A HUB OF HUMAN ACTIVITY:

Archaeological Investigations of the Visitor's Reception and Transportation Center

The Charleston Museum

Archaeological Contributions 19

A HUB OF HUMAN ACTIVITY:

ARCHAEOLOGICAL INVESTIGATIONS OF THE VISITORS RECEPTION AND TRANSPORTATION CENTER SITE (38CH897)

by

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submitted to
The City of Charleston

November 1988

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Acknowledgements

Archaeology in Charleston is in many ways a community effort, and successful projects reflect the efforts of many people besides the authors. Several people participated in the fieldwork as volunteers, greatly increasing the amount of work accomplished. Mrs. Harriett Goldenberg, Ms. Myrna Rowland, Dr. Michael Trinkley, Mr. Bob Jacobs, and Mrs. Maggie Jacobs assisted us in 1986. Volunteers in 1988 included Mr. Michael Ziemski, Mr. Steve Stevenson, Ms. Stephanie Schwabe, Ms. Denise King, Mr. Bob Jacobs and Mrs. Maggie Jacobs. These folks worked cheerfully under often trying conditions, and we appreciate their dedication.

Crew members for the project were Ms. Marion Niemi in 1986 and Ms. Virginia Tuten in 1988. Ms. Denise King worked in the laboratory and performed many tedious tasks. We thank them for their assistance. During the East Side project, research on the VRTC property was conducted by Ms. Ziyadah Owusu and Ms. Dale Rosengarten. Computer mapping was conducted by Mr. Jim Scurry of Slidell, Louisiana.

Members of The Charleston Museum staff assisted us in many ways. We thank Dr. John Brumgardt, Director, and Mr. Samuel Jones, Assistant Director, for their administrative guidance. Ms. Faith Brownlee and Ms. Edie Pinckney kept our budget straight. Mr. Monty Bense repaired our equipment and helped with the auger testing. Mr. Don Nuzum helped us clear Unit 12 with his expert chainsawing. Ms. Karen King and Ms. Renee Bentz organized and implemented the education program.

The City of Charleston is to be commended for its attention to archaeological research. Several staff members helped us in a variety of ways. We thank Mr. Howard Chapman, Ms. Frances Cantwell, Mr. John Deehan, Ms. Yvonne Fortenberry, Mr. Steve Livingston, Mr. Michael Sullivan, and Ms. Mary Ann Sullivan for all of their efforts. Special thanks go to Mr. Fred Collins for seeing us through a myriad of logistical snags and for keeping us on track. Once again, we would like to thank the Honorable Joseph P. Riley, Jr., Mayor of Charleston for his continued dedication to Charleston's archaeological resources. We would also like to thank Dr. Patricia Cridlebaugh of the South Carolina Department of Archives and History for her expert guidance.

Finally, we would like to thank the students and teachers who participated in the education programs. Preservation of our archaeological resources will only be accomplished through education and enlightenment of the next generation.

CHAPTER I

INTRODUCTION

The City of Charleston has been actively involved in revitalization of the downtown area for the past several years. One aspect of this long range plan is the development of a Visitor's Reception and Transportation Center (VRTC) on the northern edge of the historic district. This complex would provide parking and shuttle service to visitors, as well as an introduction to Charleston's heritage. The site chosen for the project is the two block area bounded by John, Meeting, Mary and King streets (Figure 1). The construction of the VRTC adjacent to The Charleston Museum and Wragg Mall will contribute to the development of a museum district within this area.

The construction of the VRTC will result in land alteration and thus potential damage to the archaeological and historical resources which exist in the project area. Historical research reveals that the site was a residential area since the early nineteenth century, housing a cross-section of Charleston's population. In the 1850s, the central portion of the area changed from a domestic use to an industrial one by the construction of the new South Carolina Railroad. The railroad line and warehouses occupied the center of the blocks, leaving a line of houses and businesses on both Meeting and King streets. Throughout the antebellum period, the Meeting Street frontage housed middle class whites, free blacks, and slaves. The data suggest that the VRTC site provides an opportunity to study a number of social groups and activities not previously investigated archaeologically in Charleston.

Because federal funds (Urban Mass Transit Authority funds) will be used in the construction of the VRTC, the archaeological resources of the site are protected by federal legislation. Pertinent legislation includes the National Historic Preservation Act of 1966, as amended, as implemented according to 36CFR800 (Procedures for the Protection of Historic and Cultural Properties), and the Archaeological and Historic Preservation Act of 1974. In accordance with the guidelines set out by these acts and regulations, a Memorandum of Agreement was drawn up between the City of Charleston, the South Carolina State Historic Preservation Office, and the Advisory Council on Historic Preservation. Prior to the drafting of the agreement, the City of Charleston contracted with The Charleston Museum for Phase I (survey) and Phase II (testing) studies. Survey and identification of the archaeological components of 38CH897 was accomplished through archival research, which is contained in Rosengarten et al. 1987. Testing assessed the presence and integrity of the archaeological record and determined National Register eligibility which was reported in a Management Summary submitted to the City of Charleston and South Carolina Department of Archives and History (Zierden 1987).

Archaeological testing was conducted by the Museum under the direction of Martha Zierden for two weeks between October 13 and 24,

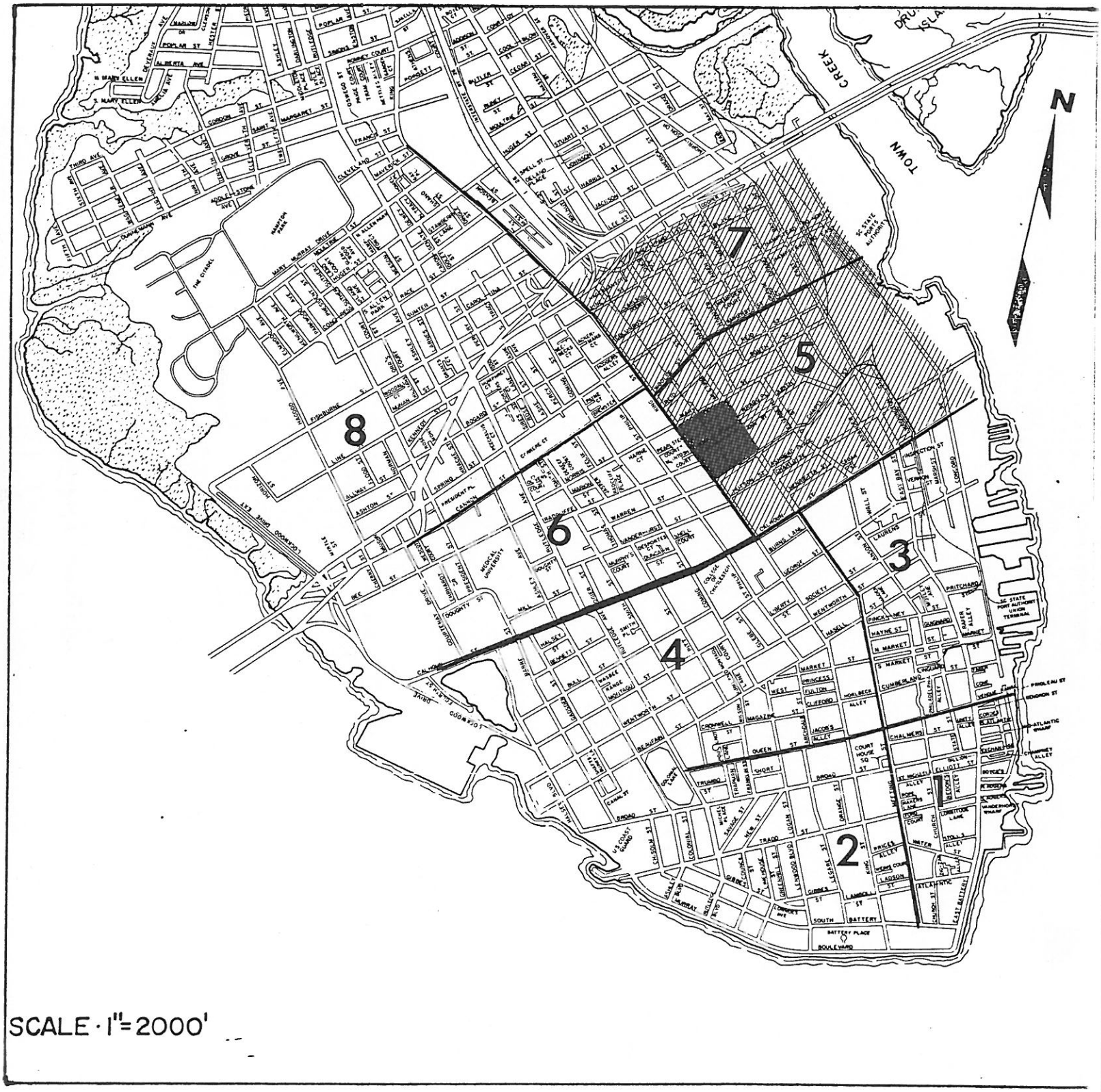


Figure 1: Map of the Charleston peninsula showing the current boundaries of the East Side and the 1850 boundaries of the eight wards.

1986. The project was conducted by a crew of three, plus a number of volunteers. During this time, eight units measuring 5 by 5 feet or 5 by 10 feet were excavated to sterile soil. In addition, auger tests were placed at 20 foot intervals within a 240 by 200 foot area near the corner of Meeting and Mary streets. Testing revealed evidence of the railroad cotton yard, as well as domestic occupation which spanned the nineteenth century. The total site measures 803 feet by 640 feet; the 293 foot sample represents .05% of the total site area.

Testing revealed a highly varied site. Portions of the site, particularly the southerly block were highly disturbed by twentieth-century light industrial activity. Other areas were relatively intact. Based on the results of testing, additional excavation was recommended. Testing was recommended for portions of the site not accessible during the testing phase; additional excavation was recommended for the undisturbed areas revealed during testing. The State Historic Preservation Officer (SHPO), after a review of the management summary (Zierden 1987) assessed 38CH897 as eligible for listing in the National Register of Historic Places. As the site could not be preserved in place, the SHPO concurred with Zierden, recommending additional testing to assess significance of previously untested portions of the site, as well as data recovery.

Additional testing and data recovery was conducted for 11 days between August 29 and September 17, 1988 under the direction of Martha Zierden and Kimberly Grimes with one crew member, two Anthropology students from the College of Charleston and three volunteers. A total of eight additional units were excavated. These units were all located in the northern block, based on the results of previous testing. The majority of the effort focused on the Tupper lot, which had revealed the least disturbance and the most extensive evidence of nineteenth-century activity during testing. A total of 125 additional square feet were excavated. The excavations confirmed the results of earlier testing; it revealed a low density site, compromised by twentieth-century industrial and demolition activities.

Public Programs

Excavations at the VRTC site provided a variety of opportunities for public education programs. The 1986 testing was organized in concert with a special education program, offered through the Museum's Education Department. Over 600 area middle school students attended the class during the two weeks it was offered. Students arrived at the Museum, where they received a hands-on lecture concerning archaeological excavation methods and site interpretation. They then visited the VRTC site, where teachers explained the ongoing fieldwork. Afterwards, they worked side-by-side with archaeologists to screen materials. The artifacts and soil they retrieved are part of an unprovenienced education collection; however, the artifacts were carefully selected for correct temporal and functional association. The students then took these artifacts back to the Museum for a discussion of site interpretation.

A more ambitious program was initiated during the data recovery

phase. Ninth graders (68 of them) from the Burke Magnet School attended the Museum for a detailed lecture on urban archaeology. They then visited the site the next day where they excavated, under the supervision of the archaeologists, four small units by arbitrary and natural levels. The students took turns digging, troweling, screening, and taking notes. They also washed and analyzed the materials. The program wound up with a walking tour of the East Side.

Public interpretation and interaction are major goals of the urban archaeology program. The educational programs are designed to expose the public to the objectives and methods of archaeological research, demonstrate the role of archaeological material culture in the interpretation of Charleston's heritage, explore topics of interest to the community, and provide a vehicle for community participation in the exploration of their own heritage. The involvement of area students in archaeological research is one of the most important and rewarding aspects of these efforts. Research at the VRTC will hopefully culminate in an exhibit of excavated materials and research results in the new Visitor's Center.

Research Approaches

Scientific archaeological investigation of Charleston began with a city-wide archival survey. The two-year project examined historical documents relevant to several archaeological issues, explored general trends in city demographics, and presented an overview of the growth and development of the port (Zierden and Calhoun 1984). The overriding goal was to develop broad, long-term research problems and to make recommendations to the city concerning the preservation and exploration of the archaeological record.

During and after the completion of this research, several excavations were conducted in the city, all of them located within the original boundaries of the eighteenth-century city. The studies have explored a number of research problems, including those listed below. Studies of Lowcountry plantation sites have complemented these efforts, through the investigation of rural-urban dichotomy, and connections between plantations and the city (Zierden et al. 1982, 1983a, 1983b, 1985, 1986a; Zierden and Hacker 1987; Zierden and Calhoun 1986).

A recent goal of the urban archaeology program was to expand the sample to include sites in Charleston Neck (that area of the peninsular city north of Calhoun Street). Antebellum suburban sites should exhibit different spatial patterning, site formation processes, and site functions (Rosengarten et al. 1987). The VRTC site represents the third small sample from such sites, following excavations at the Aiken-Rhett mansion a few blocks away (Zierden et al. 1986a) and the President Street block on the West Side (Zierden and Raynor 1988) (Figure 2). Though limited, the VRTC sample is useful in addressing several archaeological questions, using previously excavated sites for comparative purposes.

Portions of the site have been greatly compromised by ground-

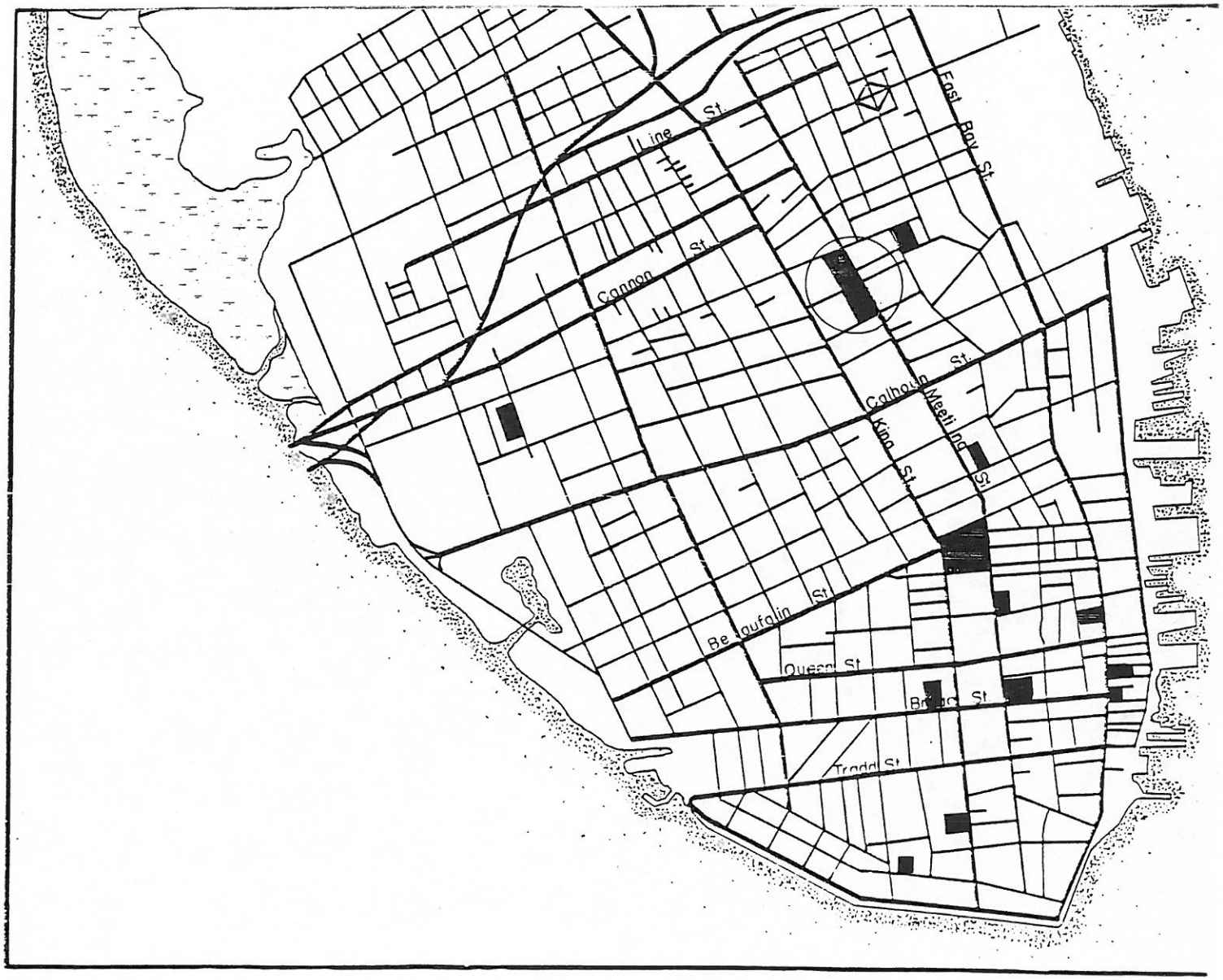


Figure 2: Map showing the VRTC site relative to other excavated sites.

disturbing activities, but these data may also be utilized for research purposes on certain levels. Urban archaeologists have recently suggested that, because the city is a living site, mixed or "disturbed" deposits represent the reality of the city (Honerkamp et al. 1983). Such mixing of early and later deposits is the archaeological manifestation of the urbanization process; far from discounting them, archaeologists should devise innovative methods to utilize such data (Honerkamp and Fairbanks 1984; Honerkamp and Council 1984; Honerkamp 1987). One suggested approach has been to move from a household specific to a neighborhood level of research. This approach has been used with some success on other Charleston sites (Zierden and Calhoun 1987; Zierden and Hacker 1987). The VRTC site contains deposits suitable for both a household and a neighborhood level of research.

The VRTC data are suitable for addressing a variety of ongoing research issues previously investigated in Charleston, on a limited basis. These include subsistence strategies, spatial patterning, urban-rural contrasts, and status and artifact patterning. Data from suburban as well as central core sites in the city have already been used to address the issues, and can be used for comparative purposes. In addition, the VRTC site has the potential for providing preliminary data for the investigation of industrialization and its labor force.

1) Site Formation Processes: Cultural materials are introduced into the ground at a site by three basic methods: discard, loss, and abandonment (Schiffer 1977). Once in the ground, they can be redistributed, or they can be removed (Ascher 1968; Honerkamp and Fairbanks 1984; Schiffer 1983). Usually, the archaeological record is a combination of all three events. In the urban situation, such as Charleston, these processes can become very complex. Investigation of site formation processes has been the basis for ongoing research in Charleston. In order to properly interpret an archaeological site, it is first necessary to understand the processes responsible for the development of that data base.

2) Site Function: Most of the sites investigated within the older city have been combined residential-commercial establishments. Research on these sites focused on delineating site function (Honerkamp et al. 1982; Lewis 1977). Comparison of these assemblages to the Carolina Artifact Pattern (South 1977), which monitors domestic activity, should reveal some differences, reflecting the commercial activities at the site. Researchers have suggested that many commercial activities, such as retailing, do not cycle materials into the archaeological record (Honerkamp et al. 1982; Lewis 1977; Zierden and Calhoun 1986; Zierden and Hacker 1987). Investigation in the suburban areas should complement the study of dual function sites by acting as a control; the majority of such sites, including portions of the VRTC site, functioned only as domestic units. In addition, the VRTC property is the only site excavated to date that contains an industrial component.

3) Spatial Patterning: Spatial patterning, the arrangement of buildings, activity areas, and open spaces over the urban landscape, in the suburban areas was quite different from that in the constricted

commercial core, and is reflected in both individual site and neighborhood patterns. Exploration of suburban areas provides a more complete picture of the growth and development of the city, and on the use of urban space (Geismar 1985; Mrozowski 1987, 1988; Rothschild 1985, 1987).

4) Subsistence Strategies: Increasing attention is focusing on the study of subsistence strategies in historic populations, using faunal and botanical remains (Reitz and Scarry 1985; Zierden and Trinkley 1984). These remains have been used to address a variety of questions concerning historic subsistence strategies, including cultural conservatism, adaptation to local environments, ethnicity, and social variability. Faunal and botanical remains, recovered and examined in a consistent manner from Charleston sites, have resulted in the formation of several dietary models; samples from suburban sites are an important addition to this data base.

5) Socioeconomic Status: A recent focus of historical archaeology in general, and urban studies in particular, has been the delineation of socioeconomic status (Cressey et al. 1982; Spencer-Wood 1987). Using the documentary record as a control, the socially stratified urban center can serve as an appropriate data base for recognizing socioeconomic status and consumer choices in the archaeological record. Investigation of less complex, more thoroughly documented antebellum suburban sites has resulted in the identification of correlates between socioeconomic status and material culture in Charleston (Zierden and Grimes 1988; Zierden et al. 1986a; 1987). If individual households can be isolated, the VRTC site can contribute to this ongoing study.

6) Charleston and Industrialization: By the middle of the antebellum period, most American cities were undergoing industrialization. Radical changes occurred in urban environments between 1820 and 1860, as a national economy replaced local and regional economies (Goldfield 1977:52). A specialized area of study in historical archaeology, industrial archaeology, investigates the development of industry and technology, and studies the workplace (Newell 1978). Similar to the traditional focus of historical archaeologists,

> It is only a matter of scale and scope of the enterprise studied that separates an historical archaeologist's interests in small-scale production of goods and services, such as cottage-craft industries and backwoods blacksmithing, with the large-scale sites investigated by industrial archaeologists, including blast furnaces, hydroelectric dams, and railroads (Council and Honerkamp 1984:5).

The East Side was home to Charleston's attempt to industrialize. Located in the VRTC blocks, the South Carolina Railroad complex began the industrial drive with foundries and railroad car shops to soon follow (Rosengarten et al 1987). The study of the VRTC blocks provides a first look at the effects of industrialization, specifically the railroad, in Charleston. As Brown (1980) has pointed out, the railroad

and its associated features are not simply a product of changing technologies, physically altering the landscape and having ecological ramifications such as industrial waste. Transportation routes are critically linked to political, social and economic factors.

6) Industrial Slavery: In the eighteenth century, urban slaves were employed as servants, laborers, semiskilled craftspeople, and skilled artisans. As southern cities developed industrially, a new class of workers, industrial slaves, came into being. The material culture of industrial slaves is expected to be more limited than that of other urban slaves, especially those who were able to hire out their own time. Historical research indicates that dormitories for slaves owned by the South Carolina Railroad were located on the VRTC site. If such components can be isolated archaeologically, the VRTC project can contribute to the study of this phenomenon.

CHAPTER II

DEVELOPMENT OF THE EAST SIDE

Introduction

Historical research on the VRTC tract was conducted as part of a general archival survey on the East Side neighborhood (Rosengarten et al. 1987). The East Side project was designed to gather information on the history of Charleston Neck, focusing on the African-American population, to examine in detail land use on the East Side in preparation for archaeological research, to increase public knowledge of the community's heritage through exhibits and publications, and to supplement architectural survey information, connecting, wherever possible, previous inhabitants and activities with extant structures or archaeological sites.

The East Side report contains extensive information on spatial patterning on the East Side; Charleston's African-American population; health, sanitation, and municipal improvement; industrialization; the East Side during the Civil War and Reconstruction. Rosengarten et al. (1987) should be consulted for further information. Excerpted in this report are details relevant to the history of the VRTC blocks. Since the completion of the East Side survey, an excellent new text on Charleston architecture by Kenneth Severens (1988) has been published. Severens discusses The South Carolina Railroad structures in detail; information and illustrations from his book are also included.

Settlement of the City and Suburb

A group of patriotic and profit seeking English noblemen founded the Carolina colony in 1670. In 1680, the Lords Proprietors, eager to establish a port city in Carolina, relocated their first town from a marshy area on Albemarle Point to the more defensible and commercially suitable peninsula formed by the confluence of the Ashley and Cooper rivers (Earle and Hoffman 1977). Here the English settled the area along the Cooper River bounded by present-day Water, East Bay, Cumberland, and Meeting streets. The planned city, known as the Grand Model, encompassed the high land from Oyster Point to Beaufain Street. The town was laid out around a central square and divided by wide streets into deep, narrow lots, a plan characteristic of seventeenth-century Irish towns colonized by the British (Reps 1965). While the new Charles Towne was a renaissance city in many ways, the surrounding wall and steep roofs gave it a decidedly medieval atmosphere (Coclanis 1984).

As colonists searched for profitable staple crops, the settlement developed gradually as a port and market. An initially successful Indian trade in deer skins provided the impetus for Charles Towne's commercial growth. The decade of the 1730s witnessed the town's transformation from a small frontier community to an important mercantile center. When royal rule replaced an inefficient proprietary government in 1729, following a revolt by the settlers, Carolina

entered the mainstream of the colonial economy. The development of outlying settlements, following the Township Plan of 1730, brought an influx of products from the backcountry. Meanwhile, as rice became more profitable, Lowcountry plantations rapidly expanded. Thousands of Africans were imported as a labor force, and merchants grew rich dealing in staples and slaves. Merchants and planters formed the elite of Charleston society; indeed, the two groups often overlapped, for planters engaged in mercantile endeavors, and merchants invested their earnings in land, becoming planters themselves. This strong tie to the country is an important theme in the city's history (Goldfield 1982).

As the eighteenth century advanced, Charles Towne expanded in size, economic importance, and the relative affluence of its citizens. White per capita income was among the highest in the colonies (Weir 1983). Still, the city limit remained at Beaufain Street until 1783, the year the city was incorporated and renamed Charleston. The limit then moved four blocks north to Boundary (Calhoun) Street. Within these confines, a growing population was accommodated by subdividing lots and expanding into the center of blocks. The city was oriented on an east-west axis. Charleston's merchants and craftspeople lined the waterfront and three streets, Broad, Tradd and Elliot, which carried traffic west across the peninsula (Calhoun et al. 1982). Like other eighteenth-century cities, Charleston was a pedestrian town. Merchants needed to be near the waterfront for the sake of convenience as well as for economy of transportation. Hence, the area known as Charleston Neck, north of the city proper, was slow to develop (Figure 3).

Throughout the colonial era, the peninsula above Beaufain Street was countryside, occupied by plantations and small farms. Many large landholdings were subsequently divided among heirs. As the city spread northward, these tracts were subdivided and developed along the lines of English "villages."

Around and between planters' large houses and spacious lots, a heterogeneous population took up residence. Charleston merchants, manufacturers, attorneys, and physicians built or rented substantial homes in the suburb. White artisans, tradespeople, and mechanics lived in more modest houses, above shops, or in "workers cottages" built by their employers. German and especially Irish immigrants in increasing numbers staked a claim on the Neck, competing for jobs with black people, slave and free (Silver 1979).

The Neck had special advantages for city dwellers of African descent, especially for free Negroes and for slaves granted the privilege to work and live on their own. Rents were lower, real estate was more available and less expensive, and new houses could be built of wood, a practice discouraged within the city limits. The suburb also offered some respite from police surveillance and control; hence the Neck appealed to runaways, slaves "passing as free," and other people eager to expand their personal liberty.

Unwilling immigrants, Africans had arrived with the first Europeans on the shores of the Carolina colony. The topography, climate, and fertility of the Lowcountry was ideal for the production of valuable staples and fostered the development of plantation

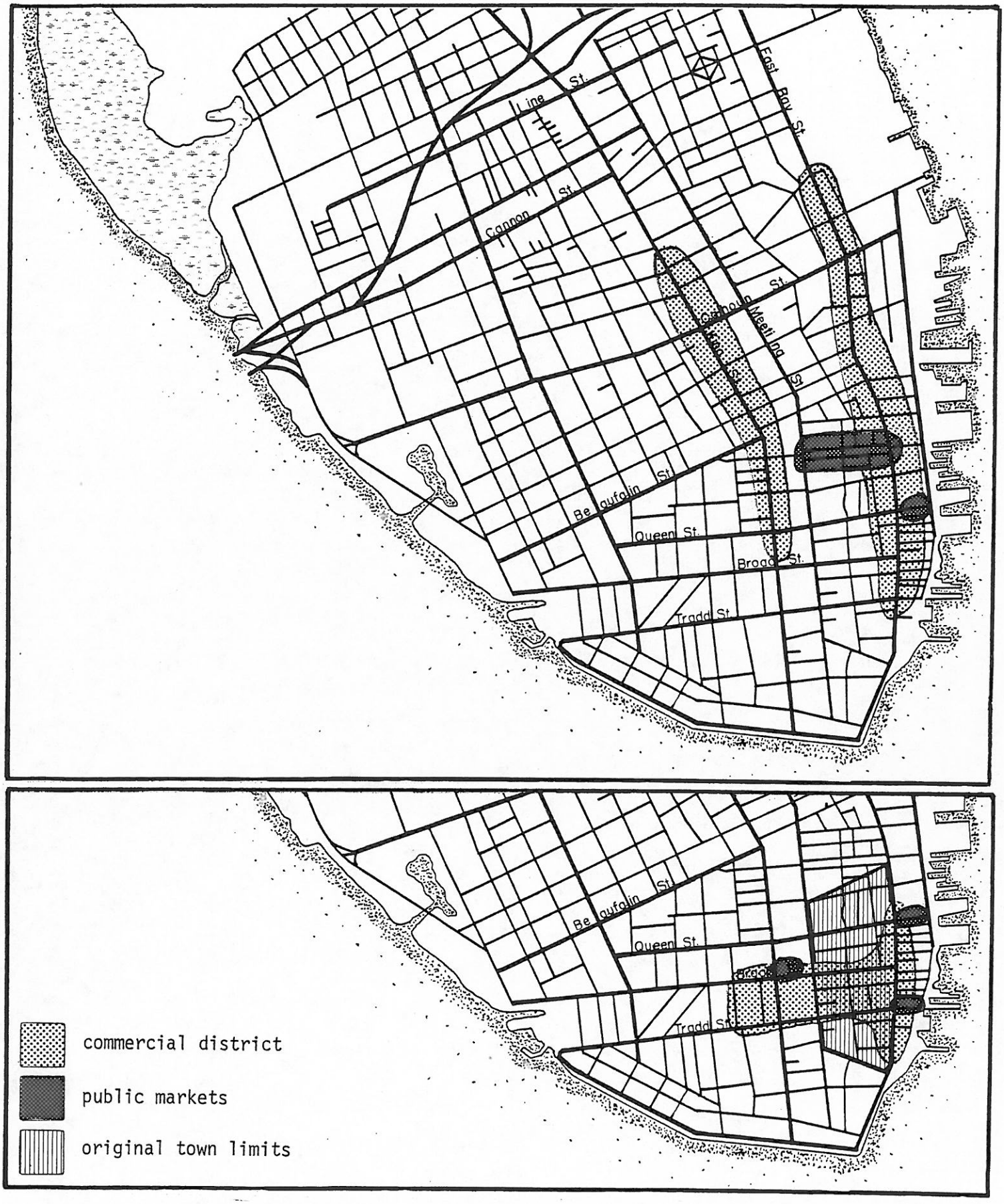


Figure 3: Location of the commercial district in the 19th century and in the colonial period.

agriculture. Heat, humidity, and malaria discouraged white settlement, while the successful production of indigo, rice, and later, cotton increased the demand for a labor force (Phillips 1974:8). Besides being accustomed to the subtropical climate, Africans were able to adapt their use of wild foods and natural remedies to the native flora and fauna. Moreover, they possessed skills in rice cultivation and other tasks essential to the plantation (Wood 1975; Littlefield 1981). By 1708, the majority of Lowcountry residents was black. Negro bondsmen and women worked the crops in the countryside and provided labor for building and maintaining the city.

