is overlain by 15 cm of dark grayish brown sandy loam and underlain by the same dark yellowish brown sand and gravel fill. This clear thinning of the walkway at this location suggests that it ends between STP 10 and STP 6 two meters to the east. This equates to an endpoint approximately 114 m (374 ft) from the library.

An additional set of three shovel tests, STPs 17, 18 and 19, were excavated much further east (45 m from STP 6), to search for evidence of a continuation of the walk as depicted on several historic maps. STP 18, located in what appeared to be the center line of the walkway, revealed 52 cm of dark brown sandy loam fill with gravel and some cobbles. This fill was deposited and/or disturbed recently as evidenced by the presence of a plastic soy sauce packet at 52 cmbs. Below this fill was dark yellowish brown coarse sand and gravel with a 16 cm-wide linear feature of dark brown sandy loam fill oriented E/W. Feature fill extended 10 cm in depth, but the function of this feature is unknown. Since evidence of walkway bedding was not found, additional tests were completed 4 m to the north and south. Both of these revealed recently deposited dark brown sandy loam and gravel fill over the same layer of dark yellowish brown coarse sand and gravel seen in STP 18. In STP 19 to the north, this sand and gravel layer consisted of a 3 cm-thick lens at 33-35 cmbs that sat on top of a thin layer of very dark brown sandy loam that looked like a natural buried A-horizon. As a result the sand and gravel lens maintained the potential to represent walkway bedding that was less formalized than that to the west. The sand and gravel in STP 17 to the south was encountered at a depth of 51 cmbs below two layers of dark brown sandy loam fill. To determine if the sand layer in STP 19 was indeed walkway bedding, a 50 cm × 1 m unit was excavated immediately north of STP 19. It was anticipated that discovery of clear borders to the sand deposit coupled with additional tests would verify if this was a walk. The sand layer in the new unit was approximately 6 cm thick and overlay between 2 and 6 cm of very dark brown sandy loam that again appeared to be a buried A-horizon. Below this loam, however, was a layer of dark yellowish brown sandy loam with gravel and small cobbles identical to the sand and gravel fill observed in the field immediately north. Below this fill was light olive brown sand and gravel glacial till. Armed with a thorough understanding of the stratigraphy of the adjacent field to the north, the dark brown sandy loam originally believed to be a buried A-horizon was actually found to be top soil that was spread over the adjacent field after it was stripped of its A-horizon loam and backfilled with gravel. Thus, it is clear that the loam removal that took



IV.20. Plan of STP and feature locations on south lawn.

Table IV.5. Testing proposed and completed for the south lawn.

Quantity Proposed	Quantity Completed	Unit Type	Location/Purpose
10	3	STPs	Examine GPR anomalies
6	0	1×1 m units	Examine GPR anomalies
124	72	STPs	Systematic testing
8	4	1×1 m units	Examine features
0	19	STPs	Examine features

place in the mid 1930s also removed soil from this portion of the property that probably contained the eastern extension of the library walk.

An additional shovel test (STP 20) was placed 69 m east of STP 6 and under the trees that border the stream bed. The ground surface here has the distinct appearance of urban fill with fragments of concrete, bricks, coal and fragmented glass on the surface. Excavation revealed recently deposited mixed sandy loam and gravel fill containing brick and an aluminum can pull tab to a depth of 50 cm. The elevation of the Gore period ground surface here is not known.

4. South Lawn

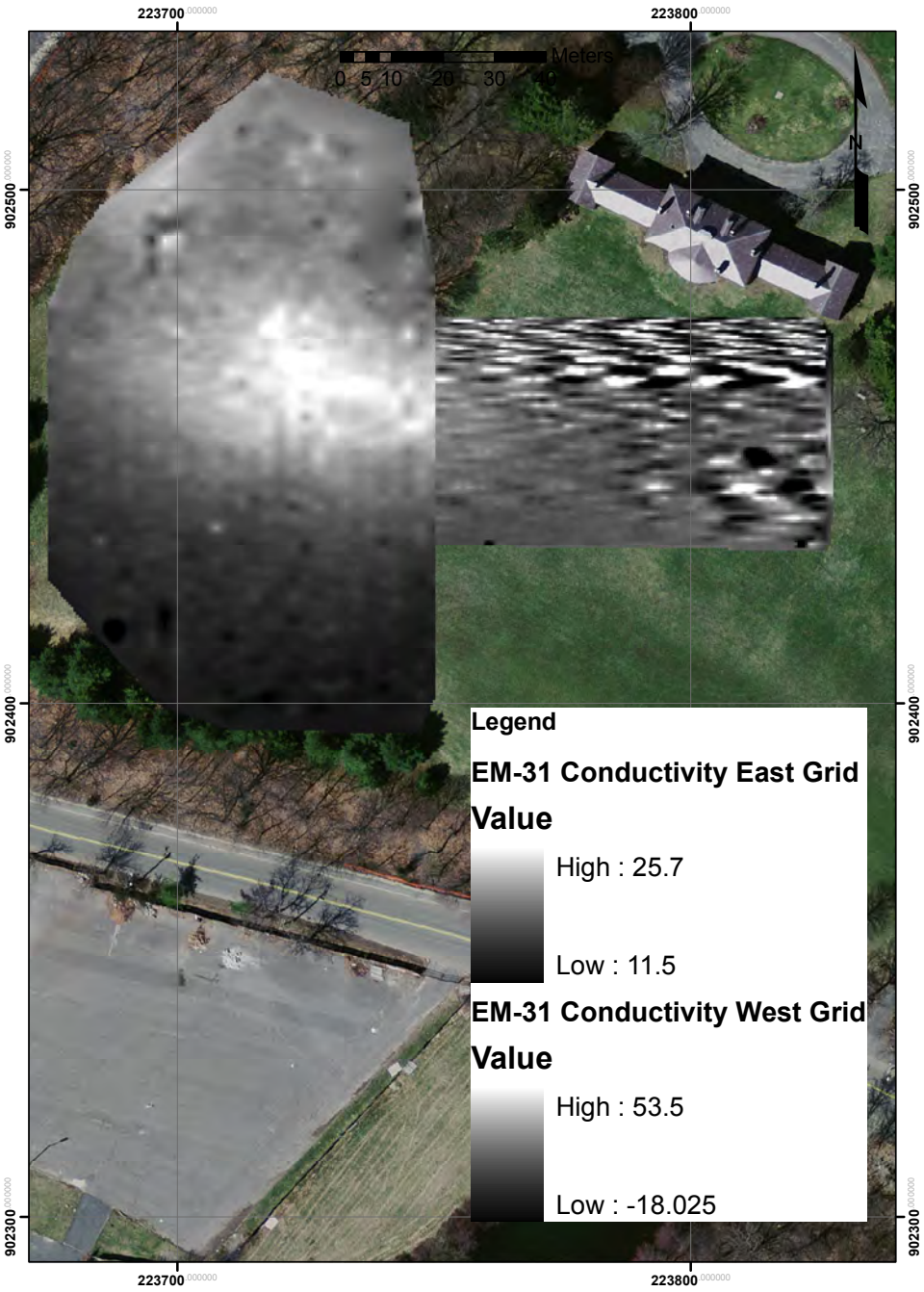
The reconnaissance survey of the south lawn commenced with the establishment of 9 transects of 20 m-interval staggered shovel tests (Fig. IV.

IV.21. Shovel tests in which plow scars were identified.

20; Table IV.5). Transects were oriented due east/west and were tied to the horizontal grid established for the whole property.

A total of 68 shovel tests were completed for the systematic survey, and these were joined by an additional four judgmental tests to investigate areas not reached by the transect tests (Fig. IV.20). Additional STPs were opened to examine a drain (Feature 7), a deep drainage basin (Feature 2), shallow drainage feature (Feature 1), brick filled feature (Feature 3), and the east cistern (Feature 5). Details of this additional testing are presented below under discussion of individual features. Soil profiles across both the flat and sloped portions of the lawn generally consisted of a dark brown sandy loam A-horizon plow zone over a yellowish brown to dark yellowish brown loamy sand or loamy sand and gravel B-horizon. An intermediate A_2-horizon of medium brown or dark yellowish brown sandy loam or loamy sand was sometimes present. The plow zone ranged in depth between 10 and 55 cm with 20 to 30 cm most common. The underlying B-horizon in some tests consisted of a silty sand and gravel. This was present particularly in five tests in the southeastern portion of the lawn (N2420/E3760, N2420/E3780, N2380/E3760, N2380/E3800 and N2380/E3820).

Evidence of plowing in the form of plow scars was identified in the surface of the yellowish brown B-horizon in ten of the shovel tests (Fig. IV.21). These occurred as linear, dark brown streaks up to 25 cm wide, 2-3 cm deep and generally oriented east-west. STPs N2440/E3830 and N2460/E3824 revealed a pair of scars, one of which was created in a west direction, while the other was made by plowing in the opposite direction to the east. Scars closest to the mansion are present within 17 m (56 ft) of the west wing. The wide distribution of plow scars across the south lawn and the well-defined A/B-horizon interface, also indicative of plowing, suggests the entire area was subjected to plowing sometime in the past.

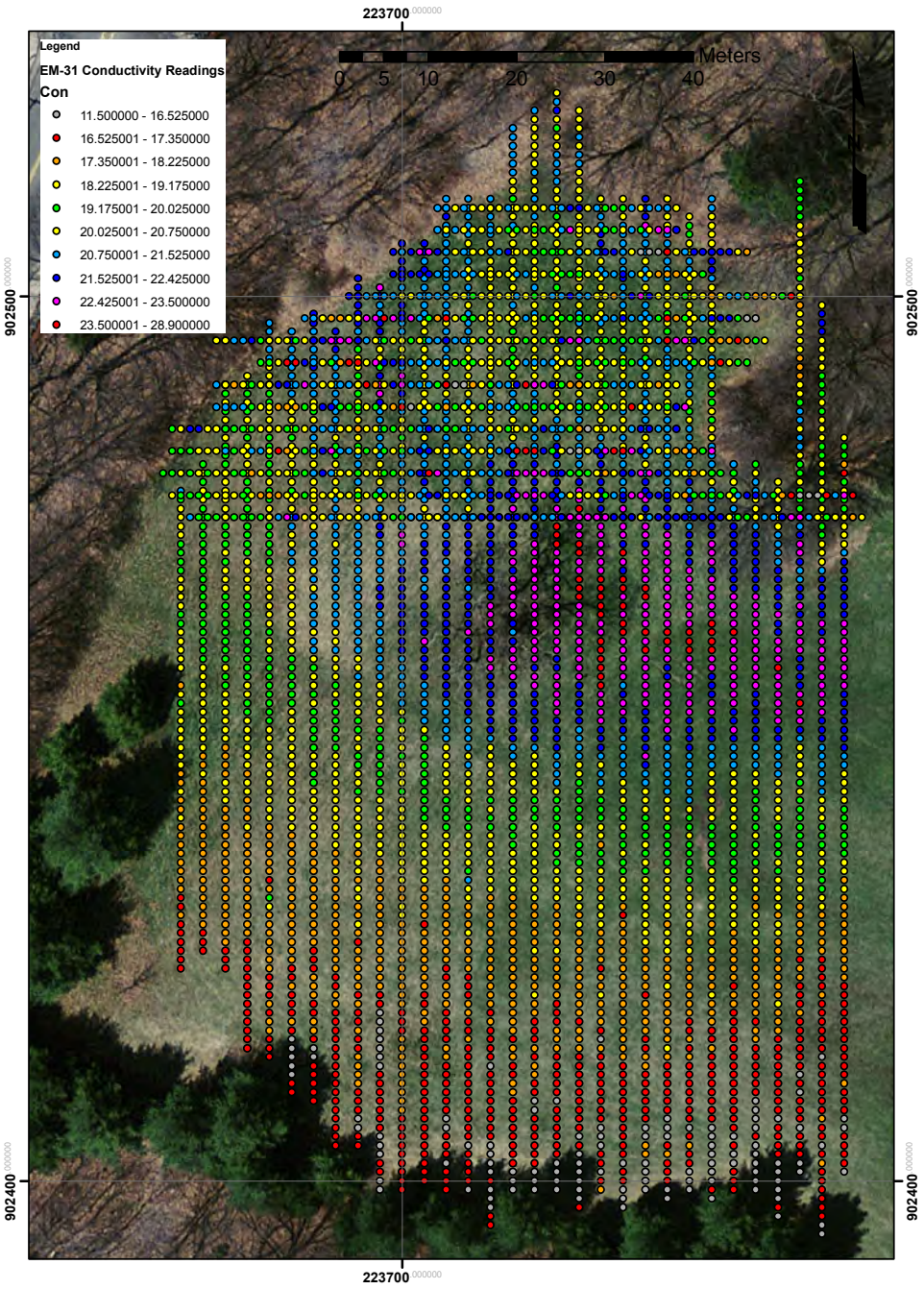


IV.22. Total area of the conductivity survey on the south lawn.

A number of other features and anomalies were also found by the systematic south lawn tests. These include concentrations of fieldstones, two possible postholes, three loci of deep A-horizon soils, atypical sloped subsoil surfaces, buried hard-packed surfaces, country club era sand traps, possible walking path bedding and drainage trenches.

Remote Sensing on the South Lawn

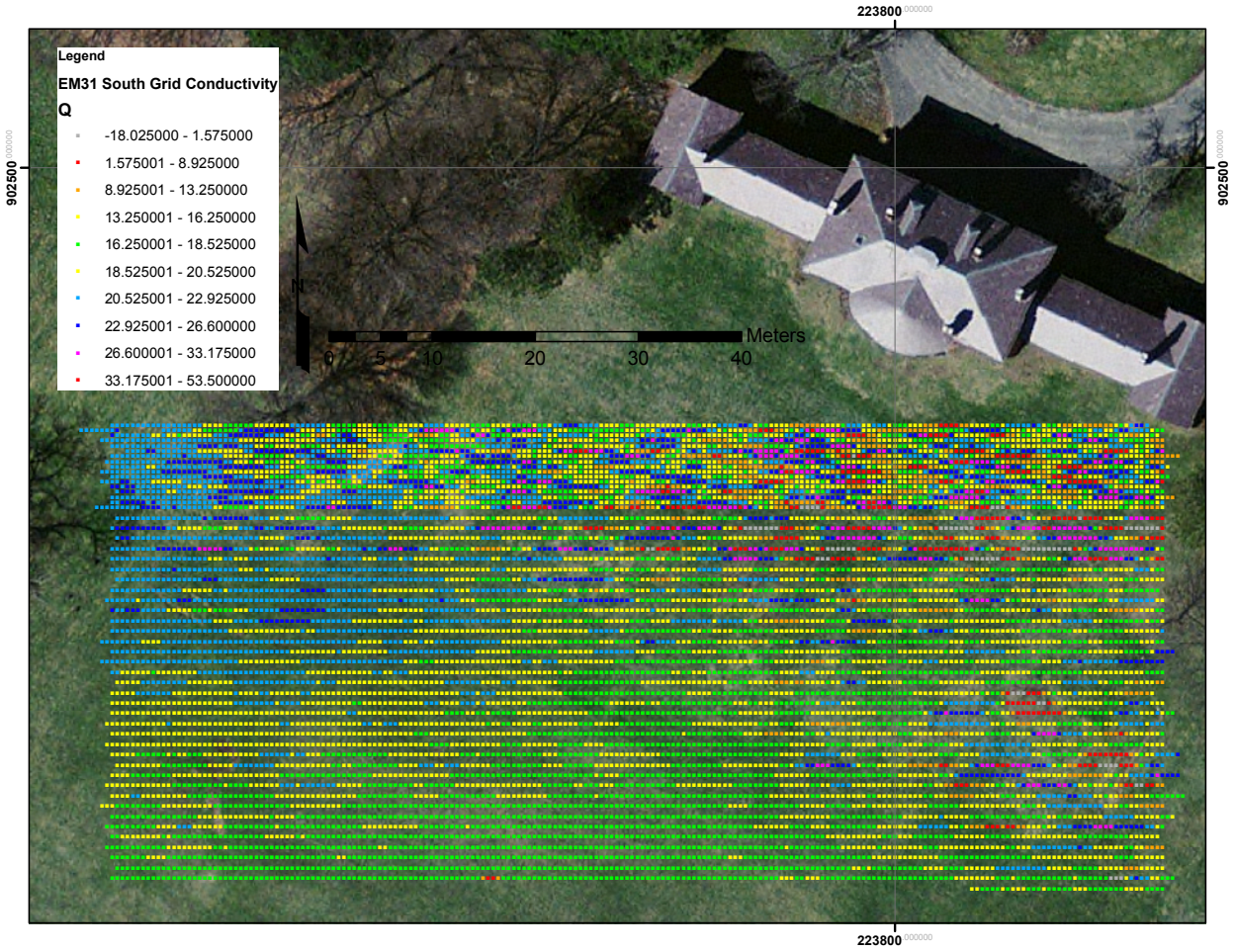
Two areas on the south lawn were investigated with the EM-31 conductivity meter, an area southwest of the house and a section directly south of the house. There is substantial overlap in the area covered by the two grids (Fig. IV.22), yet these two grids could not be more different in results.



IV.23. Conductivity survey results in the southwest grid.

The southeast grid is perhaps the most natural, where small deviations can be used to identify artificial anomalies. The south grid, on the other hand, is so full of artificial anomalies, it is difficult to follow a single anomaly across transects. Where they do overlap, it appears to be an area of generally natural changes in conductivity.

The southwest lawn is probably the most representative of natural changes in conductivity. The central purple area in Figure IV.23 (white in Figure IV.22) is an area of elevated conductivity suggesting more poorly drained soil with a higher clay texture. The very southern portion (bottom) of the grid exhibits low conductivity readings, which



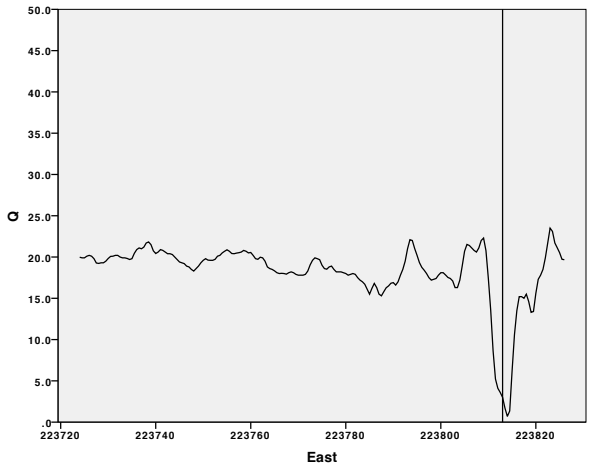
IV.24. Results of the conductivity survey south of the mansion. Note that hues, representing conductivity (Q) value, are concentrated around the mean Q value.

could be caused by any number of factors including better drainage, soil removal, sand, or some combination of factors.

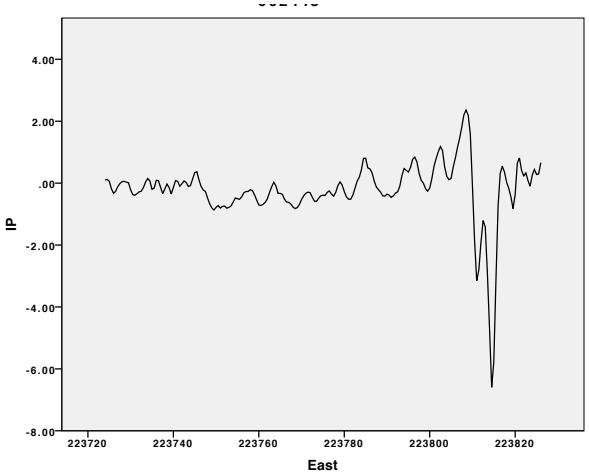
The obvious anomaly at E3697/N2490 where a non-linear high is abutted on the north and east by substantial lows is consistent with human activity preserved below the surface. This anomaly, upon ground truthing, yielded a large area of red earth associated with stones and a post hole (see discussion of Feature 8 below).

On April 2, 2009 a series of EM-31 transects were taken south of the mansion to identify features associated with the house as well as other building foundations (Fig. IV.24). The 10 meters closest to the mansion were surveyed with 0.5 m between stations while the rest (southern 3/5 of the grid) was surveyed with 1 m between transects. Readings were taken every 0.5 m. The western portion is consistent with the central portion of the southwest grid (e.g., Figure IV.23) which exhibited elevated conductivity in the central portion. There is a 10 m overlap of the two grids.

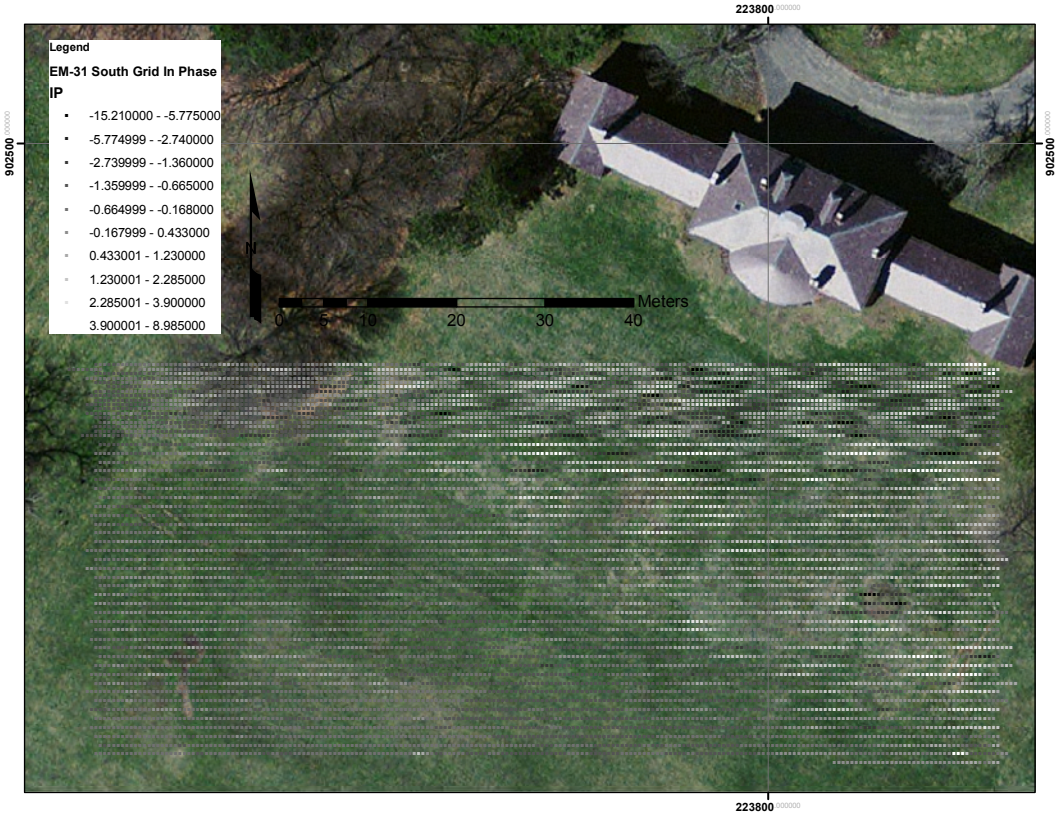
The average conductivity for the field as a whole is about 20 mS/m. The only known feature is the cistern at N2447/E3813. The conductivity signature shows only a marginal increase on either side of the cistern with 18 mS/m drop over the 2-3 m of the void of the cistern (Fig. IV.25, where the vertical line represents the midpoint of the dried grass patch visible in the air photo). The dramatic drop in the IP component of the N2448 transect (Fig. IV.26) suggests that there is a large



IV.25. The conductivity (Q) values along transect N2448 on the y-axis with east value on the x-axis.

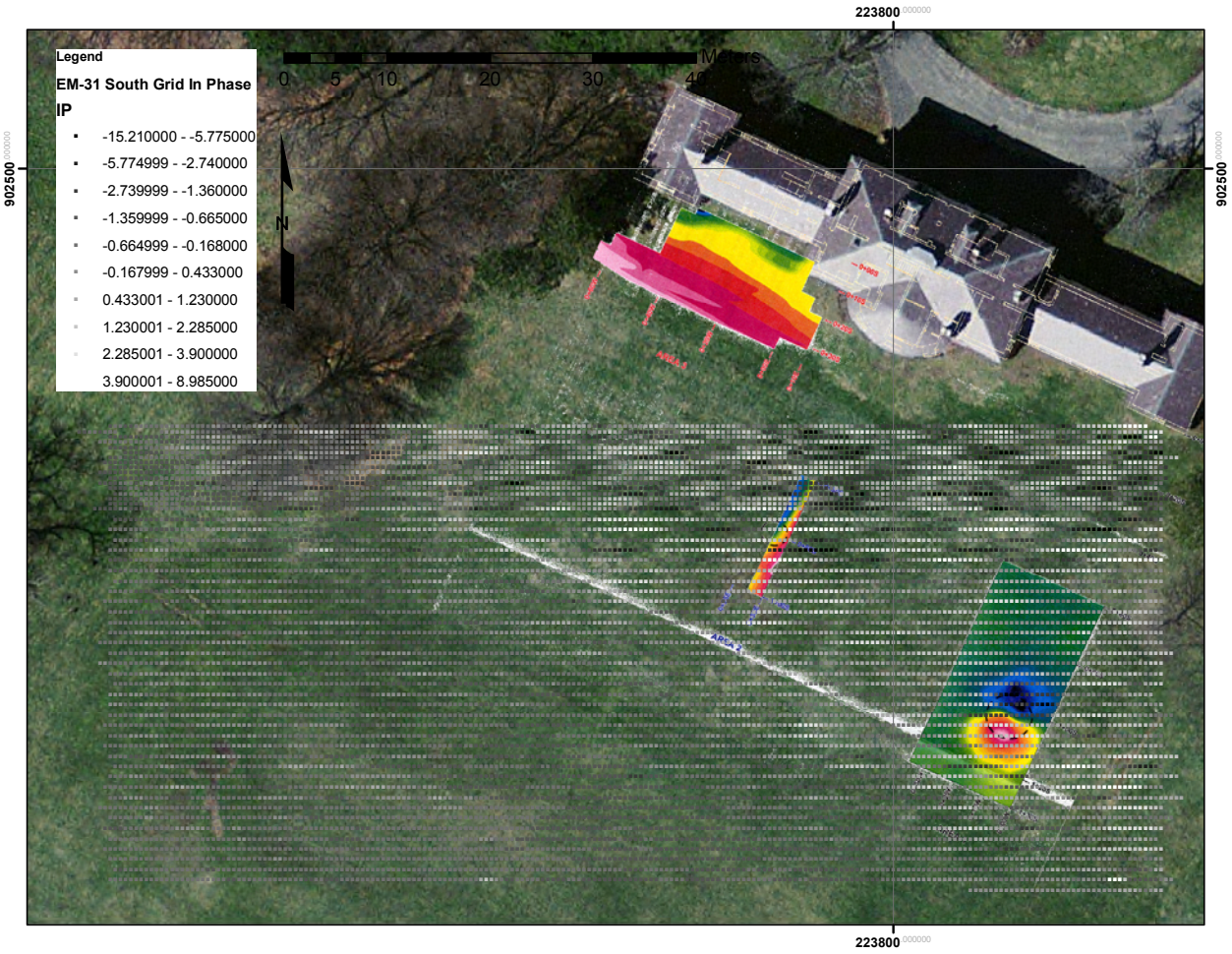


IV.26. The in-phase (IP) values along transect N2448 on the y-axis with east value on the x-axis.



IV.27. In-phase (IP) component of the conductivity survey south of the mansion. Note that gray shades are concentrated around the mean IP value.

metal object in the center of the area. The IP component of the adjacent transects suggest that there is also metal there (Figure IV.27). The RSI magnetic readings (RSI 2002) are consistent with this interpretation (Figure IV.28). These images are consistent with a large void space with a large metal object in the center (e.g., a cistern with a metal pipe or pump).

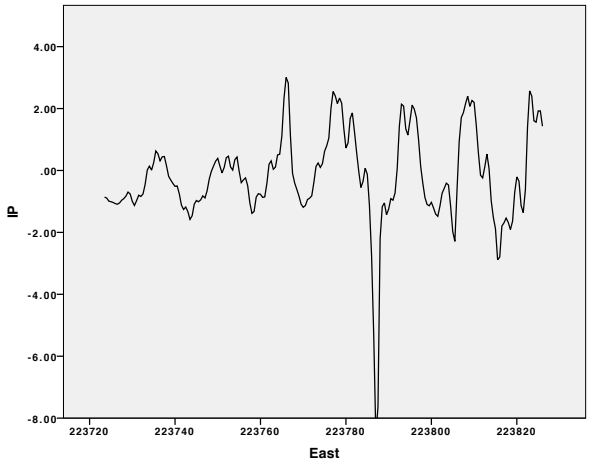


IV.28. IP component of the conductivity survey superimposed on magentometry results from RSI (2002)..

