# Research Background

The purpose of this chapter is to discuss the subsurface sampling methods employed at Perry Harvey Senior Park, and the site-specific rationale behind the selection of the methods. Due to the abundance of historical records regarding the development of this Tampa neighborhood, and the fact that two archaeological excavations overlap this particular study area, this site provided an ideal opportunity to test manual "scissor-style" posthole diggers as a subsurface sampling tool in the investigation of urban archaeological sites. The potential for future comparison of the results of this study to the results or prior archaeological investigation should provide unique insights into the accuracy and applicability of the sampling method in the investigation of urban archaeological sites. This study directly addresses the applicability of manual "scissor-style" posthole diggers as a component of a comprehensive survey and sampling strategy at historic urban sites; furthermore, the study also attempts to determine how the interval between sampling locations affects the interpretive viability of the data retrieved. It is also hoped that the conclusions reached by this study will have an impact on future considerations about what constitutes "archaeological significance" in the exploration of "highly disturbed" urban sites.

There is certainly nothing novel about the use of "scissor-style" manual posthole diggers on archaeological sites; Arthur Caswell Parker used them in his exploration of "an Erie Village and Burial Site at Ripley, Chatauqua Co. N.Y." (Fry 1972, 259). However, in the vast majority cases where posthole diggers have been used, they have been used as predictors for where it would be most profitable to place larger units. There is a general agreement among those that have used posthole diggers in subsurface archaeological sampling that it is a useful technique for determining the lateral extent of a specific deposit within a site; however, there has been much less attention paid to whether or not the technique leads to a better understanding of the spatial distribution of artifacts within a site or deposit, the location, extent, and nature of deposits within a site, or in identifying the temporal range of artifacts found within a deposit.

There have been some previous efforts to judge the overall effectiveness of using posthole diggers in archaeological subsurface sampling; for the most part, these efforts have been favorably inclined towards incorporating posthole diggers into an overall plan of combined survey and sampling techniques. Additionally, those attempts to validate the use of posthole diggers have regarded them as a means to rapidly deploy small teams of investigators; therefore, posthole diggers have been deemed efficient in regard to both time and money. There have been attempts to integrate the data recovered through archaeological subsurface sampling into a larger conceptual picture of activity at a site, but these efforts have largely

been confined to rural areas rather that congested urban areas where there may be multiple episodes of disturbance to the archaeological context of a potential site.

The site in question, known locally as Perry Harvey Senior Park (state site file number 8HI4561), has been the subjected to some prior archaeological investigation; a local contract archaeology firm conducted an archaeological and historical survey during the autumn of 2001, and the University of South Florida conducted an investigation into the archaeological significance of the site as part of their 2003 Field School in Urban Archaeology. The firm of Panamerican Consultants, Inc. was responsible for conducting the 2001 survey; the survey covered the entire area of Perry Harvey Senior Park, and a final report was prepared and submitted to both Award Engineering, Inc. and the City of Tampa. The University of South Florida's Field School activities were confined to the extreme southern edge of the park; their research is ongoing as of this writing and their conclusions are unknown at this time. Both of the aforementioned archaeological investigations recorded an abundance of historical artifacts; however, the integrity of the site's context has yet to be fully ascertained. The 2001 survey did reach the conclusion that no further archaeological investigation was warranted due to the extreme disturbance at the site, but preliminary results from the 2003 Field School have been more encouraging in terms of overall site integrity(O'Brien 2004; Weisman 2011, 27–33).

Efforts have also been made to address issues of identification of elements of ethnicity and socioeconomic status in the archaeological record; Perry Harvey Senior Park (located in the neighborhood formerly known as "the Scrub") may yield artifact distribution patterns that contribute to an understanding of how ethnicity and socioeconomic status make an impact on the archaeological record. The key to ascertaining how and to what extent ethnicity and socioeconomic status can be perceived from the material recovered from archaeological survey, sampling, and excavation may lie in taking every opportunity to create a body of data for comparative analysis of sites throughout the urban environment; in short, to make a "distinction…between archaeology in the city and archaeology of the city" (Salwen 1973, 151). These studies have typically incorporated archival research, and input from the modern residents of the community; furthermore, material culture recovered from sites can be compared across the site, and to other sites throughout that urban environment to explore the possibility of revealing patterns that can be attributed to ethnicity and socioeconomic status. There are questions as to how accurately the material recovered from archaeological exploration can be used to identify ethnicity, or the attempts by any ethnic group to either preserve it own folk culture or approximate full participation in the dominant culture.