Most slaves were field hands, laborers, servants, or porters, but on plantations, and in the city, some served as coopers, blacksmiths, brickmakers, millwrights, carpenters, seamstresses, barbers, fishermen, pastry cooks, and in many other skilled occupations. Owners routinely "hired out" their Negro artisans. A few slaves won their freedom by buying it; masters "manumitted" others, especially house servants, in recognition of special services or skills, or in response to sometimes familial affection. The emerging class referred to as "free persons of color" congregated in Charleston. In some trades, Negroes displaced white artisans and laborers. All social classes lived side by side in the eighteenth-century city. After 1800, free Negroes and town servants were among the first residents to move to the newly developed boroughs of the Neck, reflecting their growing independence (Berlin 1987).

The land above Beaufain Street and the Grand Model was originally granted in parallel parcels, each extending from the Ashley to the Cooper River. The parcel between present day Calhoun and Line streets was granted first to Richard Cole, but in 1677 was regranted to Richard and Rebecca Batten. The Cole-Batten land was subdivided among various persons, and in the 1730s, Joseph Wragg acquired a large portion of it.

Smaller acreages went to Daniel Cannon, Alexander Mazyck, the Elliott family, Henry Laurens, and others (Stockton 1985). As the colonial period came to an end, landowners turned an investor's eye towards the burgeoning city. The lands between Beaufain and Boundary had already been developed as discrete communities: Middlesex, Laurens Square, Rhettsbury, Harleston Village, and Ansonborough. Wealthy merchants with large holdings on the east side of Charleston Neck followed the same pattern in designing the subdivisions of Hampstead, Wraggsborough, and Mazyckborough. An additional early feature was the botanic garden, which occupied nine-tenths of an acre on the corner of Meeting and Columbus streets.

Wraggsborough was part of the extensive holdings originally granted to Joseph and Samuel Wragg. Following Joseph's death in 1751, his property was divided among his children (Rogers 1980:59). John Wragg, who inherited 79 acres east of the "Broad Path" (King Street), created the neighborhood of Wraggsborough. He set aside a park and a mall for public use, and named six streets for his children: Ann, Charlotte, Elizabeth, Henrietta, John, and Judith. John Wragg died intestate in 1796, leaving his heirs to settle his estate among themselves. To facilitate distribution, Joseph Purcell surveyed the

area in 1801. John Wragg may have intended, when he created Wraggsborough, to attract well-to-do planters and merchants seeking spacious and quiet dwelling sites (Childs 1980:2), but the subdivision drawn by Purcell clearly indicates that his heirs were hoping to turn a quick profit.

Speculation was not new to Charleston; in fact, land speculation was the most common money-making venture of the planter class (Calhoun et al. 1982; Oakes 1982:12). What was unusual about Wraggsborough was its varied lot size and the dispersed nature of individuals' holdings, indicating that the suburb was planned for mixed use. Commercial locations were at a premium. In 1806, William Loughton Smith sold some of the lots he had acquired when he married Charlotte Wragg. His cousin by marriage, Joseph Manigault, reported:

> All those fronting on King Street, joining the lands now belonging to Brown(lee) were sold at the rate of L 25 per foot on King Street.... Mr. Pogson has offered his lot on Meeting Street and Hudson Street, but there was no bidders - only lots near and on King will sell to any advantage (Gilreath 1981:48).

A year later, Joseph again commented on the sale of land by another Wragg heir:

> Joseph Smith's lot, on the corner of King and Ann Streets, which is 201 feet square, was sold lately for L 3300, which I think, you will allow to be a good price for it, but the difference between the value of lands on King Street and other parts of Wraggsborough is very great (Gilreath 1981:57).

Joseph Manigault observed the obvious when he remarked on the discrepancy in value and desirability between King Street property and lots on other streets. Since the colonial period, King Street had been the major route into the city, following the ridge of highest land and dodging creeks up the center of the peninsula. Beyond the main gate (located at Calhoun Street) of the small, walled city the street was called the Broad Path. Down this road came wagons from the interior, carrying plantation produce and returning with imported goods, cloth, and provisions. To cater to the backcountry trade, merchants built stores and wagon yards along the Broad Path. By the 1770s, some 3,000 wagons came annually to Charleston (Earle and Hoffman 1977:36). As footmen, pack-horses, and wagon traffic widened the thoroughfare, the Broad Path lost some of its twistings and turnings, but not all. "Today an automobilist who loses his way in the aberrations of the Charleston streets," wrote Samuel Gaillard Stoney in 1939, "may have no one to blame so much as a colonist who was trying to keep his boots dry on the way into the country two hundred and fifty years ago" (Stoney 1939:18).

Commercial Activity on the Neck

While the wagon trade continued, the character of King Street changed dramatically in the nineteenth centruy. By the 1850s, the improvement was striking. "King Street," Charles Fraser marvelled, "now

so attractive, with its gorgeous windows and dazzling display of goods emulating a Turkish bazaar, and inviting them (the ladies) to a daily promenade, was then chiefly occupied by hucksters, peddlars, and tavern keepers" (Fraser 1854:12-13).

King Street's transition from a wagon road to a bustling retail center reflected fundamental changes in the city's commercial community. Businesses were becoming more specialized, and the retail and wholesale merchant was no longer one and the same. Wholesale dealers, factors, and commission merchants continued to cluster along the waterfront, in the older sections of the city. Retail merchants, in contrast, began to follow their customers up the peninsula. From 1805 to 1810, only 4.8 percent of the merchants who advertised in the Charleston Courier were located on this thoroughfare; by 1859 over one-third of all merchants who advertised listed a King Street address (Calhoun and Zierden 1984). Despite this expansion, Charleston remained a pedestrian town, and the built-up area along King and Meeting streets never measured more than two miles long. As late as 1875, Arthur Mazyck described King Street as containing "about two miles of small stores, with here and there a really fine store" (Arthur Mazyck 1875, Guide to Charleston, Illustrated, quoted in Stockton 1985:22). One could live in any part of the city and still be within walking distance of shops and tradespeople (Radford 1974:177) (see Figure 3).

Retail businesses and professional offices on Charleston Neck were highly concentrated on King Street; between 1803 and 1860, the only East Side businesses advertising in the Charleston Courier - that is, soliciting a city-wide clientele - were located along King. Other streets were primarily residential, though scattered stores catered to local clientele. These family-owned shops sold groceries, liquors, or household goods. Many of them occupied corners; hence their nickname, "corner stores." When the first floor of a structure was renovated as a store, the corner frontage might be cut away at a 45 degree angle to accentuate its new function. The upper floors generally served as residences. A number of these corner stores are still in business on the Neck.

Groceries and "grog shops," often owned and operated by German immigrants, proliferated on the Neck. Neighborhood businesses provided a place to meet, to purchase supplies, and to barter. The relationship between shopkeeper and customer was mutually beneficial. In general, German immigrants enjoyed a more congenial relationship with the city's colored residents than did their Irish counterparts, who competed directly with blacks for jobs. Grog shops, in particular, became gathering places for slaves, runaways, and free Negroes. Often the center of illegal activities (it was illegal to sell liquor to a slave), the "Dutchman's shop" soon developed into a thorn in the side of the police force. The Neck "was infested with the lowest and vilest grog shops, poisoning and destroying our colored population" (Charleston Courier, September 20, 1845, quoted in Wade 1964:151). The conviviality and licentousness of suburban shops continued to be viewed as a major threat to the social order throughout the antebellum period.

The Neck offered relatively isolated and spacious lots to manufactories that were dangerous, malodorous, or sprawling, just as the fringes of the early colonial city had a century earlier (Calhoun et al. 1982). Tanners, butchers, tallow chandlers, and dairymen, for example, were drawn to the Neck because they were not welcome downtown: tallow chandleries because they were fire hazards, butcher shops because they were offensive, and tanneries and dairies because they required wide, open spaces. Over a 50 year period, city directories listed numbers of these businesses on the East Side (City Directory 1809, 1822, 1831, 1849, 1852, 1859).

Patrick Gassimer employed a sizeable crew in his tanyard and leather store on King and Mary in the 1820s. Daniel Cruckshanks ran a tanyard on Hanover Street in Hampstead in 1822, and in 1831 tanners worked on Amherst Street and Ann Street. The largest enterprise of this type was James Elder's on the corner of King and John streets, operating through the 1830s and 1840s.

East Side tallow and soap chandlers included one on Mary Street, "near a pond," one on Columbus and Meeting streets, one on Henrietta, and one on King Street Road. Mr. Anthony's tallow chandlery on Mary and King remained in operation through the 1830s. As late as 1849, a tallow chandler was located on the northern end of King Street.

Craftspeople whose trades demanded little space most likely worked where they lived, but other East Side enterprises needed specialized facilities. Among these were a rope walk, where rope and twine products were manufactured, on Meeting Street at the Lines (Line Street was named for a line of fortifications built in 1812), a steam saw mill on Washington Street, a rice mill on Meeting near Ann, and a grist mill and haymarket at the east end of Boundary (City Directory 1822, 1831, 1849). As the Neck became more densely settled, most grain and stock processing businesses disappeared. By 1859, the only tanyard left on the East Side was the Cruckshanks' enterprise on Hanover near Amherst, now operated by Daniel's son, Samuel. Four poultry dealers had come to the area; all but one were far up King Street. Another new business, a soda water manufactory, had opened on the corner of Elizabeth and Ann streets. The steam saw mill located on Washington street was still in operation (City Directory 1859).

Woodyards represented the principal route to prosperity for free colored entrepreneurs. Of all of Charleston's free Negro businessmen, over 58 percent were wood factors (Curry 1981:27). Foremost among these on the East Side, the Dereef family purchased a creek-side property in Mazyckborough in 1838, ideally suited for a wood lot and wharf (CCRMC 2-10:92). Woodyards were concentrated on the new wharves constructed north of Calhoun Street. By 1849, when the Neck was annexed to the city and divided into four "upper" wards, the East Side resembled the lower, eastern wards: bounded on the west by a retail commercial district and on the east by a wholesale and shipping zone (Figure 4).

East and west boundaries became more defined as the East Side emerged as the location of choice for Charleston's expanding industries. The South Carolina Railroad and Northeastern Railroad were

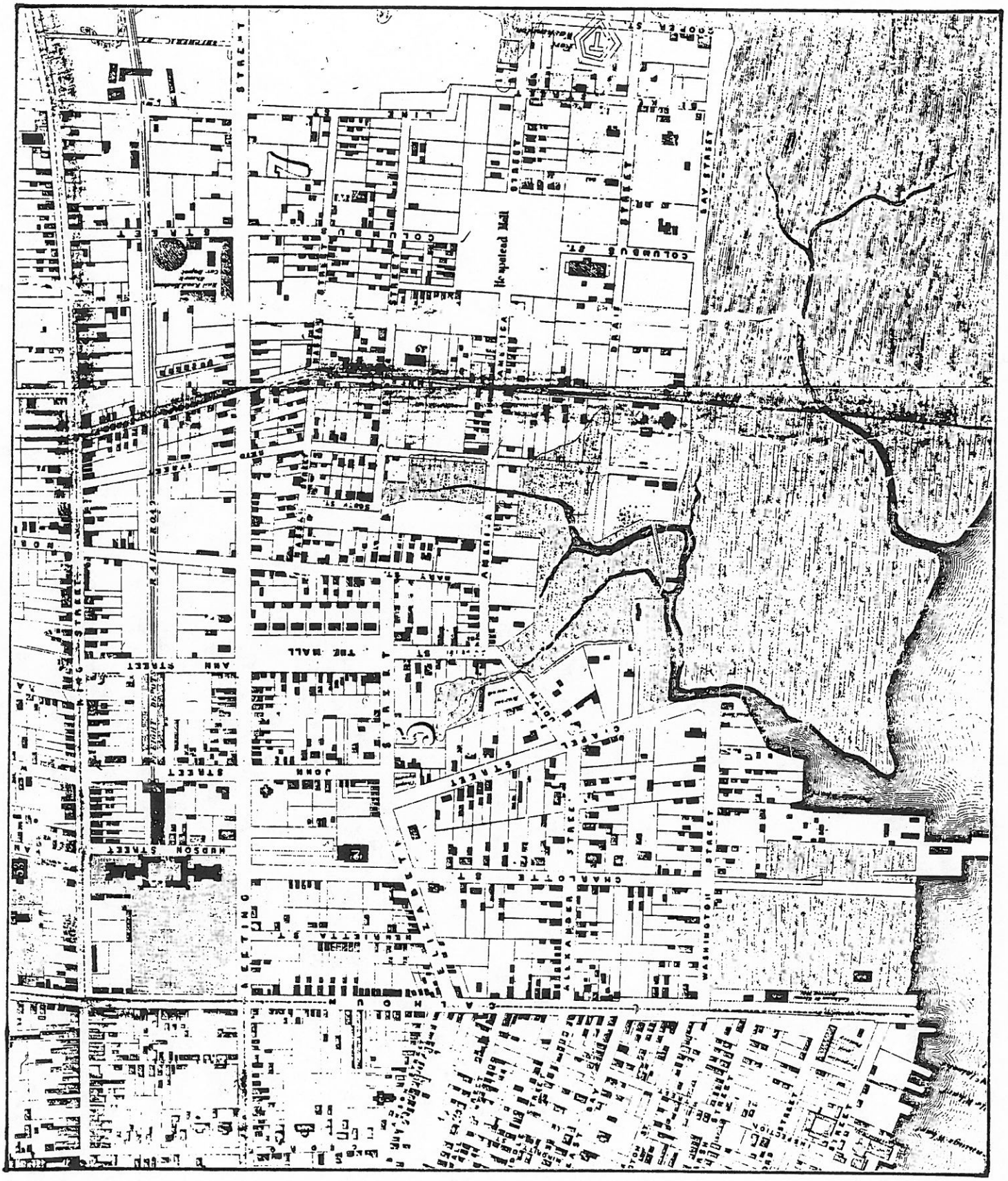


Figure 4: Portion of the 1852 Bridges and Allen map showing Wards 5 and 7.

built between King and Meeting streets, and along East Bay Street, respectively. Open spaces, lower real estate values, relaxed building restrictions, access to deep water harbors, and proximity to the railways attracted large-scale manufacturing enterprises. The prohibition of steam engines within the city limits until the 1840s likewise encouraged new industries to locate on the Neck. Iron foundries, car manufacturers, and a new gas works were strategically situated between the tracks of the two railroads. In less than half a century, the eastern part of the Neck was transformed from the "country," a sparsely settled suburban haven for planters, to the center of Charleston's industrial future, home to both new industries and their workers (Figure 5).

The VRTC Site

The two blocks scheduled for development as the Visitor's Reception and Transportation Center were studied in detail. The study area consists of the land bounded by John, Meeting, Mary, and King streets. Changes in property ownership and use illustrate significant land use trends in this community.

The VRTC site is part of the historic neighborhood of Wraggsborough. John Wragg died intestate in 1796, leaving his heirs claim to distributive shares of his estate. To facilitate distribution, John Purcell surveyed the area in 1801. The two blocks bounded by John, Meeting, Mary, and King streets were among the lands passed to Wragg's heirs.

The southern block was divided into lots D and C, 1-3. Lot D belonged to Christopher Gadsden and C to the children of Mrs. Mary Smith: #1 to Joseph Smith or his son Thomas Allery Smith, #2 to Judith Wragg, wife of James Ladson, and #3 to Mary Wragg, wife of John Gibbes. The Purcell plat showing these divisions served as a reference for several land transactions in the early years of the nineteenth century (Figure 6).

Christopher Gadsden left lot D to his wife and her heirs (Charleston County Wills 30:69). After 15 years, his wife, Ann Gadsden, willed the tract to her niece, Ann Ferguson. Under Ann Ferguson's ownership, the tract was further divided; she sold the portion along Meeting Street to James Elder in 1831 for $5,000. The property measured 200 feet along Meeting Street and 266 feet along John Street (CCRMCO D-10:35). The eastern portion of this tract was subsequently divided into four linear lots fronting Meeting Street, measuring 107 to 104 feet in depth. In 1851, Thaddeus Street and William M. Dukes, trustees for James Elder, sold the second lot, plus buildings, on Meeting and John streets to J.E. Masley for $3,134. The property measured 56 feet along Meeting Street and 107 feet in depth (CCRMCO L-12:173). The deed indicates that the first lot was still controlled by Dukes and Street.

Elder's trustees sold the lot immediately to the north to James Gadsden in 1851. The lot extended 43 feet along Meeting Street and 104 feet into the block (CCRMCO M-12:274; L-12:175). Including structures,

Figure 5: The East Side in 1872 (Drie 1872).

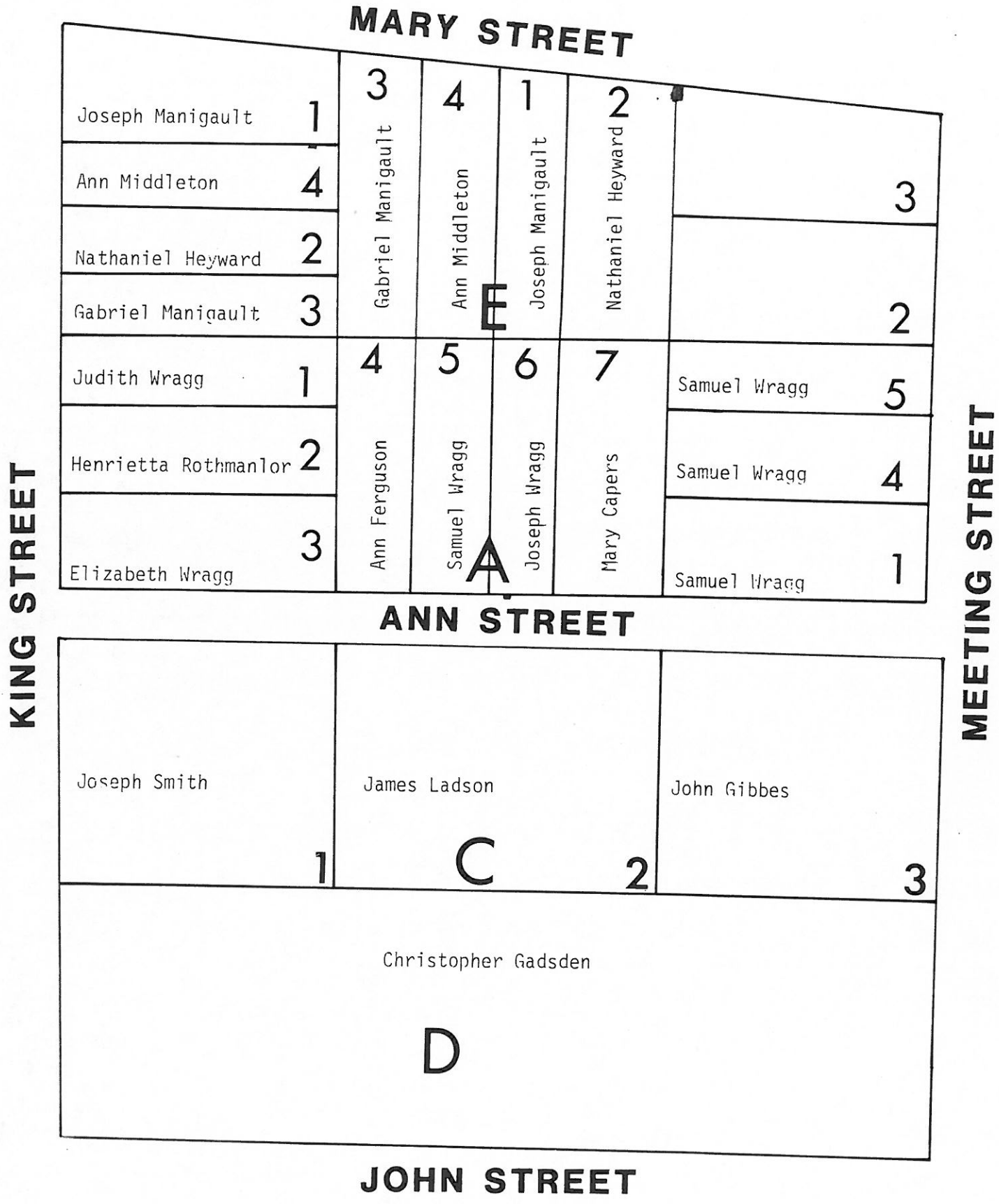


Figure 6: Original subdivisions and property owners, VRTC blocks.

it sold for $1,700. James Gadsden also purchased the lot and buildings abutting to the north, measuring 35 by 104 feet for $1,933.34 (CCRMCO L-12:413).

The 1853 Ward Book indicates that James Gadsden retained ownership of these two lots, which now measured 60 and 70 feet in width and were valued at $3,400 and $3,600, respectively. An engine house (probably for fire equipment) was located between the two. Joseph Prevost and Mrs. E.L. Brown, in trust, owned the first two lots to the south, valued at $5,000 and $3,000, respectively (Ward Book 1853:187). The City Census of 1861 lists the Eagle Engine Company and two lots in the trust estate of Honoria W. Fentenhime on these properties. Dr. Richard B. Rise and William Quigley each occupied a lot. Honoria Fentenhime, formerly Honoria Seabrook, acquired the properties from the trustees of James Gadsden's estate. (Gadsden had purchased them as the guardian of the then Miss Seabrook in 1850.) Fentenhime sold the northern lot to Susanna A. Cook and the southern lot to Jacob Bouresky in 1863.

The northern half of the Meeting Street frontage along this block was originally part of lot 3C, granted to John Gibbes and Mary Wragg Gibbes. In 1833, William Aiken, Jr. acquired the western portion of this lot, with 144 feet fronting Ann Street and 200 feet extending to the south; Aiken sold it to the South Carolina Railroad in 1849 (CCRMCO V-11:357). The heirs of Mrs. Gibbes sold their property to Gabriel Manigault in 1805, for $10,000 sterling. This property bounded 200 feet on Meeting Street and 244 feet along Ann Street. In 1841, Arthur S. Gibbes and others sold a lot plus buildings to W.J. Bennett for $5,000; this lot measured 100 feet along Ann Street and 60 feet along Meeting Street. The lot immediately to the south belonged to John McKeegan. Bennett sold his property to James B. Gray, Master in Equity, in 1852 for $5,300; the next year, before his mortgage to Bennett was satisfied, Gray sold the lot with two buildings to Albert Bischoff, a merchant, for $5,500 (CCRMCO S-12:509; A-13:231). The 1852 Bridgens and Allen map of the City of Charleston, a very detailed and precise document, shows this land divided into five linear lots fronting Meeting Street; the 1853 Ward Book lists John McKeegan as owning the southern three lots, totalling 80 feet in width and valued at $5,200. James Gray sold the northern two houses and lots, valued at $5,000, to A. Bischoff. McKeegan and Bischoff retained ownership of the five properties through 1864; in 1861 the houses were occupied by (south to north) Edwin C. Prince, a bookkeeper; Grampbell W. Getty, an inspector for the fire insurance company; Charles O. Martindale, a bookkeeper; Sarah Fraser, a free person of color; and Albert Bischoff (City Census 1861; Ward Book 1864). In 1864, the assessments of McKeegan's three wood houses totalled $5,000; Albert Bischoff's two wood houses and lots were valued at $3,900.

Returning to Christopher Gadsden's original lot D, the central portion of this substantial tract was eventually subdivided into long, narrow lots that fronted on John Street, with the Railroad track, 37 1/2 feet wide, running down the middle. Following Ann Ferguson's sale of the large Meeting and John street tract to James Elder in 1831, his executors, Thaddeus Street and William C. Dukes, sold the western portion of the property to James' son, William Elder, for $10,120. William Elder, along with James McClane, mortgaged the property to

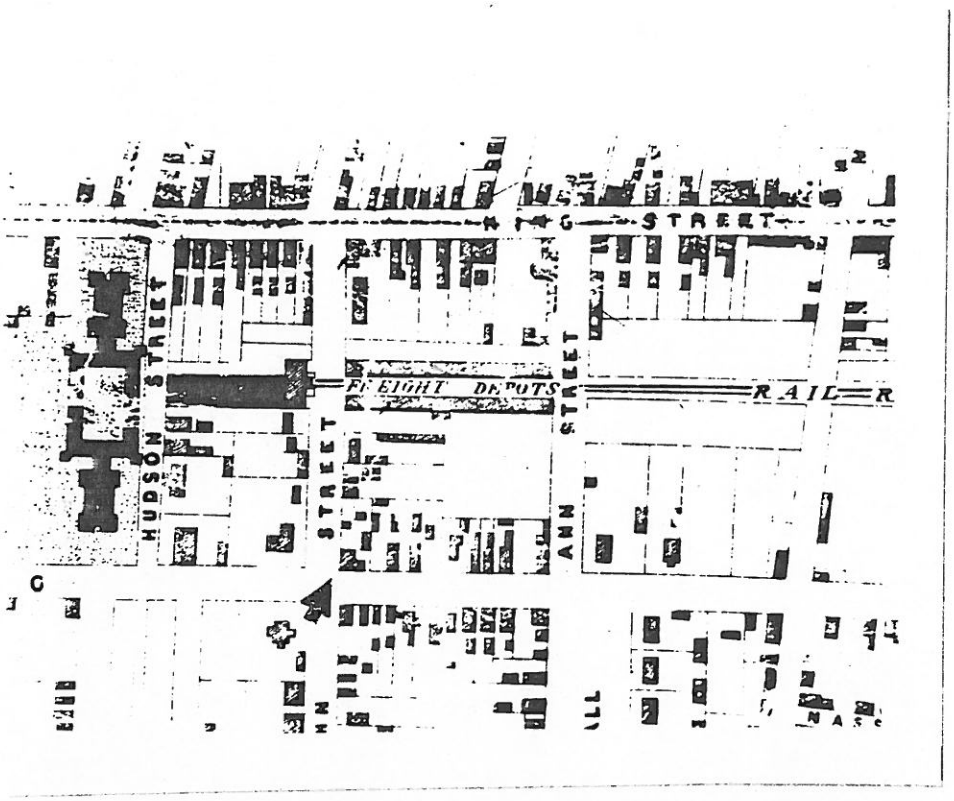
William Dukes and Thaddeus Street and later seized the property for nonpayment of the mortgage. In 1853, Elder and McClane then sold the buildings and land, measuring 152 1/2 feet along John Street and 200 feet in depth, to the South Carolina Railroad for $14,500 (CCRMCO T-12:545).

Bounding this property immediately to the west was a small tract which, in 1831, Ann Ferguson sold to her son, James Ferguson, a planter, for $200 (CCRMCO D-10:39). The piece measured 53 feet on John Street and was 100 feet deep. Ann Ferguson also sold a tract 58 by 200 feet on John Street to the South Carolina Railroad for $900. The sale was executed in 1834 (CCRMCO G-10:312).

In 1838, Peter Desverneys, a free person of color, acquired James Ferguson's tract. Desverneys is well known as the slave who informed his master of the impending Denmark Vesey insurrection of 1822 (Lofton 1983). For this "service" he was awarded his freedom and an annual pension of $50. He went on to acquire considerable personal wealth, including slaves. In 1849, Desverneys sold the 50 feet of his John Street frontage to F.C. and T.C. Prioleau, free persons of color, for $5,000 (CCRMCO Y-10:515). The same year the South Carolina Railroad bought the westernmost section of Desverney's property, 63 feet wide, for $2,5000 (CCRMCO V-11:337), and James Ferguson bought back the majority of the tract - two lots of land totalling 115 feet on John Street - for the sum of $13,028 (CCRMCO U-10:426-428). While Desverneys owned extensive property in Wraggsborough, he lived on Wentworth Street in Ward 3 (CCRMCO Y-10:539).

The 1852 Bridgens and Allen map shows five lots facing John Street (Figure 7), including a major tract owned by the South Carolina Railroad. The 1853 Ward Book lists lot owners east of the Railroad corridor, known then as Railroad Avenue. East to west, these were Dr. J.F. Poppenheim, a planter; W.J. Laval, Deputy Controller; General J.H. Honour, insurance company president, and John Mann, who owned two lots. The westernmost lot remained in the estate of James Elder. Three lots were assessed west of the Railroad: a lot owned by C.M. Furman, another by Honour, and a house and lot formerly used as a factory. In 1861, two properties east of the Railroad were owned by Dr. Poppenheim and Richard Arnold and occupied by Alexander M. Corrie and Joshua Roddin. The South Carolina Railroad held the next three properties, which were used as a store house, a freight depot, and for "slaves." The single lot west of the Railroad was owned by Charles T. Mitchell and occupied by Mrs. Ann Smith. These tracts remained in the same hands until at least 1864 (City Census 1861; Ward Book 1864).