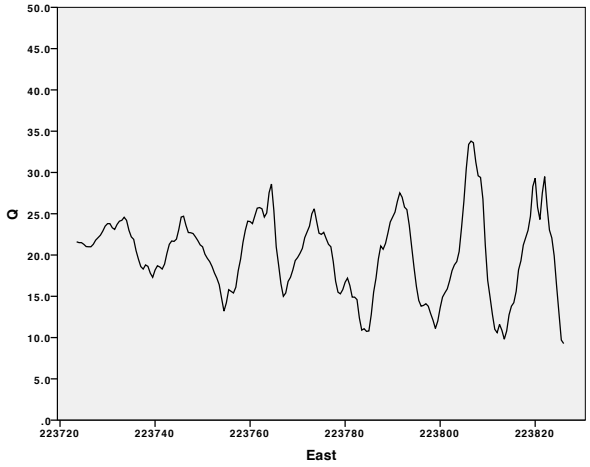
However, we do not concur with the identification of a similar signature (i.e., cistern) in the strip to the west also survey by RSI, as they suggest in their report (RSI 2002:5). While there is a piece of metal (Fig. IV.29), it is isolated and not associated with such a dramatic drop in conductivity (Fig. IV.30). Neither the metal nor the dip in Q can be easily associated with adjacent transects (e.g., Fig. IV.31 and Fig. IV.32) as can the cistern at N2447/E3813. Rather we view this pattern as possibly representing a series of void spaces, maybe cross-cutting each other. The EM-31 survey data suggests that a large area of the upper slope in front of the mansion in underlain with features that contain void spaces, possibly cisterns or ducts, with cross-cutting pipes. We recommend that this area be surveyed with GPR and subjected to further test excavations. Because of the break between this high-low pattern (e.g., Fig. IV.30 and the cistern at N2447/E3813), the two sets of anomalies may not be related.

Fieldstone Concentrations

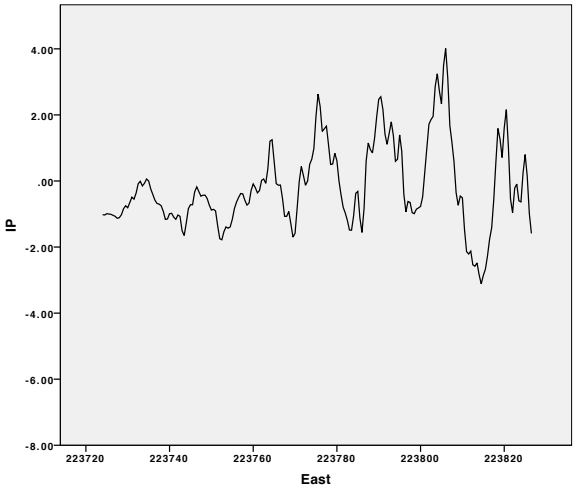
Fieldstones are generally absent from the natural A- and B-horizon soils at Gore Place. As a result their appearance is regarded as being associated with historic use of the property. Clusters of fieldstones were found at the A/B-horizon interface in seven shovel tests (Fig. IV.33). Three of these, N2360/E3850, N2380/E3840, and N2400/E3850 are located along the west side of the south (Grove St.) entrance drive indicating the potential



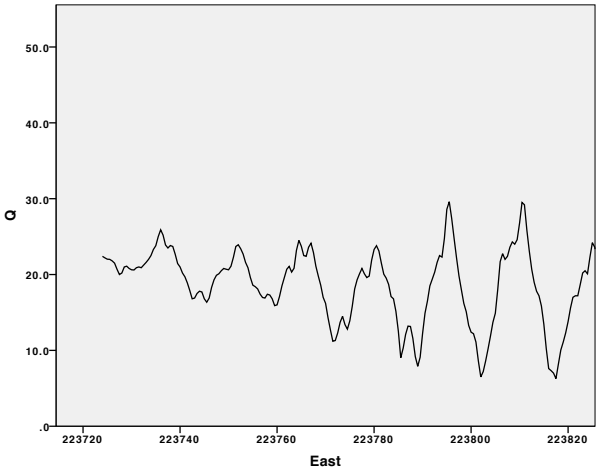
IV.29. The in-phase (IP) values along transect N2471.5 on the y-axis with east value on the x-axis.



IV.30. The conductivity (Q) values along transect N2471.5 on the y-axis with east value on the x-axis.



IV.31. The in-phase (IP) values along transect N2471 on the y-axis with east value on the x-axis.



IV.32. The conductivity (Q) values along transect N2471 on the y-axis with east value on the x-axis.

presence of structural remains or possibly a stone field wall or fence oriented roughly N-S across this area (Fig. IV.34). A cluster of 8 stones at STP N2440/E3750 close to the base of the lawn slope may be associated with Feature 3 that lies 20-30 m to the east and is discussed below. Another location, N2460/E3800, is northwest of the east cistern. Stones here may have been left over from cistern or house construction activities. Interestingly, STP N2440/E3830 at a similar distance from the cistern contained a high density of brick fragments. The function of stones at N2500/E3700 in the northwest portion of the lawn is not known, but may be associated with the concentration of stones and reddened soil (Feature 8) identified in the test pit at N2490/E3697.5 (see below).

Postholes

A posthole at N2400/E3830 (Feature 11) was encountered at a depth of 23 cmbs and consisted of a shallow, circular depression approximately 30 cm in diameter (Fig. IV.35, Fig. IV.36). The feature was filled with mottled dark brown sandy loam and extended to 31 cmbs. At its base were

IV.33. Shovel tests in which clusters of fieldstones were identified.

IV.34. Cluster of stones in STP N2400/E3850.

five stones that may have served as a base for a post or as wedges to hold the post in place. Another possible posthole (Feature 12) was found at N2480/E3750 at a depth of 30 cmbs. It consisted of a circular depression approximately 25 cm in diameter and extended 7 cm into the B-horizon. A large stone lay adjacent to the feature's west side and may have provided support for a post. A third post hole (Feature 13) was identified in the reddened soil deposit, Feature 8. It was roughly rectangular and measured 20 × 35 cm × 12 cm deep.

Deep A-horizon Soils

Particularly deep sandy loam A-horizon soils extending to 50 cm or more were encountered at three locations (Fig. IV.37). Two distinct layers were present in N2480/E3790 and may be associated with the spreading of landscaping loam to prevent erosion as indicated by filling and trenching in the area of Feature 7, 20 m to the west. At the base of the A_2-horizon at 65 cmbs was a brown silty sand and gravel fill with stones and some brick that closely resembles the 'Gore fill' found elsewhere around the site. This soil extends to at least 86 cmbs. It is not known if this fill is associated with a drainage trench or with a walkway or

IV.35. Shovel tests in which possible post hole features were identified.

IV.36. Stones located in the base of Feature 11.

other feature. Deep soils were also encountered in the northwestern portion of the lawn in the area of N2520/E3690 and N2490/E3708 and this may be associated with stockpiling loam during creation of golfing features. At N2520/E3690 close to the western boundary wall 54 cm of dark brown sandy loam overlay at least 18 cm of light yellowish brown sandy silt that likely represents a prepared surface for a walkway, possibly the perimeter walk, a drainage trench or other feature. Dark sandy loam soil at N2440/E3770 extended to a depth of 50 cmbs and overlay a pale brown sandy silt

IV.37. Shovel tests in which deep A-horizon soils were identified.

that may represent a prepared surface or trench fill possibly associated with Feature 3, 10 m upslope and to the north, where similar soil was found. Judgmental STP N2491/E3708 was excavated to test an anomalous area revealed by the preliminary GPR survey. Approximately 50 cm of dark grayish brown sandy loam with sand inclusions was present above a darker brown sandy loam with sand deposits to 69 cmbs. A shallow, elongated feature of dark brown sandy loam was present in the surface of the B-horizon. The feature's irregular shape and NE-SW orientation suggests this was an erosional gully or other natural feature and not a plow scar. Overlaying the test pit location on the map of country club features shows it to lie on the west edge of green No. 9 adjacent to a sand trap, which explains the presence of sand deposits in the upper fill.

Sloped Subsoil Surfaces

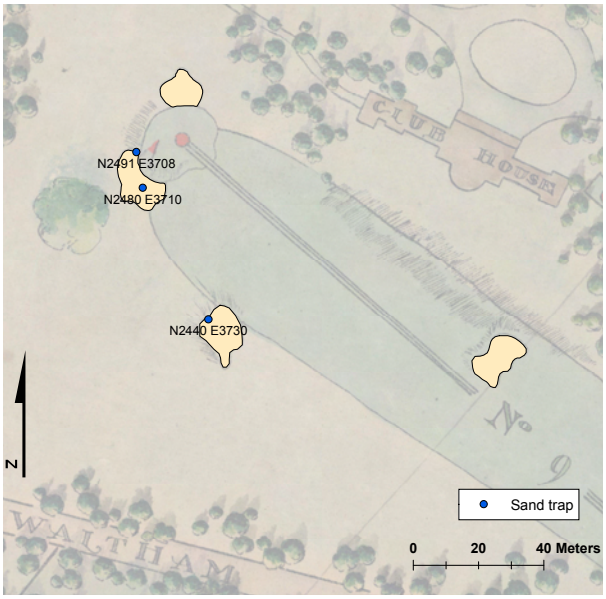
Steeply sloped subsoil (B-horizon) surfaces were identified in five STPs (Fig. IV.38). These are generally atypical of natural soil development in the area and, therefore, can indicate either intentional landscape modification or natural or human induced erosion. Sloped B-horizons were observed in adjacent STPs N2400/E3850 and N2420/E3840 just west of the south entrance drive. The latter of these is also associated with a concentration of fieldstones. A similar anomaly at N2440/E3790 may be associated with creation or use of the brick-filled Feature 3. Sloped subsurface soils at N2480/E3670 and N2400/E3810 are not related to any known activity.

Buried Prepared Surfaces

Buried surfaces of packed olive gray to pale brown silty sand and gravel were encountered below the plow zone in nine shovel tests (Fig. IV.39). This soil is associated with drainage trench fill in N2480/E3770 (Feature 7), and a probable drainage trench at N2480/E3730. Such anomalies

IV.38. Shovel tests in which sloped subsoil surfaces were identified.

IV.39. Shovel tests in which buried prepared surfaces were identified.



IV.40. Shovel tests in which evidence of golf course sand traps were found overlaid on the Waltham Country Club plan.

at N2480/E3650 and N2520/E3690 are probably associated with the perimeter walk. The bottom of a golf course sand trap at N2440/E3730 exhibits similar compaction, but with yellower sand. A extremely dense surface at N2460/E3780 may be associated with the brick-filled Feature 3 where such a surface was also encountered. Compact surfaces of unknown function were also found at N2460/E3720, N2460/E3740, and N2380/E3740.

Sand Traps

Country club era sand traps associated with green No. 9 appeared as lenses of yellowish brown medium sand in STPs N2480/E3710 and N2440/E3730, as well as in the additional test at N2491/E3708 (Fig. IV.40). Although other tests occurred in portions of the green as it is presented in the club plan, soil profiles revealed no clear evidence of green associated disturbance. It is possible that if soils were brought in to build up fairways, then these were later removed in a way that left the underlying soil intact.

Walking Path Bedding (Feature 9)

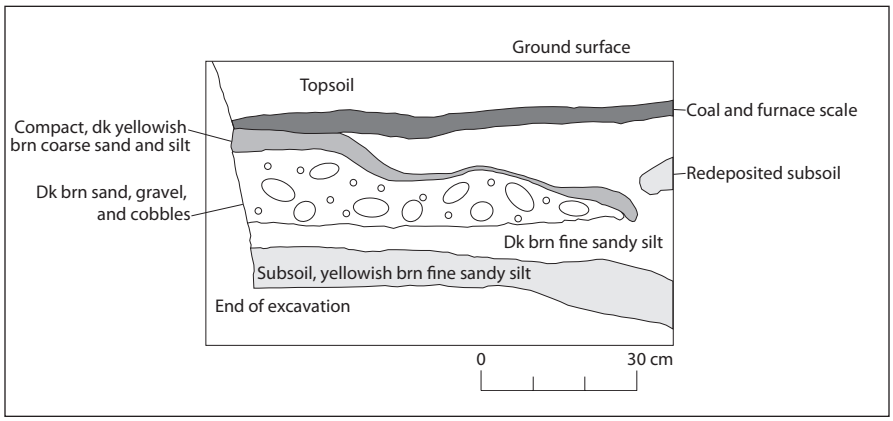
STP N2440/E3635, close to the stone wall bordering Gore St., revealed a hard-packed, yellowish brown silty coarse sand deposit approximately 20 cm below the ground surface. The unit was expanded westward into a 1 m × 50 cm-wide trench to further examine the anomaly. Excavation showed the hard-packed surface to lie on top of a deposit of dark yellowish brown silty sand and gravel that closely resembled the 'Gore fill' found elsewhere on the site. Below this fill was the remains of a truncated A-horizon that overlay a natural B-horizon (Fig. IV.41). The pathway bedding is approximately 20 cm thick at the west edge of the trench and slopes gently downward to the east. The trench was not extended further westward, but the path is estimated to be at least 1.5 to 2 m in width. This path is likely a portion of the perimeter walk that passed around the outskirts of Gore's property. The continued use of the walk, potentially after the Gore period, is indicated by a thin layer of coal ash, cinders and slag just below the topsoil.

Drainage Trench and Pipe (Feature 10)

Trench fill was encountered in STP N2480/E3730, identified by dark brown sandy loam that extended to a depth of 45 cm. The bottom of the trench consisted of olive brown silt. Lying on this surface was a section of 25 cm diameter glazed terra-cotta drain pipe oriented NE-SW. This pipe heads in the general direction of dry well Features 1 and 2 in the southwest portion of the lawn and probably served to remove excess rain water from the immediate area of the mansion house.

Wood-lined Drain (Feature 7)

Excavation of STP N2480/E3770 revealed approximately 35 cm of plow zone that covered light olive brown sandy silt with some gravel in the southeast portion of the test, and mixed yellowish brown sandy silt in the remainder. The STP was expanded into a 1 × 1 m unit to further delineate the olive brown soil designated as Feature 7, and hopefully to determine its function. Removal of the plow zone from the expanded unit revealed the light olive brown soil to fill what appeared to be a



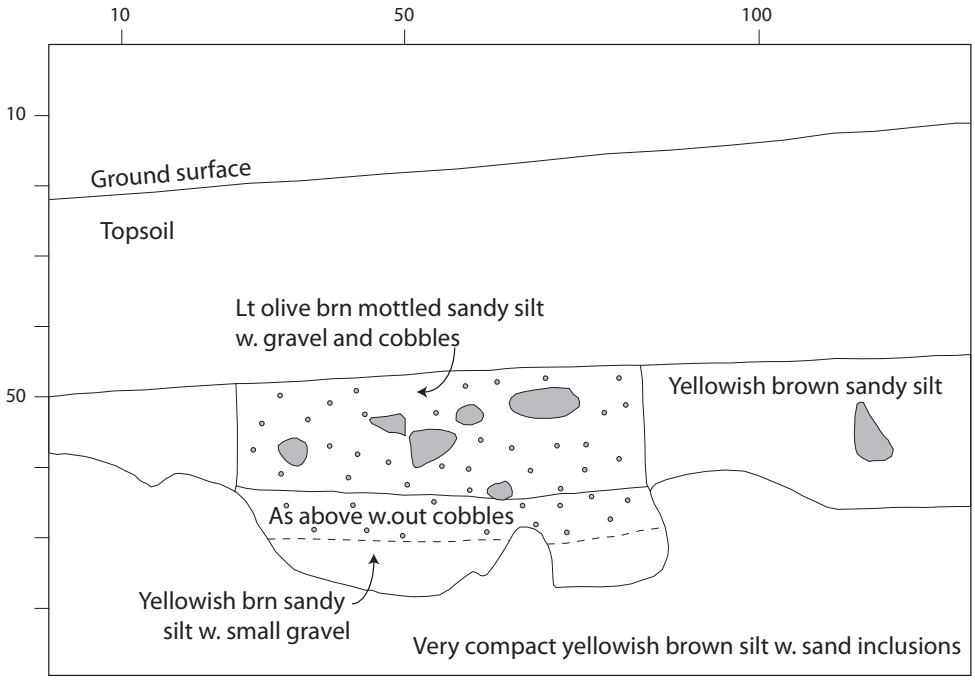
IV.41. North profile of trench N2440/E3635 showing perimeter walk bedding.

IV.42. View of drain Feature 7 showing section trench excavated across feature fill.

60 cm-wide trench oriented in a NE-SW direction. The trench fill was bordered with mixed yellowish brown sandy silt that appeared to be redeposited rather than undisturbed B-horizon. A 20 cm-wide cross section of the trench fill and bordering yellowish brown soil was excavated to determine the nature and depth of the feature. The light olive brown sandy fill extended 20 cm in depth and its removal revealed the trench to have vertical walls composed of the mixed yellowish brown fill that extended outward on either side (Figs. IV.42, IV.43). The bottom of the trench was an undulating surface of medium brown sandy loam. This darker soil also underlay the mixed yellowish brown soil on either side of the trench. A single cut nail from the olive brown fill was the only artifact associated with the trench. The plow zone above the trench, on the other hand, contained the highest density of artifacts on the south lawn that included pieces of fragmented redware planting pots, creamware, pearlware and whiteware ceramics and bottle glass (Fig. IV.44).

5. South Lawn Artifacts

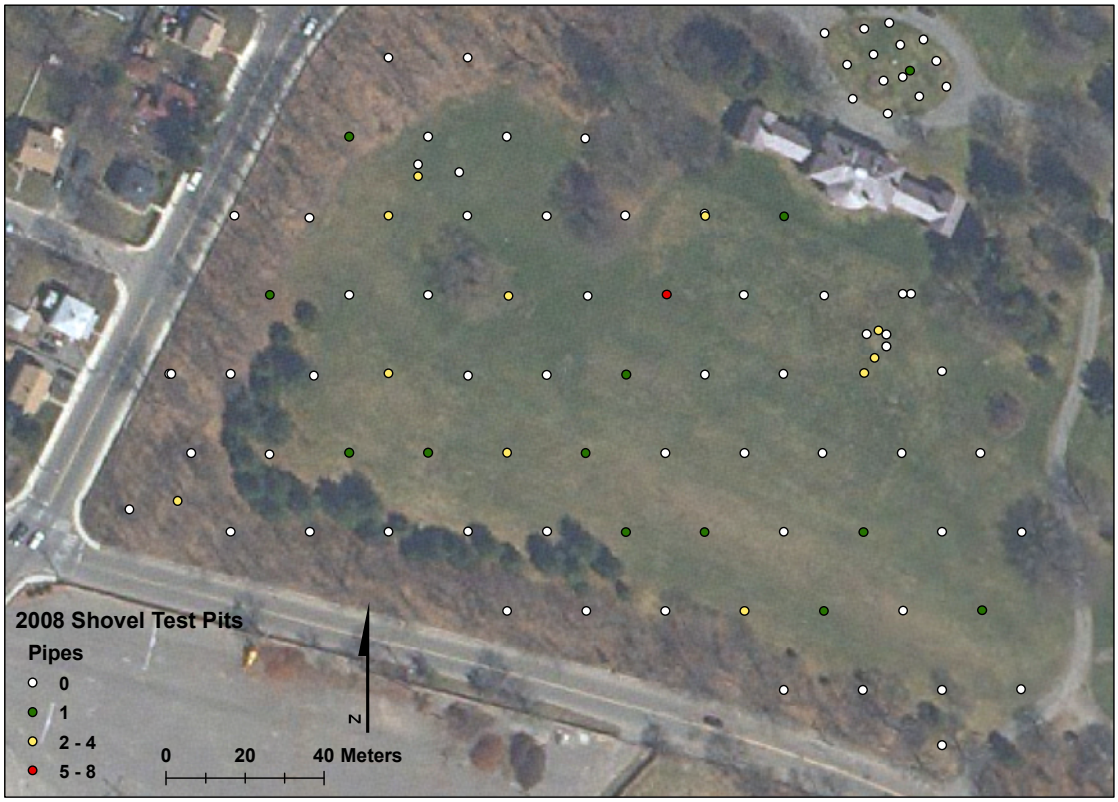
A remarkably consistent range, size and density of artifacts was found in the south lawn shovel tests. This material includes fragmented brick, window glass, burned and unburned bone, wrought, cut and a few wire nails, smoking pipe fragments, charcoal, and highly fragmented ceramics consisting of deeper yellow creamware (ca. 1762-1780), lighter yellow creamware (ca. 1775-1820), hand painted polychrome pearlware (ca. 1795-1820) and blue and green shell edge pearlware (ca. 1800-1835), lesser quantities of printed brown, dark blue (ca. 1820+), and light blue (ca. 1828+) whiteware, Canton porcelain (ca. 1800-1830) and over-glaze Chinese export porcelain (ca. 1660-1800), white salt-glazed stoneware (ca. 1720-1805), clear- and brown-glazed Staffordshire slipware (ca. 1670-1795), tin glazed earthenware (ca. 1620-1800), Astbury (ca. 1725-1750), and Jackfield (ca. 1740-1800) (Figs. IV.45-IV.51). Glassware was dominated by fragmented 20th-century bottles, particularly around the perimeter



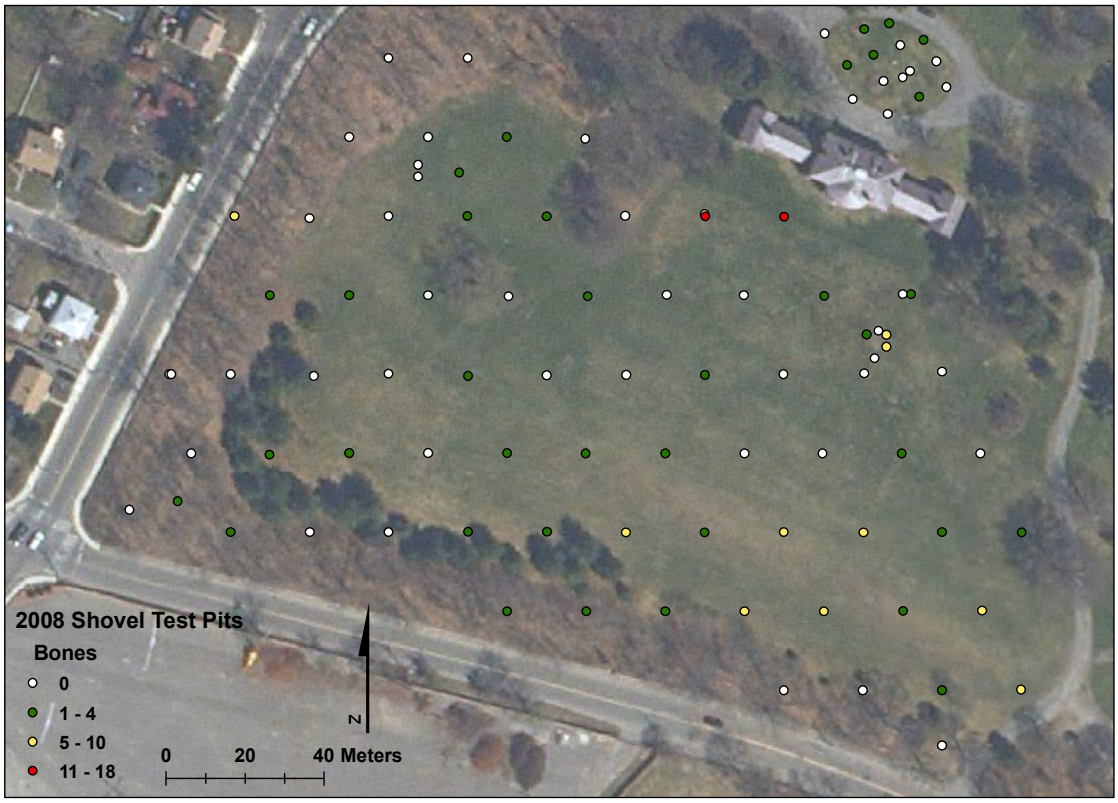
IV.43. West profile of Feature 7 drain.

IV.44. Artifacts from fill overlying drain Feature 7. A) Earthenware planting pots; B) underglaze blue painted pearlware (ca. 1775-1830); C) brown printed whiteware (ca. 1820+); D) polychrome pearlware (ca. 1795-1820); E) whiteware (ca. 1820+); F) pearlware (ca. 1775-1830); G) creamware (ca. 1775-1820); H) window glass; I) bone; J) tobacco pipe stem; K) engraved tableware glass; L) wine bottle glass; M) wrought nails.

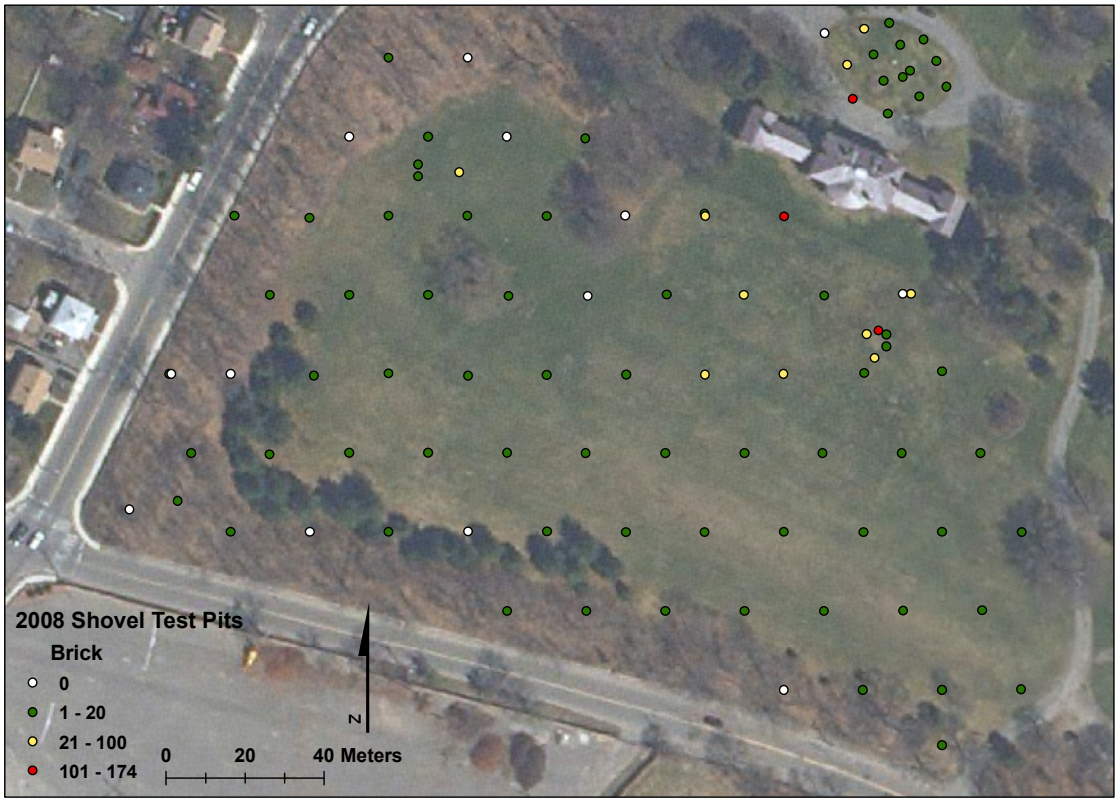
of the property, followed by small but consistent amounts of wine bottle, medicine bottle, lamp chimney and tableware. Burning is evident in all artifact categories with charcoal well represented across the area. The majority of bone is calcined from burning, and perhaps a quarter to a third of ceramics reveal evidence of heating or burning. Melted and crackled glass from heating is also



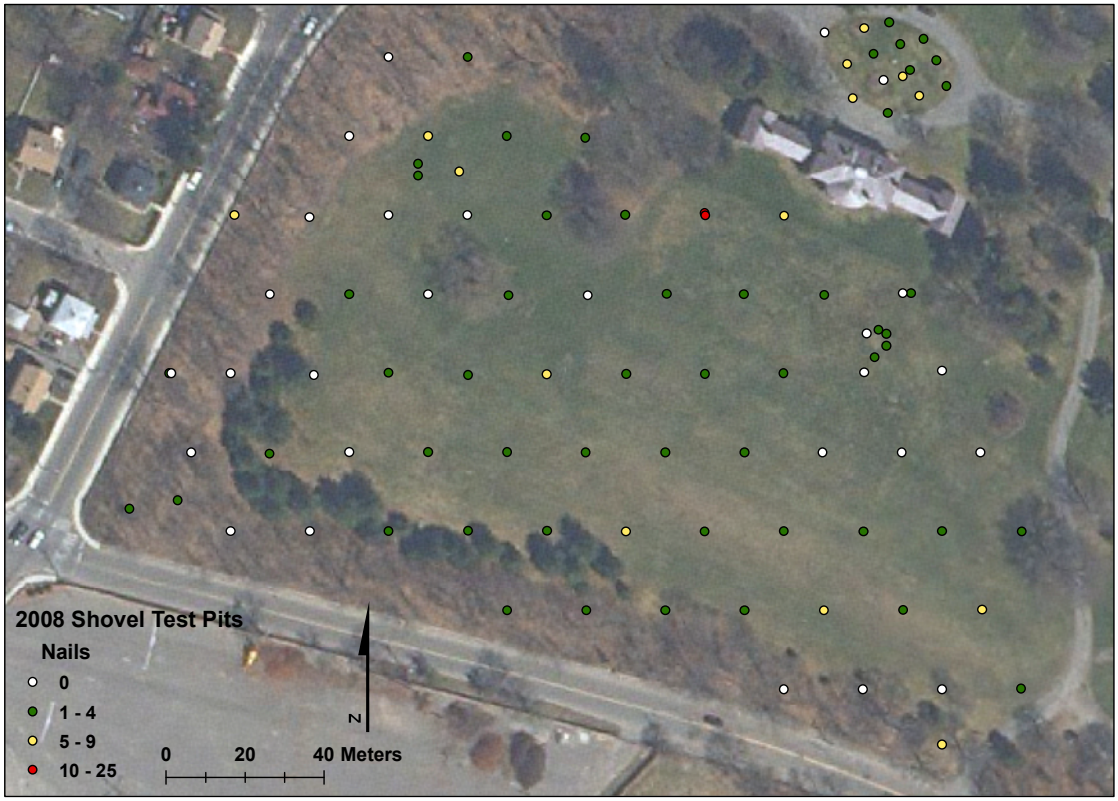
IV.45. Distribution of tobacco pipe fragments across the south lawn.