### Historic Use of Manual Posthole Diggers in Archaeological Subsurface Sampling

Robert Fry has outlined the use of manual posthole diggers at Tikal (a Mayan site in the Honduras); the investigators at Tikal were faced with both limited time and resources. They noticed that the number of datable potsherds was highest in household middens, and the location of household middens was known to be to the rear or on the sides of the where the

structure had stood; however, due to the variability in location of the midden, and because of the inherent variance of artifact density within the middens it was decided to use posthole diggers to locate high densities of potsherds to use as determinants for placing larger test units (Fry 1972, 259–60). The investigators operated on the assumption that Mayans normally placed their structures on the tops of mounds; mound groups were chosen at random, and postholes were dug to the bedrock or culturally sterile (devoid of artifacts) soil (Fry 1972, 260). "On the average, some 4 to 6 postholes were excavated before the area to be tested-pitted was chosen" (Fry 1972, 260). Since postholing had proved so useful in detecting high densities of artifacts in middens, it was incorporated into related research, in the same area, that sought to further investigate Mayan settlement patterns. As a part of the further investigation, posthole diggers were used in a 3500-m2 area; this area had no surface indications of archaeological features, and was therefore considered a low probability area (Fry 1972, 261). The approach was systematic; 4 rows of postholes were dug each at 5-meter intervals over 175 meters, with "approximately 95% of the post-holes [being] excavated to bedrock" (Fry 1972, 261). Any posthole that produced artifacts was further examined by placing postholes at the corners of a 5-meter square around the original posthole (Fry 1972, 261). The author concludes posthole digging is useful as part of a larger multi-component research design, but the method is limited by such factors as "purpose of sampling, types of deposits, and depth of deposits below the surface (Fry 1972, 261).

Another example of posthole digging as part of an archaeological subsurface sampling regimen stems from Stanley South's work at Fort Johnson, South Carolina; the site had several occupation phases including prehistoric, colonial, Civil War era, and contemporary, however, for the purposes of data review the phases were considered as either historic, or prehistoric (South and Widmer 1977, 119–20). In this instance, the research design called for 30 randomly placed postholes and 30 "interval aligned" postholes to be placed within a 500 foot by 650-foot study area; the interval for the systematically placed postholes was 100 feet (South and Widmer 1977, 128–29). Any posthole that yielded "Indian pottery" was examined further by placing postholes at a 10-foot interval radiating from the original posthole in each of the cardinal directions; this accounted for an additional 17 postholes (South and Widmer 1977, 129). Finally, 3 postholes were placed along the top of a ridge on the northern end of the study area for the purposes of comparison with the main body of posthole; so, there were 80 postholes taken in the entire study area (South and Widmer 1977, 129). The majority of the postholes were excavated to a depth of 4 feet; however, in a few cases dry, sandy soils limited the depth of excavation to 3 feet (South and Widmer 1977, 128).

Additionally, 17 "three-foot square" test units were dug within the boundaries of the study area; these were placed to investigate the "relationship between the subsurface core samples and the research universe as represented by three-foot squares (South and Widmer 1977, 129). The researchers then calculated an "ideal expected ratio" between the "3-foot test square and the 6-inch in diameter posthole digger core sample;" this ratio was asserted to be "45.8 to 1" (South and Widmer 1977, 130). The researchers then attempted to use the resulting quantitative data in comparison with larger conceptual patterns of artifact spatial

distribution; they compared the relevant data to both the Carolina Pattern (a pattern generally associated with domestic settlements), and to the Frontier Patter (a pattern generally associated with military occupations or occupations that are otherwise some distance from regular supply lines), which did correlate well with the data recovered from the Fort Johnson study area (South and Widmer 1977, 136–37). The researchers concluded that the method of subsurface sampling was extremely useful for identifying the spatial distribution of artifacts from all periods of occupation throughout the study area; moreover, they also concluded that the resulting data could be compared to known patterns of artifact distribution (South and Widmer 1977, 147–48).

A third example of postholes being used for archaeological subsurface sampling can be drawn from Kit Wesler's work at Whitehaven mansion in the vicinity of Paducah, Kentucky; the mansion is a Civil War era construction that was being archaeologically investigated prior to conversion of the property into a Welcome Center and Rest Area along Interstate 24. Wesler used posthole in subsurface sampling in order to establish where it would be most beneficial to place larger test units; the postholes were placed systematically at 5-meter intervals in a grid system that covered approximately 6000 m2 (Wesler 1984, 34–36). A total of "192 postholes were excavated;" the depth of excavation was to the culturally sterile soil (Wesler 1984, 36). Wesler's hypothesis was that "formal-use areas" would be identified by a dearth of artifacts because there would have been "little refuse generating activity" in those areas (Wesler 1984, 36). Wesler did attempt to classify the resulting data into the larger conceptual categories of the Carolina Pattern and Frontier Pattern; however, in this case, the data from the posthole tended to fall in between the expected percentages of those two patterns (Wesler 1984, 44). Overall though, Wesler was favorably disposed towards using posthole diggers in archaeological subsurface sampling particularly in determining the location and extent of deposits within a site; he also asserted that the method was a "quick and reliable method of gaining a preliminary picture of site patterning (Wesler 1984, 46).