The rest of Christopher Gadsden's original lot D was subdivided into linear lots facing King Street. John Ferguson sold the corner lot to Elizabeth Clarkson in 1840; ownership was transferred to T.B. Clarkson nine years later for $5,000 (CCRMCO A-12:510). The property to the north was purchased from Ferguson by the South Carolina Railroad in 1849 (CCRMCO U-11:495). Within four years the Railroad sold the property to John Edward Carew and James Albert Hopkins. They proved unable to pay the mortgage, and James Grey, Master in Equity, sold the property, known as the South Carolina Shoe Factory, to Charles Dunn and C.T. Mitchell. Mitchell purchased the southern lots,



1852

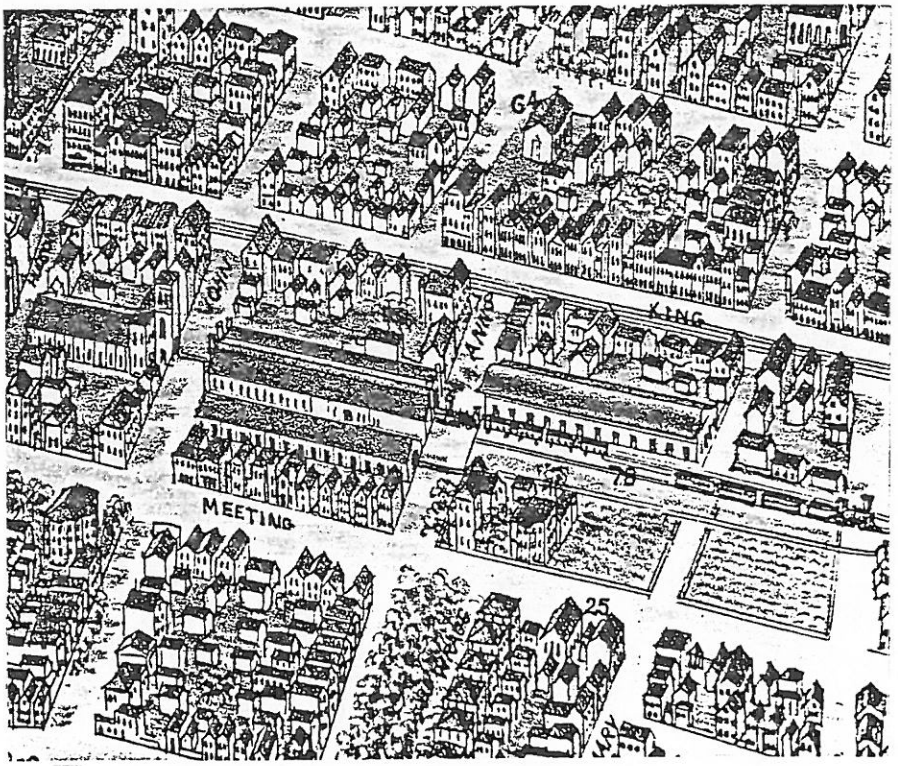


Figure 7 : The VRTC blocks in 1852 and 1872.

#1 and #4, on the corner of King and John (CCRMCO V-12:79). James Ferguson sold the next lot to the north to Samuel Corrie for $3,600 in 1841 (CCRMCO Y-10:70). Ferguson foreclosed on Samuel Corrie in 1844, and Jacob Kalb acquired the property. Kalb also owned the lot immediately to the north, which he had acquired from James Ferguson in 1840. This property contained a two-story brick house.

Continuing along King Street, we return to lot 1C, originally granted to Mary Wragg Smith's son, Joseph Smith and his son, Thomas Allery Smith, in 1801. Joseph Smith was a land speculator, and transacted most of his business from London. Smith divided his property into five "suitable building lots," each 40 feet wide along King Street, to be sold at public auction. William Smith purchased lot #1, the southernmost, in 1809 (CCRMCO X-7:29; B-8:459); James Pernall purchased lot #2 in 1807 (CCRMCO U-7:212; Z-8:78). In 1814, Pernall sold his lot to John Stoney, a merchant, for $15,000. However, there is no record of any payment. John Robinson filed a claim in the Court of Common Pleas against James Pernall for non-payment of a debt and received the King Street property as settlement in 1820; the land was improved by this time, for the deed specifies "houses" on the property. John Robinson purchased the property in 1826 (CCRMCO T-9:238), and sold it to William Aiken, Charles Edmonston, and Lewis Petray. William Aiken, who acquired the property by 1849, sold it to James Gadsden, who in turn sold it to John L. Francis, a barber, in 1854 (CCRMCO E-12:117; U-12:303). John Wilson then purchased the northern half of the lot.

A Charleston merchant, Charles Cunningham purchased lot #3 (CCRMCO W-7:27). Cunningham died intestate and the Master in Equity sold the property in 1821 to John Brownlee, as guardian (CCRMCO N-9:105). William Aiken purchased it that same year. Lot #4, purchased from Smith by Bernard Jacobs in 1809, also became William Aiken's (CCRMCO U-7:215). William Smith held lot #5 for James Mackie, a minor (CCRMCO B-8:45). In 1811, James Mackie sold the lot to Aiken, who within the year built an impressive house on the property where it still stands (CCRMCO F-8:3; Shine 1985). He eventually acquired the northern three lots as well. Aiken's wife, Henrietta Aiken, managed his property after his death in 1831.

The 1853 and 1864 Ward Books and the 1861 City Census provide more information about these lots, as well as several others which fronted King Street. During the first half of the nineteenth century, extensive subdivision of this frontage had occurred. C.L. Mitchell evidently purchased from Carew and Hopkins the three lots and buildings facing King Street, valued together at $8,000. Continuing north on King Street, the 1853 property assessor noted a house/dry goods store and lot worth $2,000, owned by Charles Dunn; three tracts owned by T.H. Kalb, valued at $8,000; one by C.G. Branford; and two small lots each worth $2,000, owned by Robert Houston and John Wilson, free persons of color. The skilled trades of the two men, Robert Houston, a tailor and John Wilson, a cabinetmaker, suggests that they were relatively affluent members of their class. The last house and lot on the block belonged to William Aiken and was assessed at $15,000. While the 1852 map indicates only seven single lots along King Street, the Ward Book of 1853 describes 11 properties.

The 1861 Census indicates further subdivision; 15 houses and lots are enumerated along King Street. From south to north, they are:

No.	Brick	Wood	Owners	Occupants
452	1		Charles T. Mitchel	William F. White
454			do	Francis Surau
456	1		Henry H. Bolger	Henry H. Bolger(Furniture Dealer)
458		1	Phillip A. McBride	Geo. W. Egleston (Lawyer)
460			do	William Brower(Painter)
462	1		Nazer F. Petit	Slaves
464	1		do	James Welsh and others
466			do	Jerry Murphy and others
468	1		do	Unoccupied
470	1		Christian Amme	Christian Amme
472	1		Tr.Est.Mrs. C.G.Branford	Charles G. Branford
474		1	Robert Houston, f.p.c.	John Wilson, f.p.c.
476		1	do	Robert Houston, f.p.c.
478		1	John Wilson, f.p.c.	John Wilson, f.p.c.
480	1		William Aiken	Dr. L.A. Frampton(Doctor)

(City Census 1861; City Directory 1859)

The 1864 Ward Book indicates that the owners remained the same through the war years, except in the case of two lots which William Henry Cooms acquired from P.A. McBride.

Lot 2C encompassed the north central section of the block, and was originally granted to James Ladson and his wife Judith Wragg Ladson. James Ladson sold the property, 200 feet on Ann Street, to John Parker in 1804 (CCRMCO N-7:113). The land passed from John Parker to his son, also named John. The younger Parker, in a complicated legal agreement, bequeathed the land to his daughter, Elsa, and her fiance, Theodore Gaillard, in 1838 (CCRMCO T-10:321). Theodore Gaillard divided the property into five lots and sold the same partition of them to Francis S. Parker, along with the structures and a number of slaves. Francis Parker sold a portion of the property to the South Carolina Railroad in 1848 (CCRMCO A-12:479), while John Parker sold the remainder of his tract to the Railroad at the same time. Thoroughout the century, this central portion of the block remained the property of the Railroad (Figure 8).

Unlike the block to the south, the northern block of the VRTC site was initially divided into several smaller lots, bequeathed to descendants of John Wragg, but obviously intended for resale. The central portion of the block fronting on Mary Street was designated tract E, and was divided into lots #1 through 4. Gabriel Manigault inherited lot #3. At some point, Gabriel Manigault sold the lot to William Rouse, for in 1848 Rouse sold part of it to Thomas Marshall (CCRMCO A-12:1). Marshall immediately sold the property to the South Carolina Railroad (CCRMCO V-11:303).

Lot #4 was bequeathed to Ann Middleton, who sold it in 1805 to Gabriel Manigault (CCRMCO O-7:285), who evidently sold part to Samuel

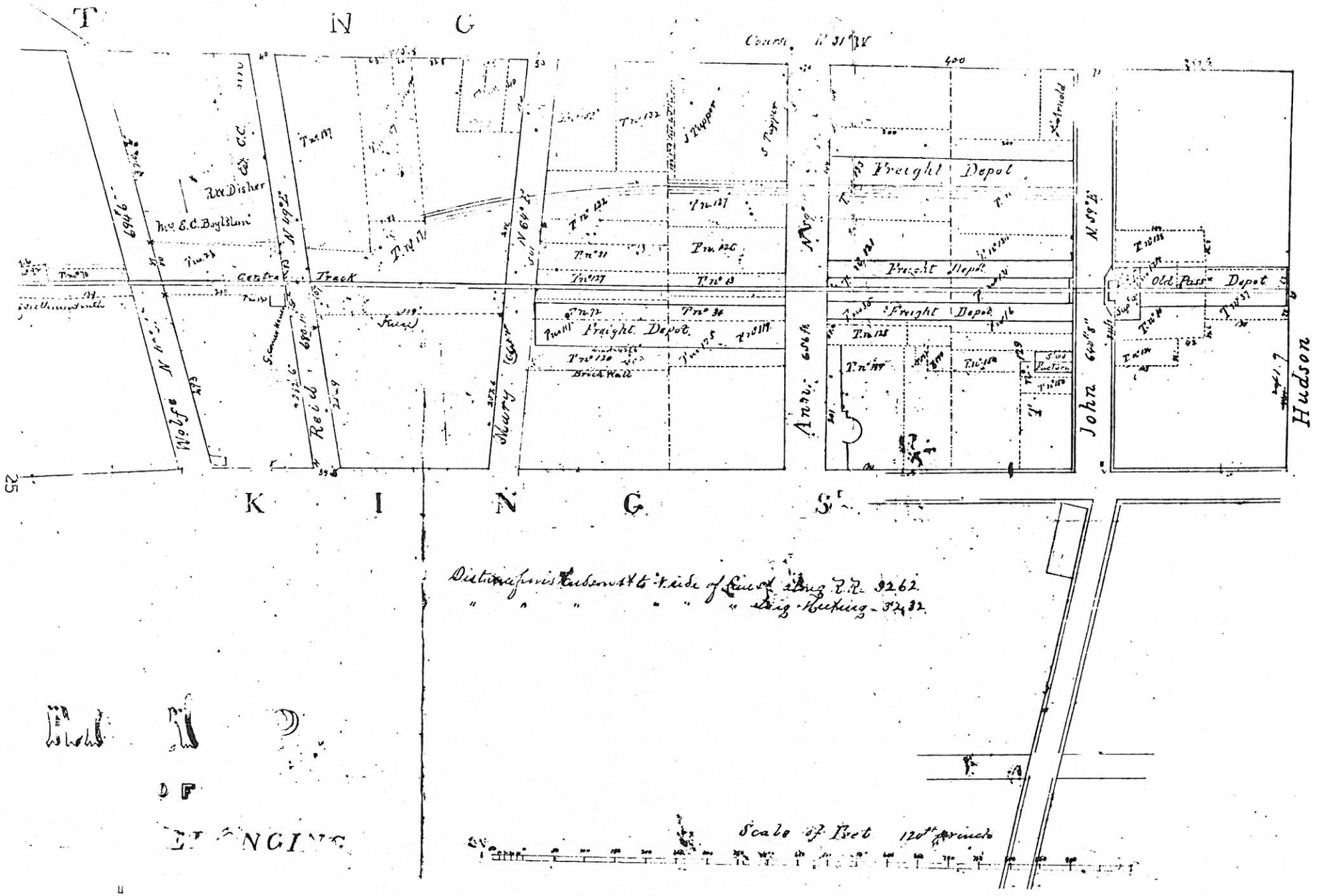


Figure 8: Mid-19th century plat of the VRTC blocks showing Tupper's property, all railroad properties, and the shoe factory.

Maverick. In 1838, Maverick swapped the property for an adjoining lot owned by the South Carolina Railroad (CCRMCO V-10:110).

Lot #1 was bequeathed to Joseph Manigault in 1801, and Lot #2 was given to Nathaniel Heyward. In 1834, Heyward sold a 40 foot strip to the Railroad, which he later traded to Samuel Maverick (CCRMCO T-10:145). In 1849, Heyward sold the remainder of his land to the South Carolina Railroad (CCRMCO V-11:35). From this point onward, no lots or houses were located along the south side of Mary Street between King and Meeting.

The eastern third of the block was initially divided into five lots, oriented toward Meeting Street. Gabriel Manigault owned the northernmost lots, #2 and 3. In 1818, Manigault sold lot #3 to John L. Bulow for $3,050 (CCRMCO A-9:49). By 1850, Edward Calse owned lot #2. In 1855 and 1856, these two owners sold their holdings to the South Carolina Railroad (CCRMCO I-13:551; S-13:247). The area was subsequently known as the cotton yards (see Figure 7b, Figure 8).

Samuel Wragg inherited the southern half of the eastern portion of the block, lots #1, 4, and 5, in 1801. In 1807, he sold the three lots to William Loughton Smith (CCRMCO U-7:287). Smith sold lot #1 to Joseph W. Toomer, who sold it to James Gadsden before 1853. Samuel Tupper then acquired lot #1 and sold to his son, James Tupper, in 1860 (CCRMCO K-14:99). James Tupper also acquired lot #4, purchasing it from John Carew in 1854. The two-and-a-half story house and lot cost $1,100 (CCRMCO F-13:189). Carew purchased this lot from Charlotte Smith in 1804. William Loughton Smith sold Nathaniel Heyward lot #5; in 1854 Heyward sold the lot to the Railroad. James Tupper purchased a ten foot strip of this land adjoining his property in 1858 (CCRMCO PB A:130).

The 1853 Ward Book indicates four lots fronting Meeting Street on this block, while the 1852 map shows five. The southernmost lot was owned by James Gadsden and valued at $10,000, followed by J.E. Carew's, valued at $6,000. Both lots are shown with structures on the 1852 map. Next came two spacious lots, whose ownership was unclear to the compiler of the Ward Book. Thomas Bulow owned the relatively modest house and lot at the corner of Meeting and Mary, valued at $2,800. The 1861 City Census and the 1864 Ward Book reflect a change of ownership to Samuel and James Tupper. Their collective properties in the southern portion of the block were valued at $18,000. The Railroad's cotton yard occupied the northern half. The City Census indicates that slaves were living on this property.

The central third of the block facing Ann Street was part of tract A and was divided into four parallel lots, #4 through 7. These were bequeathed to the heirs of John Wragg: Ann Ferguson, Samuel Wragg, Joseph Wragg, and Mary Capers. Lot #7 passed from Mary Capers to her heirs; it was eventually acquired by Samuel Maverick, who sold it to the South Carolina Railroad.

Joseph Wragg sold lot #6 to Samuel Wragg in 1806; in the same year, Samuel sold it to William Loughton Smith for $12,000 (CCRMCO R-7:166). In 1835, Smith's wife, Charlotte, sold a portion of the

property to John Brady, a bricklayer, for $1,350 (CCRMCO C-10:401). In 1841, after Brady's death, the land passed to Edward Lebring, who then sold it to the South Carolina Railroad for $7,500 (CCRMCO V-11:313). At this point, the property was listed as a lot plus two buildings.

Ann Ferguson acquired lot #5A from Samuel Wragg. She then sold the property to William Loughton Smith. In 1829, William's widow, Charlotte, sold the eastern half of the lot through her attorney, Joshua Toomer, to Peter Ward, a free person of color, for $325 (CCRMCO G-10:315).

Lot #4A also was sold by Ann Ferguson to William Loughton Smith, who paid $2,000 in 1807 (CCRMCO W-7:485). His widow sold this property to Joseph Parsons, a free person of color, in 1830 (CCRMCO A-10:168). Parsons' heirs, George Mason and Annette Elliott, in turn, sold the property to the Railroad in 1849 for $5,000 (CCRMCO C-12:30). The 1852 map shows no lots facing Ann Street along this block, with the exception of the Railroad property. The 1861 City Census and the 1864 Ward Book confirm that the Railroad was still the sole owner along this portion of Ann Street.

Rounding the corner to King Street, Lots #1 through 3A were oriented toward King Street. Lot #1 was granted to Judith Wragg, lot #2 to Henrietta Rothmahler, and lot #3 to Elizabeth Wragg. The three heiresses quickly utilized their lots. Judith Wragg leased hers to William Simms in 1806 for $100 per year for 14 years. The property and its improvements were to be re-evaluated at the end of the lease (CCRMCO S-7:433). Henrietta Rothmahler sold her lot to William Turpen for $2,500 in 1810 (CCRMCO B-8:173). Elizabeth Wragg leased her land for 14 years to William Darby for $80 per year plus taxes (CCRMCO L-7:257). The property and its improvements were to be appraised at the end of the lease. The northern portion of the King Street frontage was divided into four lots, bequeathed respectively to Joseph Manigault, Nathaniel Heyward, Gabriel Manigault, and Ann Middleton (see Figure 6). Ann Middleton sold her lot to Gabriel Manigault in 1805. Joseph Manigault's lot on the corner of Mary and King streets passed to C.S. Manigault, who sold it to Charles Tolbe (or Tolle?) in 1837. The lot then passed to William Hormell, who in 1858 sold it to the Dallum Baker & Company, comprised of Josiah W. Dallum, James Baker, Thomas C. Tupler, and Charles Barker. (CCRMCO W-13:485); the mortgage was not satisfied until 1874. Gabriel Manigault sold lot #3 to Solomon Nathans in 1818 for $3,600 (CCRMCO W-8:423).

The 1852 map shows seven lots fronting King Street; the 1853 Ward Book lists six property owners and 11 lots. Catherine Oppenheim owned two lots fronting Ann Street and two around the corner on King, worth $10,000 combined. Her holdings were followed by those of Natalie Boinest and W.C. Dukes, each valued at $5,500; James Karler with two houses and lots worth $4,000; the estate of G. Manigault with two lots worth $4,000; and J. Talle with two lots on King and one around the corner on Mary Street valued at $4,000. In 1850, W.C. Dukes and C. Manigault were assessed for improvements to King Street (Receipts and Expenditures 1850). The 1861 census lists 14 lots, with the following owners and occupants:

No.	Brick	Wood	Owner	Occupants
482		1	Mrs. Cath. Oppenheim	Philip Lotz(Shoemaker)
484		1	do	William Wright
486			do	Henry Costine
488			Natalie Benoist	Frederick Puckhaber(Baker)
490		2	Philip A. McBride	William H. Clayton
492			do	Cornelius J.H. Brown
494			do	Harris Levin
496			do	Metz
498	1		do	Francis Keane
500	1		do	Hermann Sturcken
502	1		do	Malchus Wetherhorn
504		1	do	Unoccupied
506		2	do	Henry Tiencken
508		1	John Tolle	Frederick Rehkop(Cabinetmaker)
510		1	do	F. Weinberg

(City Census 1861; City Directory 1859)

The 1864 Ward Book lists many of the same owners. Catherine Oppenheim's two lots, now valued at $9,000, were followed by the estate of Natalie Benoist. To the north of her were lands in the estate of G. Manigault worth $6,000. One of McBride's lots, valued at $5,500, had been acquired by H. Studen, who then sold it to C.H. Blere. Blere owned three King Street lots worth $6,000, and John Tolle owned two worth $2,500.

General Development Trends

Early development of the two square blocks designated for the Visitor's Center resembles land use trends elsewhere on the Neck, with the exception of the presence of the dominant landowner, the South Carolina Railroad. During the first half of the nineteenth century, large tracts of land, held by a few prominent families were subdivided into smaller lots. Some property, such as John Wragg's, was divided among heirs; other tracts were partitioned for speculative purposes. Landowners hoped to profit by selling lots to prospective home owners or redevelopers. Some of the Wragg descendants built homes in Wraggsborough; Joseph Manigault, for example, built his grand brick home on the southeast corner of Meeting and John streets just two years after inheriting the land. Most lots in the tract, however, were quickly sold for profit. Samuel Wragg, Ann Ferguson, and James Ladson all sold their holdings in relatively short order.

The high value and importance of frontage along Meeting and King streets is reflected in the method of subdivision and the prices these lots brought, as well as in their early improvement. Even in the case of the initial subdivision of the blocks, corner lots always fronted Meeting or King streets, rather than John, Ann, or Mary streets. Lots along these major thoroughfares were increasingly subdivided and improved, with many of the new properties measuring only 40 feet in width. King Street developed early in the century with combination business/residences: shoe factories, dry goods stores, tailor shops, pharmacies, groceries, and druggists. A variety of tradespeople

located on the two blocks along King Street: tailors, cabinetmakers, shoemakers, and bakers (Figure 9-11). Lots and structures along King and Meeting streets remained relatively intact, in contrast to lots in the center of the blocks which fronted Mary, Ann, and John streets. Beginning in the 1830s, these were purchased and occupied, one after another, by the South Carolina Railroad.

Title search of the VRTC blocks reveals the integrated residential pattern typical of the nineteenth-century city. The wealthy merchants and planters, William Aiken and Samuel Tupper, built imposing homes on the blocks. Next door to Aiken were two modest houses, owned and occupied by free persons of color. Free blacks owned other properties nearby and slaves occupied others. Middle class artisans, such as John Brady, the bricklayer, and professional men, such as W.J. Laval, J.H. Honour, and Edwin Prince, also bought lots in the same block. Finally, the large amount of rental property along Meeting and King streets indicates a substantial low to middle class group of occupants, confirmed by the 1861 Census.

Many of the South Carolina Railroad structures still stand on the VRTC blocks, mute testimony to the former importance of the area as a transportation center. The Camden Depot structures, built in 1849, highlight public architecture of the era. Brick warehouses, constructed in the 1850s, stretch down the center of both blocks. Extensive tracks still run throughout the East Side. With this architectural legacy intact, it is fitting that the property be given new life as the city's Visitor's Reception and Transportation Center.

The presence of the South Carolina Railroad terminal, freight depot, and later, cotton yard, made the VRTC area a hub of activity. Goods and people were constantly in transit. The neighborhood reflected the role of the East Side as a seat of Charleston's "progressives" who saw industrialization and economic diversification as the key to the future. The Railroad occupied the center of the blocks; King and Meeting street frontage was reserved for retail and residential use. Contruction of the South Carolina Railroad underscores the increasing importance of industry and municipal improvements in the antebellum period. American cities competing for regional commerce, were anxious to proclaim their governments the most efficient, their streets the cleanest, their homes the most beautiful, their industries the most modern (Goldfield 1979; Jaher 1982). In Charleston the Railroad was touted as the key to prosperity, and its development became a municipal crusade (Greb 1978). However, the location of the Railroad terminal at John Street and the passenger depot at Line Street, rather than along the lower wharves, signaled the city's ambivalence toward industrialization and contributed to its eventual decline from a major commercial center to one of secondary importance (Pease and Pease 1985; Rogers 1980:161).

Charleston and the Railroads

The drive to create a healthy and orderly city was symptomatic of basic changes occurring in antebellum cities. In Charleston, the rallying cry from farsighted civic leaders was economic

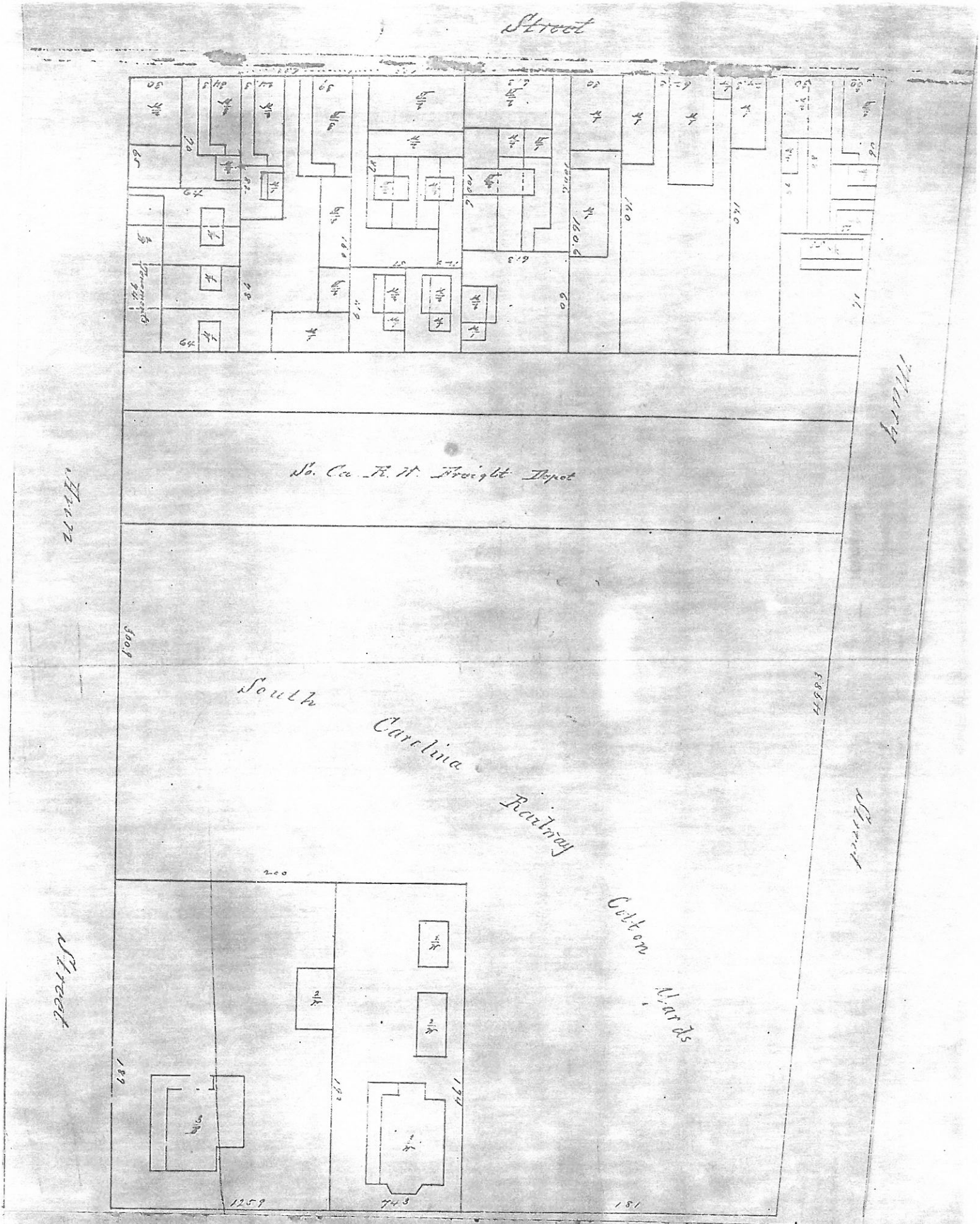


Figure 9: 1882 Block plats of the VRTC site.