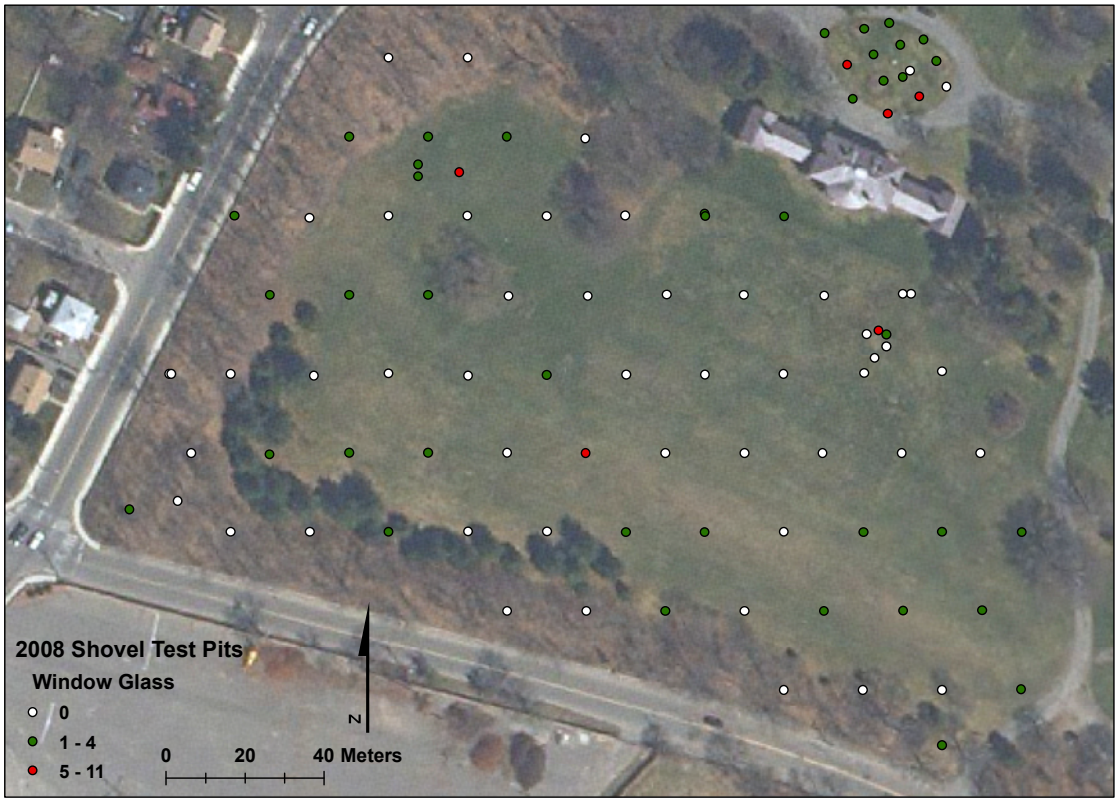
IV.46. Distribution of bone across the south lawn.



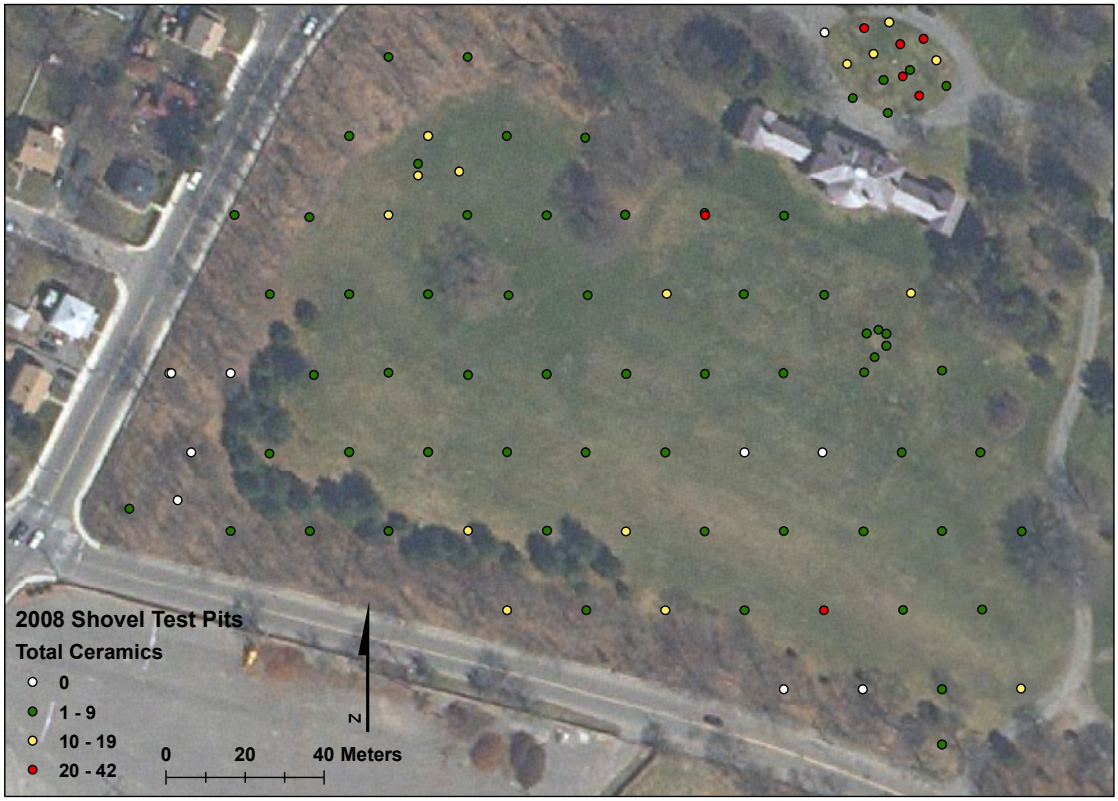
IV.47. Distribution of brick across the south lawn.



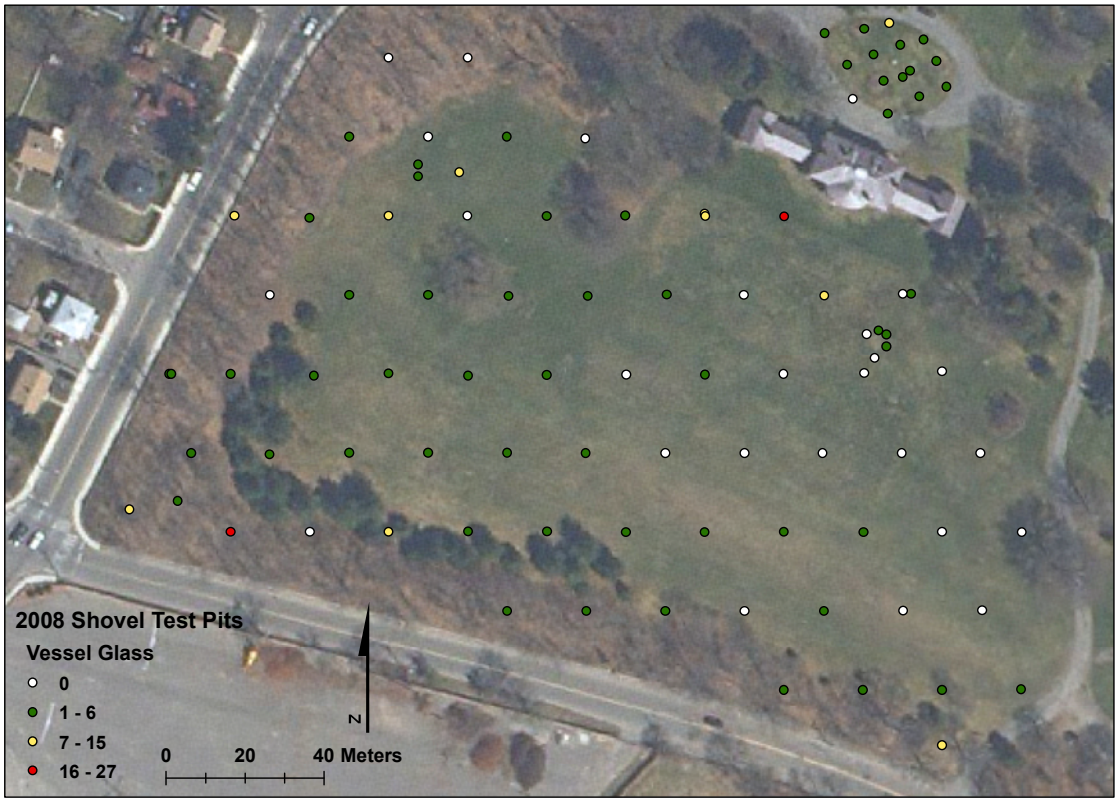
IV.48. Distribution of nails across the south lawn.



IV.49. Distribution of window glass across the south lawn.



IV.50. Distribution of ceramics across the south lawn.



IV.51. Distribution of vessel glass across the south lawn.

present. The types and distribution of this material provide important insight into the historic treatment of this area and when plowing might have occurred (see section V).

6. Additional South Lawn Features

An additional four features were investigated in the south lawn that were not part of the systematic testing, but were observed or learned about as part of the overall assessment of the area (see Fig. IV.21). Each of these is discussed below.

Shallow Dry Well (Feature 1)

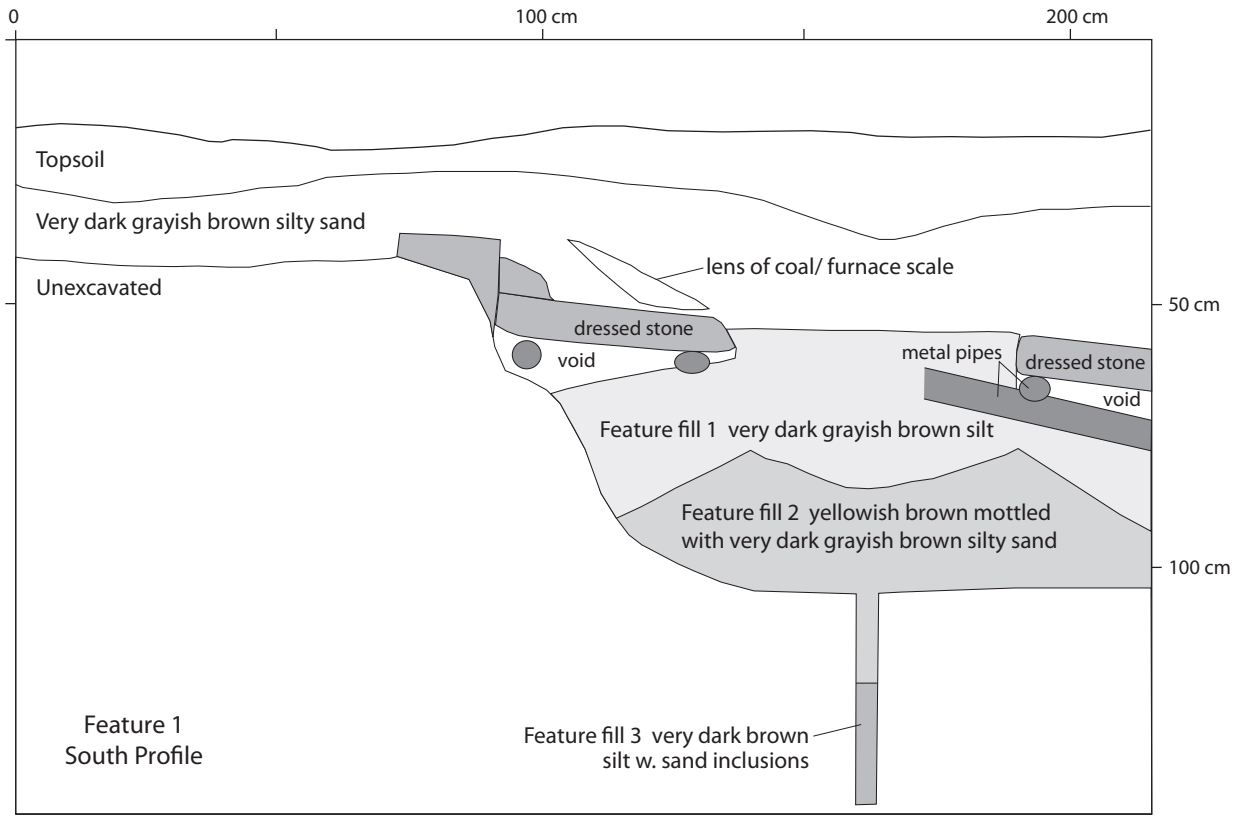
During the systematic shovel testing of the south lawn, director of grounds, Scott Clarke, was asked if he knew of any features in the area associated with the Gore or later periods that would advance our understanding of the landscape history of this portion of the estate. Scott pointed out a circular area of weeds and grass about four feet in diameter in the southwestern portion of the lawn that had been slowly sinking over the years, prompting an occasional load of fill to maintain the appearance of the lawn. The reason for the sinking was unknown, but a drain from the direction of the mansion house was suspected, particularly due to extremely moist conditions after a rain. A shovel test pit (N2414/E3689) was placed on the southeastern edge of the patch to investigate the anomaly. The removal of dark grayish brown sandy loam revealed the edge of a large piece of red architectural sandstone in the south portion of the unit at 39 cmbs. Large cobblestones were present in the rest of the unit, the surfaces of which descended southward to a depth of 60 cmbs. Yellowish brown sand covered the stones between 50 and 60 cmbs.

The clear presence of a feature at this location prompted further investigation to determine its function and age. To this end two adjacent 1 × 1 m units (N2413/E3688 and N2413/E3689)

IV.52. View of dry well Feature 1 facing north.

IV.53. Drain pipe entering the north wall of Feature 1.

were opened to the south. The opening of N2413/E3689 revealed nearly 40 cm of dark grayish brown sandy loam to cover what appeared to be a pavement of flat stones in the west half of the unit, and yellowish brown coarse sand in the east half of the unit. The stones were oriented NE-SW and extended completely across the unit. The adjacent unit to the east revealed similar topsoil to overlie the same flat stones in the east and a similar but separate stone pavement in the west. A 55 cm-wide gap between the pavements represented a continuation of the dark grayish brown sandy loam, but it was less compact. Continued excavation of the space between the stones revealed two horizontal iron pipes approximately 5 cm in diameter to cross the gap in a NW-SE direction (Fig. IV.52). The pavement stones were found to average 8 cm in thickness and to rest on top of the pipes. The stones consist of split gray foundation-type stone as well as two red sandstones dressed for former use in an architectural context. Cleaning of the stone surfaces revealed some voids between the stones, indicating hollow space below. The stone pavements were left in place as excavation continued in the space between them. Removal of an additional 8-10 cm of soil revealed a wall constructed of medium and large cobblestones at the north edge of N2413/E3688 and below the iron pipes. It also became apparent that an unfilled void was present below the pavement, and that the stones were entirely supported by the rusty pipes. The soil surface within the void and below the stones sloped down and away from the area of excavation, suggesting that the soil filling the feature was deposited within the opening between the



IV.54. Profile of Feature 1 showing pipes and stone cover, interior deposits, and depth of excavation.

flat stone surfaces. Visible at the furthest extent of the void space was more of the cobblestone wall that formed a circular structure approximately 1.7 m in diameter. Additional observations showed that the stone surface was supported by a grid-like arrangement of spaced and crisscrossed iron pipes, that clearly functioned more like a roof or cover to the feature than a pavement.

Excavation was continued along the north portion of the stone wall to determine its depth and at 80 cmbs yellowish brown silty sand mottles appeared within the very dark grayish brown fill. At 1 m below surface a glazed terra-cotta drain pipe was found protruding 20 cm out of the north cobble wall (Fig. IV.53). The interior of the pipe is unobstructed for at least 5 m, and its orientation suggests a course toward the west wing of the mansion house. The pipe itself is surrounded by foundation-type stones rather than cobblestones, suggesting a temporal relationship with the stone cover. The cobblestone wall extends to a depth of 1.58 m, but a very dark brown clay loam with yellowish brown sand inclusions continues to at least 2 m below surface (Fig. IV.54). Artifacts from the feature fill consisted primarily of a low density of 20th –century refuse including glass bottles and cans, whiteware and porcelain ceramics, nails and calcined bone. Also present were plastic garden tags and pumpkin seeds and stems that likely derived from the more recent attempts to fill the surface depression.

Deep Dry Well (Feature 2)

During the systematic testing of the south lawn a large stone with attached mortar was observed at the ground surface south of STP N2440/ E3690. To investigate its potential association with a feature, a single STP was placed off the stone's southeast edge. Removal of a thin layer of dark grayish brown sandy loam revealed the surface stone to be mortared to a number of other stones at a slightly lower elevation. In the south-

IV.55. View of dry well Feature 2 facing east.

eastern portion of the unit, the dark brown sandy loam extended to a depth of 20 cm where dark yellowish brown coarse sand and gravel was encountered and extended to at least 60 cm. The STP was expanded 50 cm to the north to form a 1 m × 50 cm-wide trench. A feature of stones with pieces of mortar continued northward below the topsoil and filled the entire unit. This 1 m × 50 cm trench was extended another meter northward. More stones, some with adhering mortar, were found just below the surface in the south, and as deep as 28 cm at the far north edge of the second trench.

The second 1 m × 50 cm trench was expanded an additional 50 cm to the west and 50 cm to the east to define a border of the mounded stone feature. The stone border was found in both of the trench extensions. The upper 20 cm of A-horizon fill consisted of the same dark grayish brown sandy loam, but below this were a series of fill layers of irregularly alternating dark yellowish brown silty sand and gravel and dark brown sandy loam to over a meter below surface. These alternating layers appeared to be backfill of a builders trench for the stone feature that now appeared to be a round, conical structure. As excavation progressed it became apparent that this was a round dry well also constructed of cobblestones, but rather than having an open top as with Feature 1 to the south, the stone walls of this feature tapered inward to form a dome with a hole in the top center that was covered with a single large stone (Fig. IV.55). The northern portion of the excavation area revealed a series of stones extending northward from the well at 26-28 cmbs. Clearing of this area revealed the stones to lie in the builders trench for the well. These stones appeared to form a wall that extended north to northeastward from the well, and it was only after revealing the lower portion of the stones that a glazed terra-cotta drain pipe could be seen within and below the alignment of stones. The pipe appeared to extend into the north side of the well at a depth of 1 m (3 ft) below surface. A few stones were also present below the pipe, presumably to help support the pipe when it was laid.

Once the exterior of the structure was cleaned, mapped and photographed, the large cover stone was lifted with the help of a strap and a tractor so the feature's interior could be examined. The cover stone fit into the opening similar to a keystone in a arch and required removal and loosening of some mortar before the stone could be lifted free. Peering through the top hole revealed the cobblestone walls to form a circular structure approximately 1.8 m in diameter and 2.4 m deep.

IV.56. View of the interior of dry well Feature 2.

IV.57. Telegraph pole crossarm found in Feature 2.

The bottom of the feature consisted of mounded, dark brown soil partially covered with 20th-century beer bottles (Miller High Life), stones, and pieces of cut, waterlogged wood (Fig. IV.56). The end of the terra-cotta drain pipe could be seen to extend into the well from the north. Also present in the well was a cross arm for an electric or telegraph pole. The waterlogged timber had the remains of threaded wooden posts that once held glass insulators. One end of the timber was missing, suggesting the reason for discard. The cross arm was pulled from the well for photo-documentation and was then returned, followed by replacement of the cover stone (Fig. IV.57).

Brick Filled Feature (Feature 3)

During systematic testing of the N2450 transect a depression was observed near the base of the sloped portion of the south lawn and aligned just west of the center of the mansion house. A judgmental STP was placed at N2450/E3773 in what appeared to be the middle of the depression. The top 20 cm consisted of very dark grayish brown sandy loam with a relatively low density of artifacts compared to other locations on the south lawn. This overlay another 15-20 cm of dark grayish brown sandy loam with gravel. At 35 cmbs a dense deposit of bricks, brick fragments and mortar was encountered in a matrix of dark gray sandy silt. The brick rubble deposit was very loose with voids between many of the bricks. The brick deposit was also very moist with standing water at varying depths, depending on the recent weather. Excavation was stopped by water at 56 cm bs.

The test pit was expanded 50 cm east in hopes of finding the edge of the deposit and to allow deeper excavation. The same two soil layers were present in the upper portions of the STP. At a depth of 35 cmbs a hard-packed surface of yellowish brown, sandy silt was encountered in the eastern 4/5ths of the unit, while the western 1/5th revealed the surface of the brick and mortar fill. The hard-packed surface was scraped down to show that the yellowish brown sandy silt was approximately 8 cm in depth and overlay a hard packed grayish brown sandy silt that formed a distinct edge adjacent to the rubble fill. This soil was left in place, while the rubble was excavated to the water table at 56 cmbs. Removal of the rubble revealed it to lie within a straight-sided feature, the east wall of which was composed of hard packed grayish brown sandy silt. Although a few cobble stones were present close to this edge, it was not immediately clear if these were associated with a wall or were part of the rubble fill.

A third 50 × 50 cm unit was placed further east, resulting in the excavation of a 50 cm × 1.50 m trench. This unit came down on the same hard-packed, grayish brown sandy silt at 35-36 cmbs. The hard-packed yellowish brown layer found in the STP immediately west was absent here,

IV.58. View of north profile of Feature 3.

suggesting it was associated with the edge of the rubble filled feature. The east end of the trench was extended another 20 cm to see if an east edge of the hard-packed surface could be found, but the surface continued east into the unit wall. The trench was then expanded 80 cm to the west in an attempt to find a western edge of the rubble deposit. The same two soil layers were present and these overlay more rubble indicating the feature extends further west. The excavation area at this point consisted of a 2.5 m × 50 cm trench.

Since a clear edge to the feature had been found in the east, the decision was made to expose more of this wall and interior fill to learn more about the feature and potentially what lay below the brick and mortar rubble. To this end a 110 cm section of the existing trench was expanded 70 cm southward (Fig. IV.58). Opening of this area revealed the same two soil layers with a lens of sand and gravel between them. Below these was more brick and mortar fill, but in the southern 2/3rds of the expanded area the rubble was mixed with cobblestones. The hard-packed, yellowish brown, sandy silt edge to the feature was found to continue southward approximately 40 cm where it stopped adjacent to cobble and rubble fill at a depth of 37 cmbs. Excavation of the yellowish brown silty sand again showed it to be a thin, 5-10 cm layer that was sterile except for a single piece of blue printed pearlware (ca. 1783-1830) from a lid, possibly of a tea pot, and a piece of curved colorless glass. This soil sat on top of the extremely compact grayish brown silty sand with small gravel inclusions. Thus the surface immediately outside of the feature and the wall was composed of this compact material, not natural subsoil. As more of the rubble was removed, more small cobbles were observed to rest against the feature wall and these sat on top of larger fieldstones. The fill between these stones was a sandy gray silt (clay), and some of the stones had been covered with gray clay that was soft and pliable when moist, but hardened when left exposed to air. As brick and mortar rubble was removed more stones with gray clay were found, appearing to have slumped inward into the feature from the wall.

Excavation of the cobble and rubble fill in the southern portion of the excavation area revealed

IV.59. View of drain pipe Feature 4 that crosses Feature 3.

a concentrated layer of cobbles to lie on top of an earthenware drain bordered by a single alignment of bricks (Feature 4, Fig. IV.59). Three complete pipe segments and part of a fourth were uncovered and were oriented generally E-W. Since the drain did not appear to be functioning, three pipes were removed, allowing us to investigate the brick rubble fill that continued beneath it. Excavation was extended to 90 cm below the ground surface where standing water impeded further progress. Water continued to filter into the excavated area as fast as it could be bailed out. We decided to halt excavation rather than remove the lowest brick rubble and dig into potentially important floor deposits without being able to clearly see them. Since we stopped excavation at the interface of the brick rubble and the floor deposits, the depth of the floor is unknown, but appears to be in the vicinity of 90 cmbs (Fig. IV.60).

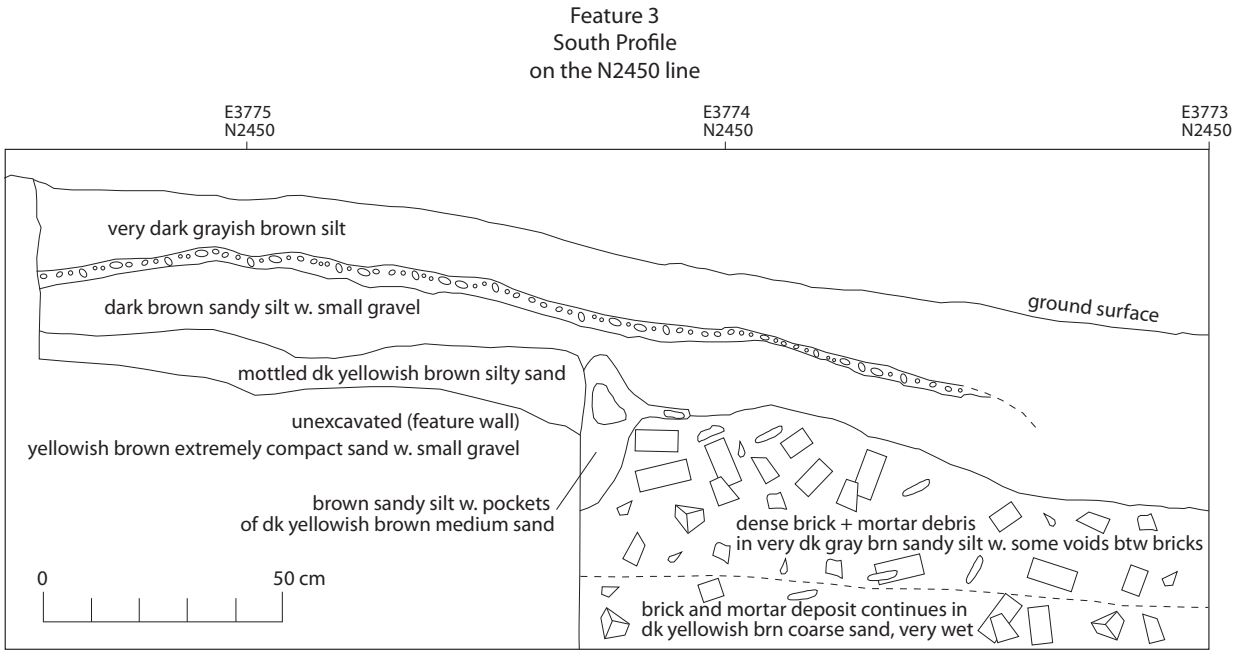
Examination of the brick and mortar fill revealed brick fragments, bats and complete bricks of various sizes including both sand struck bricks and hard oil struck press brick dating to the latter 19th century. Sooting present on some brick surfaces suggested association with chimney flues and/or fire boxes. Several examples of larger bricks were present, measuring 7 ¾ in wide × 1 ¾ in thick and over 5 in long. Another measures 4 ½ in wide, 2 ¼ in thick and 9 in long. These large specimens may be similar to the oversized bricks observed to presently adorn the top courses of the chimneys on the mansion house. Also present were bricks with thick coats of whitewash as well as plaster with no apparent finish coat. The deposit also contained a small number of nails, bone, slate, coal and a fragment of marble floor tile. Fragments of thin iron sheeting were present at the bottom of the rubble deposit, just under the water table. Soil samples were collected from the waterlogged floor deposit beneath the brick, from the gray clay around the foundation stones and from the sandy fill between the bricks. Flotation of these revealed no discernible botanical remains.