A fourth line of evidence can be drawn from McManamon's evaluation of multiple subsurface sampling methods, in which he subsumed posthole diggers under augers; his article is skewed toward evaluating prehistoric resources, but includes comparisons of volumes assessed, along with cost-benefit analyses(1984). However, McManamon's estimates for shovel tests are based on his own research in Massachusetts, where shovel testing involved excavating round (40 cm diameter) units, to a depth of 50 centimeters below ground surface; in Florida, a typical shovel test is a square (50 cm x 50 cm), and excavated to a depth of, at least, one meter below ground surface. Moreover, his auger testing data included units of 10-15 cm (4-6 in.) diameters; units excavated with manual, scissor-style posthole diggers likely remove both a larger volume of archaeological matrix than does a 10-15 cm bucket auger, with much greater variation between units. The remainder of McManamon's discussion (McManamon 1984, 262–73) drives home the import of understanding one's research universe and sampling strategy in terms of grain, extent, and intensity(Burger and Todd 2006).

Finally, Larry Abbott and Craig Neidig have attempted an overall evaluation of using posthole diggers in archaeological subsurface sampling; they authored an article in the journal Illinois Archaeology regarding the method without regard to a specific site. They advocate a systematic system of placement at 20-meter intervals for initial phases of investigation, and 5 to 10 meter intervals where finer resolution is desired (1993, 41). They also suggest that the posthole be excavated in arbitrary levels, with a prior understanding of soil depth in the area, and possible levels of disturbance; this should allow the archaeologist to make an accurate determination of the extent and temporal range of archaeologically significant materials (Abbott and Neidig 1993, 41). Abbott and Neidig regard postholes as being "volumetrically systematic," therefore particularly applicable to statistical data analysis and "graphic representation" of that data (1993, 41–42). Furthermore, they advocate the use of posthole diggers because the equipment involved is economical (including aftermarket maintenance) and widely available; they also make the claim that is efficient in regard to time in relation to the return of usable date, and efficient in terms of transportability through difficult terrain (Abbott and Neidig 1993, 42).

### Prior Archaeological Exploration at Perry Harvey Senior Park

The 2001 archaeological and historical survey was undertaken prior to the refurbishment of structures within the park; the purpose for undertaking the survey was to determine whether or not the site was eligible for placement on the Historic Register (Panamerican Consultants 2001, 2). The survey combined documentary research, "predictive modeling," and subsurface sampling in the form of shovel tests (Panamerican Consultants 2001, 8). The entire area of the survey was "visually inspected" prior to subsurface excavations; the shovel tests were placed at 25-meter or 50-meter intervals (reflecting 2 different probability zones) throughout the study area (Panamerican Consultants 2001, 10). In total, there were 24 shovel tests placed in the entirety of Perry Harvey Senior Park; these shovel tests were ½ meter in diameter, excavated to a "minimum depth of 1 meter," and the soil was passed through "¼ inch hardware cloth screen" (Panamerican Consultants 2001, 10).

The Panamerican Consultants' (PCI) study area yielded 212 historical artifacts (and some indications of low-density prehistoric lithic scatters, from a total of 4 artifacts), but the researchers concluded that there were "no culturally significant strata or soils features" and that the overall nature of the soil was highly disturbed (Panamerican Consultants 2001, 13). The report's final recommendations were that the study did contain any elements to be considered for addition to the Historic Register, and that the site warrant "additional archaeological or historical investigation" (Panamerican Consultants 2001, 20).

The University of South Florida's 2003 Field School in Urban Archaeology was conducted concurrently, but separate from the study that is the topic of this paper; the Field School was, in part, funded by the Department of Transportation, and the final conclusions will form part of a guide for the DOT on the subject of what should be expected from contract archaeology firm when they are conducting compliance research. The 2003 USF Field School's study area was confined to the southern portion of Perry Harvey Senior Park;

however, there was an overlap between the study area of the field school and the study area of this paper. The Field School conducted a surface inspection of the southern portion of the park, and placed 20-30 postholes that are unrelated to this study. The Field School also placed several larger units; a total of three 3-foot by 10-foot units, and three 5-foot by 5- foot units were excavated over the course of the field school. The study area of this paper was bounded on the northwest by one of the 3-foot by 10-foot units of the Field School, and two of the 5-foot by 5-units were placed within the boundaries of the study area discussed in this paper. Standard American measurements were used throughout the course of the 2003 USF Field School to remain consistent with historical documentary sources; this is also acceptable to the Florida Division of Historic Resources for recent historic sites (Florida Division of Historical Resources 2002, 73). In the main, the units of the 2003 USF Field School were excavated at least two arbitrary 6-inch levels into culturally sterile soil. There were some indications of in situ features uncovered during the Field School, and an extensive collection of historical artifacts is still being processed and analyzed.