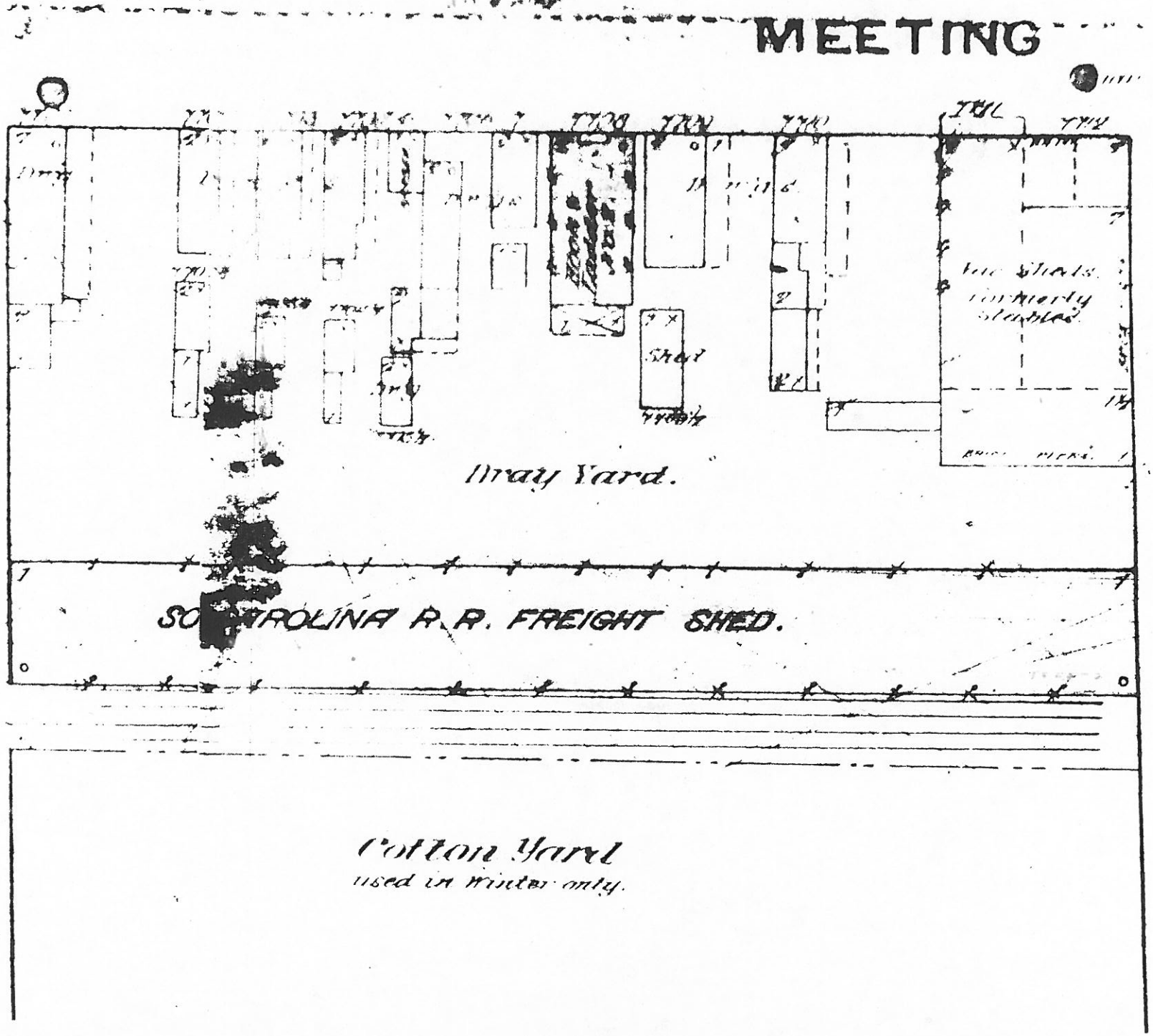
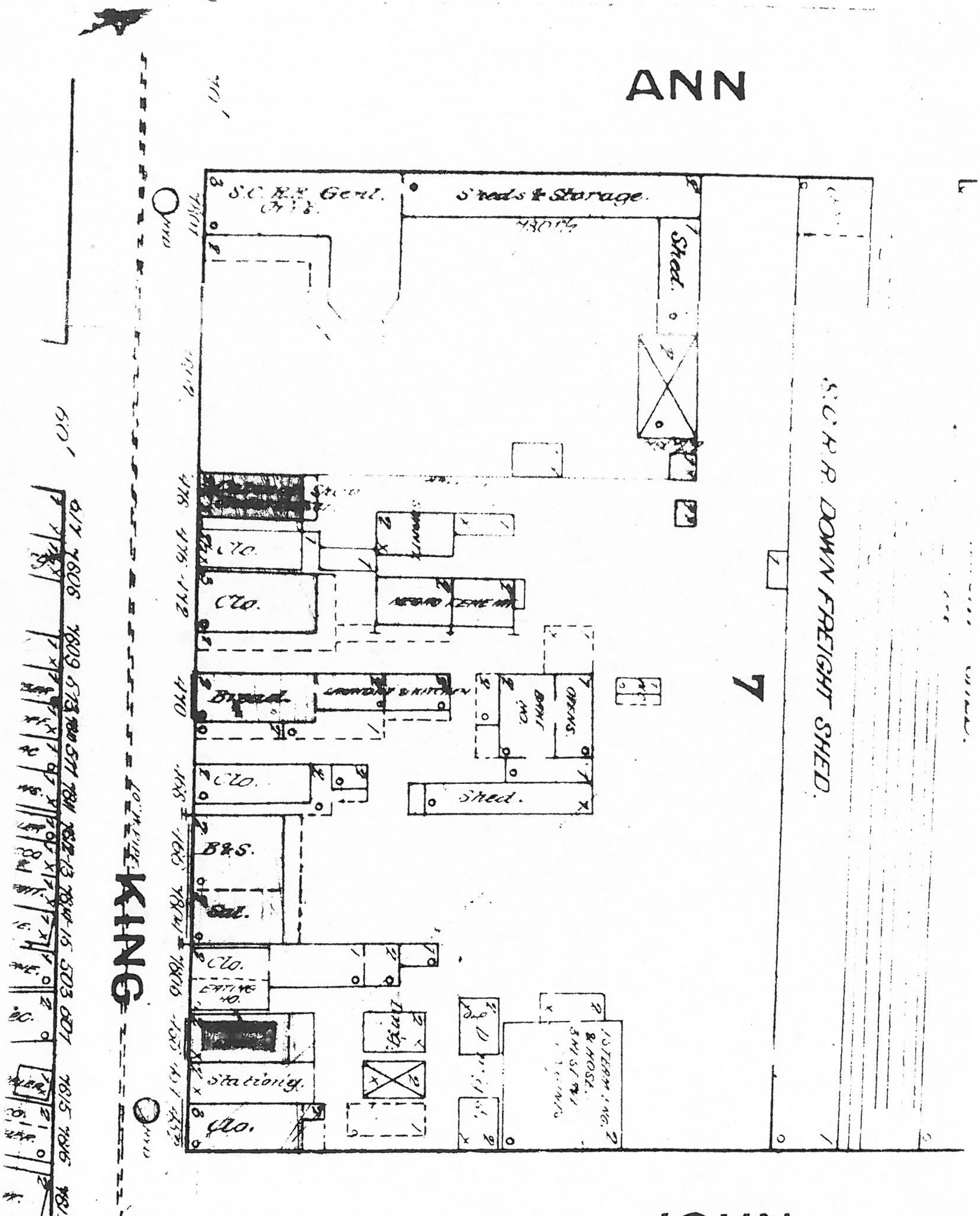
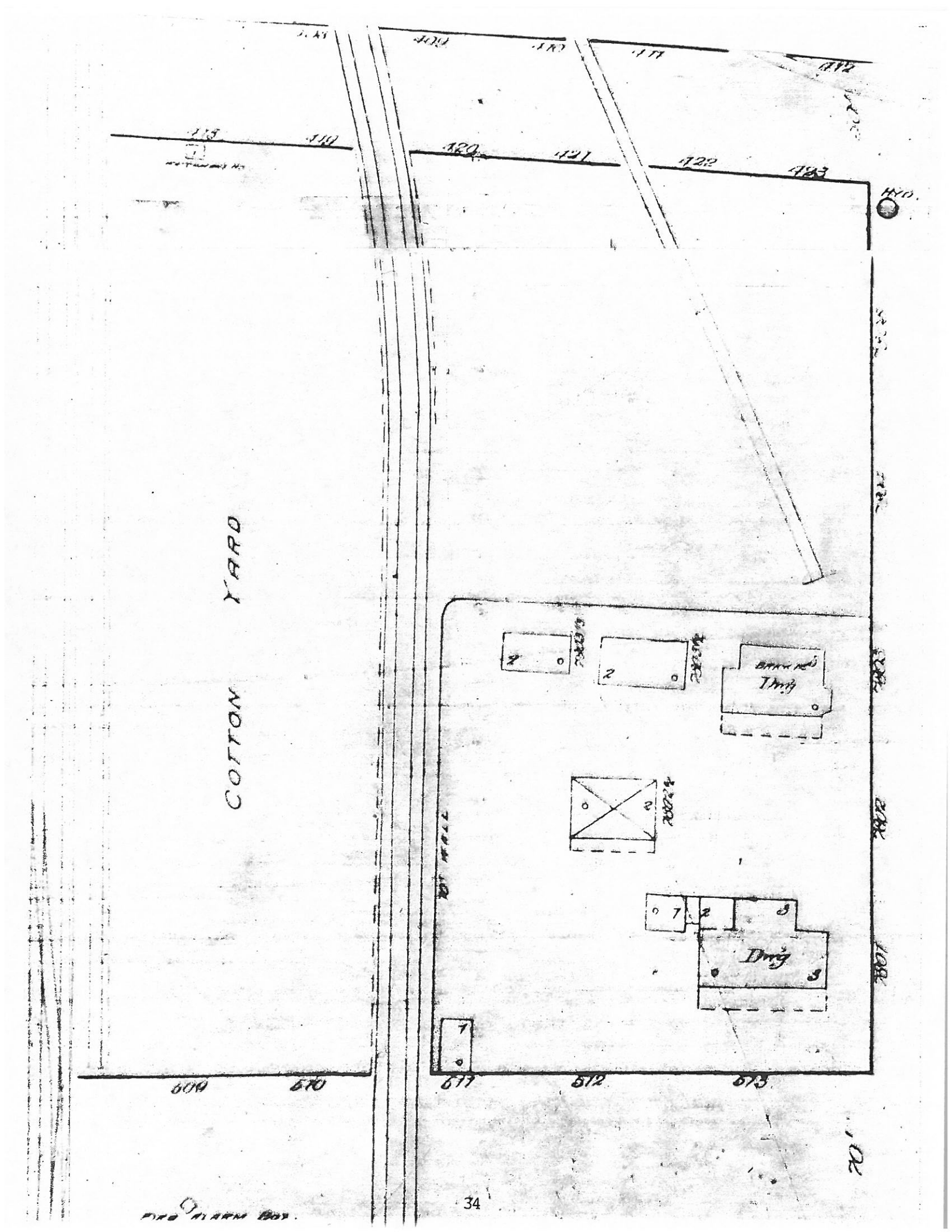
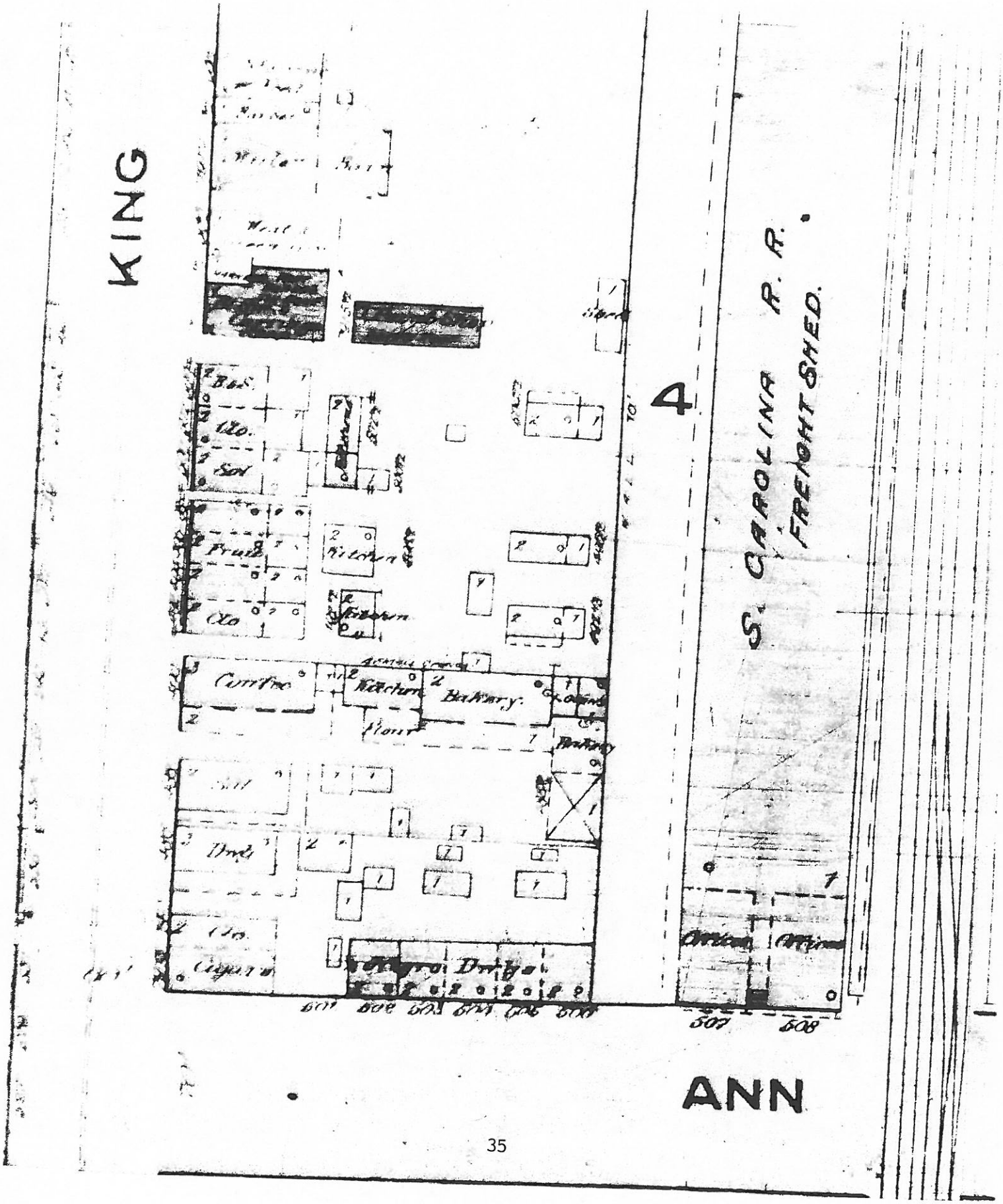


Figure 10: 1884 Sanborn Fire Insurance Company maps for the VRTC site.


ANN
S.C. R.R. Genl.
Sheds & Storage.
Shed.
S.C.R.R. DOWN FREIGHT SHED.
7
Clo.
Clo.
Laundry & Kitchen
Clo.
Shed.
B&S.
Sal.
Clo.
EATING HO.
Stationy.
Clo.
KING
JOHN

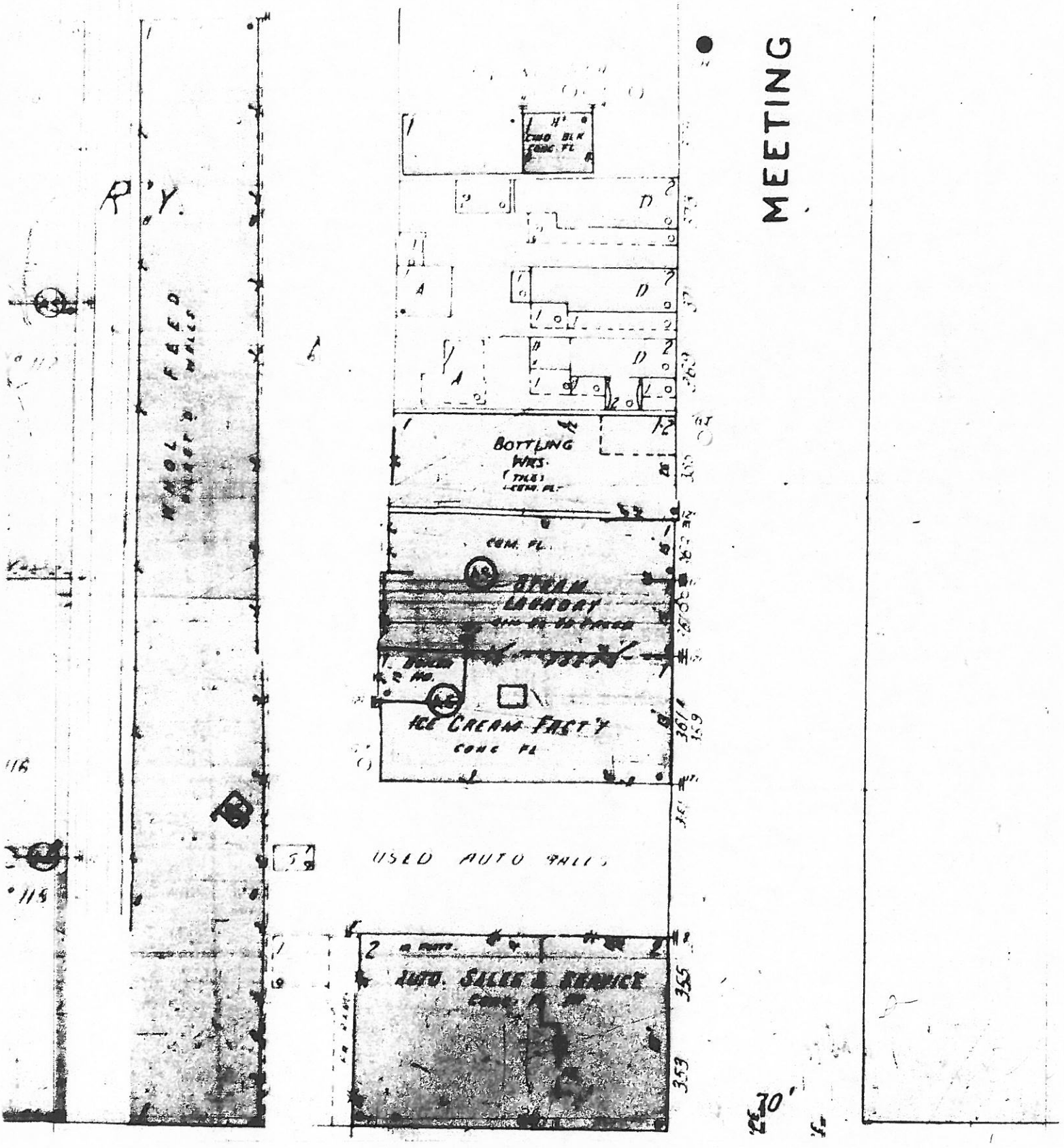

COTTON YARD
Dwg
Dwg
600
610
611
612
613

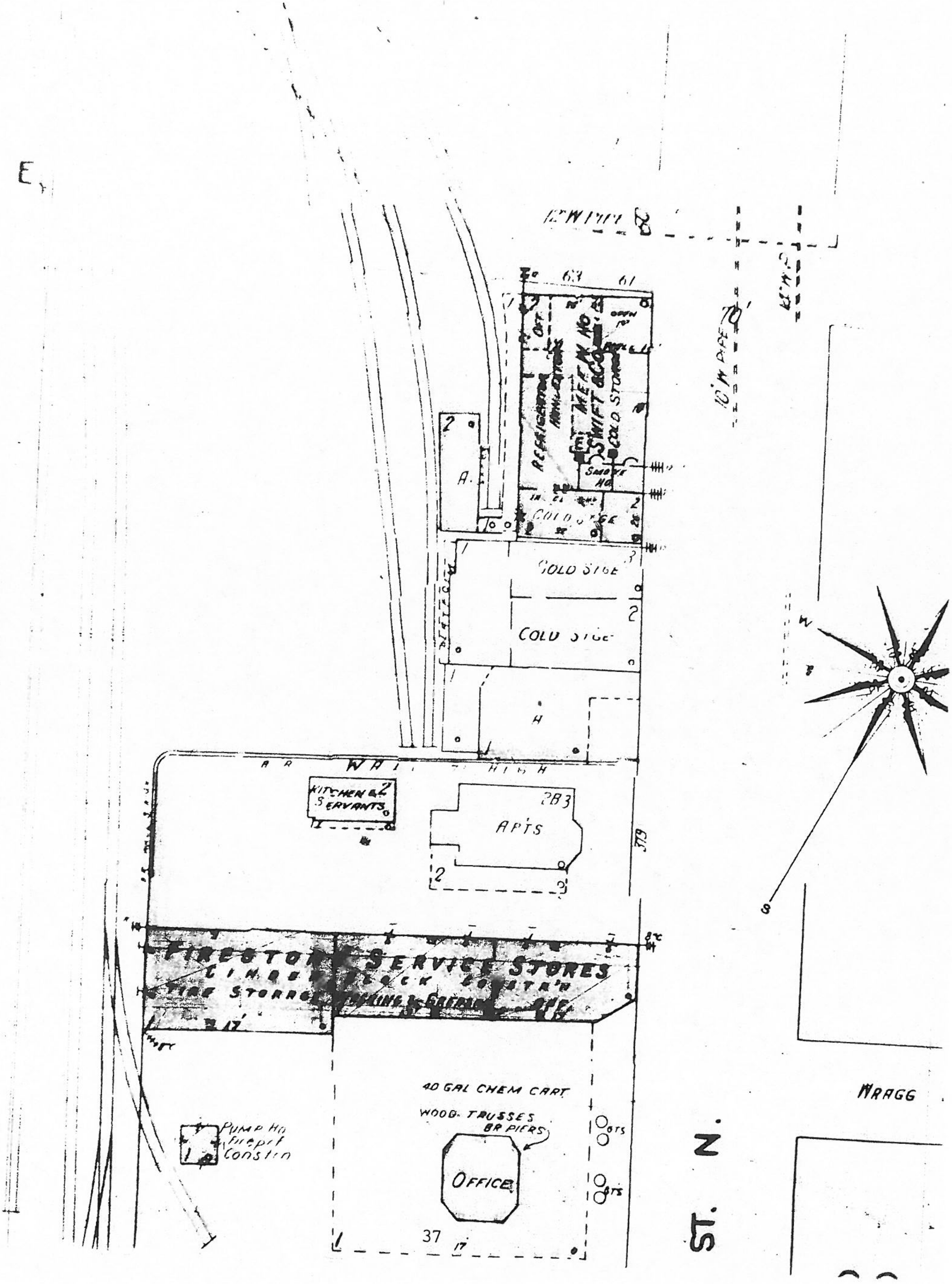

KING
4
S. CAROLINA R. R.
FREIGHT SHED.
Office
Kitchen
Bakery
Flour
Drug
ANN

ST

29

Figure 11: 1942 Sanborn Fire Insurance Company maps for the VRTC site.





E
12" W PIPE
63
61
10" W PIPE
MEAT HO.
SWIFT & CO.
COLD STORAGE
REFRIGERATING
SMOKE HO.
COLD STGE
COLD STGE
COLD STGE
A.
H
KITCHEN & SERVANTS
APTS
2B3
379
FIRESTONE SERVICE STORES
TIRE STORAGE
40 GAL CHEM CART
WOOD TRUSSES
BR PIERS
OFFICE
Pump Ho
Fireprf
Constn
WRAGG
ST. N.

diversification and industrialization. The economic depression of the 1820s forced the city to assess its situation. Import trade had decreased 51.7 percent between 1815 and 1825; the value of domestic exports had dropped from $11 million in 1816 to $7.5 million in 1826. Charleston's cotton trade, its major export, had increased by 42.6 percent between 1820 and 1830; however, the gain was only half that of adjoining states, where production had risen 107 percent (Derrick 1930). More ominous was the growth of towns along the Fall Line, towns which used other rivers, such as the Pee Dee and the Savannah, for transport. Augusta, the chief upland market for cotton, sent goods down the Savannah River, thrusting Savannah ahead of Charleston as a commercial seaport (Derrick 1930).

Charlestonians recognized that the key to tapping trade from the interior and rejuvenating the city's commercial life was better transportation. In 1817, the State appropriated over $2 million for internal improvements. New roads were built and new canals dug (Anti-Debt 1847), but by the mid-1820s, it became apparent that these improvements had failed to bring more trade to the city. Urban capitalists, principally the maritime and banking elite of Charleston, requested a bill in 1827 to charter a railroad to run from Charleston to Hamburg, a Savannah River town across from Augusta. South Carolina, badly in debt from previous public works, granted the charter in 1828 to a private company. By May 12, with sufficient stock sold, stockholders organized the South Carolina Canal and Railroad Company: the nation's second railroad company to carry commercial traffic, passengers, and freight (Brown 1874).

The new enterprise needed millions of dollars. Only 3,501 shares of stock were sold in the spring of 1828; enough to start the Company, but far from adequate to finance construction. All of the stock had been purchased by Charlestonians, none by the citizens of Hamburg, Columbia, Camden, or any of the other inland towns to be serviced by the road. Clearly, the Railroad was viewed as a means of reviving the commerce of Charleston and not as a promising investment elsewhere in the state (Horry 1833; Pease and Pease 1985).

In January, 1829, William Aiken, Sr., President-elect of the South Carolina Canal and Railroad Company, traveled to Washington with Alexander Black to seek federal aid. Senator Robert Hayne introduced a bill which failed from lack of support from the South Carolina delegation. Aiken and Black returned to Washington in 1830, but were once again unsuccessful. South Carolina had become a staunch proponent of states rights and thus opposed congressional financing of internal improvements. Returning home, Aiken and Black appealed to the State legislature which appropriated a loan of $100,000 at five percent interest for seven years, later extending the loan to ten years (Grinde 1976).

On January 9, 1830, Messrs. Gifford, Hilcomb and Company began work at Line Street on the first four miles of the road. Horatio Allen, renowned engineer of northern railroad and canal projects, was selected as Chief Engineer of the South Carolina Company and served from 1829 to 1835. During that time, he married a Charleston woman, Mary Moncrief Simons, daughter of the prominent Reverend James Dewar

Simons (Grinde 1976:87).

The entire line, 136 miles, was completed and opened for passenger service on October 3, 1833. In his address at the Railroad's commemoration of completion, Elias Horry proclaimed that Charleston's problems were over.

> Our railroad furnishes the most complete, safest, and most certain expeditious mode of conveyance. Travellers who may wish to visit Charleston, will prefer the railroad...The accommodations will be found so great, that many will avail themselves to it and travel oftener that they otherwise would have done...Merchants...will find that they will be able to attend to their concerns, personally, without the intervention of agents. Planters will prefer it for sending their crops and the productions of their plantations to market...(Horry 1833:10).

Other speakers cited additional advantages: animals formerly used in transport could now be employed in farming; more farms were expected to develop along railroad lines, thereby boosting the economy of the state. Charleston, in turn, would prosper, since "the city is the best situated on the sea-coast as the Southern market for inland trade to the west and European and West Indian trade to the East" (Horry 1833).

During construction of the railroad line, stockholders debated what kind of power to use on the road. The Company offered $500 for the best locomotive run by horse-power. C.E. Detmold won with his "Flying Dutchman" which, on its test run, carried 12 passengers at the rate of 12 miles per hour (Brown 1874:138). Wind-power, tested on the "sailing car," proved less successful; it blew the car, traveling at 12 miles per hour with 15 passengers, right off the track (Charleston Daily Courier March 20, 1830). Horatio Allen recommended a revolutionary solution.

It was up to Allen, as engineer of the South Carolina Railroad, to decide whether the road should be built to accomodate locomotive power or horse-power. Despite strong sentiment in favor of at least beginning with horse-power, Allen advocated trying the locomotive. The capabilities of "this great mechanical blessing to mankind" had not yet been tested, but someday, he believed, the locomotive would outstrip the tried-and-true horse. The Board of the South Carolina Railroad Company unanimously concurred in Allen's recommendation, marking the first decision to use locomotive power on any freight or passenger railway in America or England (Brown 1874:137-138).

Following Allen's recommendation, the Board of Directors accepted an offer by Charlestonian E.L. Miller to construct a locomotive, named the "Best Friend," at the West Point Foundry in New York. This steam engine became the first American-built locomotive to see actual service on a railroad. The Best Friend arrived in Charleston in October, 1830. The firm of Dotterer and Eason was hired to assemble the engine, marking the beginning of railroad engine and car construction by native foundries. For foreman Julius D. Petsch and his assistant, Nicholas Darrell, the Best Friend inaugurated long careers

with the Railroad. On its initial run on November 2, the wheels of the locomotive proved too weak to support the engine, but in all other respects the Best Friend was proclaimed a success. Indeed, on December 14 and 15, the engine "proved her force and efficiency to be double that contracted for" (Brown 1874:144).

On June 17, 1831, the boiler of the Best Friend exploded. The Charleston Daily Courier reported the incident the following morning:

> The locomotive 'Best Friend' started yesterday morning to meet the lumber cars at the Forks of the Road, and, while turning on the revolving platform, the steam was suffered to accumulate by the negligence of the fireman, a negro, who, pressing on the safety-valve, prevented the surplus steam from escaping, by which means the boiler burst at the bottom, was forced inward, and injured Mr. Darrell, the engineer, and two negroes. (Charleston Daily Courier, June 18, 1831).

The accident provoked the passage of speed limit laws and limitations on the number of passengers per car to 25. A single car was permitted to travel at 15 miles per hour, two at 12 miles per hour, and three at ten miles per hour (Brown 1874:149). J.D. Petsch rebuilt the locomotive and changed its name to the "Phoenix." The "West Point," a second locomotive from the New York foundry, arrived in Charleston in February 1831; both remained in operation until the development of the first eight-wheeled engine, the "South Carolina." J.D. Petsch, N.W. Darrell, John Eason, and Henry Raworth, apprentices of Dotterer and Eason Company and natives of Charleston, ran the locomotives. Darrell became a permanent employee of the Railroad on December 9, 1830, distinguishing himself as the first engineer of the first two locomotives built in America. Henry Raworth, who assisted Petsch in repairing the Best Friend, remained with the Railroad for 42 years. Adam Perry, a black fireman, became Raworth's "faithful" assistant, first as a slave, then as a freed man, for 32 years (Figure 12). Another key employee was Thorton Randall, a white fireman who served for 17 years. The three men never had an accident, a safety record attributed to their "perfectly friendly relationship and excellent character" (Brown 1874:160).

In 1833, the Railroad proved its worth. Farmers shipped 7,500 bales of cotton by rail, 3 percent of the entire upland cotton sold in Charleston that year. Throughout the rest of the decade, the Railroad carried between 13 and 18 percent of the crop. In July, 1834, the Company paid its first two percent semi-annual dividend (Pease and Pease 1985). Unfortunately, success was shortlived. After paying the first dividend, the Railroad began losing money. When the roadbed and track deteriorated, numerous accidents occurred and repair costs exceeded profits. Public trust waned, making it hard to recruit sufficient engineers. President Tupper, in 1836, blamed external as well as internal factors for the Company's losses: The Creek Indian War rendered western travel nearly impossible, while the cholera epidemic suspended public travel in all directions (Tupper 1837).

Railroad proprietors knew they needed to secure more trade to

N. W. DARRELL.

HENRY G. RAWORTH.

ADAM PERRY.

Figure 12: Employees of the South Carolina Railroad.

relieve their financial distress. Their response to adversity was to expand. The Louisville, Cincinnati, and Charleston Railroad Company (LCCRR), created in 1837, was designed to give southern states access to western markets; cotton and rice would come from the South, grain and meat from the West (Derrick 1930). Trade between different climate zones would prove mutually profitable. More important, Charleston would become a threshold for international imports. As President Robert Hayne expounded to the stockholders of the new railroad line, "We may be assured that if we can supply the interior with foreign goods by our railroad, CHEAPER THAN THEY CAN BE OBTAINED IN ANY OTHER WAY - THE TRADE WILL BE OURS..." (Hayne 1838:12). Finally, the promoter argued, trade between the South and the West would ally the two regions on the issue of slavery. "The Northern attack on 'slavery' threatened the 'existence' of the South and could destroy 'the Union'; an 'intercourse with the Western States might avert this dire calamity'" (Jaher 1982:351).

The LCCRR was plagued with problems from its inception. The Company had to borrow 2.5 million dollars from banks in England to purchase the Charleston to Hamburg line; accidents, decayed timber, and insufficient iron rail then forced it to spend more money to reconstruct the entire road (Proceedings 1839). John C. Calhoun, a director of the Company, opposed the route to Ohio, proposing that the new road pass through the cotton belt - Georgia, Alabama, and Mississippi. The defeat of Calhoun's plan dampened public enthusiasm for the project. Two additional problems beset the railroad: great distances over sparsely settled land and one-way freight. Charleston lacked products to ship to the midwest in return for agricultural staples (David Moltke-Hansen personal communication, 1987). The financial depression of the late 1830s and early 1840s undermined the price of cotton (in 1840 the staple sold for half of what it brought four years before) and sapped support for the Railroad in all states except South Carolina and Tennessee. The charter laws of the Railroad reflected the mounting crisis:

December 1838: "an act to authorize [the company] to increase the rates of transportation..."
December 1839: "an act to provide for an advance, by the state, on its subscription to the LCCRR Company..."
December 1840: "an act to authorize the LCCRR Company and Southwestern Bank to reduce their stock [devalued 350 to 1]..."

Three years later, the LCCRR Company folded. The only line completed was the 67-mile run from Branchville to Columbia (Derrick 1930).