Redware Pipe Drain (Feature 4)

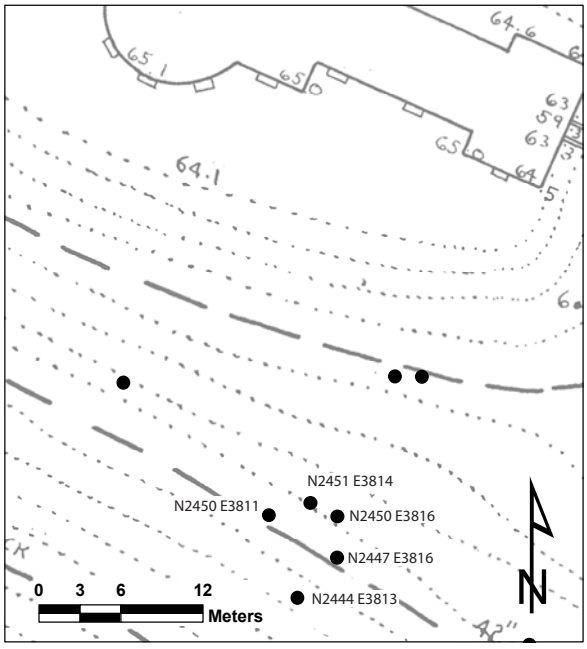
This drain was discovered during excavation of Feature 3 and consists of an E-W alignment of unglazed earthenware pipes set into a trench that cut through the east wall and fill of Feature 3. The drain was encountered at 50 cmbs and the trench had a bottom depth of 61 cmbs. Three and a half pipes were exposed by the excavation and these were bordered by an alignment of bricks on both sides of the pipes, probably to help keep the pipes in place (Fig. IV.59). Each pipe measured 30.5 cm-long with an exterior diameter of 12.5 cm and a 1 cm-thick wall. The pipe trench was backfilled with a mixture of cobble stones and brick and mortar fill from Feature 3. The drain does not appear to be functioning as rainfall during the period of excavation did not produce a flow of water. The purpose of this drain is unclear as are its points of origin and destination, but it may have served to remove excess rainwater from the area of the mansion.

East Cistern (Feature 5)

The east cistern was included in the south lawn investigations to gain some understanding of the potential use of this feature during the Gore occupation. According to director of grounds, Scott Clarke, the cistern was explored approximately 15 years ago by clearing soil away from the center of the circular patch of discolored grass that defines the feature's location in the summer. This revealed



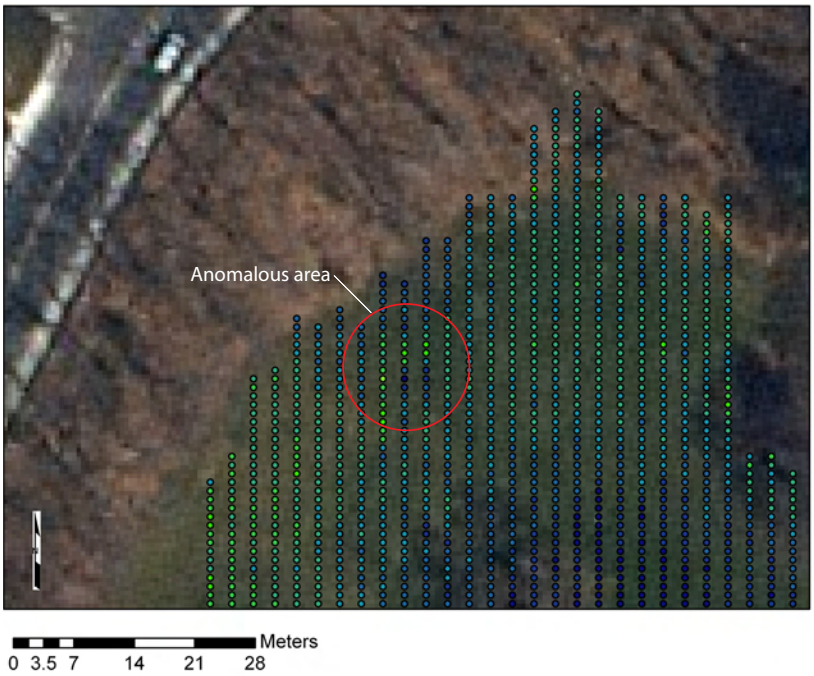
IV.60. South wall profile of Feature 3.



IV.61. Locations of shovel test pits around the east cistern (Feature 5).

a central stone cover for a domed or vaulted roof constructed of brick. Temporary removal of the stone revealed the structure to consist of a circular, brick-lined shaft approximately 12 ft (4 m) in diameter that was filled with water.

Archaeological investigations focused on the cistern's perimeter in an attempt to identify the potential presence of a prepared access walk that might be included in the future restoration and interpretation of the south lawn. Also of interest were additional details of the feature's construction. To this end five shovel test pits were excavated on the north, east and south sides of the cistern (Fig. IV.61). The upper soil profile of all five STPs consisted of between 25 and 40 cm of dark brown or very dark brown sandy loam. Below this loam, STPs 71 to the west and 73 and 74 to the east revealed one or two layers of yellowish brown or dark yellowish brown silty sand with gravel and small cobbles that appears to represent the 'Gore fill' as found in many areas around the site and in the cellar. This fill is used as bedding for the well access walk in the carriage circle, in the carriage drive and in the straight walk, and likely served the same function in this context. The surface of this bedding lies between 29 and 40 cmbs and overlies a hard-packed, light yellowish



IV.62. Detail of the conductivity anomaly in the western part of the south lawn.

brown sandy silt with gravel inclusions at a depth of 70-72 cmbs.

STPs 72 to the north and 75 to the south did not reveal the gravelly Gore fill, but instead were characterized by deep, dark brown or dark grayish brown sandy loam that extended to approximately 50 cmbs. Below this was dark yellowish brown or yellowish brown sandy loam fill with a few stones and brick probably associated with cistern construction. Below this fill layer was hard-packed light yellowish brown sandy silt and gravel similar to hard-packed surfaces observed in association with other features around the property. Artifacts from these units closely resembled those from the rest of the south lawn consisting of fragmented brick, nails, bone and ceramics and glass.

The EM-31 conductivity survey of the south lawn covered the area around the east cistern (see Fig. IV.24 and associated discussion). The results of this survey suggest that the east cistern contains metal, such as a pump, and that the area north and west of the known cistern contains a number of other features with void spaces, such as additional cisterns or ducts.

West Cistern (Feature 6)

This feature was not archaeologically investigated during the south lawn survey due to time constraints created by the examination of dry well Features 1 and 2.

Red Soil and Stones (Feature 8)

The initial EM-31 remote sensing survey of the northwestern portion of the south lawn in the spring of 2008 identified an anomalous area measuring approximately 6 × 6 m (Fig. IV.23 and Fig. IV.62). In this area, resistive areas (shown in green in Fig. IV.62) were directly adjacent to conductive areas (in dark blue). An STP at N2491/E3708, a raised area to the northeast of this anomaly, did not uncover any unusual features related to this anomaly. Excavation of a 1 m × 50 cm unit running E-W at N2490/E3697.5 and an STP at N2493/E3697.5 explored this anomaly directly. The 1 m × 50 cm unit was placed roughly in the center of the anomaly and uncovered large stones and a roughly rectangular post hole, Feature 13 (20 by 35 cm × 12 cm deep), at the interface with the subsoil at 35 cm below the surface (Fig. IV.63).

IV.63. Reddened soil and stones representing Feature 8.

The transition to this subsoil was abrupt, suggesting that the area had been cleared to this level when the stones were placed, and the surrounding subsoil was much more reddish-orange with a higher clay content than normal, suggesting that it has also been altered. The clay content likely caused the high conductivity readings. The STP just three meters to the north encountered normal stratigraphy, with a gradual, mottled transition to subsoil between 25 and 35 cm below the surface.

In addition to this anomaly, this area of the site—the northwest corner of the south lawn—is interesting because it yielded consistently slightly higher artifact densities than elsewhere on the south lawn (see Figs. IV.45 to IV.51). The combination of the remote sensing anomaly, the posthole, concentration of stones, and reddened soil, and the elevated artifact densities suggests that this area might have been the site of a building or some open-air activities. This area should not be used for planting crops and could be investigated further with ground penetrating radar or additional excavation.

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V. DISCUSSION AND INTERPRETATIONS

A. Field East of the Grapery and Later Green House

Testing in this area succeeded in defining the southeastern extent of the greenhouse site (Fig. V.1). The boundary was defined by shifts in artifact densities, a deep soil deposit and features at the A/B-horizon interface. The eastern edge of the greenhouse site lies at approximately the E3920 grid line, while the southeast edge lies at approximately N2590. Testing also revealed the boundaries between areas that were disturbed by the later 1930s topsoil mining and areas that were left intact (see Fig. IV.1, Fig. IV.4). Soil removal appears to have been well controlled whereby only the dark brown topsoil and occasionally the surface of the B-horizon were removed. In some areas a thin lens of topsoil, representing the original plow zone, was left in place along with an undisturbed underlying B-horizon. Due to this fact it was possible to discern anomalies at the A/B-horizon transition that otherwise would have been obliterated. Plow scars were identified in two of the STPs, one in the undisturbed area and the other where topsoil had been removed. Both scars were generally oriented NW-SE and are likely associated with early agricultural use of the property since the more recent plowing did not extend deep into the soil.

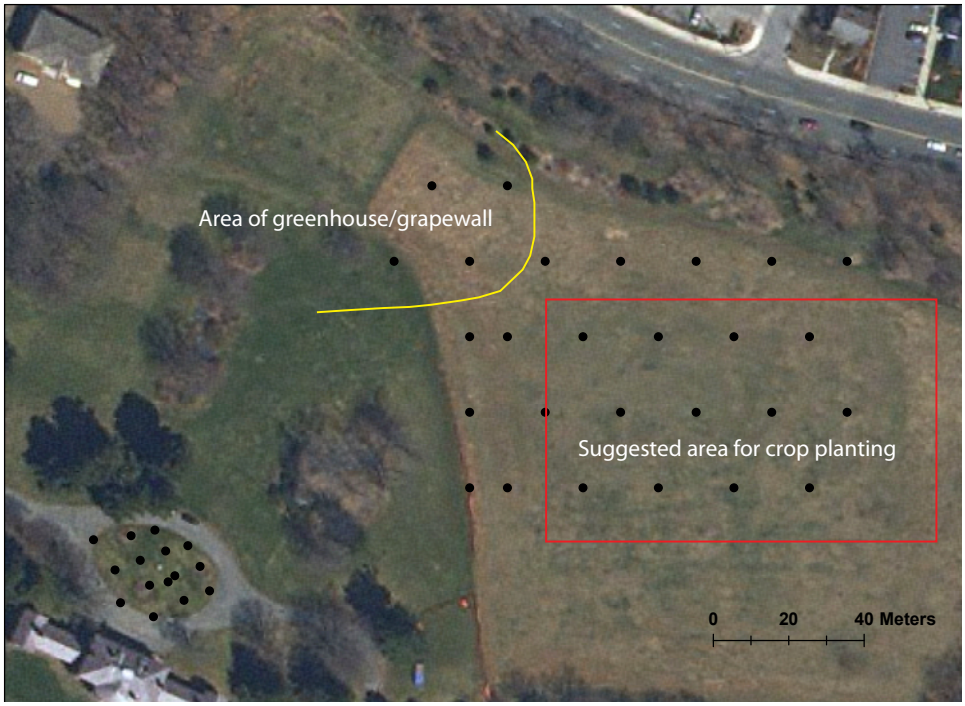
Potentially supporting the early use of this area for cultivation is the presence of an artifact assemblage very similar to that found across the south lawn and is attributed to Gore's efforts at soil enrichment. The presence of this material even in the disturbed portions of the field suggests that after the gravel and cobble fill was unloaded and spread, the entire area was covered with a layer of the same loam that had been removed so that grass could be planted. In this way artifacts that originally lay in the area were redeposited along with the landscaping loam. Later plowing of much of this area in the 1980s then mixed the surface loam with its artifacts into the underlying stony fill.

From the above findings the planting and interpretation of agricultural fields is clearly appropriate for the north field. Planting of this area should occur east of the E3920 grid line and south of the N2590 grid line to ensure that no archaeological deposits associated with the later greenhouse and Gore-period grape wall will be disturbed (Fig. V.1).

B. Drive Circle

In observing the historic photograph of tree root removal activities in the drive circle it was expected that much of the area would be severely disturbed from the standpoint of identifying intact archaeological resources (Fig. V.2). To our great surprise archaeological deposits in the circle, instead, are remarkably well preserved and only two areas of possible tree-related disturbance were found. Landscaping loam probably deposited at the time of tree removal covers a Gore-period buried A-horizon across much of the area. Other potential Gore-period features include the edges of the carriage drive characterized by dark yellowish brown silty sand and gravel generally termed 'Gore fill.' Drive bedding was absent from a few circle border tests, indicating the present drive borders differ slightly from the underlying sand bed.

Also identified were details of well construction consisting of a cobblestone-lined shaft backed by a wide builder's trench filled with additional cobblestones. The builder's trench stones at the ground surface were covered with a layer of grayish brown clay mixed with sand and gravel to prevent contamination of well water. This seal ensured that most water entering the well derived from underground and to a lesser extent from surface seepage. This kind of attention paid to small details appears to be typical of Gore's involvement in almost every aspect of his estate. Although the well opening presently lies just below the lawn surface, the presence of mortared bricks and slate on the top course of stones suggests the walls extended above ground to support a wooden cover either just above ground or at waist level. The fact that some bricks were set in a straight line suggests that the above-ground extension of the well's walls



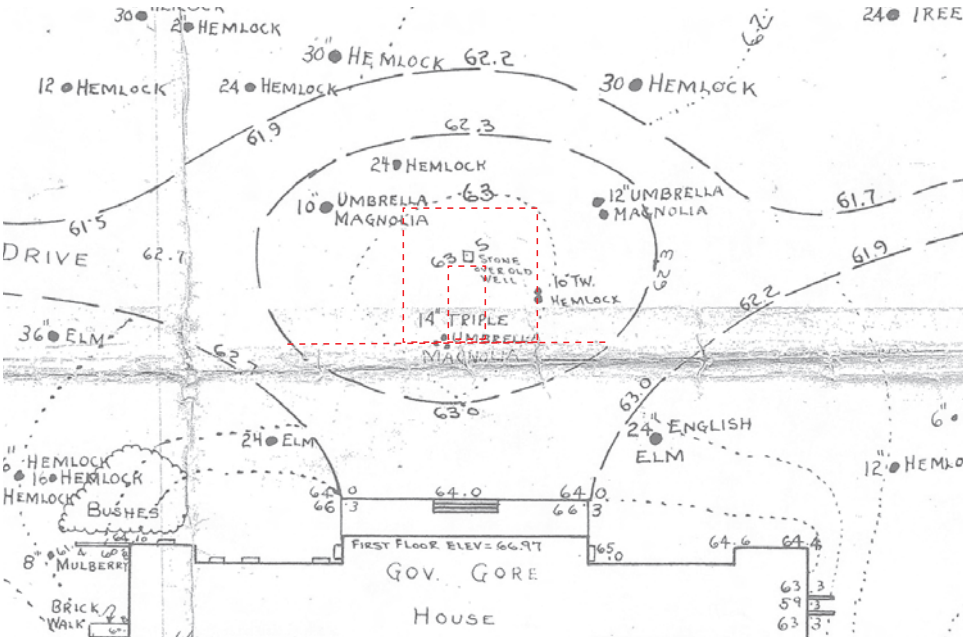
V.1. Borders of the greenhouse area and area recommended for crop production in the field east of the grapery and later greenhouse.

V.2. Removal of tree stump in drive circle in 1936.

may have formed a square structure rather than round as is typically conceived. Investigation of the Greenhouse/Carriage House well revealed the uppermost stone course to be extended by seven courses of brick, two bricks in thickness, that follow the round contour of the well. This configuration likely dates to at least the 1850s when the well area was covered with fill associated with demolition of the greenhouse. If the two wells are contemporaneous and the above ground brick extensions date to the Gore period, the different treatments may reflect attempts to display a sense of symmetry at the more formal setting in front of the house, while the appearance of the "working" well may have been less important. Research on well treatments at other estates of the same period will be helpful in determining the appropriate construction and appearance of the well opening. The well was accessed by a sand and gravel path that extended from the entrance drive border, as indicated by the GPR results, northward to the south and east sides of the well. Of particular interest is the GPR indication of a possible alignment of stones that demarcates a large square area (11 m on a side) around the well (Fig. V.3). The shape of this feature may have mimicked the square brickwork of the well and possibly straight rather than curved border of the carriage drive that is also indicated by the GPR results.

C. Straight Walk

Assessment of available historic maps of the estate clearly suggested a thoroughfare of some type, defined by either an alignment of plantings



V.3. Schematic results of the GPR survey of the drive circle.

or a carriage drive/walk that extended northeast of the library, was present as early as the 1830s and possibly by before 1823 if Gore's written reference is to this particular walk. Search for the walk was aided not only by recent cartographic depictions, but also by a visible thoroughfare on the ground defined by a potential walkway bordered by trees of varying ages. The walk presently appears slightly lower in elevation than its immediate borders at some locations. The archaeological investigation of the area succeeded in identifying an early walk or cart path at several locations within the existing thoroughfare. The western portion of the walk is defined by two layers of sandy bedding. The uppermost consists of 8-10 cm of grayish brown silty sand and gravel, while the lower consists of dark yellowish brown silty sand and gravel with some small cobbles. The walkway width ranges from 2.5 m (7.5 ft) at its west end to 2 m (6.5 ft) at its east terminus (Fig. V.4). This bedding comes to an end at a general midpoint in the cartographically depicted walkway approximately 114 m (374 ft) east of the library. Immediately beyond the east end of the walkway is an area of deep soil and one or more features that extend into the subsoil. This area corresponds with the circle depicted on the 1841 Greene Estate Plan (see Fig. IV.14), but there is no indication of the circle's function. The archaeological anomalies suggest a garden-related structure or even a grouping of plantings or both were present here. A garden privy is also a possibility. The fact that the anomalies are not accompanied by an elevated artifact density indicates a non-domestic function for the feature. It is certainly possible that the straight walk, as originally constructed, may have led to a garden feature at this location and was later extended to join the perimeter walk. Additional archaeological investigation of this area is needed to identify what kind of landscape treatment in the form of a structure and/or plantings was present at this location.

As depicted in the 1841 plan, the walkway east of this circle angles slightly northward and extends east to join the perimeter walk. Soil profiles in the area of this eastern extension revealed a deposit of dark yellowish brown loamy sand with gravel and cobbles below a deep A-horizon of dark brown sandy loam. This lower soil is atypical of natural soil development and more closely resembles the redeposited soil in much of the field to the north where the original loam was removed

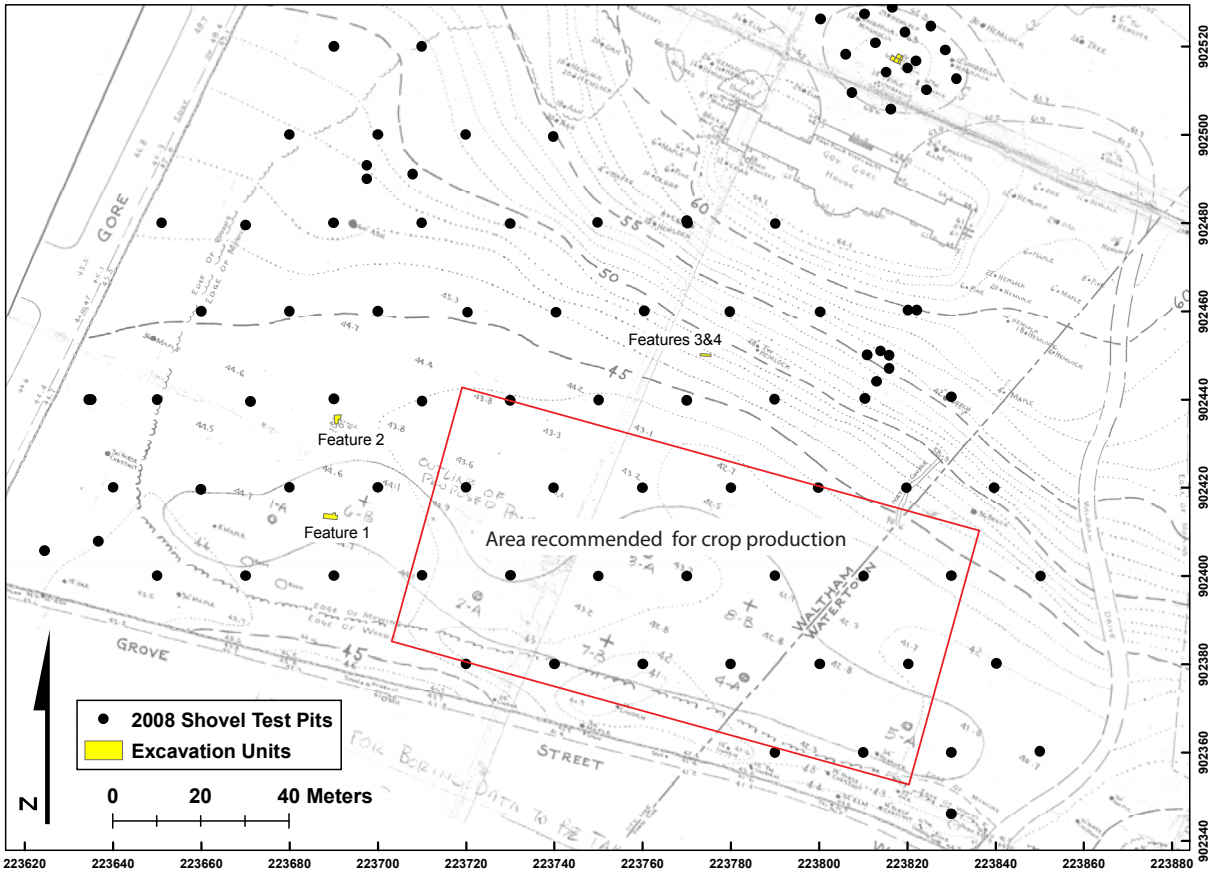
V.4. Location of straight walk bedding.

in the 1930s. The extension of STP 19 clearly showed that soil removal activities extended into this area, leaving gravel backfill and a layer of topsoil for grass growth. Interestingly this area was not subsequently plowed as in the field, so that the thin layer of landscaping topsoil hypothesized to have been put down over the gravel fill in the field was still in place here, appearing as a natural buried A-horizon. More recently, this area was covered with additional landscaping loam, probably to level the landscape immediately west of the stream. This recent filling was corroborated with director of grounds, Scott Clarke, who stated that fill had been added to this area in the recent past. Thus, the question of whether a formal walkway extended further east of the circle depicted on the 1841 Green Estate Plan cannot be answered definitively by archaeological investigation because it is clear that all topsoil including a possible walk was removed in the 1930s. The fact that the thoroughfare is shown to connect with the perimeter walk in the 1841 plan and particularly in the Col. Henry Lee Sketch strongly suggests that these are accurate depictions. Whether the Gore period walk turned slightly north (as on the Greene Plan), south (Lee sketch), passed straight across the stream or connected via a Y intersection (HABS Plan) cannot be determined by either Gore's description or by archaeological investigation due to disturbance to the area.

Artifacts found during the walkway investigation are characterized by a very consistent scatter of fragmented brick, redware, creamware, and pearlware ceramics, a few nail fragments and wine bottle and vessel glass. The range of material and density very closely resembles that for the south lawn, suggesting that the walk borders were included in Gore's program of soil enrichment. The walk itself is practically devoid of artifacts, with only a single piece of creamware noted in the sand bedding. It is clear from archaeological investigations that the west portion of the straight walk was present during the Gore period, and from Gore's letter it is very likely that a similar path connected the west section to the perimeter walk.

D. South Lawn

It has generally been assumed that the sloped portion of the lawn was historically landscaped with grass, while treatment of the flat area further south was unclear. The conception of cultivated food crops on the flat expanse is not difficult due to the visual shift from hill slope to plain. This plain, in theory, would have been moistened by runoff from the adjacent slope and was at the same elevation and directly across Grove Street from



V.5. Area of the south lawn recommended for crop production.

some of Gore's documented agricultural fields. The degree of landscape modification of the south lawn was unknown, but it was suspected that the original slope south of the mansion may have been gentler, similar to the western and eastern portions of the south lawn. It was also suspected that the northern edge of the flat plain of the south lawn may have been artificially flattened to create the present separation between hill slope and plain. Construction of golf course features were also expected to have caused some disturbance to the area.

The systematic testing revealed that the present contours of the landscape are more or less natural with no evidence of major modification. Also revealed is the fact that the entire area, including the flat plain and sloped lawn has been plowed in the past, conceivably for crop production. The most recent period of plowing was most likely during Gore's occupation. This conclusion is based upon evidence of soil enrichment in which Gore is known to have been actively involved. Enrichment through the spreading of compost is indicated by a consistent distribution of artifacts across the entire lawn that generally date to and prior to the Gore period. These artifacts reveal important insights into compost ingredients and preparation. Through Gore's correspondence with Rufus King, it is known that manure was combined with discarded vegetable matter in the carriage house cellar. Archaeological evidence suggests that additional ingredients included household refuse made up of by-products from food preparation, discarded ceramics and glassware and ash produced from household fires, and burning of household and other refuse that included scrap

wood with nails. Separate outside production of ash may have also been carried out in which bone was added along with some domestic trash. Additional preparation may have included crushing of larger items before or after burning to ensure a uniform size of compost ingredients. Indeed, Gore expressed frustration at his inability to find a machine that could be used to crush bone (C. Gore to Rufus King letters, Feb 29, 1820 and Aug 6, 1820). Given the fact that Gore was importing rotting vegetable matter from the Boston market where his own produce was sold, it cannot be said for sure where the ceramic and glass artifacts and other materials that were incorporated into Gore's compost derived. Some certainly derived from the estate, but it is possible that some may have also came from outside the property. The actual number of vessels represented by the ceramic and glass refuse as well as by tobacco pipes is minimal and very consistent, however, and this fact favors the origin of these materials as being associated with the Gore household. The distribution of these materials across the landscape is also remarkably consistent and presents the question of how this material was spread so evenly. The mechanized manure spreader was not invented until the end of the 19th century, so it can only be concluded that Gore, as with most other landscape activities, was closely involved with composting activities and made sure that this material was very evenly spread by hand. The fact that composting was performed in association with plowing is supported by the distribution of compost ingredients throughout the plow zone soils. If compost was applied only to the ground surface without later plowing, then the artifact distribution would be far more limited in its vertical expression. In addition, the number of composting events appears to be limited to a few, given the even spread but low density of material. What cannot be determined is whether composting was performed to promote grass growth or at what point in time grass came to be grown. The fact that the mansion was being rented at the time of Rebecca's death in 1834 suggests that crop production may have stopped by that time. The growing of crops on the south lawn is certainly compatible with archaeological findings for the Gore period, but interpretation of this activity should perhaps be limited to the flatter portion of the lawn to minimize erosion and preserve the general appearance of the landscape (Fig. V.5).

1. Shallow Dry Well (Feature 1)

The dry well consists of a circular, dry-laid, cobblestone-lined feature with a cover of assorted flat stones supported by an arrangement of criss-crossing iron water pipes. The stone walls extend just over a meter and a half in depth, and the upper two or three courses of stone taper inward to create a surface opening slightly smaller in circumference than the 1.7 m provided by the lower walls. The bottom of the feature appears to have been dug deeper than the bottom course of stones, presumably to increase capacity and ability to drain in lower sandy sediments. The feature was designed to dissipate water potentially from the area of the mansion house via a line of connected, glazed terra-cotta pipes that entered the well one meter below the ground surface. In addition to receiving piped-in water, the design of the pervious stone and pipe cover would have permitted seepage of surface water from the low, southwest lawn. The cover stones probably derived from any available source on or off the site. The two pieces of red sandstone in the cover and additional pieces in the wall around the pipe clearly derived from an architectural context due to finely dressed, rounded corners, smoothed upper surface and chiseled underside (Fig. V.6). The presence of a chiseled letter H on the underside of one stone suggests that a number of stones were intended to be placed in a particular order. It is possible that these stones derived from the original portico on the north side of the mansion, but additional evidence is needed before this can be determined with any certainty. The present portico is a replacement of the original, but when this occurred is not known. The space between the dry well cover stones originally may have been filled with boards to permit access

V.6. Front and back of the worked red sandstone incorporated into the cover of Feature 1.

to clean the feature of silt. No evidence of boards or additional flat stones was found in the upper fill, but such could be present in the lower fill that remains largely unexcavated. The feature's construction is likely associated with creation of the golf course in the 1920s when the property was part of the Waltham Country Club. Well construction is similar to the deeper dry well designated as Feature 2. It is unclear if this well continues to function as a sump for excess water. If the pipe is indeed active, then the feature could be excavated of silt and a new cover constructed to continue its usefulness. If, on the other hand, the pipe is no longer functional, then the feature could be backfilled. The pipe roof supports have a very limited life and will need to be supported or the entire cover could be documented and removed.