### Identifying Ethnicity and Socioeconomic Status in the Archaeological Record

The borough of Brooklyn, New York engulfed the area formerly known as Weeksville; archaeological exploration at Weeksville began in 1968, as part of a community based initiative named "Project Weeksville (Bridges and Salwen 1980, 38). Weeksville was a small African-American community that was inhabited after slavery "was prohibited" in New York in 1827; the community experienced an upsurge in population after the "draft riots of 1863" (Bridges and Salwen 1980, 38–39). Some historic documentary evidence of Weeksville survived, but the majority of the buildings were not considered eligible to be recognized as historic structures and had been destroyed; interest in preserving the history of Weeksville originated from a local historian who carried on his research with the help of various local organizations (Bridges and Salwen 1980, 40–41). This strong, community based interest eventually generated interest in academic circles, and lead to involvement by local community colleges, universities, and museums (Bridges and Salwen 1980, 41–42). Ultimately, the area was deemed too disturbed to be able to draw much interpretive data from the material recovered by excavation; specifically, spatial distribution information could not be gleaned from the recovered artifacts (Bridges and Salwen 1980, 43–44). However, the recovered material did allow for some interpretation related to the fact that ceramic material that was recovered tended to group into 4 "dating clusters;" these clusters corresponded to date ranges when the population of Weeksville is known to have experienced notable population growth (Bridges and Salwen 1980, 43–44).

Several urban archaeological projects in Washington D.C. have also attempted to discern patterns in the archaeological record related to ethnicity and socioeconomic differences between residences on main streets versus residences with alleyway facings. These studies call attention to the fact that ethnicity may not be readily apparent in the material culture recovered from sites; additionally, the Washington D.C. alleyway sites were not necessarily ethnically homogenous throughout the entire period of habitation. Furthermore,

conclusions inferred from such techniques as ceramics or bottle glass dating must consider that some objects may have been purchased "second-hand," or that there may be a similar quality of artifacts from areas that had vastly different socioeconomic realities due to the use freely available natural resources as a supplement to regular income (Little and Kassner 2001, 62–63). The alleyways studied in Washington D.C., generally, were inhabited from as early as the late 18th century to the middle of the 20th century; the residents of these alleys came from a variety of backgrounds, some from the surrounding countryside, some moving from the South, and some immigrants from distant lands.

Some of these residents remained in the city their entire lives, and some remained only long enough to earn money to allow them to move out of the city to become landowners themselves; this may also impact the artifacts drawn from the archaeological record, as they may have limited expenditures on unnecessary items to save towards some future goal (Little and Kassner 2001, 63). At "Quander Place," there did not appear to be "any significant difference between alley and street in either cost or ceramic vessel form;" however, it did appear that the vessels from the alley-facing houses concentrated on more practical items such as "bowls and tumblers," while the street-facing houses utilized a wider variety of forms, including "plates, butter dishes, salts, wine glasses and pitchers" (Little and Kassner 2001, 62). At "Essex Court," archaeologists compared "mean ceramic dates" and bottle glass analysis data to comparable information gleaned from a nearby "middle class neighborhood" with houses that weren't situated in alleys; a scaled economic analysis was applied to these ceramic sherds and this revealed little socioeconomic variation between the neighborhoods, however when 269 "transition forms classified as ironstone" were removed, the alley houses indicated a lower socioeconomic status (Little and Kassner 2001, 59–60). At "Slate Alley," both alley-facing and street-facing domiciles were investigated; a fence bisected the open space between these housing units. Investigators determined that ceramics found on both sides of the fence were of similar quality; however, the alley-facing houses showed a higher proportion of "serving vessels and food storage vessels" (Little and Kassner 2001, 60).

The "Quander Alley Project," in particular, attempted to control for socioeconomic factors, in hopes of isolating the factors relating specifically to ethnicity. The archaeological record from the site indicated dates that ranged from prior to the Civil War to the 1940s; "the significant deposits, however, were from 1880 to 1940" (Cheek and Friedlander 1990, 40). During the early period of the neighborhood's development the alley houses were inhabited predominantly by African Americans; and the street houses were divided, with predominantly African American residents on one street, and predominantly White inhabitants elsewhere. The study did not find any appreciable difference in socioeconomic status indicators between alley-facing houses and street-facing house, in such categories as cost of ceramics or relative nutritional and economic value of "meat cuts" (Cheek and Friedlander 1990, 52).