In 1843, the original Charleston to Hamburg line and the new branch to Columbia were reorganized to form the South Carolina Railroad Company (SCRR). From the mid-1840s to the onset of the Civil War, the SCRR carried products from the interior to Charleston, and contributed to a 71 percent rise in the value of the city's imports and exports (Jaher 1982). However, it did not "capture" western trade or dramatically improve foreign trade. While it spawned new industries on the East Side of Charleston, it also intensified the state's commitment to cotton, by encouraging the plantation system to expand (Jaher 1982; Pease and Pease 1985).

A series of essays in the Charleston Daily Courier in 1847, ascribed to a writer dubbed "Anti-Debt" demonstrates that not all Charlestonians supported the Railroad. The essays claim that there never was nor would be enough freight or passengers to support a railroad. After the failure of the Louisville Company, investors forfeited their stock or sold it at a loss, and two-thirds of the capital went to pay interest, leaving a debt of $4 million - "for what?" asked the essayist. The Railroad had managed to lay seven miles of track - a branch that had brought "not one bag of cotton nor one bushel of corn" to the city (Anti-Debt 1847:5). The largest cotton producers lived on rivers and used water transportation; farmers near roads used wagons to avoid freight costs. Still, the South Carolina Railroad Company held onto the dream of securing more trade and continued to expand. In the last essay, Anti-Debt wrote with exasperation:

> If she [the state] has expended her last dollars in educating her citizens, and the promotion of those noble arts which elevate and purify the imaginations of men, the work would yield her the tribute of its highest admiration... But to bankrupt herself by canals and railroads, enterprises designed solely to facilitate trade, and in which money-mongers and speculators alone usually invest, for the mere sake of gain, would not only be the sheerest folly, but disgraceful and disgusting (Anti-Debt 1847:9).

The major problem which plagued the Railroad Company from the start was the gap between its lines and the wharves. Because of prohibitions on steam engines within the city limits and rivalry among wharf owners as to whose wharf would be the terminal, the Railroad terminated on the Neck at Line Street, requiring drays to transport goods to their final destinations. In 1832, the Railroad succeeded in persuading legislators to grant a right of way to Boundary Street, provided that only horse-drawn cars pass Line Street. Neck inhabitants, already alarmed by the danger of fire from the locomotives' flying sparks, had taken the Company to court, which fined the Railroad $1,000 for creating a public nuisance. The Railroad, in response, developed "spark arresters" for its locomotives. During construction of the new length of track, strong opposition, primarily from draymen and wharfingers, forced the Railroad to stop when it reached Hutson Street, two blocks from Boundary. The depot, built at Mary Street, was five blocks away from the city limits (Derrick 1930).

Another attempt to bring the Railroad closer to the water began in 1846. President Gadsden reported that the Mary Street depot was too far from the wharves, resulting in heavy transportation costs. All of the railroad buildings were temporary edifices, constructed of perishable and flammable materials, and thus hazardous. Widely spaced workshops made it difficult for foremen to supervise workers. Gadsden proposed five alternate sites for new construction. He recommended building a depot and other facilities on Smith's Wharf and the marsh land around it (Figure 13). Steam power could be used all the way to

the terminal; space would be available for future growth. At last, the Railroad would have direct access to a wharf in good repair. The "Committee of Seven" chosen to investigate the issue, like Gadsden, rejected the Mary Street location, but voted five to two to move the depot to Lauren's marshes, which featured East Bay Street frontage and a substantial wharf. The Railroad could then purchase property in Hampstead, a good investment, to lay its track. One opponent believed that the Railroad was in such serious financial trouble that it could not afford to move; the other felt a move would anger too many Charlestonians (Gadsden 1846).

In November, 1846, the stockholders of the South Carolina Railroad Company resolved that it was "inexpedient for the company to undertake the business of the wharfingers and inexpedient to transfer the depot at Charleston to any location upon the water" (Derrick 1930:199). Edward C. Jones, a prominent architect born in Charleston in 1822, was hired to design a comprehensive plan for a railroad station in the Neck and to supervise the construction of the railroad buildings in 1849. Few architectural precedents existed for a railroad station in the United States or Europe. Jones, along with Col. James Gadsden (then President of the South Carolina Railroad), conceived an entrepot-depot plan with an emphasis on utility.

> According to the plan of Mr. Jones, ... the space from Mary to Ann will be devoted to the delivery of cotton; from Ann to John to the reception and delivery of merchandise; and from John to Hutson, the building will be yielded to passengers, passenger trains, and the business offices of the company (Evening News, June 18, 1849, quoted in Severens 1988:154) (Figure 14).

In an early Victorian style, the passenger station was castellated Gothic building which Jones may have adopted to relate to the style of the Citadel building. The city praised Jones' work, describing the passenger station as an "ornament to the Neck" (Severens 1988:154). By 1853, the Company enlarged the passenger terminal to convert it into a freight station, and built a new passenger facility on Line Street. Two years later, a grain warehouse was added, east of the old freight depot, and later, another new freight warehouse was built. All of the buildings were constructed of brick and stuccoed; wood trusses supported the roofs which had projecting eaves to shelter the loading operations along the track (Severens 1988). The progressivism of the railroad station, its comprehensive plan and its early Victorian style can still be seen today since many of the railroad structures built during this period are presently standing between Hutson and Mary streets (Figure 15).

The City Ward Book of 1853 identifies five pieces of land owned by the South Carolina Railroad Company. Three lots are of unspecified use, one is described as a depot, and the other as a railroad factory. The 1864 Ward Book reveals considerable land acquisition. Thirteen addresses accomodated a variety of functions: three unspecified, three freight depots, one storehouse, four groups of lots, five workshops and factories, and one building. Four of these addresses listed two types of use.

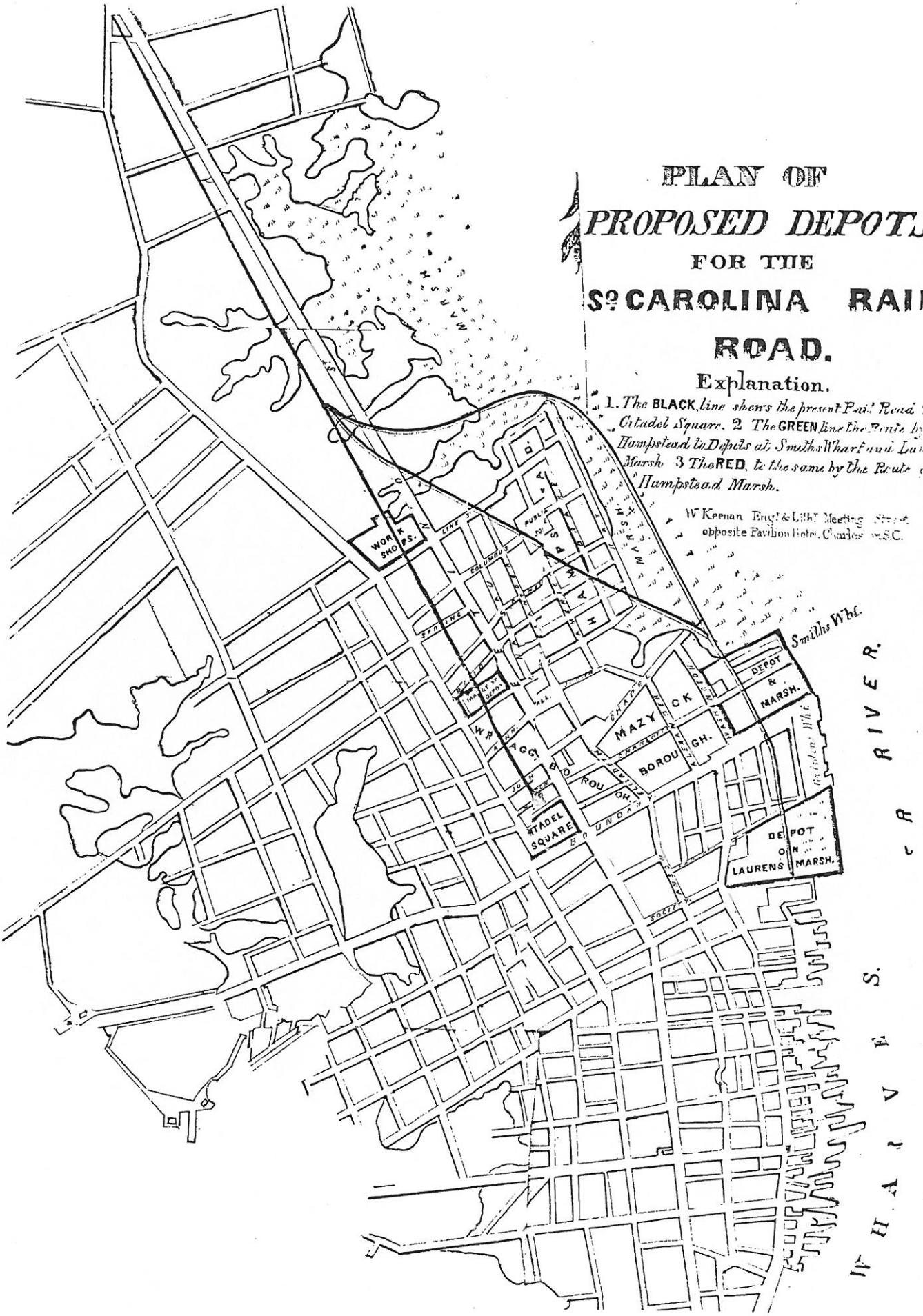
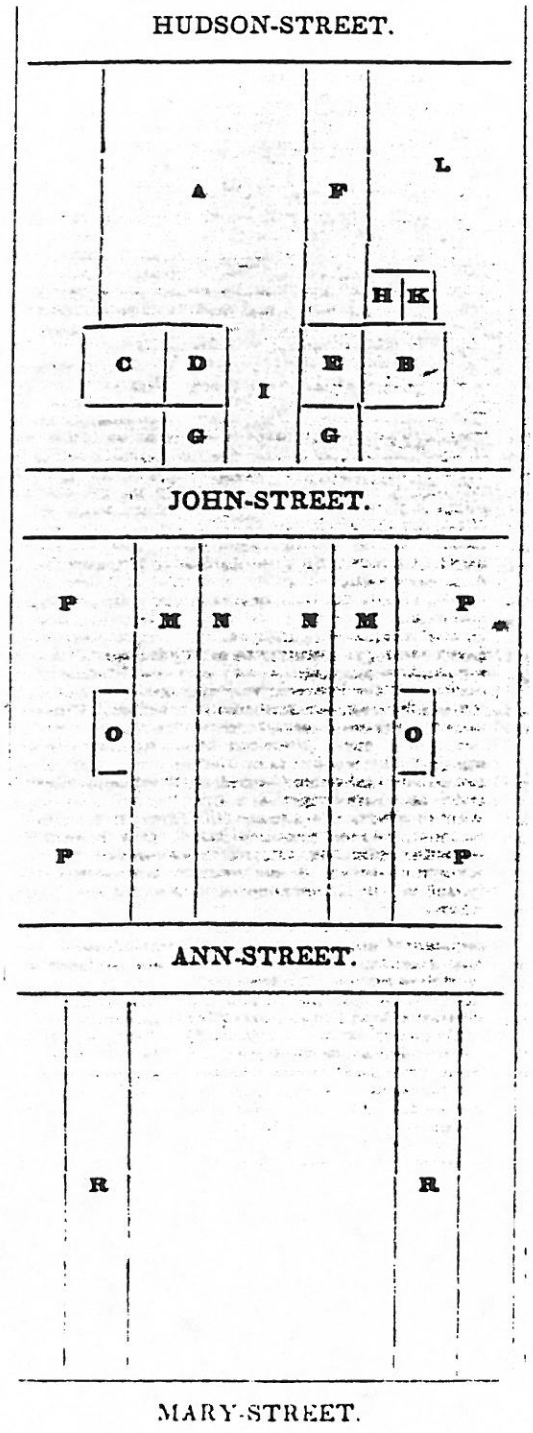


Figure 13: Proposed Depots of the South Carolina Railroad Company.



(A) Passenger House
(B) Ladies Apartment
(C) Baggage and Packet Room
(D) Staircase
(E) Passage to Platform
(F) Passenger Platform
(G) Entrances
(H) Ticket Office
(I) Archway for Passage of Train
(K) Ladies Retiring Room
(L) Omnibus and Carriage Yard
(M) Receiving Sheds for Merchandise
(N) Tracks for Loading Cars
(O) Offices
(P) Passage for Drays
(R) Cotton Platforms

Edward C. Jones, South Carolina Railroad Depot, 1849. Plan from *Evening News*, June 18, 1849. Charleston Library Society.

Figure 14: Edward C. Jones' plan for the South Carolina Railroad Depot, 1849. (from Severens 1988).

Figure 15: Extant Railroad structures at the VRTC site;
a) Camden Towers, b) freight depot, 1856.

At the onset of the War, the South Carolina Railroad owned 62 locomotives and 849 freight and passenger cars, the most extensive collection south of the Potomac. The car manufacturing company of Wharton and Petsch had its grounds and workshops beside the SCRR track, at the corner of Line and King streets, and by 1860, had produced over 1,000 box and platform cars for the South Carolina Railroad and 25 for the Northeastern Railroad. Wharton and Petsch employed over 100 men, including machinists, carpenters, finishers, and blacksmiths, whose wages ranged from $10 to $12 per week. On August 29, 1860, the Charleston Daily Courier reported that "not only does Wharton and Petsch Company have a reputation for "producing the best cars on the road, taking orders from many states," but it also proved Charleston's ability to "compete favorably with any of her rivals in mechanical enterprises." Located on the corner of Nassau and Columbus streets in the immediate vicinity of the South Carolina Railroad depot, the foundry of J.M. Eason and Brother (an offshoot of the original Dotterer and Eason Company) furnished cast iron work and engineers for the Railroad. The William S. Henerey Foundry, on Meeting Street near Line, also provided the Railroad with car castings. As secession fever mounted, Charleston recognized the need for foundries and made great efforts to "build up an entirely Southern manufacturing establishment" (Charleston Daily Courier, August 25, 1860).

The War brought hard times to the South Carolina Railroad Company. In 1861, trains began missing their advertised connections; night trains were cancelled, and the Company offered only limited liability for freight transported. The South Carolina Railroad lost half of its assets in the course of the War. Sherman wreaked havoc on the road itself, and half of the passenger mail cars, two-thirds of the freight cars, and four-fifths of the engines were demolished. Portions of the South Carolina Railroad properties were destroyed in the evacuation of Charleston in 1865. President William J. Magrath, writing to his brother, Governor A.G. Magrath, on March 18, 1865, exactly one month after the evacuation, expressed shock at the heavy loss sustained by the Company:

> I thought the management of the evacuation of Charleston bad enough, but this must have been desperately bad. It is sickening to contemplate the probable extent of private and public losses - and much of it surely could have been avoided. Every man now must put his hand, and his heart, and head to work. It is the only way to remedy the deficiencies which are the natural consequences of the inertia and despondency that have followed Sherman's blow. But if we will not work, hunt work and find it - if we will have it that we are whipped, ruined, and refuse to make any effort, then is our case deplorable (Magrath Collection).

President Magrath did indeed put his hand, head, and heart to work. The Company reopened service to Columbia and Augusta by 1866, and to Camden by 1867. It realized four to six percent profit on its stock in 1865 and 1866, and put the money into reconstruction. Within eight years, Magrath brought the Railroad from near ruin to its highest earnings ever and the Board of Directors officially applauded

his success (Resolution of January 20, 1869, Magrath Collection).

But even during this auspicious period, forces were gathering that would lay the Railroad low. Through the 1870s, as the South struggled against economic collapse, the South Carolina Railroad faced cut-throat competition in a fight for regional dominance. The Southern Railway Security Company, founded in 1870 by northern railroad promoters and bankers, bought up southern railroad stock and by 1871, held controlling interests in the Charlotte-Columbia-Augusta line, the Wilmington-Columbia line, the Northeastern Railroad Company, and the Richmond-Danville line in Virginia. They leased the North Carolina Railroad Company and, in 1873, built a line from Charlotte to Atlanta. The "Air Line" cut across the upper South Carolina tributaries, strangling the SCRR (Doster 1956). A letter to Magrath from H.S. Haines, of Plant Investment Company, New York, reflects ongoing concern about railroad conglomeration:

> The Railroad corporations of this country are entering upon an era of aggregation and consolidation exceeding anything heretofore conceived of and unless this tendency is controlled by men of broad views and large experience with a capacity for organization and unswerving loyalty to the best interests of those whom they serve, the result will be failure and disaster (Magrath Collection).

To counter the expansion of the Southern Railway Security Company, the SCRR invested in other western lines, but these eventually went bankrupt. Using state credit, all of the railroads overbuilt, laying more lines than the traffic could support.

Competition also brought on fare wars. President Magrath, in 1871, proclaimed that "we are ready and determined to protect ourselves and our connections," and seeing no other choice, began cutting rates to the point of recklessness (Doster 1956:188). The public image of the South Carolina Railroad hit rock bottom when customers compared the cheap rates of the competition with the SCRR's "extravagant" rates, and denounced the Company for discrimination against local traffic and local needs (Doster 1956).

With debts mounting to $4 million in 1876 and $6 million in 1877, the South Carolina Railroad could not remain solvent. In April, 1878, the Company defaulted on its interest payment on a second mortgage bond and in July defaulted on its sterling bonds. By September, the Company was bankrupt; one month later, the Court placed it in receivership (Doster 1956). In the end, the Railroad succumbed to the movement toward consolidation and was swallowed by its rival, the Southen Railway. R.G. Rhett remarked on the irony of the situation in an address to the National Association of Railroad and Utilities Commission in 1895:

> It was the irony of fate that America's first real railway built by the money and enterprise and vision of the people of Charleston in 1830 to 1833 for the development of commerce, should have been bought by the Southern Railway over half of a century later for the purpose of strangling

that commerce because it interfered with its long haul up and down the coast from New Orleans to Norfolk (Magrath Collection).

CHAPTER III

FIELDWORK

Site Description

The VRTC site consists of a two-block area bounded by John, Meeting, Mary, and King streets (Figure 19, pg. 59). The property currently features a variety of land uses and above-ground structures. For descriptive purposes, the site can be divided roughly into thirds along a north/south axis. The western one-third, including frontage along King Street, contains a series of long, narrow business structures. Of particular interest is the William Aiken house (built in 1811 and presently housing the National Trust for Historic Preservation), located at the corner of King and Ann streets. Revitalization of the King Street portion of the site is planned for the future.

The central one-third of the site was the location of the South Carolina Railroad, and the area still exhibits several extant railroad structures plus a network of tracks. These structures will be renovated as part of the present construction plans.

The eastern-one third of the property will also be improved, and was the focus of archaeological investigation. This portion of the site contained relatively few standing structures, but still exhibited a number of obstructions to subsurface excavation. The northern two-thirds of the Meeting Street frontage between Ann and Mary consisted of an open, grass covered lot, but remnants of foundations from early twentieth-century structures suggested potential damage to the archaeological record; these included a low area within a concrete foundation at the corner of Meeting and Mary, and an area of unnaturally high ground resulting from construction of a loading dock, immediately to the south. The southern one-third of the Ann to Mary street block contained an abandoned Firestone retail store, while the corner of Ann and Meeting up to this structure was covered in concrete. The southern (John to Ann) block contains an asphalt parking lot, maintained by the County, in the southern half. The northern half of the block contained four standing structures, and the corner of Ann and Meeting was covered with concrete and the remnants of a twentieth-century gas station (Figure 16).

These above ground features severely limited the areas available for archaeological testing. Testing in 1986 was further hampered by the fact that the City was not in possession of all of the properties on the block, and permission to dig had to be negotiated with each property owner. Despite tremendous efforts by the city, this task proved cumbersome and caused temporary delays in the fieldwork. Other logistical considerations included securing spaces for excavation in the county parking lot and the disappearance of police barricades in the middle of this process. Most of these logistical considerations remained the same in the 1988 data recovery phase.

Figure 16: Views of the VRTC site; a) corner of Meeting and Ann streets, facing northwest, b) the Tupper lot and cotton yard, facing northeast from Ann Street.

Methodology - Phase I and II

Investigation of the VRTC site began with a Phase I survey. In an urban setting, an archival survey is the most effective means of accomplishing this. General background research on the city and East Side neighborhood were conducted in 1984 and 1987 and are reported in manuscript form (Rosengarten et al. 1987; Zierden and Calhoun 1984). Archival research on the specific development of the VRTC property was conducted in 1987, and these data and proposed research questions appear in Rosengarten et al. 1987. This information is also included in the present document as Chapter II.

The archival research revealed that the property has been continuously occupied since the early nineteenth century and was the site of domestic, commercial, and industrial activity. Phase II testing was designed to to assess the presence and integrity of archaeological evidence of these activities.

The 1986 testing program consisted of placement of dispersed units in the eastern one-third of the site. Eight units were excavated in this area. A transit was used to establish horizontal control for the project. Because of the limited nature of the testing and the interrupted nature of the site, no Chicago grid was established for the project; instead, units were located by measuring north and west of the true street corners of John and Meeting, and Ann and Meeting, respectively, and were given a numerical designation (i.e., Unit 1). The precise location for each of these units is discussed in detail in the next section. All units were oriented to grid north, which was aligned with Meeting Street.

Vertical control was maintained with the use of a transit. All elevations were taken relative to a known point at the southwest corner of the Charleston Museum building. This datum point was established during survey for construction of The Charleston Museum and was rechecked by the land survey team during their survey of the VRTC property in 1986. The absolute elevation of this point is 11.51 feet MSL. Elevations in this report are listed as feet above mean sea level (MSL).

All units were excavated with shovels and trowels. All materials were dry screened through 1/4 inch mesh. Units were excavated by natural stratigraphy. Where natural zones exceeded .4 feet in depth, they wre further subdivided into arbitrary .4 foot levels (i.e., Zone 2 level 1). All units were troweled and photographed at the base of cultural deposits, and whenever appropriate. Photographs were taken in black and white and color slides, and planview and profile drawings were made for each unit. Narrative notes as well as a variety of field notes were completed on a daily basis. A Field Specimen Number (FS#) was assigned in ordinal fashion to each excavated provenience. Faunal samples were bagged separately and sent to the Zooarchaeological Laboratory at University of Georgia for study. When features were encountered they were mapped and photographed; each feature was excavated in its entirety as a single, separate provenience (Figure 17b). Small soil samples were retained from each

feature. Due to the lack of organically rich proveniences encountered during testing, no large flotation samples were retained and no ethnobotanical analysis was conducted.

In addition to test units, the open, grass covered portion of the northern block was amenable to auger testing. Augering is a cost-efficient method of subsurface testing; unfortunately very little of the urban landscape is amenable to such methodology (Deagan 1981). A gasoline-powered auger with an 8 inch bit was used to drill holes to sterile subsoil. Auger tests were placed at 20 foot intervals within an area measuring 200 by 240 feet (the open area between the Firestone building and Mary Street). Soil retrieved from these units was screened through 1/4 inch mesh. All artifacts were retained, and the stratigraphy and depth of the unit was recorded (Figure 17a). Each unit received a numerical designation corresponding with its location south and west of the corner of Mary and Meeting streets.

Materials retrieved from the auger tests were analyzed, and the data were computer analyzed using the SYMAP program. This program generates artifact density maps. Four artifact categories were analyzed; ceramics, glass, other domestic artifacts, and architectural materials. These data revealed a low density of ceramics, glass, and domestic artifacts across the site, with a few concentrations in the Tupper lot (Figures 18a-18c). Architectural materials were more generally dispersed across this portion of the site (Figure 18d).

Description of Excavated Proveniences - Phase II 1986 Testing

A total of seven 5 by 5 and one 5 by 10 foot units were excavated during the testing phase (Figure 19). Excavations initiated in the grassy area immediately north of the Firestone building. This area was a large residential compound throughout the nineteenth and early twentieth centuries; the units were located to test the mid-lot area as shown on historic maps. Unit 1 was a 5 by 5 foot unit oriented parallel to Meeting Street. The southwest corner of the unit was 161.0 feet north and 110.0 feet west of the northwest corner of Ann and Meeting. The unit exhibited three zones plus a number of features. Zone 1 consisted of dark grey sand followed by a zone of medium grey-brown sand with some gold mottling. Zone 3 was mottled orange, tan, and grey sand. The unit initiated at 12.63 feet and sterile subsoil was encountered at 11.67 feet MSL.

Three features were encountered at the base of Zone 2. Feature 1 was a brick foundation running north/south; it appeared to represent the rear wall of a structure fronting Meeting Street. Feature 2 was a row of single, unmortared bricks set endwise into the soil. These appear to represent some type of garden border. Feature 3 intruded into the south wall of the unit. It was a basin shaped deposit of dark sand, charcoal, and burned orange sand. The feature may represent an outdoor fire of some sort, or it may represent redeposited residue from an indoor fireplace.

Located at the base of Zone 3 were three square postmolds, filled with tan-grey sand. Postmolds 1 and 2 were .6 feet deep. Postmold 3

Figure 17: Excavation in progress; a) screening soil from auger tests, b) excavating Postmold 3, Unit 12.

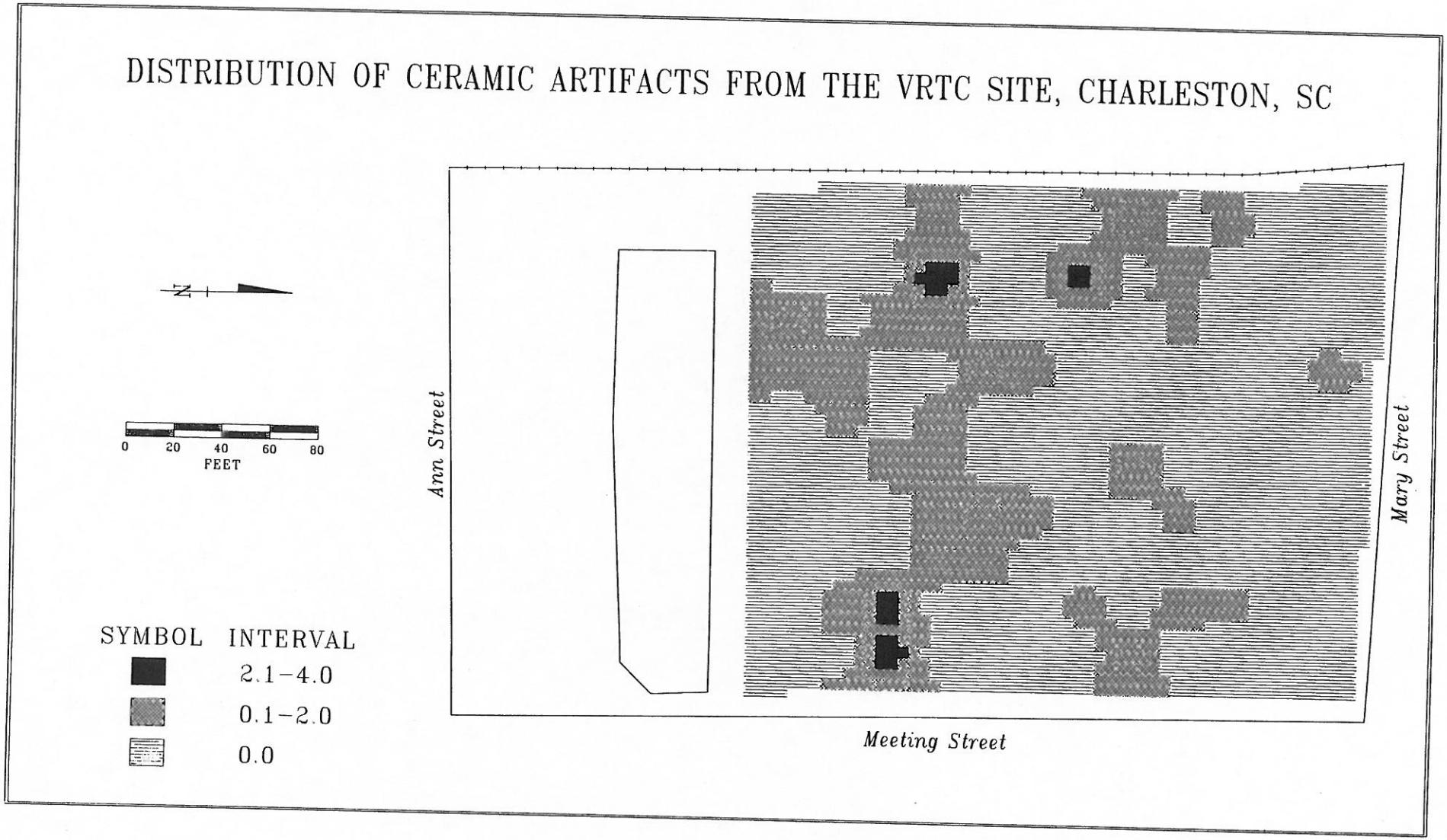

DISTRIBUTION OF CERAMIC ARTIFACTS FROM THE VRTC SITE, CHARLESTON, SC
N
0 20 40 60 80
FEET
SYMBOL INTERVAL
2.1-4.0
0.1-2.0
0.0
Ann Street
Mary Street
Meeting Street