2. Deep Dry Well (Feature 2)

This dry well consists of a cobblestone-lined shaft approximately 1.8 m in diameter with a domed, stone top. Its minimum depth is approximately 2.4 m. Similar to Feature 1, the function of this dry well was probably to remove water originating toward the west end of the mansion house. Runoff water was and may continue to be delivered to the well via a series of connected, terracotta drain pipes buried in a trench approximately 1.3 m in depth. The pipe enters the well from the north, indicating a possible drain line orientation toward the house. This feature was probably constructed in the 1920s during ownership by the Waltham Country Club, shortly before or after Feature 1 to expand water removal capabilities from the area of the mansion house and the low-lying southwest lawn. The feature appears to have remained open for a period of time in the 1960s or 70s as evidenced by accumulated refuse including beer bottles. Although both the location of the receiving end of the drain line and its condition are unknown, Feature 2 may continue to function as a dry well since it has not been filled with silt. For this reason it should be left in place to continue to aid in water removal from the estate.

3. Brick Filled Feature (Feature 3)

The brick filled feature consists of a square or rectangular pit of unknown size that is lined with cobblestones. The ground surface adjacent to the feature and soil behind the cobblestone walls consist of a gray, very hard-packed sandy silt with gravel inclusions. In addition, thick olive gray clay is associated with the cobble wall stones that appear to extend to a depth of at least 90 cm below surface. This mixture of sand, clay and small stones is essentially the same material that was used to seal the surface of the builders trench of the wells in the drive circle and between the early greenhouse and carriage house. This treatment clearly serves as a moisture barrier of sorts, and

would have been laid down to inhibit water from escaping the feature or to prevent seepage into the feature. Only a portion of the feature was uncovered during the south lawn testing, and as a result its function remains unknown. The feature characteristics are clearly atypical of a cellar for an average small structure. Possible functions include an ice house, dairy supplied with cool running water, cistern or even an overflow cesspool for Gore's water closet. The latter suggestion is based upon the potential water-holding character of the feature and the fact that this feature is directly down slope of the junction of the mansion's west wing and central block where a water closet cesspool was suggested to exist based upon previous GPR investigations. Further archaeological investigation of the pit and the surrounding area are required before an accurate determination of function and period of use can be made. Feature characteristics are certainly consistent with Gore-period features elsewhere on the estate.

The rubble fill in the feature clearly derives from an episode of demolition and construction. In his architectural study of the cellar kitchen, Jeff Baker (Baker et. al 2001:8) observed that "the first modification of the original [fireplace] configuration appears to have occurred sometime in the late nineteenth century when a significant portion of the chimney breast was removed and reconstructed using a hard oil-struck press brick laid up with thin joints. This rebuilding included the complete replacement of the north jamb of the fireplace as well as the insertion of a large set kettle also to the north of the fireplace. Oil-struck press brick of the type found in the rebuilding commonly dates from the last two decades of the nineteenth century, and it is evident that this work was performed to allow for the installation of a large stove or range at the original fireplace location. The original firebox was significantly altered or destroyed during this work, and a large niche was created to insert the stove into the masonry mass. Interestingly, the Feature 3 rubble fill included early sand struck brick and a small quantity of the later oil-struck press brick. In addition, a number of bricks exhibited soot, indicating a prior chimney/hearth related function. The presence of these materials along with mortar and small quantities of plaster strongly suggests the refuse created by reconstruction of the kitchen hearth in the late 19th century was used to fill Feature 3. In other words Feature 3 was a convenient place to get rid of this excess material. The presence of oversized bricks potentially identical to those used to top the mansion house chimneys suggests that the chimney to the kitchen fireplace may also have been repaired at this time. Further investigation of Feature 3 maintains the potential to provide additional information on both the fireplace demolition and on the function of the feature itself.

4. *East Cistern (Feature 5)*

Testing around the east cistern revealed the presence of a hard-packed surface of sandy silt and gravel at a depth of approximately 72 cmbs that likely functioned as a barrier to limit seepage of surface water into the feature. This appears to be a common Gore-period treatment that was also used around the drive circle and greenhouse/carriage house wells, as well as around the brick-filled feature in the south lawn. This cistern appears to have been approached by walks to the east and west that were constructed of 'Gore fill' consisting of a layer of silty sand and gravel. The limited testing in this area did not reveal how the cistern functioned as part of a larger water system, but the conductivity testing detected the presence of metal such as a pump in the cistern.

5. *Wood-lined Drain (Feature 7)*

This feature is interpreted as a shallow, but wide erosional gully that was originally filled in with a mixture of dark brown loam and yellowish brown B-horizon soil. This filling may not have solved the erosion problem, resulting in the excavation of a 60 cm-wide trench through the mixed fill that was previously laid down. This later trench was lined with wood planks and then backfilled with olive brown silty sand and gravel that may have been considered conducive to water

percolation. Further investigation is needed to determine if the planks were topped with additional boards to create an open drain that later filled in as the roof collapsed. In such a scenario, the hard-packed soil would have been laid down directly over the cover boards. The higher density of artifacts in the plow zone that overlies the feature suggests the use of specific fill, potentially in a further attempt to prevent erosion. The presence of planting pots and whiteware ceramics indicates this fill was deposited during the later Gore period in the 1820s or 30s.

6. Area of Reddened Soil (Feature 8)

This area was discovered as a conductivity anomaly and subsequently tested by excavation. The process which created the reddened, clay-rich soil is not known; however, multiple factors suggests that this area was the site of a building or specialized outdoor activity area that set it apart from the rest of the south lawn. Based on the combination of the remote sensing anomaly, the posthole, the concentration of stones, the reddened soil, and the elevated artifact densities, this area should not be used for planting crops and could be investigated further with ground penetrating radar or additional excavation.

7. Zone of Conductivity Anomalies

The conductivity survey south of the mansion identified an area on the slope that appears to be heavily underlain with features that seem to cross cut each other. These may be part of one of the domestic systems such as water management, heating, or cooling.

E. Geographic Information System Project

The Geographic Information System (GIS) component of the project allowed for the integration of multiple types of spatial data. Data assembled for the project include landscape features including existing structures, previous and present archaeological test locations, remote sensing data from the present project and from the architectural survey, and air photos. We first created benchmarks on the Gore Place property that are now permanent reference points for the collection of mapping data for this and future projects. Using these, a site-wide horizontal grid for laying out transects for the systematic shovel test locations as well as unit locations was established, allowing for precise mapping of specific features including the greenhouse and carriage house foundations. Because all of the areas of investigation were tied to coordinates on the State Plane grid system, we could accurately overlay the excavation units and remote sensing data on aerial photographs. We could also georeference historic maps so that they could also be accurately displayed spatially and also combined with excavation and remote sensing data. The mapping project succeeded in incorporating all known historic maps of Gore Place into a single database. This contributed to data analysis, including the display of artifact distribution patterns. The Gore Place project provided part time funding for several graduate students who assisted with entry of mapping data and artifact processing and cataloguing.

VI. RECOMMENDATIONS FOR FURTHER INVESTIGATIONS

A. Field East of the Grapery and Later Green House

No significant archaeological resources are present in this field between grid lines N 2590 and N 2530 and E3920 and E2420. As a result planting of crops can occur within this area that measures 60 m N-S × 100 m E-W. No additional archaeological investigations are needed in this area.

B. Drive Circle

Features to recreate as part of the Gore-period landscape restoration should be the well access walk and an appropriate above-ground well enclosure and platform that highlights the well's presence as a working part of the estate. Research is needed to determine the most appropriate surface treatment for the well, such as a wooden platform with a pump and trap door just above ground or raised brick walls with a wood plank cover and trap door at waist level. In either case the door can be locked to prevent access. Before this can take place, however, additional investigation of the GPR anomaly is needed to determine if a large square alignment of stones is indeed present and to clearly define the carriage drive border to determine if the center of the turn-around was square rather than oval.

C. Straight Walk

Landscape restoration should include a recreation of the straight walk that follows the borders as defined archaeologically. Ideally the walk should consist of fine gravel and should be very gently sloped to result in a slightly higher elevation at the walk's center and lower elevation along its borders. In the absence of archaeologically-based information for the eastern section, this portion can follow the general course of the existing thoroughfare, cross the stream and join the perimeter walk. The stream crossing will need to incorporate a period-appropriate footbridge. Archaeological investigations are recommended for the circle area between the eastern and western walk sections. Testing in this area revealed deep soils and the presence of cobble stones that clearly indicate landscape modification. The object of this work is to determine what kind of feature, such as a garden privy or other landscape feature, was present in this area and potentially during what time period. If the feature is associated with the Gore period, then its identification represents a potentially important contribution to the overall understanding of the estate's function and interpretation.

D. South Lawn

Archaeological investigations revealed that practically all of the south lawn was plowed in the past, evidenced by the identification of a number of plow scars in the surface of the B-horizon soil. Artifact distributions interpreted to be a product of soil enrichment strongly suggest plowing occurred during the Gore period. It can be assumed that this plowing was performed in association with crop production, but a final phase of plowing may have been associated with the creation of a lawn. The presence of the plow scars and a clear plowzone soil horizon certainly warrant at least some of the lawn to be interpreted as an area for growing crops. The more southern, flatter portion of the lawn is probably best suited for this purpose due to a lower chance of erosion and for its closer proximity to agricultural fields that are known to have been present across Grove Street.

Also identified during the south lawn investigations were a number of features. Some of these, such as the two dry wells, were readily identified as to function and probable period of construction after the Gore period. Other features listed below require further investigation to determine their function and age.

1. The area of fieldstone concentrations, sloped soil and post hole along the lower west side of the south (Grove St.) entrance drive to determine their function and possible association with a structure, wall or specific activity.

2. The brick filled feature (Feature 3) has been hypothesized to have been filled in the late 19th century during structural changes to the cellar kitchen. What remains unanswered and is of greater importance to a fuller understanding of the Gore period is the function, size and date of the stone-lined feature itself.

3. The east cistern (Feature 5) was investigated with a limited number of shovel tests due to time constraints. As a result, the findings here are considered preliminary and need to be followed up by additional testing to clarify the presence of walking paths and their locations and widths. Additional testing is needed to investigate how the east cistern functioned within the larger system of water retention and drainage created by Gore. It is possible that the cistern was filled by mansion roof runoff and delivered via a pipe to the cistern. In such a scenario, the cistern would have required a means of controlling overflow that also should be documented for a fuller understanding of the system's operation.

4. The area of reddened soil and stones (Feature 8) associated with elevated artifact densities found in the northwestern portion of the south lawn remains an enigma and requires additional testing to determine its function, size and period of creation.

5. The zone of conductivity anomalies on the upper slope of the south lawn should be investigated with trench excavations or ground penetrating radar to determine what they represent (additional cisterns, air ducts, drainage pipes, or other household systems).

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Context 401 **Unit Number** N2346 E3830 **Level** 0-46 South Lawn

Ceramics

1	Hollow ware Rim	Earthenware, Coarse Redware	
1	Indeterminate Body	Earthenware, Coarse Redware	
1	Hollow ware Body	Earthenware, Coarse Redware	

Glass

1	bottle, beverage	complete	colorless	machine made	embossed complete mini liquor bottle, "1/10 PT" body, 14
4	bottle	body	amber	machine made	
3	bottle	body	amber	machine made	embossed "ER" "TTE"
1	window	fragment	aqua	indeterminate	
1	flat, undetermined	fragment	aqua	indeterminate	

Nails

1	Nail	wire
1	Nail	too corroded to ID

Pipes

Other Materials

2	Fuel and furnace coal and furnace products, unseparated	Bones
3	Metal ferrous other	Shell
3	Architectural brick	

Context 402 **Unit Number** N2346 E3830 **Level** 46-60 South Lawn

Ceramics

Glass

Nails

1	Nail	wrought

Pipes

Other Materials

Bones
Shell

Context 403 **Unit Number** N2360 E3790 **Level** 0-37 South Lawn

Ceramics

Glass

1	bottle	finish	amber	machine made	threaded with metal screw cap

Nails

Pipes

Other Materials

1	Fuel and Furnace coal and furnace products, unseparated	Bones
		Shell

Context 404 **Unit Number** N2360 E3850 **Level** 0-31 South Lawn

Ceramics

8	Bowl Base	Earthenware, Refined Creamware	Undecorated 4 burned, mend
1	Indeterminate Body	Earthenware, Refined Indeterminate	
1	Flat ware Body	Earthenware, Refined Pearlware	Underglaze painted Polychrome burned
1	Indeterminate Body	Earthenware, Refined Pearlware	Underglaze painted Brown burned
2	Indeterminate Body	Earthenware, Refined Pearlware	Undecorated

Glass

1	bottle, wine	body	olive green	free blown
1	window		light green	indeterminate

Nails

Pipes

2	Nail	too corroded to ID

Other Materials

2	Fuel and Furnace coal and furnace products, unseparated	Bones 5
3	Fuel and Furnace charcoal	Shell
18	Architectural brick	
1	Small finds toys and games golf tee head “Walter Hapin”	

Context 405 **Unit Number** N2360 E3830 **Level** 0-20 South Lawn

Ceramics

1	Body	Earthenware, Refined Indeterminate			
1	Body	Earthenware, Refined Whiteware			
1	Body	Earthenware, Refined Pearlware			
1	Flat ware Base	Earthenware, Refined Creamware			
2	Body	Earthenware, Refined Creamware			

Glass

1	curved, undetermined	body	colorless	indeterminate
4	bottle	body	amber	indeterminate

Nails Pipes

Other Materials

4	Fuel and Furnace charcoal	Bones 3
9	Architectural brick	Shell

Context 406 **Unit Number** N2380 E3740 **Level** 0-38 South Lawn

Ceramics

3	Body	Earthenware, Refined Whiteware		
1	Body	Earthenware, Refined Creamware		
1	Flat ware Rim	Earthenware, Refined Pearlware	Shell-edge	Blue
1	Body	Stoneware, Refined White Salt Glazed	burnt	

Glass

6	curved, indet.	body	colorless	indeterminate

Nails Pipes

3	Nail	cut
1	Nail	too corroded to ID

Other Materials

1	Synthetic plastic	Bones 3
7	Architectural brick	Shell

Context 407 **Unit Number** N2380 E3820 **Level** 0-24 South Lawn

Ceramics

1	Hollow ware Rim	Earthenware, Refined Creamware		
1	Body	Earthenware, Refined Creamware		
1	Body	Earthenware, Tin Glazed		
1	Rim	Earthenware, Coarse Indeterminate	Molded	Crucible?

Glass

1	window	aqua	indeterminate

Nails Pipes

3	Nail	cut
1	Nail	too corroded to ID

Other Materials

3	Architectural brick	Bones 3 Shell

Context 408 **Unit Number** N2380 E3840 **Level** 0-22 South Lawn

Ceramics

3	Body	Earthenware, Coarse Redware	

Glass

1	window		aqua	indeterminate

Nails

1	Nail	wrought
3	Nail	cut
1	Nail	too corroded to ID

Pipes

1	bowl

Other Materials

1	Architectural brick	Bones 5 Shell

Context 409 **Unit Number** N2380 E3800 **Level** 0-35 South Lawn

Ceramics

5	Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Coarse Redware	red slip ext.
1	Hollow ware Body	Porcelain, Chinese	Underglaze painted Blue burnt
7	Hollow ware Body	Earthenware, Refined Creamware	
3	Body	Earthenware, Refined Indeterminate	burnt
2	Body	Earthenware, Refined Indeterminate	
1	Hollow ware Body	Earthenware, Refined Yellow Ware	
1	Hollow ware Body	Earthenware, Refined Pearlware	
1	Hollow ware Body	Stoneware, Refined White Salt Glazed	Molded

Glass

1	bottle	body	amber	indeterminate	
1	window		aqua	indeterminate	
1	curved, indet.	rim	colorless	indeterminate	frosted?
1	curved, indet.	body	colorless	indeterminate	frosted?

Nails

1	Nail	wrought
5	Nail	cut
3	Nail	too corroded to ID

Pipes

1	bowl

Other Materials

5	Metal ferrous other	Bones 10
7	Architectural brick	Shell

Context 410 **Unit Number** N2380 E3760 **Level** 0-18 South Lawn

Ceramics

1	Flat ware Rim	Earthenware, Refined Indeterminate	Molded	burnt
1	Body	Earthenware, Coarse Redware		
2	Body	Earthenware, Refined Creamware		
1	Flat ware Body	Earthenware, Refined Pearlware		
4	Flat ware Body	Earthenware, Refined Indeterminate	burnt	

Glass

1	window		aqua	indeterminate
1	curved, indet.	body	aqua	indeterminate

Nails

Pipes

1	Nail	wrought
1	Nail	too corroded to ID

Other Materials

1	Synthetic plastic	Bones 4
5	Architectural brick	Shell
1	Small finds adornment button, coat Cu alloy, d=3.4 cm, impressed design of central bullseye and surro	

Context 411 **Unit Number** N2380 E3720 **Level** 0-28 South Lawn

Ceramics

1	Hollow ware Body	Earthenware, Refined Indeterminate		
1	Base	Earthenware, Coarse Redware	burned	
1	Body	Earthenware, Coarse Redware	burned	
1	Base	Earthenware, Coarse Redware		
1	Crock Rim	Earthenware, Coarse Redware		
1	Cup Rim	Stoneware, Refined Astbury		
4	Body	Earthenware, Tin Glazed		
1	Bowl Rim	Earthenware, Refined Pearlware	Underglaze painted Polychrome	burned
1	Hollow ware Body	Earthenware, Refined Pearlware	Underglaze painted Polychrome	burned
1	Body	Earthenware, Refined Whiteware	Transfer printed Brown	

Glass

3	bottle	body	amber	indeterminate	modern
1	curved, indet.	body	colorless	indeterminate	modern
1	bottle	body	colorless	indeterminate	etched

Nails

2	Nail	cut
2	Nail	too corroded to ID

Pipes

Other Materials

1	Fuel and furnace charcoal	Bones 2
1	Architectural brick	Shell

Context 412 **Unit Number** N2380 E3780 **Level** 0-20 South Lawn

Ceramics

1	Hollow ware Body	Earthenware, Refined Creamware	burned	
2	Body	Earthenware, Refined Creamware		

Glass

Nails

1	Nail	wrought
1	Nail	cut
2	Nail	too corroded to ID

Pipes

1	bowl	
1	bowl	border of a cartouche

Other Materials

2	Metal ferrous other	Bones 6
3	Architectural brick	Shell

Context 413 **Unit Number** N2400 E3650 **Level** 0-30 South Lawn

Ceramics

1	Base	Earthenware, Coarse Redware
1	Body	Earthenware, Coarse Redware
1	Body	Earthenware, Refined Creamware
1	Flat ware Rim	Earthenware, Refined Creamware
1	Body	Earthenware, Refined Indeterminate

Glass

1	bottle, wine	body	dark green	free blown	
2	bottle	body	amber	machine made	
4	curved, undetermined	body	colorless	indeterminate	
1	curved, undetermined	body	colorless	indeterminate	burned
2	bottle	body	colorless	indeterminate	enameled (painted) brown ink, "DA"
1	bottle, beverage	finish	light green	machine made	crown Coca Cola bottle
16	bottle, beverage	body	light green	machine made	circular

Nails

Pipes

Other Materials

6	Architectural brick	Bones	2
1	Metal nonferrous object bottle cap	Shell	
1	Lithic non-architectural stone quartzite?		

Context 414 **Unit Number** N2400 E3670 **Level** 0-30 South Lawn

Ceramics

1	Rim	Earthenware, Refined Creamware		
1	Hollow ware Rim	Stoneware, Refined White Salt Glazed		
1	Flat ware Body	Stoneware, Refined White Salt Glazed	Molded Rim	basket pattern, table ware (soup plate?)
1	Body	Earthenware, Coarse Redware		

Glass

Nails

Pipes

Other Materials

Bones	
Shell	

Context 415 **Unit Number** N2400 E3690 **Level** 0-25 South Lawn

Ceramics

4	Body	Earthenware, Refined Creamware		
1	Bowl Rim	Earthenware, Refined Whiteware	Transfer printed	Blue
2	Hollow ware Body	Earthenware, Refined Whiteware	Transfer printed	Blue
1	Body	Earthenware, Refined Indeterminate ,		

Glass

1	curved, undetermined	body	colorless	indeterminate
1	window		aqua	indeterminate
10	bottle, beverage	body	green (7-	indeterminate

Nails

Pipes

2	Nail	wrought

Other Materials

1	Architectural brick	Bones
		Shell

Context 416 **Unit Number** N2400 E3710 **Level** 0-25 South Lawn

Ceramics

4	Body	Earthenware, Coarse Redware		
3	Body	Earthenware, Coarse Redware		
3	Body	Earthenware, Refined Pearlware		
2	Body	Earthenware, Refined Creamware		
1	Hollow ware Body	Earthenware, Refined Yellow Ware	Banded	Blue

1	Body	Earthenware, Refined Staffordshire Slipware

Glass

1	bottle, wine	body	olive green	free blown
1	curved, undetermined	body	colorless	indeterminate
1	bottle	base	colorless	machine made

Nails

1	Nail	wrought
1	Nail	too corroded to ID

Pipes

Other Materials

1	Fuel and furnace coal and furnace products, unseparated	Bones 1
1	Fuel and furnace charcoal	Shell

Context 417 **Unit Number** N2400 E3730 **Level** 0-30 South Lawn

Ceramics

1	Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Coarse Redware	
1	Hollow ware Rim	Earthenware, Coarse Redware	
1	Hollow ware Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Refined Indeterminate	
1	Flat ware Body	Earthenware, Refined Whiteware	Transfer printed Blue

Glass

1	flat, undetermined	aqua	indeterminate

Nails

2	Nail	cut

Pipes

Other Materials

1	Fuel and furnace coal and furnace products, unseparated	Bones 1
1	Fuel and furnace charcoal	Shell
1	Metal ferrous other	
5	Architectural brick	
1	Utensils/tools/hardware furniture hardware tack head Cu alloy, burned?	

Context 418 **Unit Number** N2400 E3750 **Level** South Lawn

Ceramics

1	Body	Earthenware, Refined Pearlware	
5	Body	Earthenware, Refined Whiteware	
3	Body	Earthenware, Refined Creamware	
2	Flat ware Base	Earthenware, Refined Creamware	burned
3	Body	Earthenware, Refined Whiteware	Transfer printed Blue mend
1	Flat ware Base	Earthenware, Refined Whiteware	Blue burned, "Stone-"
1	Hollow ware Rim	Earthenware, Refined Whiteware	Annular painted (rim) Chrome colors

Glass

1	curved, undetermined	body	colorless	indeterminate
1	window		aqua	indeterminate

Nails

2	Nail	wrought
2	Nail	wrought
1	Nail	wire
2	Nail	too corroded to ID

Pipes

1	bowl	W/T on either side of the

Other Materials

3	Fuel and furnace coal and furnace products, unseparated	Bones 9
	Fuel and furnace charcoal	Shell

1	Metal ferrous other
3	Architectural brick

Context 419 **Unit Number** N2400 E3770 **Level** 0-35 South Lawn

Ceramics

1	Body	Earthenware, Refined Creamware	
4	Body	Earthenware, Refined Pearlware	
1	Flat ware Rim	Earthenware, Refined Pearlware	Shell-edge (unmolded rim) Blue
1	Body	Earthenware, Refined Indeterminate	Banded Brown

Glass

2	window		aqua	indeterminate
3	curved, undetermined	body	colorless	indeterminate

Nails

1	Nail	wrought

Pipes

1	stem

Other Materials

2	Architectural brick	Bones	1
		Shell	

Context 420 **Unit Number** N2400 E3770 **Level** 3B South Lawn

Ceramics

Glass

Nails

Pipes

Other Materials

1	Small finds adornment button, military uniform Cu alloy, front: “Artillery” w eagle and cannon balls, b	Bones	
		Shell	

Context 421 **Unit Number** N2400 E3790 **Level** 0-30 South Lawn

Ceramics

1	Body	Earthenware, Coarse Redware	red slip
1	Body	Earthenware, Tin Glazed	
1	Body	Earthenware, Refined Indeterminate	
2	Body	Earthenware, Refined Creamware	
1	Body	Stoneware, Refined White Salt Glazed	

Glass

1	curved, indet.	body	colorless	indeterminate	burned

Nails

3	Nail	wrought
1	Nail	too corroded to ID

Pipes

Other Materials

4	Fuel and furnace coal and furnace products, unseparated	Bones	7
5	Architectural brick	Shell	
1	Small finds adornment buckle ferrous, small square frame		

Context 422 **Unit Number** N2400 E3810 **Level** 0-27 South Lawn

Ceramics

1	Body	Earthenware, Refined Creamware	
2	Body	Earthenware, Refined Indeterminate	burned

1	Flat ware Rim	Earthenware, Refined Pearlware	Shell-edge Green burned
1	Bowl Rim	Porcelain, Chinese	Over-glaze enamel red dots and annular bands, int and ext

Glass

1	window		aqua	indeterminate
1	curved, undetermined	body	aqua	indeterminate
1	curved, undetermined	body	milkglass	indeterminate

Nails

3	Nail	too corroded to ID

Pipes

1	stem

Other Materials

2	Fuel and furnace charcoal	Bones	6
4	Metal ferrous other	Shell	
6	Architectural brick		

Context 423 **Unit Number** N2400 E3830 **Level** 0-23 South Lawn

Ceramics

2	Flat ware Base	Earthenware, Refined Creamware	
1	Body	Earthenware, Refined Creamware	
1	Rim	Earthenware, Refined Pearlware	Green Edge decorated, but no molding remains
1	Body	Earthenware, Refined Whiteware	Transfer printed Blue

Glass

3	window	aqua	indeterminate

Nails

1	Nail	wrought
3	Nail	too corroded to ID

Pipes

Other Materials

2	Fuel and furnace coal and furnace products, unseparated	Bones	2
2	Architectural brick	Shell	

Context 424 **Unit Number** N2400 E3850 **Level** 0-44 South Lawn

Ceramics

2	Body	Earthenware, Refined Creamware	1 burned
1	Hollow ware Body	Earthenware, Refined Indeterminate	burned

Glass

2	window	aqua	indeterminate

Nails

1	Nail	wrought
1	Nail	too corroded to ID

Pipes

Other Materials

5	Fuel and furnace charcoal	Bones	2
8	Architectural brick	Shell	

Context 425 **Unit Number** N2420 E3660 **Level** South Lawn

Ceramics

2	Body	Earthenware, Refined Creamware	
1	Hollow ware Rim	Earthenware, Refined Creamware	
1	Hollow ware Rim	Earthenware, Refined Yellow Ware	
1	Rim	Earthenware, Refined Whiteware	Transfer printed Red
1	Flat ware Rim	Earthenware, Refined Pearlware	
1	Lid Lid	Earthenware, Refined Pearlware	Underglaze painted Brown

Glass

1	window		aqua	indeterminate
2	curved, undetermined		colorless	indeterminate
3	bottle		colorless	indeterminate

Nails

1	Nail	wrought
?	Nail	too corroded to ID

Pipes

Other Materials

1	Synthetic plastic	Bones 1
5	Architectural brick	Shell

Context 427 **Unit Number** N2420 E3680 **Level** 0-24 South Lawn

Ceramics

1	Body	Earthenware, Coarse Redware	
2	Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Coarse Redware	slip decorated
2	Body	Earthenware, Refined Pearlware	
1	Hollow ware Body	Stoneware, Coarse American Buff	
1	Tea bowl Base	Stoneware, Refined White Salt Glazed	

Glass

3	window		aqua	indeterminate
1	flat, undetermined	body	colorless	indeterminate

Nails

Pipes

1	stem	

Other Materials

3	Fuel and furnace charcoal	Bones 1
5	Architectural brick	Shell

Context 428 **Unit Number** N2420 E3700 **Level** 0-29 South Lawn

Ceramics

2	Flat ware Body	Earthenware, Refined Creamware

Glass

1	window		aqua	indeterminate
1	curved, undetermined	body	colorless	indeterminate

Nails

1	Nail	cut

Pipes

1	stem	

Other Materials

11	Architectural brick	Bones
		Shell

Context 429 **Unit Number** N2420 E3720 **Level** 0-34 South Lawn

Ceramics

1	Body	Earthenware, Tin Glazed	
1	Body	Earthenware, Refined Whiteware	Transfer printed Brown
1	Body	Earthenware, Refined Creamware	
3	Body	Earthenware, Refined Indeterminate	burned
1	Hollow ware Rim	Earthenware, Refined Indeterminate	burned