There did appear to be a bias in number of glassware form between the two areas, in the Quander Alley Project, with the majority of glasswares in alley houses consisting of tumblers and bowls (Cheek and Friedlander 1990, 54). There were a few detectable biases in selection of "meat cuts;" pigs feet and opossum appeared only in alleyway deposits, and alleyway deposited bones showed definite saw marks, while street deposited bones showed indications of being "cut by a cleaver" (Cheek and Friedlander 1990, 54–55). Finally, an abundance of buttons has been cited at other locations to be indicative of an African American presence; at "Quander Alley, only 13 buttons appeared in the street deposits compared to 55 for the alley (Cheek and Friedlander 1990, 55). Little and Kassner suggested that the high number of buttons in this setting might stem from the occupation of "rag picker" (1990, 62); in the census data provided by Cheek and Friedlander, no permutation of "rag picker" appears as an occupation, however, at least 4 Black females, from 4 separate residences, gave "laundress" as their occupation (1990, 46–48).

### Sanborn Fire Insurance Maps and City Directories

The Sanborn Map Company prepared maps for use by fire insurance companies; these maps are an excellent source of information about the placement, and material composition of structures within the city limits of many U.S. cities. The maps indicate, not only the materials used in construction of a building, but also relative distance to highly flammable materials or sources of high heat; they also show nearby water sources, and otherwise gauge risk of fire for any given structure, as long as it is within the boundaries of the city. Additionally, the maps show the position of structures, and give the street addresses of said structures.

City directories were produced for the purpose of listing the residents of a town, and local businesses. Most provide an alphabetical list of the town's residents, a cross listing of residents based on the streets on which they live, and a summary of local businesses. Additionally, the directories provide a reference for various government services, and advertisements for local businesses. They also provide information about each listed citizen's occupation, and until the 1930s listings included an asterisk next to the names of residents who were "colored."

### Research Problem

The primary objective of this study is to determine whether or not manual "scissor-style" posthole diggers should be considered a legitimate research tool in subsurface sampling strategies at highly disturbed urban sites; and. if the method is determined to be legitimate, then what unit placement interval provides the most efficient yet still meaningful understanding of the lateral continuity of separate deposition areas within the site. This study will explore the legitimacy of posthole sampling by analyzing the data that was retrieved from the field, and attempting to derive from that data the full temporal range of historic use at the site and also any indicators of land use differences throughout the study area. In an effort to establish the upper end limits of interpretive resolution achieved through the sampling method every attempt will be made to determine from the retrieved

data, whether or not an assessment can be made of socioeconomic and ethnicity factors in the site's history; finally, it will be attempted to place the recovered artifacts into a larger conceptual framework in regards to site type and use. Finally, efforts will be made to establish how volumetrically consistent posthole sampling is; the resulting qualitative and quantitative data will be examined statistically.

### Field Methods

The 100'x100' study area was judgmentally placed to include information from both the former commercial structures, and the former domestic structures; the study area was then further subdivided into four 50'x50' quadrants, starting with the northwest quadrant designated as Quadrant I, the designations continue clockwise as Quadrants II, III, and IV respectively. Postholes were placed in Quadrants I and III at 10' intervals, and in Quadrants II and IV at 20' intervals; units from the USF Field School interfered with the placement of one posthole in Quadrant III, and one posthole in Quadrant IV. Thus, there were a total of 66 units placed throughout the four quadrants; there were 25 units in Quadrant I, 9 units Quadrant II, 24 units in Quadrant III, and 8 units in Quadrant IV. The units themselves were placed on the same grid coordinate system as all the units that were part of the USF Field School; each unit was given a designation corresponding to its position on the grid system. A surveyor's transit and a 200' vinyl measuring tape were used to delineate the boundaries and the center point of the study area; once the outline of the 4 quadrants were in place, 16' and 200' tape measures were used to locate the individual units in the study area. Each of those units was then demarcated with a multi-colored "pin" flag. The boundaries of the study area were also placed in a larger context, by taking GPS (global positioning system) coordinates; therefore, the exact position of the postholes can be located again in the future.