Figure 18a

DISTRIBUTION OF BOTTLE GLASS FROM THE VRTC SITE, CHARLESTON, SC

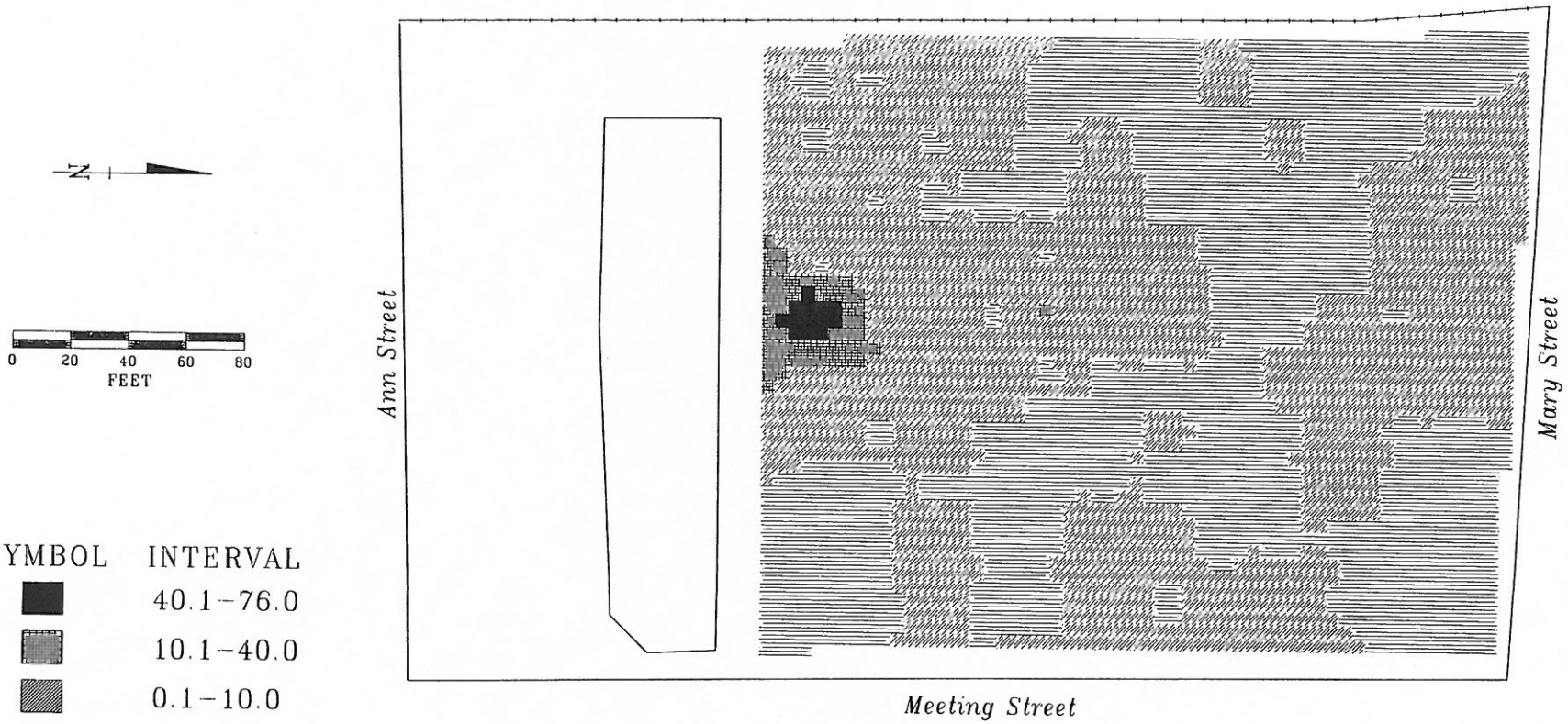


Figure 18b

DISTRIBUTION OF DOMESTIC ARTIFACTS FROM THE VRTC SITE, CHARLESTON, SC

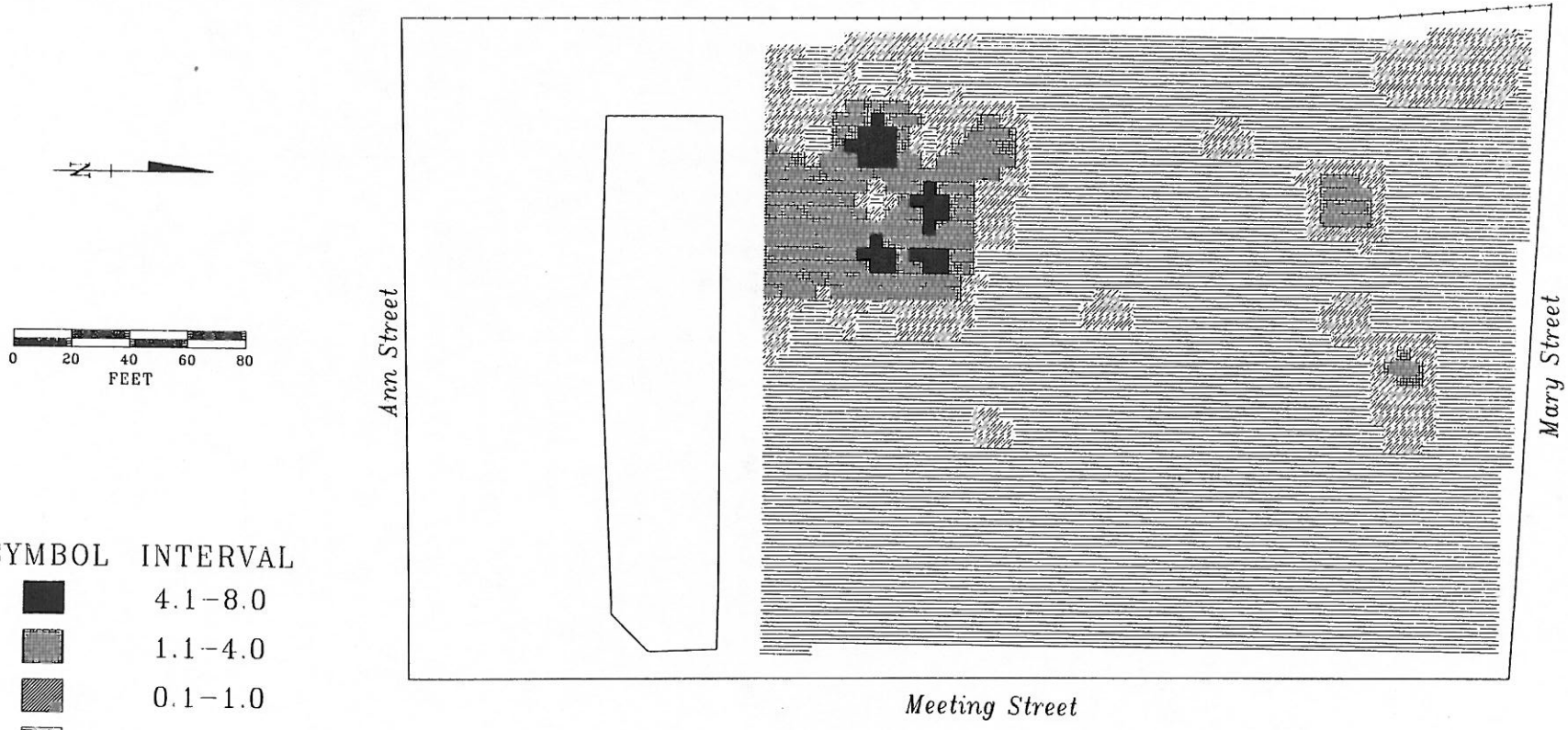


Figure 18c

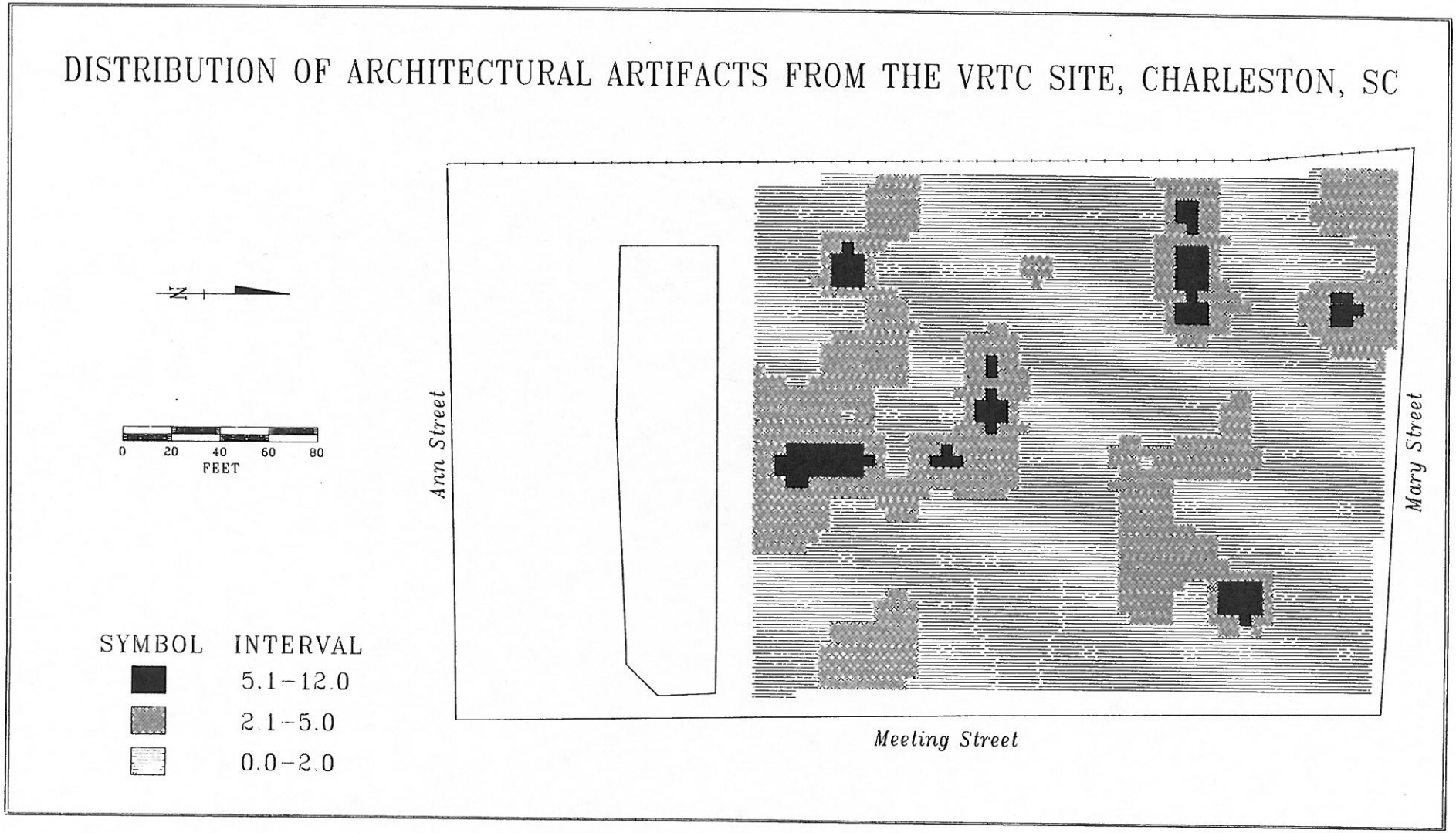

DISTRIBUTION OF ARCHITECTURAL ARTIFACTS FROM THE VRTC SITE, CHARLESTON, SC
N
0 20 40 60 80
FEET
SYMBOL INTERVAL
5.1-12.0
2.1-5.0
0.0-2.0
Ann Street
Mary Street
Meeting Street

Figure 18d

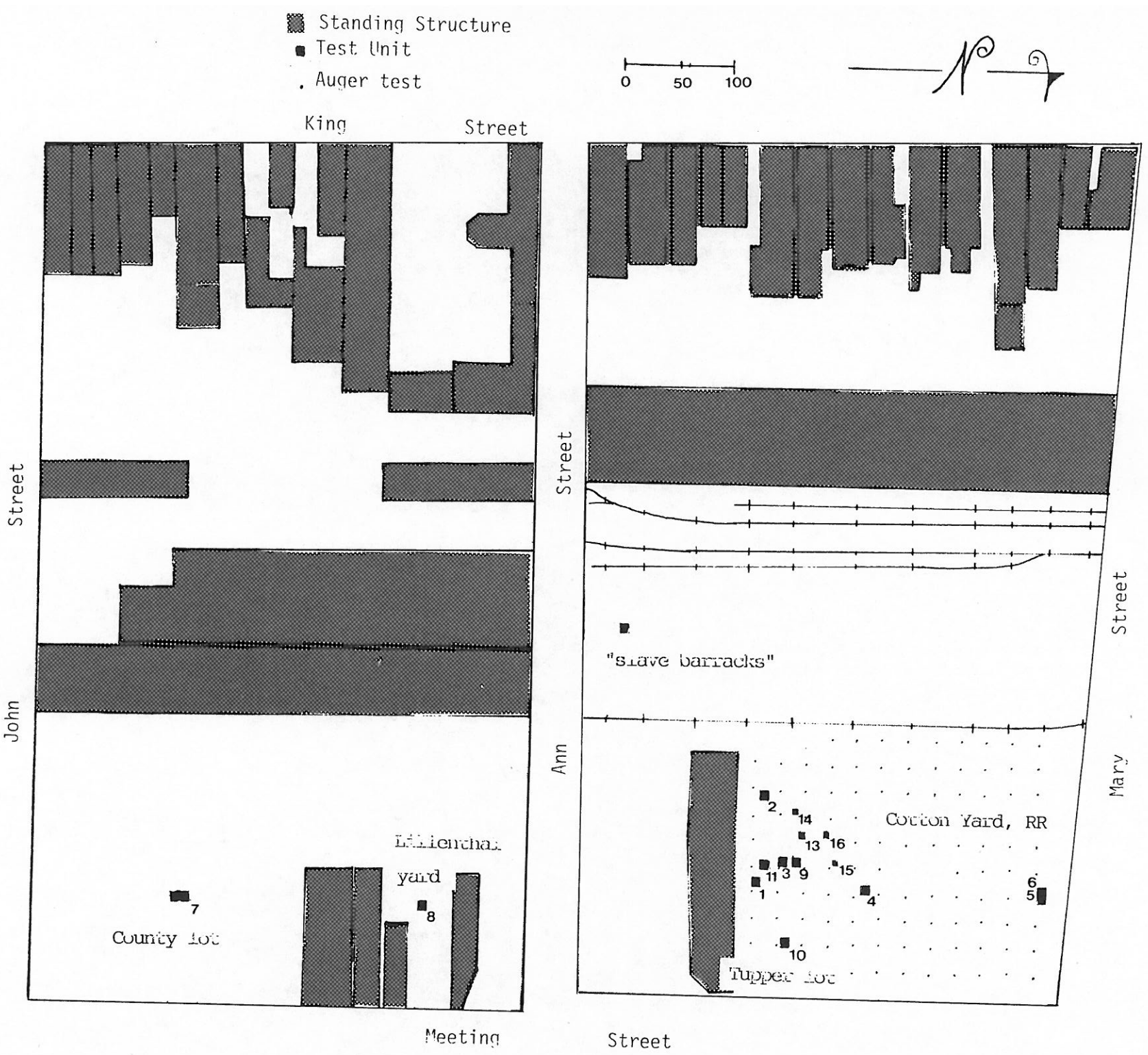


Figure 19 Site Map, VRTC Site, 38Ch897

was more substantial and may represent some sort of structural foundation; it measured .8 by 1.2 feet, and was 1.6 feet deep. These postmolds intruded into sterile soil (Figure 20).

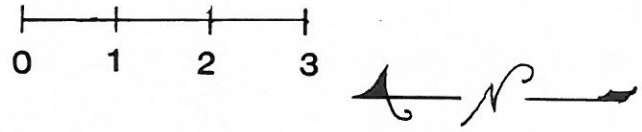
The southwest corner of Unit 2 was located 166 feet north and 192 feet west of the northwest corner of Ann and Meeting. This 5 by 5 foot unit was designed to test the rear portion of the same nineteenth-century lot, while avoiding a twentieth-century concrete foundation. Excavation revealed an area largely disturbed by twentieth-century commercial/industrial activity. The unit may have sampled a large rubble filled pit. The unit contained two zones, and Zone 2 was excavated in two levels. Zone 1 initiated at 13.83 feet and consisted of dark grey sand filled with gravel. Zone 2 consisted of medium grey mottled soil and was full of brick. Sterile subsoil was encountered at 12.36 feet.

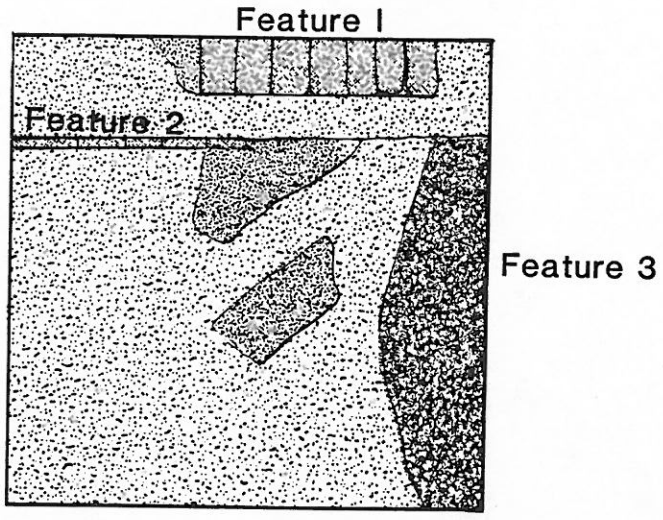
Unit 3 was located slightly north of Unit 1, and was situated to encounter an east/west brick foundation visible above ground. Unit 3 was a 5 by 5 foot square and the southwest corner was located 186 feet north and 130 feet west of the corner of Ann and Meeting. This unit was one of the most productive, and contained two zones and a number of features. Zone 1 was the designation given to a number of narrow soil bands which appear to have resulted from the same process. Zone 1 consisted of topsoil, followed by an uneven cap of clay and a thin layer of gravel. These deposits initiated at 12.31 feet MSL and continued to a depth of 11.96 feet. Zone 1 appears to have resulted from the razing and leveling of the lot in recent years. This leveling must have involved the use of heavy equipment, as evidenced by the compaction of both Zone 1 and the underlying Zone 2. Zone 2 was a very hard packed tan sand with fragments of brick, mortar, and charcoal. The soil also contained a number of large artifacts, including broken in situ redware flower pot and quantities of bone.

A number of features were encountered in Unit 3. As targeted, a brick foundation running east/west and measuring 1.25 feet in width was encountered immediately below Zone 1. This was designated Feature 4. Several features intruded into steril subsoil at the base of Zone 2. Feature 5 was an amorphous area of dark tan sand in the southeast corner of the unit. It intruded into the builder's trench for Feature 4, designated Feature 6, and intruded into a "hole" in the brick wall. The pit was full of animal bone; surprisingly, the bone was in extremely fragile condition.

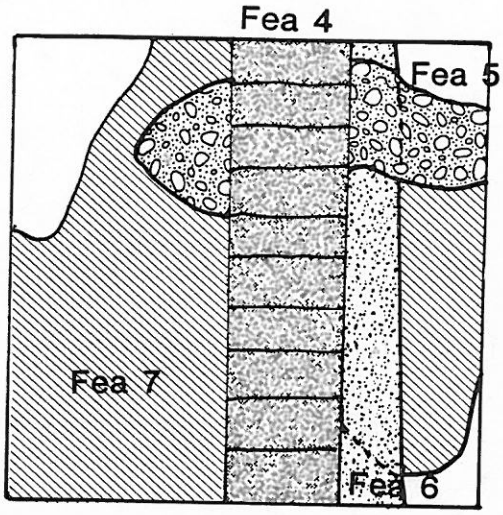
Feature 6, the builder's trench, was located on the south side of the brick wall. It was .6 feet wide and was extremely well defined as highly mottled dark grey, tan, and orange sand. Feature 6 initiated at 11.38 feet MSL and continued to the base of the brick foundation at 10.08 feet MSL. The final feature was a large, amorphous pit of tan sand, designated Feature 7. Feature 7 predates Features 4, 5, and 6, as they all intrude into it (Figure 20 and 21).

Units 4, 5 and 6 were located in the northern half of the Ann to Mary street block. This area contained vacant lots and domestic dwellings in the first half of the nineteenth century, but was an open cotton yard owned by the railroad throughout the postbellum period.

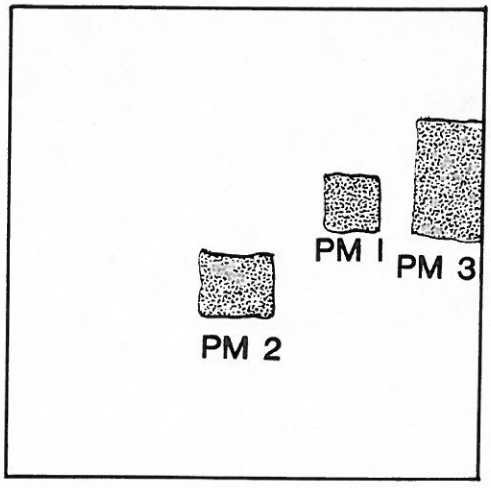




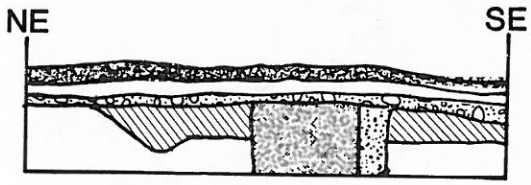
Unit I, base Zone 2



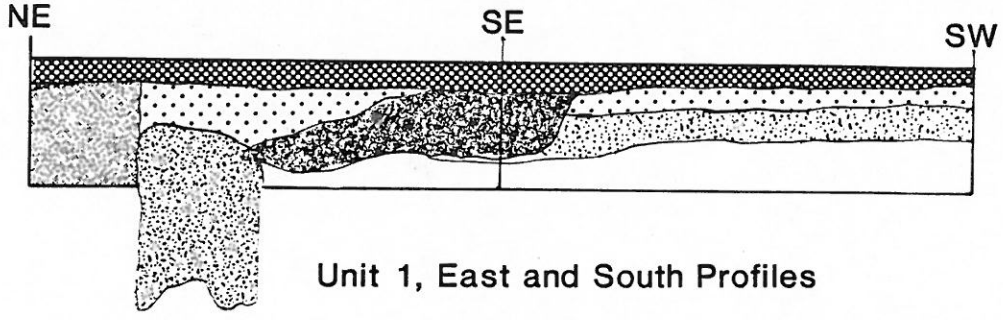
Unit 3, base Zone 3



Unit 1, base Zone 3



Unit 3, East Profile



Unit 1, East and South Profiles

Figure 20

Figure 21: Excavation of Unit 3; a) top of Features 5-7, b) Features 5 and 6 excavated.

Units were located in an attempt to test two of the antebellum lots, based on the 1852 Bridgens and Allen map.

Unit 4 was located in a vacant lot, according to the 1852 map. It was expected that the open, vacant lots would have been the location of at least some refuse from neighboring houses, based upon data from archaeological investigation of the lower, more congested portions of the city (Zierden and Calhoun 1986). Unit 4 was a 5 by 5 foot unit; the southwest corner of the unit was 261 feet north and 105 feet west of the corner of Ann and Meeting. Only Zone 1 of this unit was excavated. Zone 1 consisted of black soil containing gravel and a variety of early twentieth-century materials. Located beneath Zone 1 were large wooden railroad ties, with coal clinkers and cinders between the ties. Similar features were explored in Unit 5, and so were not examined further here.

Units 5 and 6, adjoining 5 by 5 foot squares, were located close to the southwest corner of Meeting and Mary streets, in order to test a small house lot shown on this corner on the 1852 map. The southwest corner of Unit 5 was 25 feet south and 85 feet west of the southwest corner of Meeting and Mary streets. Zone 1 consisted of dark soil with coal and coal clinkers. The zone initiated at 11.08 feet MSL and continued to a depth of 10.73 feet MSL. Railroad ties were located immediately beneath Zone 1 along the eastern edge of the unit. These were designated Feature 8. The railroad ties consisted of timbers 7 inches high and 9 inches wide. Evidence of iron rails was noted on top of the ties, and the areas between the ties were filled with a dark soil containing quartz pebbles, gravel, and coal clinkers, mottled with orange and yellow sand. The "construction pit" for the ties sloped up to the west.

In order to better understand the relationship of the railroad features to the surrounding soil, the unit was expanded to the west, and designated Unit 6. The unit exhibited identical stratigraphy. Zone 2 consisted of medium grey sand with coal and some yellow mottling. The soil was very hard packed and exhibited lenses of a rust-stained soil. This zone was .4 feet deep. At the base of Zone 2 a number of features were encountered. Feature 9 was an amorphous, roughly linear area filled with grey, gritty clinker material. This deposit was only .1 feet deep. Feature 10 was a linear area of mottled orange, yellow, and black soil. This feature proved to be a pipe trench, containing a standard 2 1/2 inch pipe. Also initiating at the base of Zone 2 were three postmolds, two circular and one rectangular. The matrix of these shallow posts was a uniform dark grey greasy sand. Zone 3 was defined as a mottled yellow, orange, and tan-grey sand (Figure 22a). This proved to be sterile soil, and excavations were halted at 9.98 feet MSL.

Units 7 and 8 were the only units excavated in the southern block, due to time limitations and the relatively limited availability of open ground for testing. The unit locations were selected on the basis of the 1852 and 1872 maps, which show a series of residential lots and structures along this block. These lots were relatively short (140 feet), due to the occupation of the central portion of the block by the railroad.

Figure 22a: Units 5 and 6.
Figure 22b: Unit 7, west profile.

Unit 7 was located to intersect the rear portion of one of these lots and the edge of the marsh which formerly transected the block. Unit 7 was a 5 by 10 foot unit with the long axis oriented north/south. The southwest corner of the unit was 130 feet north and 105 feet west of the northwest corner of John and Meeting.

Unit 7 was located in the county parking lot, and thus Zone 1 consisted of the asphalt, removed by City jackhammer crews, plus the crush-and-run, removed with shovels. Immediately beneath this was a zone of mottled brown, grey and orange sand, bearing quantities of artifacts. These were excavated as Zone 1 level 2. A brick foundation, designated Feature 11, also initiated at this level. This foundation runs east/west, and consists of three layers of brick set on tan sand. Abutting this foundation immediately to the north was a rough concrete foundation or pad of some sort. Due to the limited nature of the excavation, it was impossible to explore this feature further.

Zone 1 level 2 proved to be a large pit of demolition fill. The soil initiated at 10.61 feet MSL, and continued to a depth of 7.86 feet. The deposit was shallower along the south side of the unit, and deepest adjacent to Feature 11. This heavily mottled soil contained a quantity of nineteenth-century artifacts, but also contained a variety of very recent items, such as spark plugs and rubber "o" rings. Also contained within this demolition deposit were large wooden beams and chunks of concrete, indeed suggesting that this portion of the site was heavily disturbed during some building demolition process in recent years (Figure 22b).

Unit 8 was located in the side yard of the Lilienthal lot, adjacent to the only remaining nineteenth-century domestic structure on the site. The 5 by 5 foot unit was located 94.7 feet south and 100.0 feet west of the corner of Ann and Meeting streets; this unit, then, was just north and west of the back of the house. The unit was located in what had been a small vegetable garden, so Zone 1 consisted of a plowzone of medium tan sand, initiating at 10.18 feet MSL. Zone 2, on the other hand, consisted of heavily disturbed, mottled yellow, black and grey sand, which was very hard packed. Like Unit 7, Zone 2 contained quantities of nineteenth-century materials in association with mid twentieth-century artifacts. Sterile subsoil was encountered at 7.93 feet MSL. While the soils appear similar, it is impossible to determine whether the disturbance in Units 7 and 8 resulted from the same activity.

In summary, the eight excavation units located in the two block area revealed three major types of activities. Units 1 and 2 revealed extensive undisturbed evidence of nineteenth-century domestic activity. Units 4 through 6 revealed evidence of industrial activity associated with the railroad. Finally, Units 7 and 8, located in the southern block, revealed extensive evidence of nineteenth-century occupation, disturbed by mid twentieth-century activities. The artifact distribution as well as stratigraphic data recorded during the auger survey suggested a low density of cultural materials in this portion of the site, as well as severe disturbance in many portions of

the cotton yard. They did, however, reveal less disturbance and a greater concentration of materials in the Tupper yard.

Based on the results of the Phase II testing, additional excavation was recommended. Testing was recommended for portions of the site not accessible during the testing phase; additional excavation was recommended for the relatively undisturbed areas revealed during testing. The State Historic Preservation Officer (SHPO), after a review of the management summary (Zierden 1987), assessed 38Ch897 as eligible for listing in the National Register of Historic Places. As the site could not be preserved in place, the SHPO concurred with Zierden, recommending additional testing to assess significance of previously untested portions of the site, as well as data recovery.

Methodology and Provenience Description - Phase III 1988

Identical field procedures were followed for the Phase III testing and data recovery excavations in 1988 (see pg. 53). Testing focused on previously uninvestigated portions of the site and on areas of artifact concentrations suggested by the auger testing. Data recovery focused on the J. Tupper lot. Phase II testing revealed undistrubed evidence of nineteenth century domestic occupation only in this portion of the site. Archival research suggested that, unlike other portions of the Meeting Street frontage, this lot remained a domestic unit through the 1950s.

Phase II testing suggested that some portions of the site, specifically the Tupper lot, contained undisturbed proveniences capable of contributing to research on a variety of topics. Research topics for the VRTC data are discussed in Chapter I, and were formulated on the basis of archival data obtained during Phase I and archaeological information retrieved during Phase II, as well as previous archaeological and historical research in Charleston. Because of its relatively undisturbed nature, data recovery during Phase III focused on the Tupper lot. However, even this portion of the site revealed some mixing. For this reason, a methodology of additional dispersed 5 by 5 foot units was selected over contiguous units. The total number of units excavated in this portion of the site revealed areas of varying integrity, as well as a small sample adequate for addressing the proposed research questions. In addition to this area, the area of possible slave barracks along the north side of Ann street was targeted for research.

A base line was established in the Tupper lot 167.9 feet north of the true corner of Meeting and Ann streets. Pins were located at 25 foot intervals along this east-west line. The southwest corner of Unit 9 was located 192.9 feet north and 130 feet west of the true corner of Meeting and Ann. This placed the unit directly north of Unit 3. Excavation revealed two zones. Zone 1 evidenced the razing and compaction of the lot in the mid-twentieth century. Zone 1 consisted of mottled dark grey and orange granular sand, containing quantities of stone and metal gravel. These materials suggest some sort of industrial slag. The recovery of a 1951 dime provides a TPQ for the razing activity. Zone 1 was excavated in two arbitrary

levels. Directly beneath this was a nineteenth-century deposit, designated Zone 2. The zone was a hard-packed medium tan-grey sand with lumps of mortar, brick, and charcoal. The zone contained quantities of bone in fragile condition, as well as large fragments of nineteenth-century ceramics and glass.