Glass

1	curved, undetermined	body	aqua	indeterminate	burned

Nails

2	Nail	cut

Pipes

2	stem	
1	bowl	Crown over D; Crown

Other Materials

3	Fuel and furnace charcoal	Bones 2
1	Architectural brick	Shell

Context 430 **Unit Number** N2420 E3740 **Level** 0-24 South Lawn

Ceramics

1	Flat ware Body	Earthenware, Refined Creamware
1	Hollow ware Body	Earthenware, Refined Whiteware

Glass

5	window		aqua	undetermined
1	curved, undetermined	body	colorless	undetermined

Nails

1	Nails	wrought
2	Nails	cut

Pipes

1	stem	

Other Materials

2	Architectural brick	Bones 3
1	Architectural mortar	Shell

Context 431 **Unit Number** N2420 E3760 **Level** 0-27 South Lawn

Ceramics

1	Hollow ware Body	Earthenware, Coarse Redware
1	Hollow ware Body	Earthenware, Coarse Redware
1	Body	Earthenware, Refined Creamware

Glass

Nails

2	Nail	cut
1	Nail	wire
1	Nail	too corroded to ID

Pipes

Other Materials

6	Architectural brick	Bones 2
		Shell

Context 432 **Unit Number** N2420 E3780 **Level** 0-30 South Lawn

Ceramics

Glass

Nails

1	Nail	cut

Pipes

Other Materials

14	Architectural brick	Bones
		Shell

Context 433 **Unit Number** N2420 E3800 **Level** South Lawn

Ceramics

Glass

Nails

Pipes

Other Materials

4	Architectural brick	Bones
1	Small finds toys and games golf ball Royal 3	Shell

Context 434 **Unit Number** N2420 E3820 **Level** 0-32 South Lawn

Ceramics

1	Flat ware Rim	Earthenware, Refined Creamware
1	Body	Stoneware, Coarse American gray

Glass

Nails

Pipes

Other Materials

4	Fuel and furnace charcoal	Bones 1
1	Metal ferrous other	Shell
13	Architectural brick	

Context 435 **Unit Number** N2420 E 3840 **Level** 0-24 South Lawn

Ceramics

1	Body	Earthenware, Coarse Redware
1	Hollow ware Rim	Earthenware, Refined Yellow Ware

Glass

Nails

Pipes

Other Materials

14	Architectural brick	Bones
		Shell

Context 436 **Unit Number** N2434.5 E3690 **Level** 0-20 South Lawn

Ceramics

1	Body	Earthenware, Refined Indeterminate	
2	Hollow ware Body	Porcelain, Chinese	Underglaze painted Blue

Glass

4	bottle, wine	body	olive green	free blown	
9	bottle	body	green (7-	machine made	
1	bottle	base	aqua	machine made	embossed
1	curved, undetermined	body	aqua	indeterminate	
1	window		aqua	indeterminate	
28	bottle	body	amber	machine made	
2	bottle	base	amber	machine made	embossed
41	curved, undetermined	body	colorless	indeterminate	
2	vial	neck	colorless	indeterminate	

Nails

Pipes

2	Nail	wrought

Other Materials

1	Synthetic plastic	Bones
1	Fuel and furnace charcoal	Shell
1	Metal ferrous other	
2	Architectural brick	

Context 437 **Unit Number** N2435.5 E3691 **Level** 0-30 South Lawn

Ceramics

1	Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Coarse Redware	
1	Body	Stoneware, Coarse other	Drainage pipe, coarse utilitarian, glazed exterior
1	Hollow ware Body	Earthenware, Refined Yellow Ware	
1	Flat ware Rim	Earthenware, Refined Pearlware	Green Edge decorated, no molding left to determine pattern
1	Hollow ware Body	Earthenware, Refined Pearlware	Underglaze painted Polychrome
2	Body	Earthenware, Refined Pearlware	
2	Rim	Earthenware, Refined Creamware	1 burned
2	Body	Earthenware, Refined Creamware	
1	Hollow ware Body	Stoneware, Refined Nottingham	

Glass

1	bottle, wine	body	olive green	free blown	
3	bottle, wine	body	olive green	free blown	
1	curved, undetermined	body	aqua	indeterminate	thick
4	bottle	body	amber	indeterminate	
1	bottle	lip	amber	machine made	
1	bottle	body	amber	machine made	
1	vial	lip	colorless	indeterminate	d=2 cm
2	bottle	base	green (7-	machine made	embossed
6	bottle	base	green (7-	machine made	
31	curved, undetermined	body	colorless	indeterminate	
1	bottle	body	colorless	machine made	
1	bottle	lip	aqua	indeterminate	
2	bottle	body	aqua	indeterminate	
1	bottle	body	aqua	indeterminate	embossed “29”

Nails

1	Nail	too corroded to ID

Pipes

1	stem

Other Materials

4	Fuel and furnace charcoal	Bones
1	Metal ferrous other	Shell
12	Architectural brick	
1	Small finds adornment jewelry, pin indet. metal, turtle shaped, painted	

Context 438 **Unit Number** N2436 E3690 **Level** South Lawn

Ceramics

1	Body	Earthenware, Tin Glazed	pale blue, int+ext
1	Hollow ware Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Refined Pearlware	
1	Hollow ware Body	Porcelain, Chinese	Underglaze painted Blue

Glass

3	bottle, wine	body	olive green	dip-molded	
2	curved, undetermined	body	green (7-	undetermined	
1	curved, undetermined	body	aqua	undetermined	
8	bottle, beverage	body	light green	machine made	Coca Cola
1	bottle, beverage	body	light green	machine made	embossed Coca Cola
9	curved, undetermined	body	colorless	undetermined	
1	curved, undetermined	lip	colorless	machine made	
1	bottle	base	colorless	machine made	embossed
2	tumbler	body	colorless	pressed/press molded	embossed grid over body
2	curved, undetermined	body	colorless	undetermined	enameled (painted) red, green, yellow paint

Nails

Pipes

Other Materials

6	Fuel and furnace charcoal	Bones 1
4	Architectural brick	Shell
1	Utensils/tools/hardware other alligator clip ferrous	

Context 439 **Unit Number** N2440 E3634.5 **Level** topsoil South Lawn

Ceramics

Glass

1	bottle	body	amber	undetermined
1	curved, undetermined	body	colorless	undetermined

Nails Pipes

Other Materials

97	Fuel and furnace coal and furnace products, unseparated	Bones
		Shell

Context 440 **Unit Number** N2440 E3634.5 **Level** gravel fill South Lawn

Ceramics

Glass

Nails Pipes

1	Nails	too corroded to ID

Other Materials

22	Fuel and furnace coal and furnace products, unseparated	Bones
3	Architectural brick	Shell

Context 441 **Unit Number** N2440 E3635 **Level** 0- South Lawn

Ceramics

Glass

1	bottle	body	amber	machine made

Nails Pipes

1	Screw

Other Materials

48	Fuel and furnace coal and furnace products, unseparated	Bones
		Shell

Context 442 **Unit Number** N2440 E3650 **Level** 0-27 South Lawn

Ceramics

Glass

1	bottle	body	amber	undetermined
1	curved, undetermined	body	aqua	undetermined
1	curved, undetermined	body	colorless	undetermined
1	curved, undetermined	body	colorless	undetermined

Nails Pipes

Other Materials

1	Fuel and furnace coal and furnace products, unseparated	Bones
		Shell

Context 443 **Unit Number** N2440 E3670 **Level** 0-20 South Lawn

Ceramics

1	Flat ware Body	Earthenware, Refined Creamware

Glass

1	bottle	body	olive green	undetermined	1 side crizzled

Nails

Pipes

Other Materials

1	Fuel and furnace coal and furnace products, unseparated	Bones
1	Architectural brick	Shell

Context 444 **Unit Number** N2440 E3690 **Level** 0-24 South Lawn

Ceramics

1	Flat ware Base	Porcelain, Chinese	Canton Underglaze painted Blue
1	Tea bowl Body	Porcelain, Chinese	Underglaze painted Blue floral design

Glass

1		body	colorless	undiagnostic	very burned, twisted

Nails

1	Nails	cut

Pipes

2	stem	

Other Materials

6	Architectural brick	Bones
		Shell

Context 445 **Unit Number** N2440 E3710 **Level** 0-39 South Lawn

Ceramics

2	Hollow ware Body	Earthenware, Refined Jackfield

Glass

1	flat, undetermined	body	light green	undetermined	

Nails

2	Nails	wrought

Pipes

Other Materials

2	Architectural brick	Bones 3
1	Utensils/tools/hardware furniture hardware escutcheon plate Cu alloy	Shell

Context 446 **Unit Number** N2440 E3730 **Level** 0-29 South Lawn

Ceramics

1	Body	Earthenware, Refined Creamware

Glass

1	bottle	finish	colorless	machine made	large, wide neck
4	curved, undetermined	body	colorless	undetermined	
1	flat, undetermined		colorless	undetermined	
1	window		aqua	undetermined	

Nails

1	Nails	wire
5	Nails	too corroded to ID

Pipes

Other Materials

40	Fuel and furnace charcoal	Bones
5	Architectural brick	Shell
1	Small finds adornment ring? brass, modern light weight w bezel for stone	

Context 447 **Unit Number** N2440 E3730 **Level** 0-38 South Lawn

Ceramics

Glass

Nails Pipes

Other Materials

1 Fuel and furnace charcoal Bones
Shell

Context 448 **Unit Number** N2440 E3750 **Level** 0-26 South Lawn

Ceramics

1 Body Earthenware, Refined Creamware

Glass

Nails Pipes

2 Nails wrought 1 stem
1 Nails too corroded to ID

Other Materials

1 Architectural brick Bones
Shell

Context 449 **Unit Number** N2440 E3770 **Level** 37-52 South Lawn

Ceramics

1 Body Earthenware, Coarse Redware

Glass

Nails Pipes

Other Materials

Bones
Shell

Context 450 **Unit Number** N2440 E3770 **Level** 0-37 South Lawn

Ceramics

1 Body Earthenware, Tin Glazed
1 Flat ware Body Earthenware, Refined Creamware

Glass

1 bottle body olive green undetermined
1 tableware rim colorless undetermined etched (acid)

Nails Pipes

1 Nails cut

Other Materials

2 Fuel and furnace coal and furnace products, unseparated Bones 1
32 Architectural brick Shell

Context 451 **Unit Number** N2440 E3790 **Level** 0-49 South Lawn

Ceramics

1 Body Earthenware, Refined Creamware

Glass

Nails

2 Nails too corroded to ID

Pipes

Other Materials

35 Architectural brick

2 Fuel and furnace coal and furnace products, unseparated

Bones

Shell

Context 452 **Unit Number** N2440 E3810 **Level** 0-30 South Lawn

Ceramics

3 Flat ware Body Earthenware, Refined Creamware

Glass

Nails

Pipes

2 stem

Other Materials

5 Architectural brick

Bones

Shell

Context 453 **Unit Number** N2440 E3830 **Level** 0-18 South Lawn

Ceramics

1 Flat ware Body Earthenware, Refined Creamware

Glass

Nails

Pipes

Other Materials

16 Architectural brick

Bones

Shell

Context 454 **Unit Number** N2444 E3813 **Level** 0-30 South Lawn

Ceramics

1 Hollow ware Body Earthenware, Coarse Redware

Glass

Nails

Pipes

2 Nails wrought

Other Materials

1 Metal ferrous other

15 Architectural brick

Bones

Shell

Context 455 **Unit Number** N2444 E3813 **Level** 30-52 South Lawn

Ceramics

1 Hollow ware Body Earthenware, Coarse Redware

1 Body Earthenware, Coarse Redware glazed brick?

Glass

Nails

Pipes

2 Nails too corroded to ID

2 stem

Other Materials

1 Fuel and furnace coal and furnace products, unseparated

Bones

9	Architectural brick	Shell

Context 456 **Unit Number** N2447 E3816 **Level** 0-40 South Lawn

Ceramics

1	Body	Earthenware, Coarse Redware			
2	Flat ware Body	Earthenware, Refined Creamware			

Glass

1	flat, undetermined		aqua	undetermined	mirror?

Nails Pipes

1	Nails	wrought
1	Nails	cut

Other Materials

7	Fuel and furnace coal and furnace products, unseparated	Bones 6
11	Architectural brick	Shell
1	Architectural mortar	

Context 457 **Unit Number** N2450 E3811 **Level** 0-38 South Lawn

Ceramics

1	Hollow ware Rim	Earthenware, Coarse Redware	
1	Body	Earthenware, Refined Creamware	burned

Glass

Nails Pipes

Other Materials

2	Fuel and furnace charcoal	Bones 1
4	Metal ferrous other	Shell 1
1	Metal nonferrous other	
24	Architectural brick	
1	Metal nonferrous other lead melted lead	

Context 458 **Unit Number** N2450 E3816 **Level** 0-29 South Lawn

Ceramics

3	Body	Earthenware, Coarse Redware			
1	Rim	Earthenware, Refined Pearlware			

Glass

1	window		aqua		
1	curved, undetermined	body	aqua	undetermined	

Nails Pipes

2	Nails	wrought

Other Materials

3	Fuel and furnace coal and furnace products, unseparated	Bones
7	Fuel and furnace charcoal	Shell
7	Architectural brick	

Context 458 **Unit Number** N2450 E3816 **Level** 0-29 South Lawn

Ceramics

3	Body	Earthenware, Coarse Redware
1	Rim	Earthenware, Refined Pearlware

Glass

1	window		aqua	
1	curved, undetermined	body	aqua	undetermined

Nails

2	Nails	wrought

Pipes

Other Materials

3	Fuel and furnace coal and furnace products, unseparated	Bones	6
7	Fuel and furnace charcoal	Shell	
7	Architectural brick		

Context 459 **Unit Number** N2360 E3810 **Level** 0-34 South Lawn

Ceramics

Glass

1	bottle	body	amber	undetermined
1	curved, undetermined	body	light green	undetermined

Nails

Pipes

Other Materials

3	Synthetic plastic	Bones	
2	Fuel and furnace charcoal	Shell	
1	Metal ferrous other		
3	Architectural brick		

Context 460 **Unit Number** N2451 E3814 **Level** 0-68 South Lawn

Ceramics

1	Body	Earthenware, Coarse Redware	

Glass

7	window		aqua	undetermined
1	bottle	body	olive green	undetermined

Nails

2	Nails	cut
1	Spike	

Pipes

1	bowl
1	stem

Other Materials

4	Fuel and furnace coal and furnace products, unseparated	Bones	
174	Architectural brick	Shell	
1	Architectural mortar		
1	Architectural stone slate frag		

Context 461 **Unit Number** N2460 E3660 **Level** 0-25 South Lawn

Ceramics

1	Rim	Earthenware, Coarse Redware	red slip ext

Glass

1	window		aqua	undetermined

Nails

Pipes

1	stem

Other Materials

2	Fuel and furnace coal and furnace products, unseparated	Bones	2
2	Metal ferrous other	Shell	
5	Architectural brick		

Context 462 **Unit Number** N2460 E3680 **Level** 0-43 South Lawn

Ceramics

1	Body	Earthenware, Coarse Redware	
1	Hollow ware Body	Earthenware, Coarse Redware	
1	Hollow ware Body	Earthenware, Refined Staffordshire Slipware	burned
2	Body	Earthenware, Refined Creamware	
2	Body	Earthenware, Refined Whiteware	burned
1	Flat ware Body	Porcelain, Chinese	Canton Underglaze painted Blue

Glass

1	window		aqua	undetermined	
6	bottle	body	colorless	machine made	embossed

Nails

1	Nails	wrought
1	Nails	cut
2	Nails	too corroded to ID

Pipes

Other Materials

11	Architectural brick	Bones	2
		Shell	

Context 463 **Unit Number** N2460 E3700 **Level** 0-26 South Lawn

Ceramics

2	Body	Earthenware, Coarse Redware	
1	Body	Stoneware, Refined White Salt Glazed	
2	Body	Porcelain, Chinese	Canton Underglaze painted Blue
1	Rim	Porcelain,	Underglaze painted Blue

Glass

1	bottle, wine	neck	olive green	mold blown	broad, hand applied ring below lip
1	flat, undetermined	body	olive green	undetermined	
1	window		aqua	undetermined	

Nails

Pipes

Other Materials

1	Fuel and furnace coal and furnace products, unseparated	Bones	
4	Architectural brick	Shell	
1	Architectural stone slate frag		

Context 464 **Unit Number** N2460 E3720 **Level** 0-37 South Lawn

Ceramics

1	Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Coarse Redware	

Glass

1	bottle, wine	body	olive green	undetermined	

Nails

2	Nails	too corroded to ID

Pipes

2	stem	

Other Materials

1	Fuel and furnace charcoal	Bones	
10	Architectural brick	Shell	

Context 465 **Unit Number** N2460 E3740 **Level** South Lawn

Ceramics

1	Hollow ware Body	Earthenware, Tin Glazed	Overglaze painted Blue

Glass

1	curved, undetermined	body	light green	undetermined

Nails

Pipes

Other Materials

Bones 1
Shell

Context 466 **Unit Number** N2460 E3780 **Level** 0-25 South Lawn

Ceramics

6	Body	Earthenware, Refined Creamware

Glass

Nails

Pipes

2	Nails	wrought
2	Nails	cut

Other Materials

25	Architectural brick	Bones
		Shell

Context 467 **Unit Number** N2460 E3800 **Level** 0- South Lawn

Ceramics

1	Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Tin Glazed	pale blue
1	Body	Earthenware, Refined Indeterminate	
1	Hollow ware Body	Earthenware, Refined Creamware	

Glass

5	bottle	body	olive green	undetermined
1	bottle, wine	base	olive green	dip-molded
1	curved, undetermined	body	colorless	undetermined

Nails

Pipes

1	Nails	cut
1	Nails	too corroded to ID

Other Materials

4	Metal ferrous other	Bones 1
13	Architectural brick	Shell
2	Architectural stone slate	

Context 468 **Unit Number** N2460 E3820 **Level** 0-43 South Lawn

Ceramics

9	Hollow ware Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Coarse Redware	burned
1	Body	Earthenware, Refined Creamware	
1	Hollow ware Body	Earthenware, Coarse Staffordshire Slipware	Molded
2	Flat ware Body	Earthenware, Refined Pearlware	
1	Body	Earthenware, Refined Whiteware	
1	Flower pot Body	Earthenware, Coarse Redware	

Glass

3	bottle, wine	body	olive green	undetermined	
2	lamp chimney	body	colorless	undetermined	
1	tumbler	body	colorless	undetermined	engraved

Nails

Pipes

3	Nails	wrought

Other Materials

2	Fuel and furnace coal and furnace products, unseparated	Bones 1
8	Fuel and furnace charcoal	Shell
60	Architectural brick	

Context 469 **Unit Number** N2480 E3670 **Level** 0-43 South Lawn

Ceramics

4	Hollow ware Body	Earthenware, Refined Creamware

Glass

1	bottle	base	colorless	mold blown

Nails

Pipes

Other Materials

2	Architectural brick	Bones
		Shell

Context 470 **Unit Number** N2480 E3690 **Level** 0-27 South Lawn

Ceramics

1	Body	Earthenware, Coarse Redware	
1	Hollow ware Body	Earthenware, Coarse Indeterminate	slip decorated high fired relatively coarse EW with dark paste
6	Body	Earthenware, Refined Creamware	
1	Body	Earthenware, Coarse Pearlware	Transfer printed Blue
1		Earthenware, Tin Glazed	glaze only, pale blue
1	Hollow ware Body	Earthenware, Refined Pearlware	Underglaze painted Polychrome

Glass

4	curved, undetermined	body	colorless	undetermined
1	curved, undetermined	base	colorless	undetermined
5	bottle	body	amber	undetermined
1	bottle	body	green (7-	undetermined

Nails

Pipes

4	stem

Other Materials

7	Architectural brick	Bones
		Shell

Context 471 **Unit Number** N2480 E3651 **Level** 0- South Lawn

Ceramics

1	Hollow ware Rim	Stoneware, Refined White Salt Glazed

Glass

1	flat, undetermined	body	colorless	undetermined	
1	curved, undetermined	body	colorless		
3	window		aqua		
9	bottle, beverage	body	amber	machine made	beer bottle, Anheiser-Bush
1	bottle, beverage	body	amber	machine made	embossed beer bottle, Anheiser-Bush
3	tumbler	body	colorless	pressed/press molded	

Nails

Pipes

2	Nails	wrought

1	Nails	cut
3		too corroded to ID

Other Materials

1	Synthetic plastic	Bones 6
2	Fuel and furnace charcoal	Shell 3
2	Architectural brick	
1	Architectural stone slate burned	

Context 472 **Unit Number** N2480 E3710 **Level** 0-35 South Lawn

Ceramics

2	Body	Earthenware, Coarse Redware	
3	Body	Earthenware, Refined Creamware	
1	Bowl Base	Earthenware, Refined Creamware	base d=9 cm
1		Earthenware, Tin Glazed	glaze only
1	Hollow ware Body	Earthenware, Refined Pearlware	

Glass

Nails Pipes

Other Materials

1	Fuel and furnace coal and furnace products, unseparated	Bones 1
5	Architectural brick	Shell

Context 473 **Unit Number** N2480 E3730 **Level** 0- South Lawn

Ceramics

1	Flower pot Rim	Earthenware, Coarse Redware	
1	Flower pot Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Coarse Redware	
2	Body	Earthenware, Refined Pearlware	Underglaze painted Blue

Glass

1	flat, undetermined	body	colorless	undetermined

Nails Pipes

1	Nails	too corroded to ID

Other Materials

1	Fuel and furnace coal and furnace products, unseparated	Bones 2
5	Fuel and furnace charcoal	Shell
16	Architectural brick	

Context 474 **Unit Number** N2480 E3750 **Level** 0-24 South Lawn

Ceramics

1	Bowl Base	Earthenware, Coarse Redware
1	Body	Earthenware, Refined Pearlware

Glass

1	curved, undetermined	body	colorless	undetermined

Nails Pipes

2	Nails	wrought
1	Nails	too corroded to ID

Other Materials

Bones

Shell

Context 475 **Unit Number** N2480 E3770 **Level** 0-30 South Lawn

Ceramics

9	Flower pot Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Coarse Redware	
16	Hollow ware Body	Earthenware, Refined Creamware	deep yellow
1	Hollow ware Rim	Earthenware, Refined Pearlware factory-made slipware (dipped)	Banded (Dipt ware)
1	Body	Earthenware, Refined Pearlware	Underglaze painted Polychrome
1	Body	Earthenware, Refined Indeterminate-factory-made	
5	Bowl Rim	Earthenware, Refined Whiteware	Transfer printed Brown
2	Body	Earthenware, Refined Pearlware	Transfer printed Blue
1	Hollow ware Rim	Earthenware, Refined Pearlware	Underglaze painted Blue
1	Body	Earthenware, Refined Pearlware	Underglaze painted Blue
1	Body	Stoneware, Refined White Salt Glazed	
3	Body	Earthenware, Refined Pearlware	

Glass

1	window		aqua	undetermined	
3	curved, undetermined	body	aqua	undetermined	
1	flat, undetermined	body	colorless	undetermined	
1	curved, undetermined	body	colorless	undetermined	engraved
2	window		colorless	undetermined	
1	curved, undetermined	body	olive green	undetermined	burned
1	curved, undetermined	body	dark green	undetermined	

Nails

3	Nails	wrought
6	Nails	cut
1	Nails	wire
6	Nails	too corroded to ID

Pipes

2	stem

Other Materials

2	Fuel and furnace coal and furnace products, unseparated	Bones 18
2	Fuel and furnace charcoal	Shell
32	Architectural brick	
3	Architectural stone slate	

Context 476 **Unit Number** N2479.5 E3770 **Level** 0-33 South Lawn

Ceramics

3	Body	Earthenware, Coarse Redware	
2	Body	Earthenware, Coarse Redware	
1	Base	Earthenware, Coarse Redware	
1	Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Tin Glazed	
5	Hollow ware Body	Earthenware, Refined Pearlware	
4	Body	Earthenware, Refined Indeterminate	
14	Hollow ware Body	Earthenware, Refined Creamware	mostly deeper yellow glaze
1	Hollow ware Rim	Earthenware, Refined Creamware factory-made slipware (dipped)	Annular (dipt ware) Brown
1	Flat ware Rim	Earthenware, Refined Pearlware	Shell-edge Blue
1	Hollow ware Rim	Earthenware, Refined Pearlware	Molded Underglaze painted Blue scalloped edge
1	Hollow ware Body	Stoneware, Refined White Salt Glazed	green exterior

Glass

2	window		aqua	undetermined	
1	bottle, wine	body	olive green	undetermined	
2	flat, undetermined		colorless	undetermined	
1	flat, undetermined	body	milkglass	undetermined	
1	flat, undetermined	body	colorless	undetermined	crizzled
1	curved, undetermined	body	colorless	3-piece mold	
1	tumbler	base	colorless	mold blown	paneled thick

1	bottle	base	colorless	mold blown	circular
1	bottle	body	colorless	pattern molded	
1	bottle, wine	body		undetermined	extremely burned

Nails

12	Nails	wrought
9	Nails	cut
1	Nails	wire
3	Nails	too corroded to ID

Pipes

Other Materials

3	Fuel and furnace coal and furnace products, unseparated	Bones	7
5	Fuel and furnace charcoal	Shell	
4	Metal ferrous other		
12	Architectural brick		
37	Synthetic other hose (for watering) rubber		

Context 477 **Unit Number** N2480 E3770 **Level** 45 South Lawn

Ceramics

Glass

Nails

1	Nails	wrought

Pipes

Other Materials

Bones	
Shell	

Context 478 **Unit Number** N2480 E3790 **Level** 0-38 South Lawn

Ceramics

1	Body	Earthenware, Coarse Redware
1	Rim	Earthenware, Coarse Redware
1	Hollow ware Body	Stoneware, Refined White Salt Glazed

Glass

1	flat, undetermined	body	colorless	undetermined	
1	curved, undetermined	body	olive green	undetermined	
1	vial	body	aqua	undetermined	
2	window		aqua	undetermined	
16	curved, undetermined	body	colorless	undetermined	
3	bottle	base	colorless	mold blown	embossed “36”
1	bottle	neck	colorless	mold blown	

Nails

3	Nails	wrought
2	Nails	cut
2	Nails	too corroded to ID

Pipes

1	stem

Other Materials

1	Fuel and furnace charcoal	Bones	13
94	Architectural brick	Shell	

Context 479 **Unit Number** N2480 E3790 **Level** 38-65 South Lawn

Ceramics

1	Rim	Earthenware, Coarse Redware
1	Body	Earthenware, Coarse Redware

Glass

Nails

1	Nails	wrought
1	Nails	too corroded to ID

Pipes

Other Materials

1	Architectural brick	

Bones 1
Shell

Context 480 **Unit Number** N2480 E3790 **Level** 65-86 South Lawn

Ceramics

Glass

1	flat, undetermined	body	aqua	undetermined

Nails

Pipes

Other Materials

1	Metal ferrous other	
21	Architectural brick	
4	Architectural stone slate	

Bones 2
Shell

Context 481 **Unit Number** N2491 E3708 **Level** 53-69 South Lawn

Ceramics

1	Plate Body	Porcelain, Chinese	Canton Underglaze painted Blue
2	Body	Earthenware, Coarse Redware	
1	Hollow ware Rim	Earthenware, Refined Creamware	

Glass

1	curved, undetermined	body	light green	undetermined	
1	curved, undetermined	rim	colorless	undetermined	rim d=10 cm

Nails

1	Nails	too corroded to ID

Pipes

Other Materials

11	Architectural brick	

Bones
Shell

Context 482 **Unit Number** N2500 E3680 **Level** 0-37 South Lawn

Ceramics

1	Body	Earthenware, Coarse Redware
1	Flat ware Body	Earthenware, Refined Pearlware
2	Flat ware Body	Earthenware, Refined Creamware

Glass

1	curved, undetermined	body	colorless	undetermined
1	window		aqua	undetermined
1	flat, undetermined	body	aqua	undetermined
1	flat, undetermined	body	light green	undetermined

Nails

Pipes

1	bowl

Other Materials

1	Synthetic plastic	

Bones
Shell

Context 483 **Unit Number** N2500 E3700 **Level** South Lawn

Ceramics

1	Hollow ware Body	Earthenware, Coarse Redware	
2	Body	Earthenware, Coarse Redware	
2	Body	Earthenware, Refined Creamware	
1	Rim	Earthenware, Refined Creamware	
1	Body	Earthenware, Refined Pearlware	Molded
1	Flat ware Body	Porcelain, Chinese	Underglaze painted Blue
1	Hollow ware Rim	Porcelain, Chinese	Underglaze painted Blue