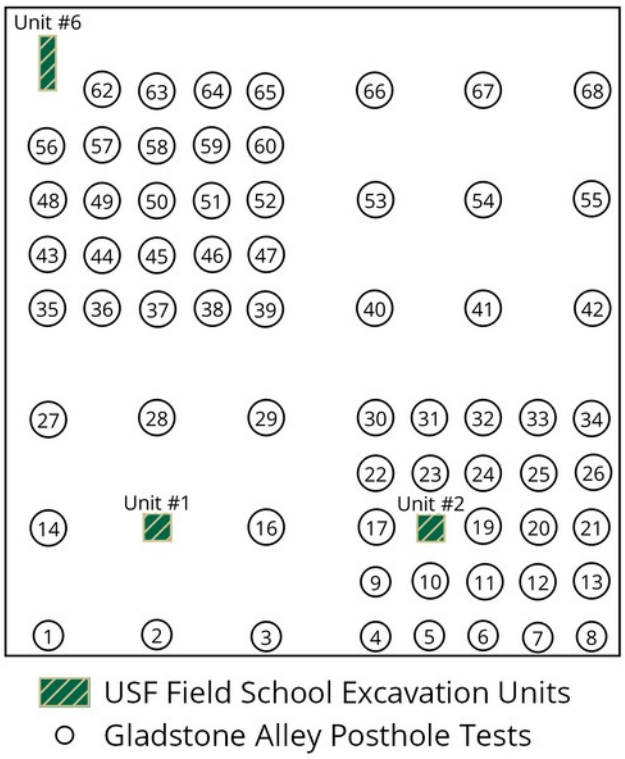


**Figure 1. A schematized plan view of the test units, with reference to units from the 2003 USF field school.**

The units were then excavated with a "scissor-style" posthole digger, and the soil was passed through a ¼" metal mesh screen into a white, plastic 5-gallon bucket. The units were excavated in arbitrary 6" inch levels, and notes were made at each level about the color and

condition of the soil. All of the cultural material that was recovered from the units was recorded on a test record by level, however, given the extreme disturbance of the site, the decision was made to bag all material from a unit together with one field specimen number per unit. The only material that was not collected was brick fragments, and charcoal; in each case, the presence of those materials was recorded when they occurred in the unit, and then those materials were returned to the unit with the rest of the backfill. There was an abundance of brick fragments and charcoal throughout the study area, probably related to the demolition of the formerly existing structures; but it was deemed unprofitable to attempt to coax meaningful information about the archaeological significance of the site out of such minute and widely distributed materials. The intent of the study was to distinguish between positive (containing cultural materials) and negative (containing no cultural materials), however, there were no holes found that contained absolutely no cultural materials. Furthermore, any soil anomalies seen in the profile of the unit, or indications of archaeological features (non-recoverable) were recorded on the Posthole Test Record sheets.

In an effort to gauge the volumetric consistency of the method, it was decided that each of the units would be dug to a depth of 2'; this depth was selected to ensure that the unit would be entirely within cultural soil strata, as know from soil strata profiles from the units of the USF Field School and from prior archaeological investigations throughout the city of Tampa (Piper and Piper 1987: 264). In cases of "hole refusal" (impassibility) upon first strike, the unit was moved one width of the blade end of the posthole digger to the south; in cases where there was "hole refusal" at greater depth, depth measurements were made, and the cause of "hole refusal" was noted on the Test Record forms. Measurements were also taken of the diameter of each unit at the ground surface; in cases where there was first strike "hole refusal" caused the hole to be moved, the full diameter included both holes because soil and cultural material from the first strike was screened and artifacts were saved.

### Laboratory Methods

The first step in the laboratory was to record all of the field specimen numbered bags into a master log; the log accounted for all bags associated with each unit, and indicated why specific numbers had no corresponding sample bags (i.e., samples that were not taken because there was a unit from the USF field school at those coordinates). The artifacts were then sorted by material composition (recorded as Artifact Class); the glass, plastic, and ceramics were cleaned in a mild detergent solution, and the other materials were cleaned with a dry brush and dental picks. Once the artifacts were cleaned and allowed to air dry on racks, they were further subdivided into groups judgmentally according to Artifact Type (i.e., an artifact classed as a Ceramic would be further subdivided into Artifact Types such as ironstone, earthenware, or porcelain); the extremely poor condition of the majority recovered material made it difficult to assign some of the material (such as glass) to a Type with absolute certainty. After the materials were sorted by Type, they were assigned a catalog number together as a category; the catalog numbers were assigned by the year of

excavation (03), the location of the study area (GA for Gladstone Alley), field specimen number (1-68), and finally by material grouping.