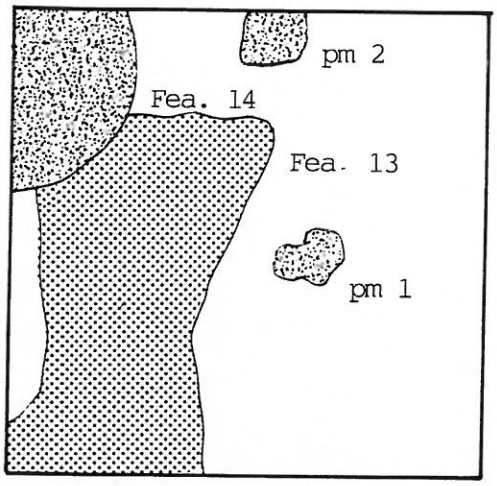
Zone 2 was excavated in two levels. Level 1 contained quantities of artifacts, charcoal and mortar; the soil matrix was the same in level 2, but the artifacts and other inclusions were much sparser. The unit initiated at 13.12 feet MSL and sterile soil was encountered at 12.49 feet MSL. A small feature was noted intruding into sterile soil. The small circular area was adjacent to the west wall of the unit and was designated Feature 12. The soil matrix was identical to that in Zone 2, and contained some large fragments of charcoal. Examination of the west profile suggests that the feature actually initiated in Zone 2 level 1, but the soil matrix was undistinguishable. Feature 12 was a small pit with sloping sides and a rounded bottom.

Unit 10 was located in the front of the Tupper lot, based on a suggested concentration of ceramics during auger testing. The southwest corner of Unit 10 was 187.9 feet north and 55 feet west of the corner of Ann and Meeting. Zone 1 was similar to that in Unit 9, consisting of mixed sand and clay with concentrations of gravel. Zone 2 consisted of quantities of mortar and large brick fragments. A pocket of highly mottled (disturbed) greasy black and orange sand was noted in the southwest corner of the unit. Except for a few nails, the zone contained virtually no artifacts. Excavation continued to a depth of 1.0 feet below surface, where excavations were halted. The unit was troweled and photographed at this level. It appears that the unit is located within the interior of the Tupper house, and that rubble was pushed into the foundation when the structure was razed.

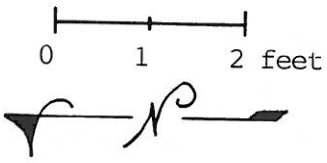
Unit 11 was located in the rear yard of the Tupper lot, to the west of Unit 1. The southwest corner of the unit was 167.9 feet north and 125 feet west of the corner of Meeting and Ann. Zone 1 was excavated and screened. It consisted of medium brown sand and orange clay with lots of gravel and welding slag. A loosely filled posthole was noted in Zone 1; it was filled with loose brown-grey dirt and quantitites of modern liquor bottle glass, complete with aluminum screw-on caps in place. Wood from the post was also present in rotting condition. It appears that the posthold is not modern, but that the post had rotted in place. The resulting hole then became filled with modern refuse.

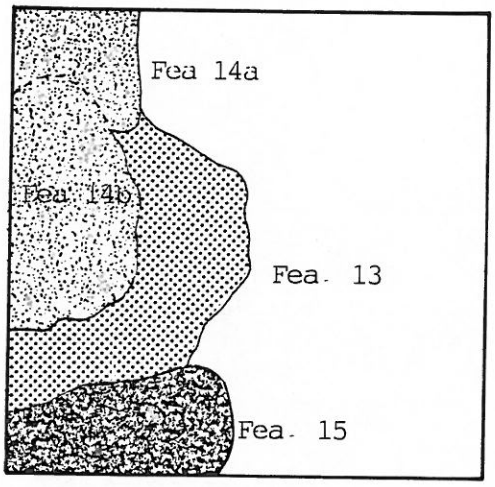
Zone 2 also had a churned appearance. The soil was mostly medium brown, with pockets of yellow and dark grey soil. The zone contained very few artifacts. Sterile soil was encountered at 12.30 feet MSL.

Several features were present intruding into sterile subsoil. The aforementioned Postmold 1 continued into sterile, and the remaining portion was excavated separately. A second square post, located along the east profile, also contained some of the decaying wood in place. The profile revealed that the post sloped at a 30 degree angle. The fill was a homogenous grey-brown sand (Figure 23).

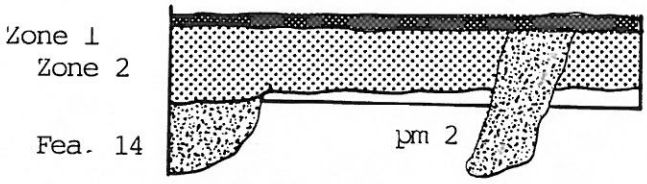


Unit 11, base zone 2

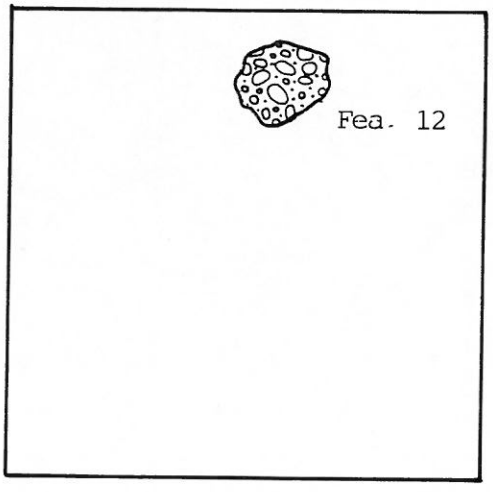




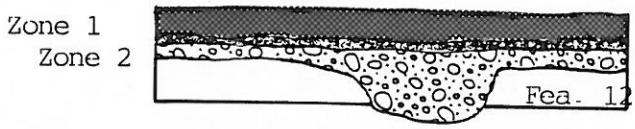
Unit 11, features redefined



Unit 11, east profile



Unit 9, base zone 2



Unit 9, west profile

Figure 23

Three features were present along the northern wall of the unit. Feature 13 appeared as an irregular, roughly oval area of medium grey-brown sand. A roughly circular area of tan sand intruded into the feature, designated Feature 14. Excavation began with Feature 14. The feature was filled with large fragments of ferrous cans. The boundary between Features 13 and 14 were indistinct, however, so excavation of Feature 14 was halted and Feature 13 begun. Feature 13 proved to be a shallow dip in the above zone; two distinct features were then visible. Feature 14 continued to the east. These materials were excavated as Feature 14 level 2. The oval pit had straight sides and a rounded bottom. It contained few domestic artifacts, and was filled primarily with tin cans, quart-size paint cans, and a paint brush (Figure 24).

The other oval area was designated Feature 15. This pit had straight sides and a rounded bottom. The fill was a slightly darker grey-brown sand with lenses of yellow sand. Artifact content was very sparse.

Unit 12 was located adjacent to Ann street in the vicinity of the mid nineteenth-century slave barracks. The southeast corner of the 5 by 5 foot unit was 341.5 feet west and 35 feet north of the true corner of Ann and Meeting. Zone 1 was defined as a light brown granular sand with some small marine shells. Because of the sterile, filled nature this soil was discarded. Beneath this was black soil containing compacted gravel and large timbers. This was designated Zone 2. This soil contained a few modern artifacts (including a piece of dark green nylon fabric and a fragment of stainless steel kitchen knife). Some of the artifacts were hand collected; otherwise the soil was excavated and discarded. Beneath the gravel was a lense of residual black soil, which was excavated and screened as Zone 2 level 2. Beneath the late twentieth-century deposits was an area of mottled medium brown sand, designated Zone 3. A brick foundation, consisting of single bricks laid end to end, was present running north- south, which was designated Feature 16. Excavation of Zone 3 continued on both sides of Feature 16. The soil on the west side bottomed onto a laid brick floor.

Based on this discovery, power equipment was used to remove the large timber beams remaining in the unit. The exposed portion of the unit was excavated to the top of Zone 3. Excavation of two levels of Zone 3 revealed several features intruding into sterile subsoil. Feature 16 proved to be a very substantial brick foundation pier, located in the northwest corner of the unit. As substantial builder's trench was present as mottled medium brown-grey sand. Intruding into the builder's trench, designated Feature 17, were several other features. A large postmold (Postmold 3) and posthole (Feature 18) was located in the center of the unit. Ephemeral stains from railroad ties were visible along the eastern wall. It appears that the timbers and gravel comprising Zone 2 are redeposited rail ties. The stains from the ties were quite shallow, and were not excavated separately. Postmold 3 was quite substantial and intruded into the water table. It consisted of dark grey-brown soil with gravel inclusions. The post was large and round, and substantial portions of the wood were

Figure 24: Excavation of Unit 11; a) excavating Feature 14, b) Features 13-15 excavated.

preserved below the water table. The posthole surrounding it was designated Feature 18, and was defined as a circular area of medium brown sand mottled with yellow sand. Postmold 3 and Feature 18 initiated at 13.06 feet MSL and continued to a depth of 11.65 feet MSL and 11.50 feet MSL, respectively.

The builder's trench, Feature 17, was quite substantial. Excavation revealed that the brick pier, Feature 16, was 1.5 feet deep and stepped out three times on each side. The row of bricks originally interpreted as a wall foundation consisted of a single row of bricks running north-south along the eastern edge of the feature. Feature 16 may be related to the railroad, or may be the corner foundation to a large feature such as the slave dormitory (Figure 25).

Units 13 through 16 measured 2.5 by 2.5 feet each, and were located on either side of the tree line separating the Tupper lot from the cotton yard. These units were excavated by 9th graders from the Burke High Magnet School, under the supervision of project archaeologists. Students took turns digging, screening, taking notes, and washing the materials. Unit 13 was the most productive. The southwest corner of this 2.5 foot square was 197.5 feet north and 152.5 feet west of the corner of Ann and Meeting streets. Zone 1 was a medium brown sand with quantities of gravel, as in other units. Zone 2 was a darker brown-grey sand with coal inclusions. At the top and base of this zone were narrow lenses of coal fire residue. Beneath this was a level of compacted brick fragments. These exhibited no mortar and were horizontally compacted into the sand below, suggesting that they served as paving for a walking or driving surface. The bricks were excavated as part of Zone 2, and contained no cultural materials. Beneath this was a zone of tan and yellow mottled sand, designated Zone 3, and proved to be culturally sterile. Intruding into Zone 3 and sterile soil beneath was a small feature in the southwest corner of the unit. The feature, interpreted as a small trash pit, consisted of medium grey soil with charcoal inclusions. Feature 19 initiated at 12.90 feet MSL and the base was encountered at 11.27 feet MSL.

Unit 14 was located in the Tupper lot west of Unit 13. The southwest corner of the 2.5 foot square was 195 feet north and 175 feet west of the corner of Ann and Meeting. Zone 1 consisted of a medium brown-grey sand. A telephone cable line was encountered .4 feet below the surface. Excavation continued within this cable trench to 1.06 feet below the surface, where excavations were halted due to the disturbed nature of the deposits.

Units 15 and 16, located in the southern portion of the cotton yard, contained extensive evidence of mid twentieth-century industrial activity. The southwest corner of Unit 15 was 235.4 feet north and 130 feet west of the corner of Ann and Meeting; the southwest corner of Unit 16 was 222.9 feet north and 155 feet west of this point. Both units contained dark black-brown soil with quantities of gravel and such twentieth-century artifacts as spark plugs and pop tops to a depth of 1.5 feet. Due to the excessive depth of the mid twentieth-century deposits, excavation of both units was halted at this point.

Figure 25: Features in Unit 12; a) top of Features 16-18, b) Feature 17 excavated.

Conclusions

Phase I historical research of the property suggested extensive research possibilities for the VRTC site. Phase II testing in 1986 revealed a relatively shallow, low density site with domestic and industrial components. Light industrial activities in the mid twentieth century and the extensive ground disturbance associated with later demolition of these facilities severely compromised major portions of the site. Phase III data recovery confirmed these observations. The southern block exhibited extensive mixing, as did the Meeting Street frontage of the cotton yard and the areas associated with the Firestone building. Intact features predating these activities were encountered only in the Tupper lot and in the center of the Ann to Mary street block. The recovered materials can contribute to ongoing research on a limited level, but do not suggest that further excavation is warranted.

CHAPTER IV

ANALYSIS OF THE MATERIALS

Laboratory Techniques

Following excavation, all materials were removed to The Charleston Museum, where they were washed, sorted, and analyzed. Conservation procedures included reconstruction of ceramic and glass vessels, and stabilization of metal artifacts. Ceramic and glass vessels were restored with DAP china and glass mender, a non-yellowing glue soluble in acetone. Ferrous materials were separated in the field and stabilized by placing them in successive baths of distilled water to remove chlorides, then were oven-dried and bagged. Several ferrous and all non-ferrous metal items were selected for further treatment through electrolytic reduction. The ferrous items were placed in electrolysis in a weak sodium carbonate solution with a current of six ampheres. Upon completion of electrolysis, they were placed in successive baths of distilled water to remove chlorides and dried in ethanol. Finally, the materials were coated with a solution of tannic acid and phosphoric acid, and dipped in microcrystalline wax to protect the surfaces.

Non-ferrous artifacts were also placed in electrolytic reduction, in a more concentrated solution with a current of 12 ampheres. They were placed in the distilled water baths to remove surface chlorides and dried in ethanol before being coated with Incralac to protect the surfaces. Wood artifacts were treated with B90 and ethanol.

All excavated materials are curated in The Charleston Museum storage facility according to standard museum policy. Artifacts were packed by provenience in standard-sized low acid boxes, labelled, and stored in a climate controlled environment. Field records and photographs are curated in The Charleston Museum library in the high security section. Copies on 100% rag paper are available in the general research section of the library.

The first step in the analysis of the materials was the identification of the artifacts. The Museum's type collection, Noel Hume (1969), Stone (1974), and Deagan (1987) were the primary sources used, although other references were consulted for specific artifacts. Lorraine (1968), Huggins (1971), Kechum (1975), and Switzer (1974) were used to identify bottle glass. Epstein (1968) and Luscomb (1967) were used in button identification, and Fontana and Greenleaf (1962) was consulted concerning tin cans. Catalogues from Sears, Roebuck & Company (1900) and Montgomery Ward & Company (1894-1895) provided information on a variety of late nineteenth-century artifacts.

Following identification, the materials were grouped by functional categories, based on South's (1977) and Garrow's (1982) models for the Carolina Artifact Pattern. South's methodology has been widely adopted by historical archaeologists, allowing for direct intersite comparison; all of the data from Charleston have been organized in this manner.

Vertebrate fauna collected during the 1986 and the 1988 field seasons equaled 1,630 bone fragments. The fauna data has been used to address questions concerning historic populations' subsistence strategies in Charleston, in particular, and on the southeastern Coastal Plain, in general. The analysis of the faunal remains collected in 1988 is contained in Appendix I; the analysis of the 1986 faunal remains is in the President Street site report, Appendix I (Zierden and Raynor 1988:61-69).

Dating the Proveniences

The date of deposition for each provenience was derived by using Terminus Post Quem (TPQ) and stratigraphic point of initiation. Terminus Post Quem is the date after which a provenience must have been deposited, and is determined by the initial date of manufacture of the latest dating item in the provenience. Stratigraphic point of initiation is based on the law of superimposition. The TPQ artifact and date of deposition for each provenience are listed in Table 1.

Table 1
Provenience Guide

Prov.	Function	TPQ Artifact	Date of Deposition
Unit 1, Zone 1	Zone	coke bottle	mid 20th century
Unit 1, Zone 2	Zone	panel bottle	late 19th "
Unit 1, base Z2	Zone	crown cap	late 19th "
Unit 1, Area A		valve cap	20th century
Unit 1, Area B		cement	"
Unit 1, Fea 3	Hearth	screw top cap	"
Unit 1, Area C	Shallow Pit	undecorated whiteware	19th century
Unit 1, PM 3	Postmold	portland cement	early 20th century
Unit 1, PM 1	Postmold	window glass	19th century
Unit 1, PM 2	Postmold	tin can	mid 19th century
Unit 1, Zone 3	Zone	undec. whiteware	"
Unit 2, Zone 1	"	wire	late 20th century
Unit 2, Zone2, Lev1	"	shotgun shell	mid 20th century
Unit 2, Zone2, Lev2	"	can key	"
Unit 3, Zone2, Lev1	"	white porcelain	mid 19th century
Unit 3, Zone2, Lev2	"	tin can	"
Unit 3, Zone2, Lev3	"	undec. whiteware	"
Unit 3, Fea 5, S1/2	Pit	window glass	early 19th century
Unit 3, Fea 5, N1/2	Pit	undec. pearlware	"
Unit 3, Fea 7	Pit	tin can	mid 19th century
"	"	"	"
Unit 4, Zone 1	Zone	industrial glass	late 20th century
Unit 5, Zone 1	"	porcelain insulator	mid 20th century
Unit 5, Fea 8	Rail line fill	"	"
Unit 6, Zone 1	Zone		
Unit 6, Zone 2	"	transfer print whiteware	late 19th century
Unit 6, Fea9	Linear area	ironstone sewer pipe	"

Table 1 continued:

Unit 6, Fea 10	Pipe trench	porcelain insulator	early 20th century
Unit 6, Zone 3	Zone	annular whiteware	mid 19th century
Unit 7, Zone 2	Mixed zone	tin foil	
Unit 8, Zone 1	Zone	7-up glass	20th century
Unit 8, Zone 1-2	"	paper clip	"
Unit 8, Zone 2	"	metal	19th century (disturbed)
Unit 9, Zone1, Lev1	Zone	1951 dime	mid 20th century
Unit 9, Zone1, Lev2	"	7-up glass	"
Unit 9, Zone2, Lev1	"	lamp chimney glass	late 19th century
Unit 9, Zone2, Lev2	"	tin can	mid 19th century
Unit 9, Fea 12	Small pit	milk glass	"
Unit 10, Zone 1	Zone	3-D plastic	1950s
Unit 10, Zone 2	"	porcelain button	"
Unit 11, Zone 1	"	refrig. light bulb	"
Unit 11, Zone2, Lev1	"	7-up bottle	early 20th century
Unit 11, PM Intrusion	Pit	liquor bottle	20th century
Unit 11, PM 3	Postmold	tin can	1850s
Unit 11, Fea 14	Trash pit	window screen	late 19th century
Unit 11, PM 1	Post	plastic	20th century
Unit 11, Fea 13	Shallow pit	tin can	mid 19th century
Unit 11, Fea14, Lev2	Trash pit	window screen	late 19th century
Unit 11, Fea 15	Trash pit	white porcelain	mid 19th century
Unit 12, Zone2, Lev2 (NW corner)	Zone	tin foil	mid 20th century
Unit 12, Zone2, Lev1 (Collected)	"	rayon	late 20th century
Unit 12, Zone 3	"	plumbing pipe	late 19th century
Unit 12, Zone2, Lev2 (SW corner)	"	clear/red glass	mid 20th century
Unit 12, Zone3, Lev1 (SW corner)	"	7-up glass	late 19th century
Unit 12, PM 3	Postmold	transfer print whiteware	"
Unit 12, Zone3, Lev2	Zone	white porcelain	1850s
Unit 12, Fea 17 (South side)	Builder's trench	"	mid 19th century
Unit 12, Fea 18	Posthole	shelledge whiteware	"
Unit 12, Fea 17 (East side)	Builder's trench	white porcelain	"
Unit 13, Zone 1	Zone	wire	mid 20th century
Unit 13, Zone 2	"	porcelain insulator	early 20th century
Unit 13, Fea 19	Small pit	annular pearlware	early 19th century
Unit 13, Zone 3	Zone	transfer print whiteware	"
Unit 14, Zone 1	"	spark plug	mid 20th century
Unit 14, Zone 2	"	telephone cable	late 20th century
Unit 14, troweling			

Several proveniences, including zones and features, were encountered which date to the nineteenth century. However, many of these contained very few materials and/or materials with broad date ranges. Because of this, it was rarely possible to isolate proveniences associated with the antebellum period from those deposited later in the century. Those that could be so designated comprised a sample too small to be meaningful. For this reason, all proveniences associated with the nineteenth century are lumped as a single subassemblage. This subassemblage consists predominantly of deposits associated with domestic activities at the site. The nineteenth-century data is used to address questions about nineteenth-century spatial patterning in suburban Charleston, the material correlates of socioeconomic status in the nineteenth century, site function and subsistence strategies.

To lump all nineteenth century proveniences masks major technological and material culture changes that occurred around the mid-nineteenth century. Wherever possible, proveniences from a single site are separated into discrete temporal units. The President Street site, for example, was separated in this manner, and revealed significantly different artifact profiles. Small sample size precludes a temporal differentiation here; however, an analysis of the nineteenth-century components in Units 6 and 12 was done to address questions about the industrial component of the site and the associated labor force (see pages 108-110).

Proveniences associated with the primarily industrial twentieth century are considered as a separate temporal assemblage. Because it is larger and has more integrity, the nineteenth century assemblage is the focus of research.

Nineteenth-Century Assemblage

Kitchen

Three-thousand two-hundred sixteen (3216) kitchen artifacts recovered comprised 62.7% of the artifact assemblage. Of the group, glass fragments are the most numerous at 69%, with ceramics second at 25%, and metal kitchen artifacts third at 6%. Whiteware overwhelmingly dominated the ceramic assemblage (76%) with a few late eighteenth and early nineteenth-century ceramic types represented as well.

Ceramics were divided into table and utilitarian wares. With the majority of the ceramics fragmentary, ceramic type rather than vessel form determined a sherd's placement. Tablewares comprised 90.6% of the ceramics, and included creamware, pearlware, porcelain, whiteware, portobello-like ware, lusterware, Whieldon ware, and agate ware. The earliest tablewares were the agate and Whieldon wares, both produced in mid-eighteenth century. After a revolution in the ceramic industry which allowed for the perfection of a thin, hard-firing, cream-colored ware, new ornamental techniques were applied. Wares were dipped in a glaze to produce tea wares of various colors. These tea wares, cast in naturalistic, rustic and rucco designs, became loosely classified as

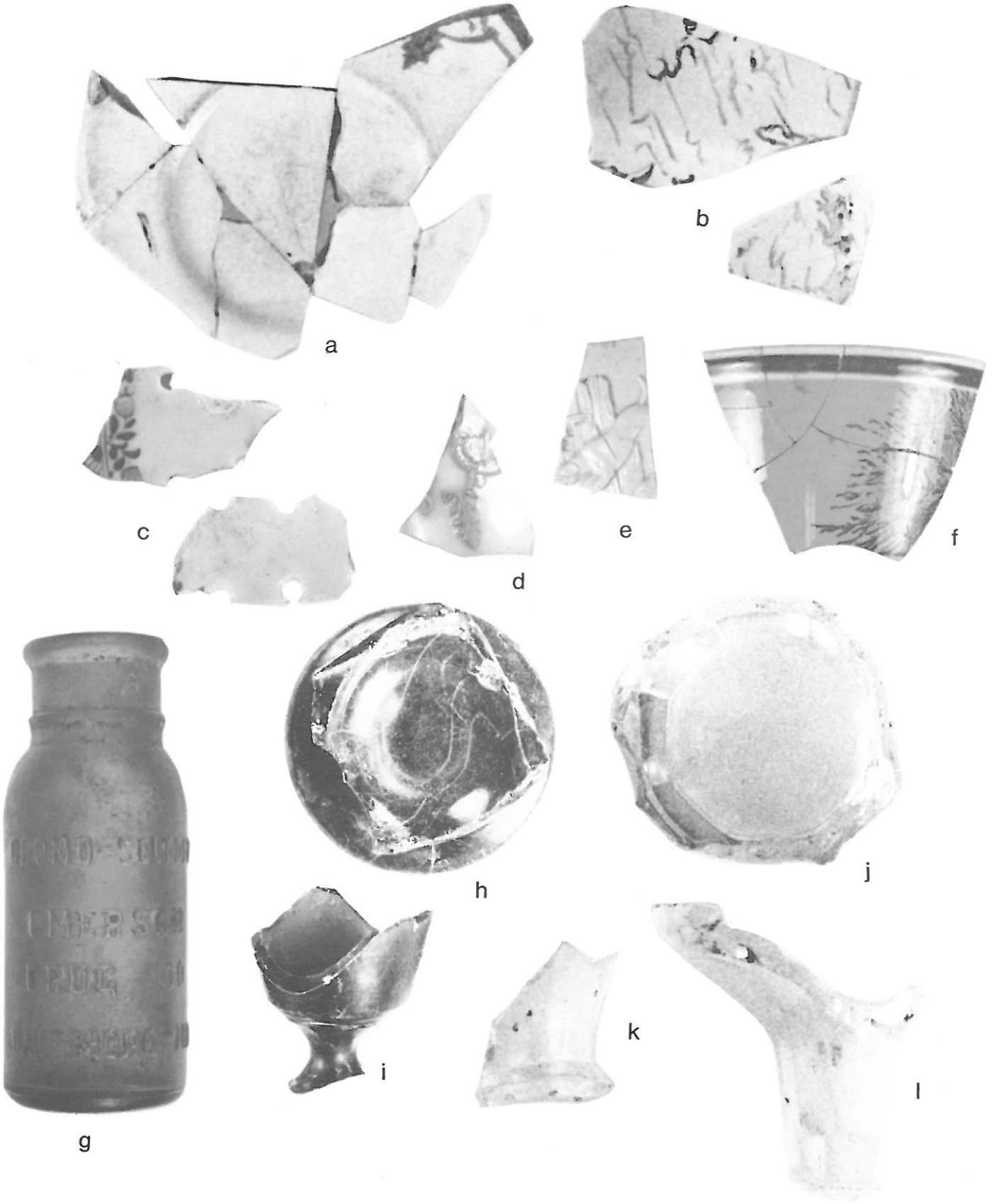


Figure 26: Ceramic and glass artifacts; a) "Buffalo china", b) speckled yellow ware, c) porcelain colander sherds, d,e) sprigged whiteware, f) mocha ware, g) Bromoseltzer bottle, h,i) blue table glass, j-l) clear table glass.

"Whieldon ware" and date between 1750 and 1775. Agate ware was achieved by the mixing of two or more body clays of different colors to create veins that went through the ware and could be seen both inside and out, and also dates around the same time (1740-1775) (Noel Hume 1969). Other eighteenth-century ceramics included creamware and Chinese Blue on White porcelain. Creamware, which comprised 2% of the ceramics, marked a revolution in the manufacturing of pottery because of its solidity, fine glaze, beautiful forms and cheap price. It displaced tin-glazed wares, white salt-glaze stoneware and Oriental porcelain from the market and culminated in English domination of the world tableware trade by the 1790s (Miller 1980). Even though creamware continued to be made throughout the nineteenth century, after 1820, it is rarely found decorated and forms became limited to utilitarian wares (Miller 1980).

Six percent of the ceramics comprised turn-of-the-nineteenth-century ceramics and included 45 pieces of pearlware and one piece of lusterware. Pearlware decorations included hand painted, shell edged, transfer printed, wormy fingerpainted and mocha (Figure 26f).

Between the 1820s and 1830s, the ceramic manufacturing process was refined to achieve an even "whiter" ware, named whiteware, which replaced pearlware as the preferred tableware. The same decorative motifs continued on whiteware vessels. Prior to 1830, transfer printed designs were available only in blue; afterwards, they were available in a variety of colors. The nineteenth-century whiteware assemblage comprised 83.5% of the tableware sherds with all types of decorations: transfer printed, hand painted, annular, shell edged, beaded rim, wormy fingerpainted, flow blue, and sprigged (Figure 26 d,e).

Porcelain is a component of historic assemblages from the sixteenth through the nineteenth centuries. Up until the nineteenth century, Chinese porcelain was an expensive, fine, thin ware, often in tea forms. Its presence is considered an indicator of high status (Stone 1970:88). During the nineteenth century when porcelain was directly imported into the United States in enormous quantities, the ware became inexpensive and its quality deteriorated sharply. Thus nineteenth-century porcelain is not a reliable indicator of high financial status (Herman et al. 1975:66; Lewis 1978:104). Of the 58 porcelain fragments recovered (7.2% of the ceramic assemblage), only three (or 5%) were Chinese in origin and all three were colander sherds (Figure 26c). The majority were white, made in Britian or America, and were undecorated. One piece had guilding around the rim edge and two had blue sprigged decoration.

Other tablewares represented by one sherd each included lusterware and portobello-like ware (Lindsay 1962). These wares are often in the form of bowls, tea pots, and other specialized ware.

Ceramic types considered to be utilitarian in nature (used in food preparation and storage) included stonewares and coarse earthenwares and comprised 9% of the overall ceramic assemblage. Earthenwares included yellow ware, rockingham ware, slipware, brown and black lead-glazed earthenwares, and unglazed earthenwares. Manufactured in the nineteenth century in regional American potteries,

the brown and grey saltglazed stonewares comprised one-fourth of the utilitarian assemblage. Other stoneware types included albany-slip interior and one fragment of ginger beer bottle. Two alkaline-glazed stoneware pieces recovered were manufactured throughout the nineteenth century in the Edgefield, South Carolina area (Burrison 1985; Greer 1970). Some of the grey stonewares included the later, debased style of Westerwald, either of German or American origin. Yellow ware also comprised one-fourth of the utilitarian assemblage (Figure 26b).

Only three locally manufactured Colono wares were recovered. Colono wares are a low-fired, unglazed earthenware, produced by black slaves, historic Indians and/or both (Anthony 1986; Ferguson 1980, 1985; Wheaton et al. 1983). While Colono wares form a major component of eighteenth-century Lowcountry plantation slave sites, and to a lesser degree planter sites, they too are consistently represented on urban sites, averaging 5% of the ceramics. The wares decline rapidly in the early nineteenth century, however, which may be why of the nineteenth-century ceramic assemblage they comprised only .4%.

In one unit, eleven prehistoric pottery sherds were recovered: seven cordmarked, one finger punctate and three plain (Figure 28b). Prehistoric artifacts, either in situ or mixed in historic contexts, have been extremely rare in Charleston, and no prehistoric sites have been identified on the lower peninsula. The presence of the eleven sherds suggests that the VRTC site was once inhabited or visited by Native Americans. The VRTC site is located on the highest ridge of land on the peninsula, a likely location for aboriginal sites.

Glass artifacts comprised the majority (69%) of kitchen materials, reflecting the decreased price and increased availability of these materials in the nineteenth century (Lorrain 1968). Half of the glass assemblage were clear bottle fragments. Clear bottle fragments included 116 mason jar pieces, 36 medicine bottle fragments, two condiment bottle pieces, and 914 miscellaneous bottle fragments. One condiment bottle had a flat-topped machine-molded rim.

Condiment containers and canning jars became popular in the second half of the nineteenth century. In the eighteenth century, housewives preserved fruits by boiling them in glass jars and sealing them with wax, glue or pitch. Few attempts were made to preserve other foods until the nineteenth century. With the invention of the mason jar lid in 1858, home canning became a practical reality. John L. Mason, a tinsmith, was neither the inventor of the first fruit jar nor a jar maker. He made the first successful zinc screw lid. The lid allowed the cap to seal on the shoulder of the jar, rather than on its uneven lip, assuring an airtight seal. Lewis Boyd's patent in 1869 provided a glass liner for the zinc cap which prevented corrosion of the lid. Jars and lids were sold separately until 1890 (Toulouse 1977).