Glass

1	window	aqua	undetermined

Nails

1	Nails	wrought
1	Nails	cut
4	Nails	too corroded to ID
1	Spike	

Pipes

Other Materials

1	Fuel and furnace coal and furnace products, unseparated	Bones
1	Metal ferrous other	Shell
6	Architectural brick	

Context 484 **Unit Number** N2500 E3720 **Level** 0-31 South Lawn

Ceramics

2	Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Refined Creamware	
1	Body	Earthenware, Refined Pearlware	

Glass

1	window		aqua	undetermined
1	flat, undetermined	body	light green	undetermined

Nails

1	Nails	too corroded to ID

Pipes

Other Materials

1	Fuel and furnace charcoal	Bones 1
1	Small finds other bone w drill hole calcined, not clearly a utensil handle	Shell

Context 485 **Unit Number** N2500 E3740 **Level** 0-40 South Lawn

Ceramics

1	Hollow ware Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Tin Glazed	pale blue

Glass

Nails

2	Nails	too corroded to ID

Pipes

Other Materials

1	Fuel and furnace coal and furnace products, unseparated	Bones
1	Metal nonferrous other	Shell
1	Architectural brick	

Context 486 **Unit Number** N2491 E3708 **Level** 0-53 South Lawn

Ceramics

1	Hollow ware Body	Earthenware, Coarse Redware	
1	Rim	Earthenware, Coarse Redware	
2	Body	Earthenware, Refined Creamware	
1	Hollow ware Handle	Earthenware, Refined Creamware	Molded
1	Hollow ware Body	Earthenware, Refined Pearlware	Transfer printed Blue Printed on int + ext
1	Hollow ware Base	Earthenware, Refined Pearlware	Blue burned

Glass

11	window		aqua	undetermined
6	curved, undetermined	body	colorless	undetermined
1	flat, undetermined	body	aqua	undetermined
1	curved, undetermined	body	light blue	undetermined
1	flat, undetermined		solarized	undetermined
1	bottle	body	olive green	undetermined

Nails

1	Nails	wrought
4	Nails	too corroded to ID

Pipes

Other Materials

6	Fuel and furnace coal and furnace products, unseparated	Bones	1
1	Metal nonferrous other	Shell	1
32	Architectural brick		

Context 487 **Unit Number** Gore and Grove **Level** 0-38 South Lawn

Ceramics

Glass

1	curved, undetermined	body	colorless	undetermined	
1	flat, undetermined	body	colorless	undetermined	
1	curved, undetermined	body	colorless	pressed/press molded	stippled

Nails

1	Nails	cut

Pipes

2	bowl

Other Materials

10	Architectural brick	Bones	1
		Shell	

Context 488 **Unit Number** Gore and Grove 2 **Level** 0-39 South Lawn

Ceramics

1	Hollow ware Body	Earthenware, Coarse Redware
1	Hollow ware Body	Stoneware, Refined White Salt Glazed

Glass

4	bottle	body	amber	undetermined	modern
1	curved, undetermined	base	colorless	pressed/press molded	
1	window		aqua	undetermined	
2	curved, undetermined	body	colorless	mold blown	
1	curved, undetermined	body	colorless	pressed/press molded	crizzled

Nails

1	Nails	too corroded to ID

Pipes

Other Materials

	Bones
	Shell

Context 489 **Unit Number** N2520 E3690 **Level** 0-52 South Lawn

Ceramics

1	Flat ware Base	Earthenware, Refined Creamware	base d = 18 cm

1	Body	Earthenware, Refined Creamware	
1	Hollow ware Body	Earthenware, Refined Indeterminate	burned

Glass

Nails Pipes

Other Materials

4	Architectural brick	Bones
		Shell

Context 490 **Unit Number** N2520 E3710 **Level** 0-31 South Lawn

Ceramics

2	Body	Earthenware, Coarse Redware

Glass

Nails Pipes

1	Nails	wrought

Other Materials

	Bones
	Shell

Context 491 **Unit Number** N2540 E3900 **Level** 0-42 North Field

Ceramics

3	Body	Earthenware, Refined Creamware	
1	Rim	Earthenware, Refined Pearlware	Underglaze painted Polychrome pink/red bands around a field o
1	Body	Earthenware, Refined Pearlware	Underglaze painted Blue

Glass

1	bottle, wine	body	olive green	undetermined
1	window		colorless	undetermined
1	window		aqua	undetermined

Nails Pipes

Other Materials

2	Architectural brick	Bones
2	Architectural mortar	Shell
1	Fuel and furnace slag	
1	Fuel and furnace charcoal	

Context 492 **Unit Number** N2540 E3910 **Level** 0-53 North Field

Ceramics

7	Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Coarse Redware	
6	Body	Earthenware, Refined Creamware	
1	Body	Earthenware, Refined Pearlware	
1	Rim	Earthenware, Refined Pearlware	Blue Edge decorated or trans. printed

Glass

1	curved, indet.	body	colorless	undetermined

Nails Pipes

Other Materials

1	Metal ferrous other	Bones 1
	Fuel and furnace coal	Shell

Context 493 **Unit Number** N2540 E3930 **Level** 0-45 North Field

Ceramics

2	Body	Earthenware, Refined Indeterminate	burned

Glass

Nails Pipes

Other Materials

1	Fuel and furnace coal	Bones
		Shell

Context 494 **Unit Number** N2540 E3950 **Level** 0-51 North Field

Ceramics

4	Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Refined Whiteware	
2	Hollow ware Body	Earthenware, Refined Whiteware	Underglaze painted Blue

Glass

1	bottle, wine	body	olive green	undetermined
3	curved, undetermined	body	aqua	undetermined
1	window		colorless	undetermined

Nails Pipes

1	Nails	wrought

Other Materials

	Bones
	Shell

Context 495 **Unit Number** N2540 E3970 **Level** 0-45 North Field

Ceramics

1	Hollow ware Body	Earthenware, Coarse Redware	
1	Hollow ware Rim	Earthenware, Coarse Redware	
1	Body	Earthenware, Refined Creamware	

Glass

1	bottle	body	olive green	undetermined
1	curved, undetermined	body	aqua	undetermined

Nails Pipes

Other Materials

7	Architectural brick	Bones
1	Metal nonferrous object can base aluminum	Shell
3	Synthetic plastic	
3	Fuel and furnace coal	
1	Fuel and furnace slag	

Context 496 **Unit Number** N2540 E3990 **Level** North Field

Ceramics

1	Body	Earthenware, Coarse Redware
1	Body	Earthenware, Coarse Redware

Glass

1	curved, indet.	body	colorless	undetermined

Nails

Pipes

Other Materials

2	Fuel and furnace coal	Bones
		Shell

Context 497 **Unit Number** N2560 E3900 **Level** 0-50 North Field

Ceramics

1	Body	Earthenware, Coarse Redware
1	Body	Earthenware, Coarse Redware

Glass

1	flat, undetermined	body	colorless	undetermined
2	window		aqua	undetermined
1	flat, undetermined	body	aqua	undetermined

Nails

1	Nails	wrought

Pipes

1	stem

Other Materials

17	Architectural brick	Bones
2	Fuel and furnace charcoal	Shell
1	Organic wood	

Context 498 **Unit Number** N2560 E3920 **Level** 0-42 North Field

Ceramics

5	Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Refined Creamware	
1	Body	Earthenware, Refined Pearlware	Underglaze painted Polychrome
1	Base	Earthenware, Refined Pearlware	
2	Rim	Earthenware, Refined Pearlware	
1	Body	Earthenware, Refined Pearlware	

Glass

1	curved, indet.	body	undiagnostic	burned

Nails

Pipes

Other Materials

1	Architectural brick	Bones
		Shell

Context 499 **Unit Number** N2560 E3940 **Level** 0-44 North Field

Ceramics

2	Body	Earthenware, Coarse Redware

Glass

1	curved, undetermined	body	olive green	undetermined
1	flat, undetermined	body	olive green	undetermined
1	curved, indet.	body	undiagnostic	burned
1	curved, undetermined	body	colorless	undetermined

Nails

Pipes

Other Materials

2	Architectural brick	Bones
		Shell

Context 500 **Unit Number** N2560 E3960 **Level** 0-40 North Field

Ceramics

1	Hollow ware Body	Earthenware, Coarse Redware	
1	Rim	Earthenware, Refined Creamware	

Glass

1	curved, undetermined	body	colorless	undetermined
1	bottle	body	olive green	undetermined

Nails

Pipes

Other Materials

9	Architectural brick	Bones
		Shell

Context 501 **Unit Number** N2560 E3980 **Level** 45-60 North Field

Ceramics

1	Body	Porcelain, Late	Undecorated

Glass

Nails

Pipes

Other Materials

	Bones
	Shell

Context 502 **Unit Number** N2560 E3980 **Level** 0-45 North Field

Ceramics

2	Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Refined Whiteware	Transfer printed Brown

Glass

1	window		aqua	undetermined
1	bottle	body	olive green	undetermined
1	curved, undetermined	rim	aqua	undetermined

Nails

Pipes

Other Materials

4	Architectural brick	Bones
		Shell

Context 503 **Unit Number** N2560 E4000 **Level** 0-38 North Field

Ceramics

1		Stoneware, Coarse	water/sewer pipe frag
1	Body	Earthenware, Refined Creamware	
1	Body	Earthenware, Refined Indeterminate	

Glass

1	flat, undetermined	body	colorless	undetermined	crizzled
1	bottle, beverage	finish	amber	machine made	threaded mold seams

Nails

Pipes

1	Nails	cut

Other Materials

5	Architectural brick	Bones
		Shell

Context 504 **Unit Number** N2580 E3900 **Level** 0-56 North Field

Ceramics

2	Body	Earthenware, Coarse Redware
1	Rim	Earthenware, Coarse Redware
2	Body	Earthenware, Coarse Redware
2	Body	Earthenware, Refined Creamware
1	Body	Earthenware, Refined Pearlware

Glass

3	window		aqua	undetermined
1	curved, undetermined	body	aqua	undetermined
2	window		colorless	undetermined
1	tumbler	base	colorless	undetermined
1	bottle	base	colorless	undetermined
1	bottle, wine	body	olive green	undetermined

Nails

Pipes

Other Materials

21	Architectural brick	Bones
2	Fuel and furnace coal	Shell
1	Fuel and furnace charcoal	

Context 505 **Unit Number** N2580 E3910 **Level** 0-49 North Field

Ceramics

1	Body	Earthenware, Coarse Redware	
1	Body	Porcelain, Late	
1	Body	Earthenware, Refined Creamware	
1	Rim	Earthenware, Refined Pearlware	
1		Earthenware, Refined Pearlware	Transfer printed Blue

Glass

1	bottle	body	olive green	undetermined	
3	window		aqua	undetermined	1 edge of pane
1	curved, undetermined	body	aqua	undetermined	

Nails

Pipes

Other Materials

8	Architectural brick	Bones 1
		Shell

Context 506 **Unit Number** N2580 E3930 **Level** 0-42 North Field

Ceramics

2	Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Refined Creamware	
1	Hollow ware Body	Stoneware, Coarse Indeterminate	burned?
1	Hollow ware Rim	Stoneware, Refined White Salt Glazed	burned, rolled rim

Glass

1	curved, undetermined	body	colorless	undetermined
2	window		aqua	undetermined

Nails

Pipes

1	Nails	wrought
1	Nails	too corroded to ID

Other Materials

9	Architectural brick	Bones 2

1	Metal ferrous other	Shell
4	Fuel and furnace coal	

Context 507 **Unit Number** N2580 E3950 **Level** 0-41 North Field

Ceramics

3	Hollow ware Body	Earthenware, Coarse Redware	2 mend
1	Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Refined Creamware	
1	Rim	Earthenware, Refined Creamware	

Glass

1	window		aqua	undetermined
1	curved, undetermined	body	cobalt blue	undetermined

Nails Pipes

Other Materials

5	Architectural brick	Bones
6	Fuel and furnace slag	Shell
1	Metal nonferrous other aluminum foil packaging	

Context 508 **Unit Number** N2580 E3970 **Level** 0-38 North Field

Ceramics

1	Body	Earthenware, Refined Creamware

Glass

Nails Pipes

Other Materials

1	Architectural stone slate	Bones
7	Fuel and furnace coal and furnace products, unseparated	Shell
1	Synthetic plastic hard plastic container	

Context 509 **Unit Number** N2580 E3990 **Level** 0-47 North Field

Ceramics

2	Body	Earthenware, Coarse Redware	
1	Flat ware Body	Earthenware, Refined Pearlware	Transfer printed Blue

Glass

Nails Pipes

1	Nails	cut
1	Nails	wire

Other Materials

2	Architectural brick	Bones
		Shell

Context 510 **Unit Number** N2600 E3880 **Level** 0-68 North Field

Ceramics

15	Flower pot Body	Earthenware, Coarse Redware
2	Flower pot Rim	Earthenware, Coarse Redware
4	Flower pot Base	Earthenware, Coarse Redware

6	Body	Earthenware, Coarse Redware	
1	Hollow ware Handle	Earthenware, Coarse Redware	
2	Body	Earthenware, Refined Indeterminate	
1	Body	Earthenware, Refined Pearlware	
1	Body	Earthenware, Refined Creamware	
1	Hollow ware Body	Earthenware, Refined Pearlware factory-made slipware	Blue (dipt ware)
1	Hollow ware Rim	Earthenware, Refined Pearlware	Transfer printed Blue burned
1	Hollow ware Body	Earthenware, Refined Yellow Ware	Banded White/yellow
1	Hollow ware Rim	Porcelain,	Undecorated
1	Hollow ware Body	Porcelain, Late	Undecorated large+thick
1	Body	Earthenware, Tin Glazed	

Glass

21	window		aqua	undetermined	
11	window		colorless	undetermined	
1	bottle	body	amber	undetermined	
1	flat, undetermined	body	cobalt blue	undetermined	
1	flat, undetermined	body	aqua	undetermined	
1	curved, undetermined	body	green (7-	undetermined	
1	window		solarized	undetermined	
1	curved, undetermined	rim	colorless	undetermined	crizzled

Nails

Pipes

1	stem

Other Materials

10	Architectural brick	Bones	7
10	Architectural mortar	Shell	2
2	Metal ferrous other strap		
2	Metal ferrous other		
16	Fuel and furnace coal and furnace products, unseparated		
1	Fuel and furnace charcoal		

Context 511 **Unit Number** N2600 E3900 **Level** 0-45 North Field

Ceramics

29	Flower pot Body	Earthenware, Coarse Redware	
1	Flower pot Base	Earthenware, Coarse Redware	
3	Flower pot Rim	Earthenware, Coarse Redware	3 different vessels, 1 ext. thick
3	Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Refined Pearlware	
1	Flat ware Body	Earthenware, Refined Whiteware	
1	Body	Earthenware, Coarse Pearlware	Flow blue or black Blue
1	Rim	Earthenware, Refined Pearlware	Shell-edge Blue

Glass

1	window		colorless	undetermined	
1	curved, undetermined	body	colorless	undetermined	
1	curved, undetermined	body	colorless	undetermined	crizzled
4	window		aqua	undetermined	
1	curved, indet.	body	colorless	undetermined	

Nails

1	Nails	wrought
2	Nails	too corroded to ID

Pipes

Other Materials

17	Architectural brick	Bones	3
8	Fuel and furnace coal and furnace products, unseparated	Shell	
1	Fuel and furnace charcoal		

Context 512 **Unit Number** N2600 E3920 **Level** 0-34 North Field

Ceramics

2	Body	Earthenware, Coarse Redware	
2	Flower pot Body	Earthenware, Coarse Redware	
1	Flower pot Rim	Earthenware, Coarse Redware	
1	Body	Earthenware, Coarse Rockingham	
1	Body	Earthenware, Refined Pearlware	Underglaze painted Brown
1	Flat ware Rim	Earthenware, Refined Whiteware	Underglaze painted Chrome colors saucer or shallow bowl

Glass

1	window		aqua	undetermined
1	curved, undetermined	body	olive green	undetermined

Nails

Pipes

Other Materials

2	Architectural brick	Bones
4	Fuel and furnace coal and furnace products, unseparated	Shell

Context 513 **Unit Number** N2600 E3940 **Level** 0-45 North Field

Ceramics

4	Body	Earthenware, Refined Creamware	
1	Flower pot Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Coarse Redware	
1	Body	Porcelain, Chinese	Underglaze painted Blue dec on both sides
1	Flat ware Body	Earthenware, Refined Whiteware	Underglaze painted Chrome colors

Glass

1	bottle	body	amber	undetermined
1	window		aqua	undetermined
1	window		colorless	undetermined

Nails

Pipes

Other Materials

6	Architectural brick	Bones 1
27	Fuel and furnace slag	Shell

Context 514 **Unit Number** N2600 E3960 **Level** 0-37 North Field

Ceramics

2	Flower pot Body	Earthenware, Coarse Redware	mend
1	Body	Earthenware, Refined Creamware	
1	Body	Earthenware, Refined Pearlware	Underglaze painted Blue
1	Body	Earthenware, Refined Whiteware	Transfer printed Purple

Glass

2	window		aqua	undetermined

Nails

Pipes

Other Materials

6	Architectural brick	Bones 2
11	Fuel and furnace coal and furnace products, unseparated	Shell

Context 515 **Unit Number** N2600 E3980 **Level** 0-36 North Field

Ceramics

Glass

Nails

Pipes

Other Materials

9	Architectural brick	Bones
10	Fuel and furnace coal and furnace products, unseparated	Shell 2

Context 516 **Unit Number** N2600 E4000 **Level** 0-44 North Field

Ceramics

2	Body	Earthenware, Coarse Redware

Glass

1	bottle	body	amber	undetermined
2	flat, undetermined	body	light blue	undetermined

Nails

2	Nails	too corroded to ID

Pipes

Other Materials

4	Metal ferrous other	Bones
1	Architectural brick	Shell

Context 517 **Unit Number** N2620 E3890 **Level** 0-36 North Field

Ceramics

10	Body	Earthenware, Coarse Redware	
4	Body	Earthenware, Refined Creamware	1 burned
1	Flat ware Rim	Earthenware, Refined Whiteware	
1	Body	Earthenware, Refined Pearlware	Underglaze painted Polychrome

Glass

1	flask	body	amber	undetermined	
1	bottle	body	aqua	undetermined	
4	window		aqua	undetermined	
5	window		colorless	undetermined	
1	curved, undetermined	body	colorless	undetermined	thin
1	curved, undetermined	body	colorless	undetermined	
1	curved, indet.	body	aqua	undiagnostic	melted

Nails

1	Nails	cut

Pipes

1	stem	

Other Materials

18	Architectural brick	Bones
1	Architectural brick fire brick?	Shell
19	Fuel and furnace coal and furnace products, unseparated	

Context 518 **Unit Number** N2620 E3910 **Level** 0-45 North Lawn

Ceramics

19	Flower pot Body	Earthenware, Coarse Redware	
1	Flower pot Rim	Earthenware, Coarse Redware	
1	Flower pot Rim	Earthenware, Coarse Redware	
2	Body	Earthenware, Refined Creamware	
1	Body	Earthenware, Refined Pearlware	
1	Rim	Earthenware, Refined Pearlware	
1	Body	Earthenware, Refined Pearlware	Transfer printed Blue

Glass

2	window	body	aqua	undetermined	
1	window		colorless	undetermined	
1	curved, undetermined	body	colorless	undetermined	
2	curved, undetermined	body	aqua	undetermined	
1	curved, indet.		colorless	undiagnostic	melted droplet

Nails

2	Nails	wrought
1	Nails	cut

Pipes

1	bowl

Other Materials

13	Architectural brick	Bones
3	Fuel and furnace coal and furnace products, unseparated	Shell 3

Context 519 **Unit Number** N2526.22 E3800.34 **Level** 0-23 Drive Circle

Ceramics

Glass

1	window		aqua	undetermined
1	curved, indet.	body	colorless	undetermined

Nails

Pipes

Other Materials

1	Architectural mortar	Bones
22	Fuel and furnace coal and furnace products, unseparated	Shell

Context 520 **Unit Number** N2527.31 E3810.32 **Level** 0-50 Drive Circle

Ceramics

8	Flower pot Body	Earthenware, Coarse Redware	burned
2	Flower pot Body	Earthenware, Coarse Redware	
1	Hollow ware Body	Earthenware, Coarse Redware	
3	Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Coarse Redware	
4	Body	Earthenware, Tin Glazed	burned, colors are dk brn + gray, but possibly result of burning
1		Earthenware, Tin Glazed	glaze frag, dk brn
1	Body	Earthenware, Refined Indeterminate	burned
1	Hollow ware Body	Stoneware, Coarse Rhenish	incised/sprigged Banded Blue
2	Flower pot Rim	Earthenware, Coarse Redware	mend

Glass

1	curved, indet.	body	olive green	undiagnostic
1	window		aqua	undiagnostic
2	window		colorless	undiagnostic
1	curved, indet.	body	colorless	undiagnostic

Nails

1	Bolt	cut
5	Nails	too corroded to ID

Pipes

Other Materials

40	Architectural brick	Bones 1
1	Metal ferrous other	Shell
1	Fuel and furnace coal	
1	Fuel and furnace slag	
5	Organic wood	
10	Fuel and furnace charcoal	
1	Synthetic plastic sheet plastic, clear	

Context 521 **Unit Number** N2518.25 E3806.06 **Level** 69-83 Drive Circle

Ceramics

Glass

Nails

Pipes

Other Materials

3	Architectural brick	Bones
2	Fuel and furnace charcoal	Shell

Context 522 **Unit Number** N2518.25 E3806.06 **Level** 0-69 Drive Circle

Ceramics

6	Body	Earthenware, Coarse Redware	
1	Hollow ware Rim	Earthenware, Coarse Redware	burned
1	Base	Earthenware, Coarse Redware	
2	Flower pot Body	Earthenware, Coarse Redware	1 burned
2	Hollow ware Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Refined Indeterminate	
1	Body	Earthenware, Tin Glazed	Overglaze painted Blue
1	Body	Earthenware, Refined Creamware	

Glass

3	window		colorless	undetermined	
2	window		aqua	undetermined	
1	bottle, wine	body	olive green	undetermined	
2	curved, indet.	body	aqua	undiagnostic	burned, melted

Nails

8	Nails	too corroded to ID

Pipes

Other Materials

24	Architectural brick	Bones 2
1	Fuel and furnace coal	Shell
2	Organic wood	
1	Fuel and furnace charcoal	

Context 523 **Unit Number** N2509.55 E3807.49 **Level** 0-18 Drive Circle

Ceramics

Glass

1	window		aqua	undetermined

Nails

2	Nails	wrought
1	Nails	cut
2	Nails	too corroded to ID

Pipes

Other Materials

1	Architectural brick	Bones
1	Fuel and furnace coal and furnace products, unseparated	Shell

Context 524 **Unit Number** N2509.55 E3807.49 **Level** 18-73 Drive Circle

Ceramics

1	Flat ware Rim	Porcelain, Chinese	brown edge on rim

Glass

1	window		aqua	undetermined

Nails

1	Nails	wrought

Pipes

Other Materials

106	Architectural brick	Bones
2	Metal ferrous other	Shell

Context 525 **Unit Number** N2520.77 E3812.75 **Level** 0-68 Drive Circle

Ceramics

4	Body	Earthenware, Coarse Redware	
3	Body	Earthenware, Refined Creamware	
1	Body	Earthenware, Refined Pearlware	
1	Body	Earthenware, Refined Indeterminate	
1	Body	Earthenware, Coarse Redware	highly burned

Glass

1	bottle, wine	body	olive green	undetermined	
1	window	edge	colorless	undetermined	

Nails

2	Nails	too corroded to ID

Pipes

Other Materials

8	Architectural brick	Bones 3
1	Metal ferrous other wire	Shell
5	Fuel and furnace charcoal	

Context 526 **Unit Number** N2520.77 E3812.75 **Level** 68-78 Drive Circle

Ceramics

1	Body	Earthenware, Coarse Redware	
1	Body	Stoneware, Refined White Salt Glazed	

Glass

Nails

Pipes

Other Materials

Bones
Shell

Context 527 **Unit Number** N2528.79 E3816.61 **Level** 0-56 Drive Circle

Ceramics

2	Jar Rim	Earthenware, Coarse Redware	heavily burned
4	Body	Earthenware, Coarse Redware	
1	Hollow ware Body	Earthenware, Coarse Redware	

Glass

1	curved, undetermined	body	colorless	mold blown	mold seam

Nails

1	Nails	too corroded to ID

Pipes

Other Materials

1	Architectural brick	Bones
4	Metal ferrous object unknown container neck and body pieces, with band-aid or other plastic tape attac	Shell
4	Fuel and furnace charcoal	
1	Synthetic plastic	
1	Metal nonferrous object pencil metal band and lead, modern	

Context 528 **Unit Number** N2528.79 E3816.61 **Level** 60-67 Drive Circle

Ceramics

3	Body	Earthenware, Coarse Redware

1

3	Body	Earthenware, Tin Glazed	1 burned
1	Flat ware Body	Earthenware, Refined Indeterminate	burned

Glass

1	window		aqua	undetermined	
1	curved, indet.	body	aqua	undetermined	
1	window		colorless	undetermined	
1	bottle	body	amber	undetermined	
5	lamp chimney	body	colorless	undetermined	very thin

Nails

Pipes

1	Nails	wrought

Other Materials

	Bones 3
	Shell

Context 529 **Unit Number** N2523.25 E3819.46 **Level** 0-83 Drive Circle

Ceramics

20	Body	Earthenware, Coarse Redware		
2	Hollow ware Body	Earthenware, Coarse Redware		
1	Hollow ware Body	Earthenware, Coarse Redware	Molded	molded cordons ext
1	Body	Earthenware, Coarse Redware	burned	
1	Body	Earthenware, Coarse Redware	burned	
2	Rim	Earthenware, Refined Creamware		
1	Rim	Earthenware, Refined Pearlware		
2	Body	Earthenware, Refined Whiteware		
1	Hollow ware Body	Earthenware, Refined Whiteware	Blue	
1	Hollow ware Body	Earthenware, Coarse Redware		

Glass

2	curved, indet.	body	colorless	undiagnostic
2	window		aqua	undetermined
1	bottle, wine	body	olive green	undetermined

Nails

Pipes

3	Nails	wrought

Other Materials

9	Architectural brick	Bones
1	Architectural mortar	Shell
2	Metal ferrous other	
6	Fuel and furnace coal and furnace products, unseparated	
1	Fuel and furnace coal bonded to or naturally occurring w quartz	
1	Lithic non-architectural stone possible point sceptical, needs a check	

Context 530 **Unit Number** N2514.18 E3815.19 **Level** 0-50 Drive Circle

Ceramics

4	Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Refined Creamware	

Glass

1	window		aqua	undetermined
1	curved, undetermined	base	colorless	undetermined

Nails

Pipes

Other Materials

20	Architectural brick	Bones

2	Fuel and furnace coal	Shell
1	Fuel and furnace charcoal	

Context 531 **Unit Number** N2524.64 E3825.34 **Level** 0-48 Drive Circle

Ceramics

4	Body	Earthenware, Coarse Redware	
2	Body	Earthenware, Refined Pearlware	Blue
3	Bowl Body	Earthenware, Refined Creamware	mend
22	Body	Earthenware, Refined Creamware	

Glass

4	window		aqua	undetermined	
2	bottle	body	amber	mold blown	mold seam on 1
1	curved, undetermined	body	colorless	mold blown	mold seam
1	curved, indet.	body	colorless	undetermined	

Nails

2	Nails	too corroded to ID

Pipes

Other Materials

9	Architectural brick	Bones 1
1	Fuel and furnace coal	Shell
2	Architectural stone slate	

Context 532 **Unit Number** N2516.68 E3821.91 **Level** 0-48 Drive Circle

Ceramics

4	Body	Earthenware, Coarse Redware
1	Body	Earthenware, Tin Glazed
1	Hollow ware Body	Earthenware, Refined Yellow Ware

Glass

1	bottle, wine	body	olive green	undetermined
1	curved, indet.	rim	colorless	undetermined