Artifacts that were identified as being particularly diagnostic were assigned individual catalog numbers at the material grouping level; these artifacts were photographed for the purpose of being included in the final report. Every effort was made to detect the form and function of each artifact, but much of the material was in the form of very small fragments, which could not be assigned a form with reasonable accuracy (occasionally function was detectable even when form was not readily apparent); in cases where form and function were not able to be determined, the notations about condition reflect the fragmentary character of the artifacts in question. Any special characteristics or features that were not otherwise addressed were noted separately, and each catalog number was assigned to a larger conceptual category of artifacts (Florida Division of Historical Resources 2002, 77; Sprague 1980); it was not expected that these larger conceptual categories would provide meaningful information about the overall site, but it was hoped that by comparing the resulting percentages assigned to each category in each of the units, that an understanding might gained about artifact patterns in the development of the site. The long-term goal in establishing artifact patterns at this site through results from postholing would be to compare those percentages to percentages arrived at through more intensive subsurface investigation; if the percentages were comparable this specific site, then conceptual categories of artifact patterning might be arrived at in a multitude of sites throughout the city of Tampa.

Each artifact was visually inspected for features or characteristics that could indicate the date range of a specific artifact or artifact type in general. The entire contents of each posthole were weighed on an Ohaus (brand name) scientific balance that displayed the weight by half-gram increments, and that weight was recorded on the artifact analysis sheet for that unit. Each Artifact Type was weighed in the same manner for each posthole; that weight was recorded individually, and also expressed as a percentage of the total weight of artifacts from that posthole. To compensate for the fact that the weight of any given material category might be indicative of the presence of one extremely large and heavy artifact, or a large number of extremely small artifacts, the number of individual artifacts comprising each material category was also recorded for comparison. The weight of material attributed to the larger conceptual categories of artifact patterning was also recorded for each category, and that weight was also expressed as a percentage of the total weight of artifacts from each individual posthole.

Finally, transparencies were produced for the entire range of Sanborn Fire Insurance maps that included the study area; each map was adjusted to the same scale as a map of the study area that showed the position of the postholes within the study area's grid system. The purpose of the transparencies is to show the development of the study area diachronically, especially to indicate where there was spatial overlap of different structures through time. This series of transparencies was produced to be used as overlays; these transparencies

indicated the spatial distribution of artifacts by total weight and by individual categories for each artifact type.

The transparencies that show the spatial distribution of artifacts were used in conjunction with the transparencies that indicate the structures that formerly stood in the study area to demonstrate how the recovered artifacts related to the known historical development of the site; these transparencies were integral to addressing the issue of identifying land use differences in the study area. The distribution of artifact types through the study area was used to consider any potential indicators of different socioeconomic groups or ethnicities within the study area; of particular interest in this regard was the difference between the "shotgun" houses (long rectangular structures) on Gladstone Alley, and the larger houses (historically they did not have direct street access) in the center of the study area.

### Geospatial Methods

In 2016, the author became aware of a planned "grand opening" of a Perry Harvey Sr. Park, with new amenities, including a series of markers and artistic installations that commemorate the Central Avenue commercial district, and "the Scrub" neighborhood (Times Staff Writer 2016). Over the years, I had revisited the Gladstone Alley Project data several times, with a desire to complete aspects of the analysis that I had not accomplished through my earlier research; in particular, I had always wanted to compare the results of the Phase I archaeological survey, the 2003 USF Field School, and my own Gladstone Alley Project. It was entirely due to my own naivete that I expected a complete artifact analysis from the 2003 USF Field School by the time I published my results from a much smaller project. However, I was able to compare my results to the results from the Phase I archaeological survey.

I had retained the GPS coordinates of the Gladstone Alley study area, so I was able to digitize a 100-foot by 100-foot square, and tie the southwest corner to the actual GPS coordinates of the original study area. I also digitized the position of the individual posthole tests, and entered the original posthole data into the database associated with the shapefile I created. I georeferenced aerial imagery of "the Scrub" from the early1950s, from the Tampa-Hillsborough County Public Library's collection of Burgert Brothers photographs (https://hcplc.org/research/burgert), so that I would be better able to match the Sanborn maps from 1951 to identifiable features from the entire neighborhood. I, then, georeferenced the 1951 Sanborn map for Block 120, at the original scale of the drawn map, which resulted in a good fit to the last configuration of the built environment for the study area. I georeferenced the earlier Sanborn maps with reference to contemporary aerial imagery, historical aerial imagery, and especially the 1951 Sanborn maps that I had previously georeferenced.

Since the data were expected to be continuous, beneath the ground surface, I selected kriging as the most appropriate method of interpolating my vector data into a raster data model of expected deposition across the entire study area. I weighted my data according to

the testing interval used in the study (i.e., 10 or 20 feet). This analysis was confined to the total weight of materials recovered from each test unit. Unless otherwise specified, the underlying rasterized geospatial data shown in the resulting maps relates to the total weight of all artifacts recovered from that unit.