Nails

1	Nails	wrought

Pipes

1	stem

Other Materials

6	Architectural brick	Bones
2	Fuel and furnace coal	Shell

Context 533 **Unit Number** N2505.84 E3816.25 **Level** 0-40 Drive Circle

Ceramics

2	Body	Earthenware, Coarse Redware

Glass

6	window	aqua	undetermined	2 mend

Nails

1	Screw	
1	Nails	too corroded to ID

Pipes

Other Materials

4	Architectural brick	Bones
2	Fuel and furnace coal and furnace products, unseparated	Shell
2	Fuel and furnace charcoal	

Context 534 **Unit Number** N2505.84 E3816.25 **Level** 40-60 Drive Circle

Ceramics

2	Body	Earthenware, Coarse Redware	

Glass

1	curved, undetermined	body	colorless	undetermined

Nails

Pipes

Other Materials

5	Architectural brick	Bones
		Shell

Context 535 **Unit Number** N2505.84 E3816.25 **Level** 60-66 Drive Circle

Ceramics

3	Body	Earthenware, Coarse Redware

Glass

Nails

Pipes

1	Nails	too corroded to ID

Other Materials

	Bones
	Shell

Context 536 **Unit Number** N2519.17 E3828.59 **Level** 0-45 Drive Circle

Ceramics

3	Body	Earthenware, Coarse Redware	
2	Body	Earthenware, Coarse Redware	
2	Body	Earthenware, Coarse Redware	
1	Bottle Base	Stoneware, Coarse English	brown salt glazed surface, unglazed gray int. Similar to examp
1	Body	Earthenware, Refined Pearlware	
1	Body	Earthenware, Refined Creamware	
1	Body	Earthenware, Refined Indeterminate	burned

Glass

4	window		aqua	undetermined
1	flat, undetermined	body	light blue	undetermined

Nails

Pipes

1	Nails	cut

Other Materials

18	Architectural brick	Bones
1	Organic wood burned	Shell
1	Synthetic plastic	

Context 537 **Unit Number** N2519.17 E3828.59 **Level** 26-60 Drive Circle

Ceramics

1	Hollow ware Rim	Earthenware, Coarse Redware	
1	Body	Earthenware, Tin Glazed	slightly burned? some dark traces in the glaze

Glass

Nails

Pipes

2	Nails	too corroded to ID

Other Materials

Bones
Shell

Context 538 **Unit Number** N2510.18 E3824.30 **Level** 0-60 Drive Circle

Ceramics

15	Body	Earthenware, Coarse Redware	
4	Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Coarse Redware	burned
1	Hollow ware Body	Earthenware, Refined Whiteware	Transfer printed Blue
2	Body	Earthenware, Refined Pearlware	1 burned
1	Body	Stoneware, Coarse Rhenish	
1	Hollow ware Base	Earthenware, Tin Glazed	
1	Body	Earthenware, Refined Rockingham	Molded
1	Body	Earthenware, Refined Yellow Ware	burned? 1 surface matte
1	Body	Earthenware, Refined Indeterminate	burned, glaze appears greenish-yellow, gray body

Glass

4	window		aqua	undetermined
2	bottle	body	olive green	undiagnostic
1	window		colorless	undetermined

Nails

7	Nails	too corroded to ID

Pipes

Other Materials

11	Architectural brick	Bones 1
6	Metal ferrous other	Shell
2	Fuel and furnace charcoal	

Context 539 **Unit Number** N2512.70 E3831.11 **Level** 0-19 Drive Circle

Ceramics

2	Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Coarse Redware	

Glass

1	flat, undetermined	body	aqua	undetermined	thick
2	bottle	body	colorless	undetermined	
1	bottle	lip	colorless	machine made	

Nails

2	Nails	too corroded to ID

Pipes

Other Materials

2	Architectural brick	Bones
		Shell

Context 540 **Unit Number** N2512.70 E3831.11 **Level** 19-55 Drive Circle

Ceramics

4	Body	Earthenware, Coarse Redware

Glass

Nails

Pipes

Other Materials

3	Architectural brick	Bones
1	Fuel and furnace coal and furnace products, unseparated	Shell

Context 541 **Unit Number** N2515.09 E3820.09 **Level** 0-43 Drive Circle

Ceramics

5	Body	Earthenware, Coarse Redware
14	Body	Earthenware, Refined Creamware

multiple crossmends

Glass

1	curved, indet.	body	colorless	undetermined
1	window		aqua	undetermined

Nails

5	Nails	too corroded to ID

Pipes

Other Materials

8	Architectural brick	Bones
3	Metal ferrous other	Shell
1	Fuel and furnace coal and furnace products, unseparated	
1	Small finds coin dime, 199-	

Context 542 **Unit Number** N2517.11 E3815.99 **Level** 1 Drive Circle EU1

Ceramics

14	Body	Earthenware, Coarse Redware
3	Flower pot Body	Earthenware, Coarse Redware
1	Flower pot Rim	Earthenware, Coarse Redware
1	Flower pot? Rim	Earthenware, Coarse Redware
1	Body	Earthenware, Coarse Redware
2	Body	Earthenware, Refined Pearlware
2	Body	Earthenware, Refined Pearlware
1	Body	Stoneware, Coarse Rhenish

2 mend

burned

Transfer printed Blue

Glass

1	bottle	body	olive green	undetermined
8	window		aqua	undetermined
6	curved, indet.	body	colorless	undetermined
8	window		colorless	undetermined
1	flat, undetermined	body	olive green	undetermined
1	curved, undetermined	body	colorless	undetermined
1	flat, undetermined	body	colorless	undetermined

crizzled

Nails

2	Nails	wrought
2	Nails	too corroded to ID
1	Screw	

Pipes

2	bowl

Other Materials

27	Architectural brick	Bones 10
4	Metal ferrous other	Shell
1	Metal ferrous other bar	
3	Fuel and furnace charcoal	

Context 543 **Unit Number** Drive Circle EU2 **Level** 0-22 Drive Circle

Ceramics

4	Flower pot Rim	Earthenware, Coarse Redware
37	Flower pot Body	Earthenware, Coarse Redware
1	Body	Earthenware, Coarse Redware
1	Body	Earthenware, Tin Glazed
1	Body	Earthenware, Refined Creamware
1	Body	Earthenware, Refined Pearlware
1	Flat ware Rim	Earthenware, Refined Pearlware

3 mend

burned, glaze black

Shell-edge burned

Glass

3	window		aqua	undetermined
12	curved, undetermined	body	colorless	undetermined
3	curved, undetermined	base	colorless	undetermined

Nails

1	Nails	wrought
1	Nails	cut
1	Nails	wire
5	Nails	too corroded to ID

Pipes

Other Materials

37	Architectural brick	Bones	1
1	Metal ferrous other	Shell	
4	Fuel and furnace coal and furnace products, unseparated		
4	Fuel and furnace charcoal		
1	Organic wood		
5	Small finds toys and games clay pigeon earthenware, black unglazed frags		

Context 544 **Unit Number** Drive Circle EU3 **Level** 0-25 Drive Circle

Ceramics

2	Body	Earthenware, Coarse Redware
1	Flower pot Rim	Earthenware, Coarse Redware
1	Flower pot Body	Earthenware, Coarse Redware
1	Body	Earthenware, Refined Creamware

Glass

1	window	aqua	undetermined
1	window	colorless	undetermined

Nails

Pipes

Other Materials

18	Architectural brick	Bones	1
1	Metal ferrous other	Shell	2
1	Utensils/tools/hardware other unknown ferrous, car part? fuse? lighting?		

Context 545 **Unit Number** N2517.11 E3815.99 **Level** 0-25 Drive Circle

Ceramics

1	Body	Earthenware, Refined Indeterminate
2	Body	Earthenware, Coarse Redware
1	Body	Earthenware, Coarse Redware
1	Hollow ware Rim	Stoneware, Refined Nottingham

Glass

1	window	aqua	undetermined

Nails

Pipes

2	Nails	too corroded to ID

Other Materials

6	Architectural brick	Bones
2	Fuel and furnace coal	Shell
1	Lithic non-architectural stone quartz	

Context 546 **Unit Number** Drive Circle EU4 **Level** 0-24 Drive Circle

Ceramics

4	Flower pot Body	Earthenware, Coarse Redware
1	Flower pot Base	Earthenware, Coarse Redware

1	Flower pot Rim	Earthenware, Coarse Redware	
1	Flower pot Rim	Earthenware, Coarse Redware	
1	Flat ware Rim	Earthenware, Refined Whiteware	
1	Body	Earthenware, Refined Whiteware	
1	Flat ware Rim	Earthenware, Refined Pearlware	Molded elaborate combo of shell edge and molded petals, burn
1	Body	Earthenware, Refined Pearlware	Underglaze painted Blue
1	Hollow ware Body	Stoneware, Coarse Rhenish	Banded Blue

Glass

4	window		aqua	undetermined
9	window		colorless	undetermined
1	curved, indet.	body	colorless	undetermined
1	curved, undetermined	body	cobalt blue	undetermined
1	bottle	body	olive green	undetermined

Nails

2	Nails	wire
2	Nails	too corroded to ID

Pipes

1	stem

Other Materials

17	Architectural brick	Bones 1
13	Fuel and furnace charcoal	Shell
1	Small finds toys and games golf tee plastic, shaped like naked woman	

Context 548 **Unit Number** N2517.11 E3815.99 **Level** clean up Drive Circle

Ceramics

1	Body	Earthenware, Refined Creamware

Glass

1	window		colorless	undetermined	
1	curved, undetermined	body	colorless	undetermined	
1	tableware	body	colorless	undiagnostic	engraved

Nails

Pipes

Other Materials

2	Architectural brick	Bones
		Shell

Context 549 **Unit Number** N2466.6 E4022.8 **Level** Library Walk

Ceramics

1	Body	Earthenware, Refined Whiteware

Glass

3	curved, undetermined	body	colorless	undetermined

Nails

1	Nails	wire

Pipes

Other Materials

Bones
Shell

Context 554 **Unit Number** **Level** 95 cm South Lawn

Ceramics

Glass

2	curved, undetermined	body	colorless	undetermined

Nails

Pipes

Other Materials

3	Fuel and furnace charcoal	Bones
14	Metal ferrous other	Shell
7	Architectural brick	
8	Architectural mortar	

Context 559 **Unit Number** N2420 E3640 **Level** 0-30 South Lawn

Ceramics

Glass

1	curved, undetermined	body	colorless	undetermined	

Nails

Pipes

Other Materials

1	Architectural brick	Bones
		Shell

Context 560 **Unit Number** unknown **Level** South Lawn

Ceramics

4	Body	Earthenware, Coarse Redware	
2	Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Tin Glazed	
1	Body	Earthenware, Tin Glazed	
2	Body	Earthenware, Refined Creamware	
1	Flat ware Rim	Earthenware, Refined Pearlware	Shell-edge (scalloped rim) Green
1		Stoneware, Coarse	Drainage pipe

Glass

16	bottle	body	green (7-	undetermined	
1	bottle	lip	green (7-	undetermined	
1	bottle	body	green (7-	undetermined	embossed
34	curved, undetermined	body	colorless	undetermined	
4	bottle	base	colorless	undetermined	
1	vial	finish	colorless	undetermined	rim d = 1 cm
2	bottle	body	colorless	mold blown	embossed 6 1/2 FL // 8
2	curved, undetermined	body	aqua	undetermined	
2	window		aqua	undetermined	
24	bottle	body	amber	undetermined	
1	bottle	lip	amber	undetermined	threaded
4	bottle, wine	body	olive green	undetermined	
1	bottle, wine	base	olive green	undetermined	

Nails

1	Nails	wrought
1	Nails	wire
4	Nails	too corroded to ID

Pipes

1	bowl

Other Materials

1	Fuel and furnace coal and furnace products, unseparated	Bones 4
1	Metal ferrous other	Shell
18	Architectural brick	
6	Architectural mortar	

Context 561 **Unit Number** N2414 E3689 **Level** 0-43 South Lawn

Ceramics

1	Body	Earthenware, Coarse Redware

1	Cup Base	Porcelain,	Underglaze painted

Glass

1	curved, undetermined	body	colorless	undetermined	
1	bottle	base	light green	mold blown	

Nails

4	Nails	too corroded to ID

Pipes

Other Materials

3	Fuel and furnace coal and furnace products, unseparated	Bones
3	Synthetic plastic	Shell
9	Fuel and furnace charcoal	
4	Architectural brick	

Context 562 **Unit Number** N2414 E3689 **Level** 43-61 South Lawn

Ceramics

Glass

Nails

Pipes

Other Materials

4	Architectural stone slate	Bones
		Shell

Context 563 **Unit Number** N2413 E3689 **Level** 0-33 South Lawn

Ceramics

7	Base	Earthenware, Refined Creamware
1	Body	Earthenware, Coarse Redware
1	Hollow ware Rim	Earthenware, Refined Whiteware
1	Hollow ware Body	Stoneware, Coarse American gray
2	Bowl Rim	Stoneware, Refined White Salt Glazed
1	Tea Pot Body	Earthenware, Refined Ironstone (White Granite) Green

Glass

3	curved, undetermined	body	colorless	machine made	embossed -UR AC-
7	curved, undetermined	body	colorless	mold blown	
9	flat, undetermined	body	colorless	undetermined	
2	curved, indet.	body	colorless	undetermined	burned
15	curved, undetermined	body	aqua	undetermined	
6	bottle	body	light green	undetermined	
1	bottle	base	light green	mold blown	
1	bottle	finish	light green	mold blown	
2	bottle	body	light green	machine made	embossed BO U
2	curved, undetermined	body	light green	undetermined	
1	curved, undetermined	body	green (7-	undetermined	
1	bottle	base	colorless	machine made	embossed “B” in circle

Nails

3	Nails	wrought
1	Nails	cut
14	Nails	wire
13	Nails	too corroded to ID

Pipes

Other Materials

3	Fuel and furnace coal and furnace products, unseparated	Bones 7
1	Synthetic plastic	Shell 4
25	Fuel and furnace charcoal	
19	Metal ferrous other	

7	Architectural brick
1	Small finds adornment clasp? Cu alloy
7	Architectural shingle tar paper

Context 564 **Unit Number** N2413 E3688 **Level** 0-38 South Lawn

Ceramics

1	Hollow ware Body	Earthenware, Coarse Redware	
4	Tea Pot Base	Earthenware, Refined Ironstone (White Granite)	Green
2	Tea Pot Handle	Earthenware, Refined Ironstone (White Granite)	Transfer printed Green
3	Body	Earthenware, Refined Indeterminate	burned?
1	Flat ware Rim	Earthenware, Refined Indeterminate	burned
1	Body	Earthenware, Refined Whiteware	Transfer printed Blue
1	Body	Earthenware, Refined Whiteware	Transfer printed Light blue
2	Handle	Earthenware, Refined Whiteware	Flow blue or black Blue mend
1	Base	Stoneware, Coarse Indeterminate	
3	Hollow ware Body	Stoneware, Coarse Rhenish	incised/stamped manganese/cobalt infill Blue

Glass

4	curved, undetermined	body	colorless	mold blown	paneled
5	curved, undetermined	body	colorless	mold blown	embossed “FULL” “AS”
14	bottle	base	aqua	mold blown	
2	window		aqua	undetermined	
1	flat, undetermined	body	aqua	undetermined	
2	flat, undetermined	body	olive green	undetermined	
28	curved, undetermined	body	colorless	undetermined	
7	curved, undetermined	body	colorless	mold blown	
4	curved, indet.		colorless		burned/melted
2	curved, undetermined	base	colorless	mold blown	
3	tumbler	rim	colorless	undetermined	rims of 3 dif diameters

Nails

1	Nails	wrought
22	Nails	wire
1	Screw	
21	Nails	too corroded to ID

Pipes

1	stem

Other Materials

1	Fuel and furnace coal and furnace products, unseparated
7	Synthetic plastic
2	Fuel and furnace charcoal
19	Metal ferrous other
12	Architectural brick
1	Architectural mortar
1	Small finds coin buffalo nickel

Bones	2
Shell	6

Context 565 **Unit Number** N2413 E3688 **Level** 38-73 South Lawn

Ceramics

4	Hollow ware Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Refined Indeterminate	
1	Body	Earthenware, Refined Creamware	
1	Body	Earthenware, Refined Pearlware	
1	Body	Earthenware, Refined Whiteware	
1	Body	Earthenware, Refined Whiteware	Transfer printed Blue

Glass

1	bottle, wine	body	olive green	undetermined
1	bottle	body	amber	machine made
2	window		aqua	undetermined
1	flat, undetermined	body	aqua	undetermined
2	curved, undetermined	body	colorless	undetermined

1	flat, undetermined	body	light green	undetermined	
1	window	edge	aqua	undetermined	
1	curved, indet.	rim	colorless	undetermined	burned

Nails

Pipes

Other Materials

Bones

Shell

Context 566 **Unit Number** N2413 E3688 **Level** 73-90 South Lawn

Ceramics

1	Body	Earthenware, Coarse Redware
1	Hollow ware Body	Earthenware, Coarse Redware

Glass

1	flat, undetermined	body	colorless	undetermined	
1	mug	rim	colorless	undetermined	
1	window		aqua	undetermined	
1	flat, undetermined	body	light green	undetermined	

Nails

Pipes

5	Nails	too corroded to ID

Other Materials

8	Fuel and furnace coal and furnace products, unseparated	Bones 1
153	Metal ferrous other	Shell
6	Architectural brick	
17	Metal ferrous object can	
1	Small finds other clay lump	

Context 567 **Unit Number** N2413 E3688 **Level** 90-163 South Lawn

Ceramics

2		Stoneware, Coarse	drainage pipe, purplish paste
1	Hollow ware Body	Earthenware, Coarse Redware	
1	Hollow ware Body	Earthenware, Coarse Redware	
2	Body	Earthenware, Coarse Redware	
1	Hollow ware Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Coarse Redware	
3	Body	Earthenware, Refined Creamware	
1	Flat ware Body	Earthenware, Refined Whiteware	Transfer printed Blue
1	Bowl Rim	Earthenware, Refined Ironstone (White Granite)	Transfer printed Green

Glass

2	tumbler	base	colorless	mold blown	paneled
1	tumbler	base	colorless	mold blown	embossed "7134"
1	flat, undetermined	body	colorless	undetermined	

Nails

Pipes

1	Nails	wire

Other Materials

11	Fuel and furnace coal and furnace products, unseparated	Bones
60	Metal ferrous other	Shell 2
1	Architectural stone slate	

Context 568 **Unit Number** N2436 E3690 **Level** South Lawn

Ceramics

Glass

Nails

1	Nails	too corroded to ID

Pipes

Other Materials

1	Fuel and furnace charcoal	Bones
		Shell

Context 569 **Unit Number** N2460 E3760 **Level** 0-24 South Lawn

Ceramics

7	Body	Earthenware, Refined Creamware
1	Body	Earthenware, Refined Indeterminate
1	Body	Earthenware, Refined Pearlware
1	Hollow ware Body	Earthenware, Coarse Redware

Glass

1	stemware	foot	colorless	undetermined

Nails

1	Nails	too corroded to ID

Pipes

8	bowl	

Other Materials

2	Fuel and furnace charcoal	Bones
16	Architectural brick	Shell
1	Architectural mortar	

Context 570 **Unit Number** N2475.1 E3899.6 **Level** 0-10 Library Walk

Ceramics

Glass

2	curved, undetermined	body	colorless	undetermined	
1	bottle	finish	colorless	machine made	threaded

Nails

Pipes

Other Materials

1	Fuel and furnace coal	Bones
1	Organic wood	Shell

Context 571 **Unit Number** N2467.9 E3919.6 **Level** 0-49 Library Walk

Ceramics

6	Body	Earthenware, Coarse Redware		
1	Rim	Earthenware, Refined Creamware		
1		Earthenware, Tin Glazed	glaze only	
1	Hollow ware Rim	Stoneware, Refined Nottingham		
1	Flat ware Rim	Earthenware, Refined Pearlware	Underglaze painted Polychrome	saucer or shallow bowl

Glass

2	bottle, wine	body	olive green	undetermined
1	window		aqua	undetermined
1	curved, undetermined	body	colorless	undetermined
1	curved, undetermined	body	cobalt blue	undetermined

Nails

1	Nails	too corroded to ID

Pipes

Other Materials

34	Architectural brick	1 half brick	Bones 3

Shell

Context 572 **Unit Number** N2472.1 E3919.3 **Level** 5-20 Library Walk

Ceramics

Glass

Nails Pipes

1	Nails	too corroded to ID

Other Materials

Bones
Shell

Context 573 **Unit Number** N2479.0 E3919.4 **Level** 0-41 Library Walk

Ceramics

1	Body	Earthenware, Refined Indeterminate	burned	
1	Plate Rim	Stoneware, Refined White Salt Glazed	Molded	molded basket pattern

Glass

1	bottle, wine	body	olive green	undetermined

Nails Pipes

Other Materials

7	Architectural brick	Bones
		Shell

Context 574 **Unit Number** N2470.8 E3944.2 **Level** 0-23 Library Walk

Ceramics

1	Body	Earthenware, Refined Creamware

Glass

Nails Pipes

Other Materials

Bones
Shell

Context 575 **Unit Number** N2470.0 E3944.2 **Level** Library Walk

Ceramics

3	Hollow ware Body	Earthenware, Coarse Redware	mend
2	Body	Earthenware, Refined Creamware	1 burned
1	Body	Earthenware, Refined Indeterminate	Transfer printed Blue

Glass

1	bottle, wine	body	olive green	undetermined

Nails Pipes

1	Nails	too corroded to ID

Other Materials

2	Architectural brick	Bones
4	Fuel and furnace coal and furnace products, unseparated	Shell

Context 576 **Unit Number** N2470.7 E3946.7 **Level** 0-54 Library Walk

Ceramics

Glass

Nails

Pipes

Other Materials

1	Architectural brick	Bones
5	Fuel and furnace slag	Shell
6	Fuel and furnace coal	

Context 577 **Unit Number** N2475.3 E3948.5 **Level** 0-57 Library Walk

Ceramics

Glass

1	flat, undetermined	body	aqua	undetermined
1	window		aqua	undetermined
1	lamp chimney	rim	colorless	undetermined

Nails

Pipes

Other Materials

1	Architectural brick	Bones
		Shell

Context 578 **Unit Number** N2472.8 E3948.3 **Level** 0-50 Library Walk

Ceramics

11	Body	Earthenware, Coarse Redware	
1	Rim	Earthenware, Coarse Redware	
4	Body	Earthenware, Coarse Redware	3 mend w rim
2	Body	Earthenware, Refined Creamware	

Glass

Nails

Pipes

1	Nails	cut

Other Materials

1	Architectural brick	Bones 3
		Shell

Context 579 **Unit Number** N2468.9 E3948.0 **Level** 0-40 Library Walk

Ceramics

9	Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Refined Creamware	
1	Body	Earthenware, Refined Indeterminate	burned

Glass

2	bottle, wine	body	olive green	undetermined
1	tableware	body	colorless	engraved lozenges and floral pattern

Nails

Pipes

1	Nails	wrought

Other Materials

1	Architectural brick w mortar	Bones
9	Architectural brick	Shell

Context 580 **Unit Number** N2470.5 E3949.2 **Level** 0-55 Library Walk

Ceramics

10	Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Refined Pearlware	Shell-edge Green
1	Body	Earthenware, Refined Pearlware	
2	Body	Earthenware, Refined Creamware	

Glass

3	window		aqua	undetermined	
1	curved, undetermined	body	colorless	undetermined	

Nails

Pipes

Other Materials

Bones
Shell

Context 581 **Unit Number** N2469.7 E3959.4 **Level** 0-48 Library Walk

Ceramics

7	Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Coarse Redware	
1	Flat ware Rim	Earthenware, Refined Whiteware	
1	Body	Stoneware, Coarse Indeterminate	burned

Glass

3	curved, indet.	body	colorless	undetermined	thick
1	curved, indet.	body	colorless	undetermined	thin

Nails

Pipes

Other Materials

4	Architectural brick	Bones
1	Fuel and furnace slag	Shell

Context 582 **Unit Number** N2464.1 E3997.9 **Level** 0-19 Library Walk

Ceramics

1	Jar Rim	Earthenware, Coarse Redware	
1	Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Refined Whiteware	burned

Glass

2	curved, undetermined	body	colorless	undetermined	
1	curved, undetermined	body	amber	machine made	embossed raised stippling
1	window		aqua	undetermined	

Nails

Pipes

Other Materials

Bones
Shell 15

Context 583 **Unit Number** N2464.1 E3997.9 **Level** 19-63 Library Walk

Ceramics

1	Body	Earthenware, Coarse Redware	
2	Body	Earthenware, Refined Pearlware	

Glass

2	bottle, wine	body	olive green	undetermined	

1	bottle, beverage	finish	amber	mold blown	threaded
2	window		aqua	undetermined	
1	curved, indet.	body	colorless	undetermined	
1	flat, undetermined	body	colorless	undetermined	
1	bottle	body	green (7-	undetermined	

Nails

Pipes

Other Materials

1	Architectural brick	Bones	
2	Architectural mortar	Shell	1
2	Fuel and furnace coal		

Context 584 **Unit Number** N2468.1 E3997.7 **Level** 0-52 Library Walk

Ceramics

2	Body	Earthenware, Coarse Redware
1	Base	Earthenware, Coarse Redware
2	Body	Earthenware, Refined Creamware

Glass

1	flat, undetermined	body	colorless	undetermined	thick
1	window		colorless	undetermined	
1	curved, undetermined	body	green (7-	undetermined	

Nails

Pipes

Other Materials

4	Architectural brick	Bones	1
1	Fuel and furnace coal	Shell	1
1	Organic wood		
3	Synthetic plastic soy sauce packet frags		
1	Synthetic other styrofoam frag		
1	Synthetic plastic		

Context 585 **Unit Number** N2472.1 E3997.5 **Level** 0-33 Library Walk

Ceramics

2	Body	Earthenware, Coarse Redware
2	Body	Earthenware, Refined Creamware

Glass

1	window		aqua	undetermined
1	curved, undetermined	body	aqua	undetermined
1	curved, undetermined	body	colorless	undetermined

Nails

Pipes

Other Materials

2	Architectural brick	Bones
4	Fuel and furnace coal	Shell

Context 587 **Unit Number** Well trench **Level** 26-83 Drive Circle

Ceramics

2	Flower pot Body	Earthenware, Coarse Redware
1	Flower pot Rim	Earthenware, Coarse Redware

Glass

1	window		aqua	undetermined
1	curved, indet.	body	colorless	undetermined

Nails

1 Nails too corroded to ID

Pipes

Other Materials

Bones
Shell

Context 588 **Unit Number** Well trench **Level** 31-71 Drive Circle

Ceramics

1 Flower pot? Rim Earthenware, Coarse Redware burned

Glass

1 window aqua undetermined

Nails

1 Nails too corroded to ID

Pipes

Other Materials

3 Architectural brick

Bones
Shell

Context 589 **Unit Number** Well trench **Level** 71-85 Drive Circle

Ceramics

3 Body Earthenware, Coarse Redware
1 Body Earthenware, Coarse Redware
1 Body Earthenware, Coarse Redware

Glass

1 window aqua undetermined

Nails

Pipes

Other Materials

2 Architectural brick
3 Architectural stone

Bones
Shell

Context 590 **Unit Number** STP 15 **Level** Library Walk

Ceramics

1 Body Earthenware, Tin Glazed
1 Body Earthenware, Refined Pearlware
1 Body Earthenware, Refined Creamware
1 Rim Earthenware, Refined Pearlware Transfer printed Blue

Glass

1 bottle body olive green undetermined

Nails

1 Nails wrought

Pipes

Other Materials

16 Architectural brick

Bones
Shell

Context 591 **Unit Number** N2490 E3697.5 **Level** 0-33 South Lawn

Ceramics

3 Body Earthenware, Coarse Redware
3 Body Earthenware, Refined Creamware
1 Hollow ware Rim Earthenware, Refined Creamware

2	Body	Earthenware, Refined Pearlware	
1	Body	Earthenware, Refined Pearlware	burned
1	Body	Earthenware, Coarse Staffordshire Slipware	

Glass

3	bottle	body	olive green	undetermined
3	window		aqua	undetermined
1	curved, undetermined	body	aqua	undetermined
1	flat, undetermined	body	colorless	undetermined
1	curved, undetermined	body	colorless	undetermined

Nails

1	Nails	wrought
1	Nails	cut
1	Nails	too corroded to ID

Pipes

1	bowl
1	stem

Other Materials

18	Architectural brick	Bones 9
		Shell

Context 592 **Unit Number** N2493 E3697.5 **Level** 0-35 South Lawn

Ceramics

2	Body	Earthenware, Coarse Redware	
1	Body	Earthenware, Refined Creamware	
1	Body	Earthenware, Refined Pearlware	Underglaze painted Blue
1	Plate Rim	Porcelain, Chinese	Canton Underglaze painted Blue
2	Hollow ware Rim	Stoneware, Refined White Salt Glazed	
1	Hollow ware Body	Stoneware, Refined White Salt Glazed	

Glass

2	window		aqua	undetermined
1	curved, undetermined	body	colorless	undetermined

Nails

1	Nails	too corroded to ID

Pipes

Other Materials

12	Architectural brick	Bones
1	Metal ferrous other wire	Shell
1	Utensils/tools/hardware furniture hardware tack Cu alloy	

Context 593 **Unit Number** N2490 E3697.5 **Level** 33-44 South Lawn

Ceramics

Glass

Nails

Pipes

Other Materials

3	Fuel and furnace charcoal	Bones
		Shell