In an effort to get beyond the limitations of using the total weight of recovered materials, I converted the counts and weights for specific categories of artifacts to standard deviations from the mean, and used an unweighted mean of the two z-scores to create a "total productivity" unit of analysis. The material categories converted to z-scores were: Total Weight, Bone, Stoneware, Bottle Glass, Flat Glass, Construction Materials, Construction Metal, Other Metals, and Count. Furthermore, the z-scores for the categories of Bone, Bottle Glass, and Stoneware were averaged as an estimate of Domestic productivity; and, similarly, the z-scores for Construction Materials, Construction Metal, and Flat Glass were averaged into a total Architectural productivity. The resulting Domestic or Architectural z-scores were then compared to the total productivity of the unit, expressed as a ratio.

## References

Abbott, Larry R., and Craig A. Neidig. 1993. "Archaeological Postholing: A Proposed Subsurface Survey and Site-Testing Method." *Illinois Archaeology* 5 (1 & 2): 38–45.

Bridges, Sarah T., and Bert Salwen. 1980. "Weeksville: The Archaeology of a Black Urban Commmunity." In *Archaeological Perspectives on Ethnicity in America*, edited by Robert L. Schuyler, 38–47. Farmingdale, New York: Baywood.

Burger, Oskar, and Lawrence C. Todd. 2006. "Grain, Extent, and Intensity: The Components of Scale in Archaeological Survey." In *Confronting Scale in Archaeology*, edited by Gary Lock and Brian L. Molyneaux, 235–55. New York: Springer Science+Business Media.

Cheek, Charles D., and Amy Friedlander. 1990. "Pottery and Pig's Feet: Space, Ethnicity, and Neighborhood in Washington D.C., 1880-1940." *Historical Archaeology* 24 (1): 34–60.

Florida Division of Historical Resources. 2002. "Module Three: Guidelines for Use by Historic Preservation Professionals." In *Cultural Resource Management Standards & Operational Manual*, 1–147. Tallahassee, Florida: Florida Division of Historical Resources.

Fry, Robert E. 1972. "Manually Operated Post-Hole Diggers as Sampling Instruments." *American Antiquity* 37 (2): 259–61.

Little, Barbara J., and Nancy J. Kassner. 2001. "Archaeology in the Alleys of Washington D.C." In *Archaeology of Urban Landscapes: Explorations in Slumland*, 57–68. Cambridge University

Press.

McManamon, Francis P. 1984. "Discovering Sites Unseen." *Advances in Archaeological Method and Theory* 7: 223–92.

O'Brien, Matthew A. 2004. "Appendix B: An Examination of the Usefulness of Posthole Digging in Archaeological Sampling Strategies: A Case Study from 8Hi4561." In *A Model for Evaluating Archaeological Site Significance in Cities: A Case Study from Tampa, Florida*, edited by Brent R. Weisman and Lori D. Collins, 65–114. Report No. BC353-49. Report Submitted to the Florida Department of Transportation, Central Environmental Management Office, Tallahassee, Florida. Tampa, Florida: Department of Anthropology, University of South Florida.

Panamerican Consultants. 2001. "An Archaeological and Historical Survey of the Perry Harvey Senior Park, Downtown Tampa, Hillsborough County, Florida." Panamerican Consultants, Inc. Report No. TR #01-2485. Report submitted to Award Engineering, Inc., and the City of Tampa, Tampa, Florida.

Salwen, Bert. 1973. "Archeology in Megalopolis." In *Research and Theory in Current Archeology*, edited by Charles L. Redman, 151–63. New York: John Wiley.

South, Stanley A., and Randolph Widmer. 1977. "A Subsurface Sampling Strategy for Archaeological Reconnaissance." In *Research Strategies in Historical Archaeology*, edited by Stanley A. South, 119–50. New York: Academic Press.

Sprague, Roderick. 1980. "A Functional Classification for Artifacts from 19th and 20th Century Historical Sites." *North American Archaeologist* 2 (3): 251–61.

Times Staff Writer. 2016. "At Its Grand Reveal, Renovated Perry Harvey Sr. Park Touted as 'a Living, Breathing History Lesson.'" *Tampa Bay Times*, April 3, 2016. https://www.tampabay.com/news/growth/at-its-grand-reveal-renovated-perry-harvey-sr-park-touted-as-a-living/2271783/.

Weisman, Brent R. 2011. "Florida Archaeology Confronts the Recent Past: Four Case Studies from Tampa." *Historical Archaeology* 45 (2): 16–41.

Wesler, Kit W. 1984. "Posthole Testing and Pattern Recognition at Whitehaven, 15McN65." *Tennessee Anthropologist* 9 (1): 32–47.