"Patent" or proprietary medicine bottles, marketed for fevers, aches, cramps, or almost any kind of ailment, came in two shapes, rounded or rectangular; fragments of both were recovered. The rectangular panel bottles were developed in the 1860s. The patent medicine business prospered until the early twentieth century when it

was discovered the medicines were highly narcotic. The U.S. government responded with the 1907 Pure Food and Drug Act, and the patent medicine business soon died (Ketchum 1975). One whole, blue "BROMO-SELTZER" bottle was recovered from "EMERSON DRUG CO., BALTIMORE, MD" (Figure 26g).

Other clear glass fragments included two goblet stems and bases, and 103 pieces of tumbler glass. Decorations on the clear tumber pieces included cut stars, a molded octagonal pattern, a molded circular pattern, and a molded diamond pattern. Colored tumbler bases included three white pieces, three blue, and six blue-green. Forty-one molded table glass pieces and one piece of pressed glass were also recovered (Figure 26h-l).

Milk glass and other color bottle glass comprised the other half of the glass assemblage. Container glass included vessels of light, olive and hunter green, aqua, blue, brown, amber, purple, and black glass. One early (1790-1810) dip-molded, olive-green bottle glass fragment was recovered. Many of these held alcoholic beverages, such as wine, whiskey, stout, ale, and bitters. Other beverage bottles held soda or mineral water, popular from the 1840s through the 1880s.

Other kitchen items found included 174 tin can fragments, one tin can key, one ferrous cup handle, one ferrous kettle fragment, two crown caps, and one ferrous marrow scoop. Although tin cans were not patented until 1810, the manufacturing of tinware in America began in 1770 in Berlin, Connecticut. After the Revolutionary War, American mills began mass producing it. The word "can" orginially comes from the Greek word "kanastron" meaning "basket woven from reeds;" in Latin, it changed to "canistrum" from which we derived the word "canister." The bookkeepers of William Underwood Co., of Boston shortened it to "can" and soon the name became popularized (Fontana and Greenleaf 1962). Beginning in the 1800s, tin cans were first made by cutting the can from a tin plated sheet iron by hand or foot powered scissors, then forming the body around a cylinder, and soldering the seam. Separate pieces were cut for the top and bottom and soldered. Through a small hole left in the top of the can the food was added and then a smaller cap was soldered in place after filling. This basic method persisted until the mid-1880s, with improvements being continually invented (Fontana and Greenleaf 1962). Tin cans were in common use by 1860, indicating an increased use of processed and preserved foods. Popular canned products included oysters, lobsters, and salmon. West coast canners specialized in the packaging fish products. Most fruits, vegetables, pickles, jellies, sauces, and a variety of meats as well (ducks, geese, turkeys, chickens, beef) were eventually packaged and shipped around the world from eastern seaports (Rock 1984).

Architecture

Architectural materials comprised 32.4% of the assemblage of which most were nails (55%) and flat glass (41%). Common building rubble such as brick, mortar, and slate were noted but not retained. Forty-six percent of the nails were square machine-cut; one wire nail

(manufactured after 1850), one copper nail and two roofing nails were also identified. The other nails were unidentifiable as to type. Three tacks, three hooks, one fence staple, seven bolts, three screws, one hinge, three plumbing pipe parts, one wooden board with a nail attached and one door lock were also recovered (Figure 27b). Window materials included the flat glass, five fragments of window screen, four wire-reinforced window glass fragments, and 19 window casing pieces. In one unit, one piece of hardended crinkled paint recovered along with 11 fragments of plaster with paint, were all flesh colored. Originally the color would have been a brighter, bubble gum color but would have faded through time (Gina Tuten personal communication, 1988). Two units still had parts of wooden posts in the bottom of the postholes, preserved below the water-table.

Pipes

Twenty-five pipe stem and bowl fragments, all made of white kaolin clay, comprised .5% of the assemblage. The tobacco group is highly variable, based on personal habit. The use of kaolin pipes was immensely popular in the seventeenth and eighteenth centuries but declined dramatically as the nineteenth century progressed, except among the lower classes. The lack of pipes at VRTC may reflect the decline in popularity or it may reflect a lack of smoking among site residents. Since the method of calculating dates from kaolin pipe stems is accurate only when all stems' date of deposition is prior to 1780, no bore measurements were taken (Binford 1961).

Arms

Arms have always been a relatively small percentage of urban assemblages, accounting for at least .1%. In the nineteenth-century assemblage, three arms items were recovered, a piece of lead shot, a pistol bullet and a gunflint, comprising .06% of the assemblage.

Clothing

Clothing items accounted for .5% of the assemblage. Nineteen buttons, the most common item found, were made of brass, porcelain, mother-of-pearl, bone, and black glass. The white porcelain buttons were undecorated and featured four holes in the style typical of the nineteenth century. The black glass button had a relief floral design (Figure 28j). One of the nonferrous buttons was a "story button," with a cloth interior; depicted on its brass exterior was an Oriental scene of an Asian person holding a staff with a house and mountains in the background (Figure 28f). Story buttons are decorated with designs depicting nursery rhymes, fables, poetry, drama and the like; they have been used for at least two centuries and can be found on various materials, although, most frequently, they were on metal buttons (Luscomb 1967).

A South Carolina Militia button recovered, worn in the 1830s, had the palmetto tree with two oars crossed over the tree and "ANIMIS

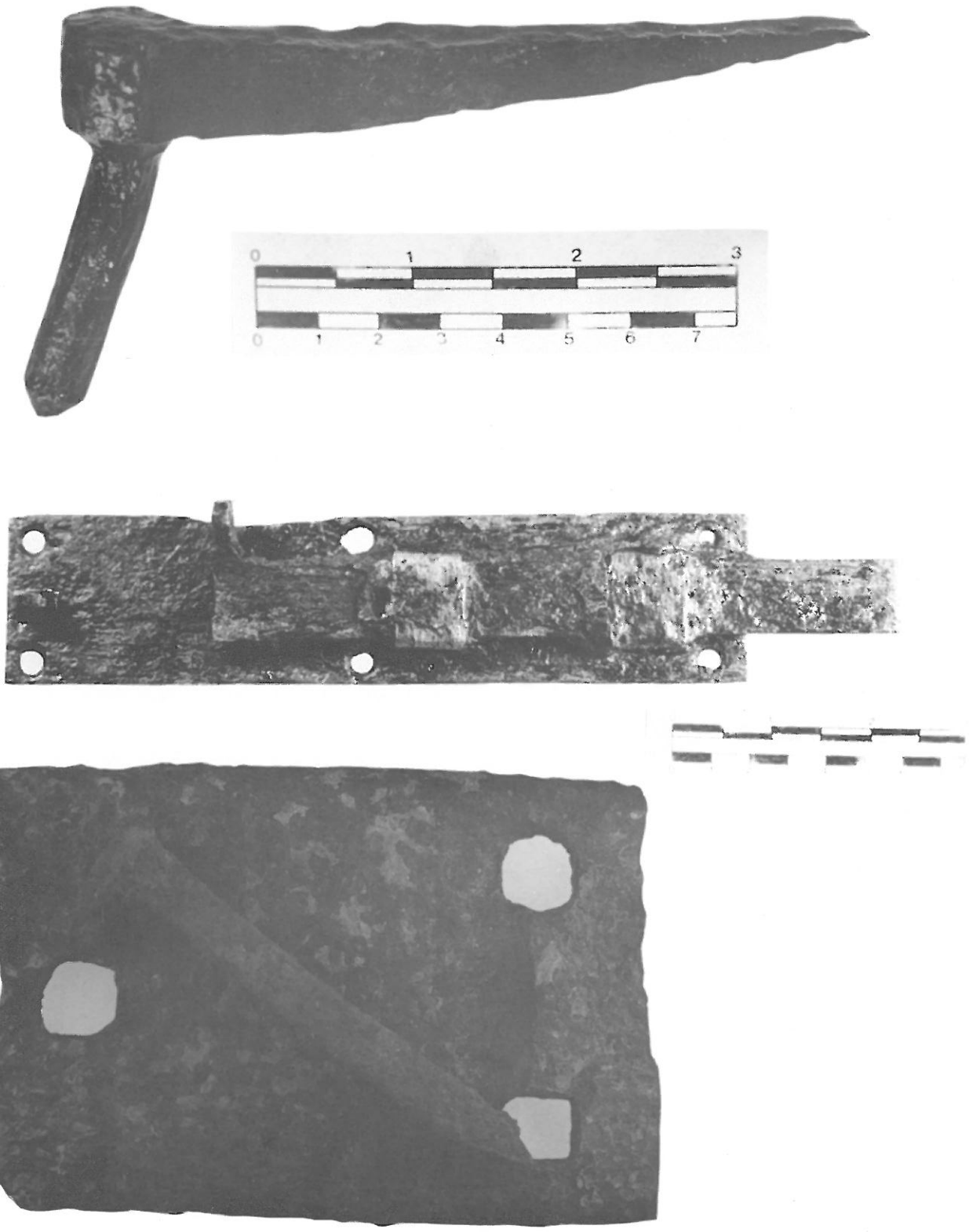


Figure 27: Architectural and industrial artifacts; a) shutter pintel, b) sliding door lock, c) railroad spike and plate.

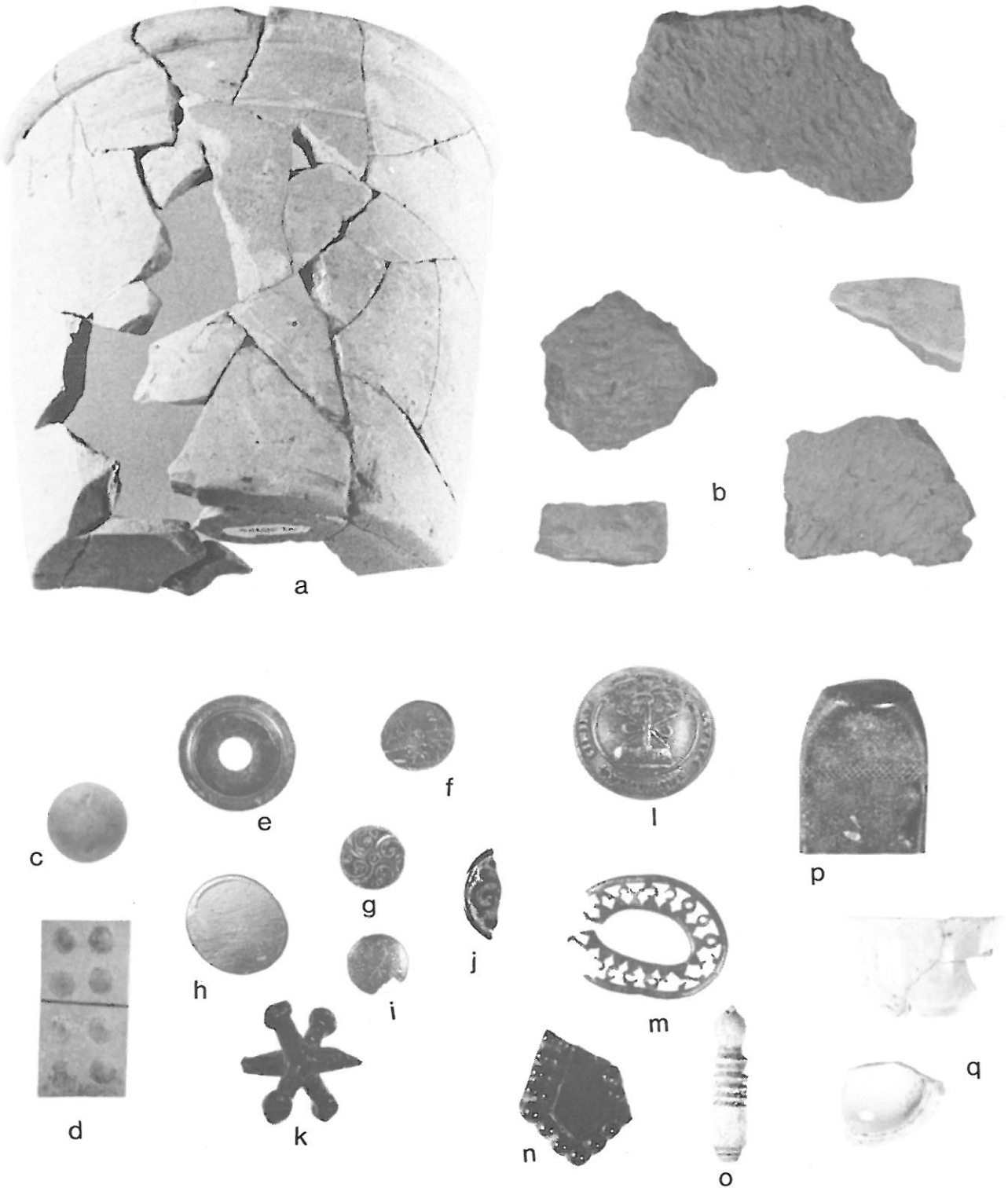


Figure 28: Miscellaneous artifacts; a) redware flower pot, b) prehistoric pottery, c) clay marble, d) bone domino, e) brass fitting, f) brass "story" button, g-i) brass buttons, j) jet button, k) jack, l) South Carolina Militia button, m) brass brooche, n) jet medallion, o) bone lace bobbin, p) brass cane tip, q) toy dishes.

OPIBUSQUE PARATI" written on the front. On the back was Charleston silversmiths' mark, "EYLAND & HAYDEN." John Eyland was born in England and came to Charleston in 1818 when he was twenty-four. A year later, he opened a glorified jewellery store or a "Fancy Store," as it was called, at 330 King Street and was located at the "Sign of the Drum." He formed a partnership with W.&G. Chance of New York and Birmingham, England, which dissolved in 1827. After the dissolution of his copartnership, Eyland remained in business for himself until July 2, 1832, when he then took Nathaniel Hayden into a second copartnership. The name of the firm was changed to Eyland & Hayden. Later that year they moved their business to the corner of Wentworth and King streets. Eyland's death in September, 1835, brought the copartnership to an end (Burton 1942:58-61) (Figure 281).

One other brass button had a geometric design; the others were plain or the surface was too eroded to see the original design (Figure g-i). Other clothing items included a shoe grommet, a fragment of leather, a hook and eye, and a carved bone lace bobbin (Figure 28o).

Personal

Only .2% of the assemblage were personal items. A blue transfer printed whiteware cosmetic jar recovered came from France. On the jar a country scene was depicted with "ED. PINAUD NO.230 RUE ST. MARTIN PARIS" on its side; the date "1834" was stamped on the bottom. Other personal items included a bone toothbrush head, a pen top, three slate pencils, a shark tooth, a copper brooche that had lost its stones, a black glass necklace piece (imitation of jet) with a diamond-shape center and beads surrounding it, and a cane tip (Figure 28m,n,p). The shark tooth may have been present due to some landfilling activities, but it has been placed here because it may be the result collecting activities of site occupants.

Furniture

The nine furniture items, comprising .2% of the assemblage, included two brass furniture tacks, one light bulb, one molded paneled lamp base, and five rim pieces of chimney glass with a scalloped edge. The glass was part of kerosene lamps which increased in popularity and availability as the nineteenth century proceeded. Glass shades were first added to lamps in the 1830s; by the mid-nineteenth century, the kerosene lamp was developed and glass chimneys became quite popular (Trinkley 1986:244).

Activities

Activities items comprised 3.5% of the assemblage, reflecting primarily domestic and industrial activities. Industrial items, made of ferrous material, included one cotter pin, one railroad tie plate with tie spike (Figure 27c), one horseshoe, eight wires, one brad, one valve, one wire holder, two rings, one cap, one spring, one staple, and one clip. Nonferrous items included one copper washer, a lead

seal, and a brass fitting (Figure 28e). Domestic activites were represented by a paint brush, 105 pieces of quart-size paint cans, and 44 fragments of flower pots (Figure 28a). Eight toy or game items were recovered: one bone domino, three marbles, and pieces of a child's tea set which included two white porcelain fragments of a teapot lid and three whiteware fragments that formed a tea cup (Figure 28c,d,q).

Twentieth-Century Assemblage

Kitchen

Two-thousand seven-hundred nineteen (2719) kitchen artifacts recovered comprised 66.4% of the artifact assemblage. Of the group, glass fragments constitute the overwhelming majority (82.2%) of the kitchen artifacts followed by ceramics (12.8) and miscellaneous ferrous, paper and plastic kitchen goods (5%). Like the nineteenth-century assemblage, whiteware dominated the ceramic assemblage at 73% with a variety of other ceramic types represented in very small percentages.

The majority of ceramics were tablewares (86%). Tablewares included creamware, pearlware, porcelain, and whiteware. Eighty-five percent of the tableware were whitewares, including undecorated, transfer printed, hand painted, mocha, shell edged, wormy fingerpainted, flow blue, annular and polychrome decal. Porcelain comprised 11%, of which 94% of the fragments were white, American- or British-made porcelain. A few sherds of creamware, and undecorated, transfer printed, shell edged and annular pearlware were recovered.

Utilitarian wares were represented by yellow ware, rockingham ware, stoneware, lead glazed earthenware, tortoise shell earthenware and unglazed earthenware. Once again, the majority of the utilitarian wares were American stonewares; they comprised half of the group rather than one-fourth as in the nineteenth-century assemblage. Two Colono ware sherds were also recovered.

Glass artifacts became more numerous through the nineteenth century and became the container of choice in the early to mid twentieth century. The twentieth-century assemblage contained not only more glass artifacts but a greater variety as well. More colored glass and mixtures of colored glass were available (see Table 2), although blue bottle glass and hunter green bottle glass decrease dramatically. Patent medicine bottles also sharply decrease, reflecting the results of the U.S. government's Pure Food and Drug Act of 1907 which required manufacturers to list what ingredients the "medicines" actually contained.

Two new materials for kitchen items appeared: paper goods and plastic. Plastic is post-World War II phenomenon and is represented in small quantities at the VRTC site. Ferrous items included tin cans and one tin can key; several pieces of tin foil were also recovered.

Architecture

Architectural materials comprised 30.3% of the twentieth-century assemblage; the majority were flat glass (52%) and nails (41%). Other architectural items included industrial glass fragments, a fence staple, bolts, screws, nuts, hinges, plumbing pieces, paint chips, light bulb socket, insulator wire, porcelain and glass wire insulators, floor tile, linoleum, a key hole cover and a shutter pintel (Figure 27a).

Arms

The twentieth-century assemblage contained more arms than the preceeding century, comprising .22% of the assemblage. A bullet case, a brass percussion cap, a pistol cartridge, two .22 brass shot cartridges, three .22 nickel shot cartridges and a shotgun shell were recovered. The .22 calibre cartridges were common from the 1870s to the 1890s. Shotgun shells were developed by the mid-nineteenth century; 12-gauge shells post-date 1870 (Trinkley 1986:245-246; Johnson and Haven 1943).

Clothing

Ten of the eleven (.27% of the assemblage) clothing items recovered were buttons. The clothing buttons were made of white porcelain, mother-of-pearl, brown procelain, bone/horn, grey glass, and white plastic; one brass shoe button was also found. The only other clothing item was a fragment of rayon cloth.

Personal

Similar to clothing, twelve personal items comprised .29% of the twentieth-century assemblage. These included a slate pencil, shark teeth, a bone toothbrush, a pencil with an eraser, a nonferrous book hinge, a nonferrous necklace holder pin, a razorhead and two coins.

Furniture

Furniture items accounted for .24% of the assemblage. Six carpet tacks were recovered along with two light bulb parts, a foot locker part and a bath tub pully.

Activities

The activities group was the third largest group (2.2%) represented in the twentieth-century assemblage. Once again the group reflected both industrial and domestic activities. Domestic items included flower pot fragments, paint cans, car parts, and children's toys (doll parts, a toy airplane propeller, marbles and a toy jack [Figure 28k]). Washers, railroad spikes, wires, valves, gears and

wheels, unidentified machine parts, tinsnips, plastic fragments, an unidentified electrical piece, brads, metal straps, paper clips, and a print face (letter "p") formed the remainder of the activities group.

Pipes

Recovery of pipe fragments sharply declined. They comprised only .07% of the artifact assemblage.

Table 2
Quantification of the Assemblage

Kitchen	19th Century	20th Century
Porcelain, Chinese Blue on White	3	2
Porcelain, white	52	30
Porcelain, white w/guilded	1	
Porcelain, white w/blue sprigs	2	
Creamware	13	2
Pearlware, undecorated	33	4
Pearlware, hand painted	2	
Pearlware, transfer printed	4	5
Pearlware, shell edged	1	1
Pearlware, annular		2
Pearlware, wormy fingerpainted	3	
Pearlware, mocha	2	
Whiteware, undecorated	333	168
Whiteware, transfer printed	154	49
Whiteware, hand painted	14	4
Whiteware, mocha		5
Whiteware, shell edged	21	5
Whiteware, wormy fingerpainted	11	4
Whiteware, flow blue	10	1
Whiteware, annular		14
Whiteware, beaded rim	1	
Whiteware, polychrome decal		3
Whiteware, sprigged	2	
Agate ware	1	
Whieldon ware	1	
Lusterware	1	
Portobello-like ware	1	
Yellow ware, undecorated	14	7
Yellow ware, annular	6	
Yellow ware, transfer printed	1	
Rockingham ware	4	1
Ginger beer bottle stoneware	1	1
Albany-slip stoneware	7	3
Alkaline glazed stoneware	2	1
Grey/brown saltglazed stoneware	14	20
Westerwald stoneware	1	
Slipware	1	
Tortoise shell earthenware		1

Table 2 continued:

Lead glazed earthenware	13	7
Unglazed earthenware	9	6
Colono ware	3	2
Prehistoric pottery	(11)	
Clear glass, misc.	914	1499
Clear glass, jar	116	40
Clear glass, jelly jar		5
Clear molded table glass	41	13
Medicine bottle glass	36	1
Pressed glass	1	
Pressed glass, diamond pattern		10
Goblet	2	
Pinkish clear manganese wine glass		1
Condiment bottle glass	2	
Tumbler glass	103	
Clear glass coaster		1
Olive green glass	308	135
Dip-molded olive green glass	1	
Hunter green glass	261	7
Light green glass	7	8
"7-up" green glass		192
Brown glass	159	166
Amber glass	14	43
Black glass	79	
Blue glass	164	20
Aqua glass	16	13
Purple glass	2	
Yellow glass		1
Milk glass	5	10
Pink manganese glass		4
Clear molded manganese glass, leaf decoration		1
Blue-violet glass, geometric design		1
Greenish clear, (Coke bottle) glass		48
Green w/red paint bottle glass		13
Reddish clear bottle glass		1
Molded opaque bottle glass, textured		1
Hand painted glass		1
Tin can	174	54
Tin can key	1	1
Ferrous cup handle	1	
Ferrous kettle fragment	1	
Crown cap	2	58
Bottle cap liner		1
Ferrous marrow scoop	1	
Tin foil		7
Pop top		3
Styrofoam		2
Paper ring		15
Plastic ring		1
Refrigerator label		1

Table 2 continued:

Architecture		
Flat glass	688	644
Wire-reinforced window glass	4	
Window casing	19	
Window screen	5	
Industrial glass		3
Nail, misc.	490	511
Nail, square machine-cut	420	
Nail, wire	1	
Roofing nail	2	
Wooden board with nail	1	
Tack	3	
Hook	3	1
Fence staple	1	1
Bolt	7	4
Screw	3	15
Nut		7
Hinge	1	3
Door lock	1	
Plumbing pipe	3	2
Paint chip	1	17
Plaster	11	
Light bulb socket		1
Insulator wire		4
Porcelain insulator		4
Glass insulator		2
Floor tile		18
Linoleum		1
Key hole cover		1
Shutter pintel		1
Pipe	25	3
Furniture		
Light bulb or part	1	2
Carpet tack		6
Furniture tack	2	
Bath tub pully		1
Foot locker part		1
Paneled lamp base	1	
Chimney glass	5	
Arms		
Lead shot	1	
Pistol bullet	1	
Gunflint	1	
Bullet case		1
Shotgun shell		2
.22 brass shot cartridge		3
.22 nickel shot cartridge		1
Brass percussion cap		1
Pistol cartridge		1

Table 2 continued:

Clothing		
Button, white porcelain	11	2
Button, brass	5	
Button, mother-of-pearl	1	3
Button, bone	1	
Button, bone horn		1
Button, black glass	1	
Button, brown porcelain		1
Button, grey glass		1
Button, white plastic		1
Button, shoe		1
Shoe grommet	1	
Lace bobbin, carved bone	1	
Leather fragment	1	
Hook	1	
Eye	1	
Rayon cloth fragment		1
Personal		
Cosmetic jar	1	
Copper brooche	1	
Cane tip	1	
Necklace piece	1	
Toothbrush, bone	1	1
Pen top	1	
Slate pencil	3	1
Shark tooth	1	4
Book hinge		1
Necklace holder pin		1
Coin		2
Razorhead		1
Pencil & eraser		1
Activities		
Bone domino	1	
Marble	3	2
Doll part		2
Child's tea set piece	5	
Toy jack		1
Toy airplane propeller		1
Flower pot	44	1
Railroad item	1	2
Washer	1	4
Fitting	1	
Wire	8	16
Cotter pin	1	
Horseshoe	1	
Brad	1	2
Valve	1	1
Wire holder	1	
Ring	2	
Cap	1	
Spring	1	

Table 2 continued:

Gears/wheel		3
Machine part, misc.		12
Electrical piece		3
Metal strap		4
Staple	1	
Clip	1	3
Car part	1	11
Paint brush	1	
Paint can	105	2
Plastic piece		18
Lead seal	1	
Tinsnips		1
Print face		1

CHAPTER V

INTERPRETATIONS

The assemblage obtained from the VRTC site is small, and many portions of the nineteenth-century component have been compromised by twentieth-century activities. Nonetheless, the data generated from the present investigations are useful in addressing research issues on a variety of levels. Among these is the basic question of site formation processes, such as those which mix temporal deposits.

Encountering mixed, or "disturbed" proveniences is not unique to the VRTC site, or even to Charleston, and urban archaeologists are becoming increasingly concerned over the lack of attention such contexts receive. Such large-scale reorganization is common in the urban archaeological record and is in fact evidence of particular urban activities; the urban site is a living site, and modern earth-moving activities are part of a site occupation continuum. It has been suggested that archaeologists adjust their scale of research to accommodate such deposits (Brown 1987; Honerkamp 1987; Honerkamp and Fairbanks 1984).

The VRTC site is only the third middle class suburban site and the first Charleston site with an industrial component. The questions addressed here are long-term studies, employing the accumulating data from urban and rural Lowcountry sites. The VRTC sample is useful in addressing these descriptive and processual questions, using previously excavated sites for comparative purposes.

Site Formation Processes

Investigation of site formation processes has been central to ongoing archaeological research in Charleston. In order to properly interpret an archaeological site, it is first necessary to understand the processes responsible for the development of that data base. In Charleston, site formation processes can drastically affect the relative percentages of artifact classes, as well as the physical nature of the various soil deposits.

Cultural materials are introduced into the ground by three basic methods; discard, loss, and abandonment (Schiffer 1977). Once in the ground, they can be redistributed, or they can be removed (Ascher 1968; Honerkamp and Fairbanks 1984; Schiffer 1983). Usually, the archaeological record is a combination of all three events. In the urban situation, where these processes can become very complex and can occur on a large scale, archaeologists are particularly interested in the events which redistribute materials.

Continuing research suggests that sheet midden, or zone deposits, are characteristic of rural sites (Zierden et al. 1986b). Although there is considerable overlap, reuse of subsurface features for refuse disposal appears to be more common on urban sites. The backyard area, particularly in the vicinity of the outbuildings, was the locus of

most refuse disposal. Although some refuse was scattered on the ground as sheet midden, much of it was deposited into features such as wells and privies. This was probably due to the relatively crowded urban conditions and increased health and sanitation problems.

Crowded conditions and health considerations also resulted in the deposition of refuse in any convenient space in the city. Open lots, unpaved streets, and alleys were likely candidates (Calhoun et al. 1984; Rosengarten et al. 1987; Zierden et al. 1983a). Quantities of refuse were also dumped into creeks and lowlying marshy areas, creating viable real estate (Zierden and Calhoun 1986; Zierden et al. 1983b).

Urban archaeological deposits reflect abandonment and loss, as well as discard. Abandonment activities include loss of materials due to fire and storm, and the resulting cleanup activities, or the exchange of property between tenants and/or owners (Lewis and Haskell 1981; Zierden and Hacker 1987). Another key aspect of the urban sites may be disorganization, the result of continuous reoccupation and the intrusion of later deposits into earlier ones. Additional factors unique to urban sites are private or municipal collection of refuse (i.e., removal of refuse by scavengers, and later municipal crews, which resulted in the redeposition of refuse far from its place of origin), and the replacement of private handling by municipal or corporate management of such basic needs as water procurement and storage, sanitary waste management, and trash disposal (Honerkamp and Council 1984; Rosengarten et al. 1987).

The VRTC site provided dramatic evidence of many of these processes, as well as evidence of a shift in site formation activity as the site function changed from primarily domestic to primarily industrial. The relatively shallow stratigraphy at the site (1.5 feet depth compared to over 5 feet in the downtown district [Calhoun et al. 1984]) is typical of the nineteenth-century suburban sites. The areas of domestic deposits, particularly the Tupper yard, evidenced a shallow zone deposit with a moderate amount of artifacts. The back yard of the Tupper lot also evidenced extensive use of features for subsurface refuse disposal. Though no large, reused features such as wells and privies were encountered, the yard immediately behind the house and in the vicinity of the kitchen, contained several small, trash-filled pits. The pits averaged 1.5 feet in both depth and diameter. Some, such as Features 12 and 15, contained very few artifacts, while others, such as Feature 5, contained very dense cultural and organic refuse. It is interesting that some of the deliberately-filled refuse pits, such as Feature 14, date to the late nineteenth/early twentieth century, indicating a continuum of at least some household-level refuse disposal through the turn of the century. The immediate rear yard of the Tupper lot contains numerous small features (Figure 29).

The low density of domestic artifacts in the vicinity of the railroad corridor (Unit 12) and the cotton yard (Units 4, 5, and 6) suggests that some domestic refuse from the homes that fronted Meeting Street were discarded onto these adjacent vacant lots. Alternately, these areas may have had an earlier, more ephemeral

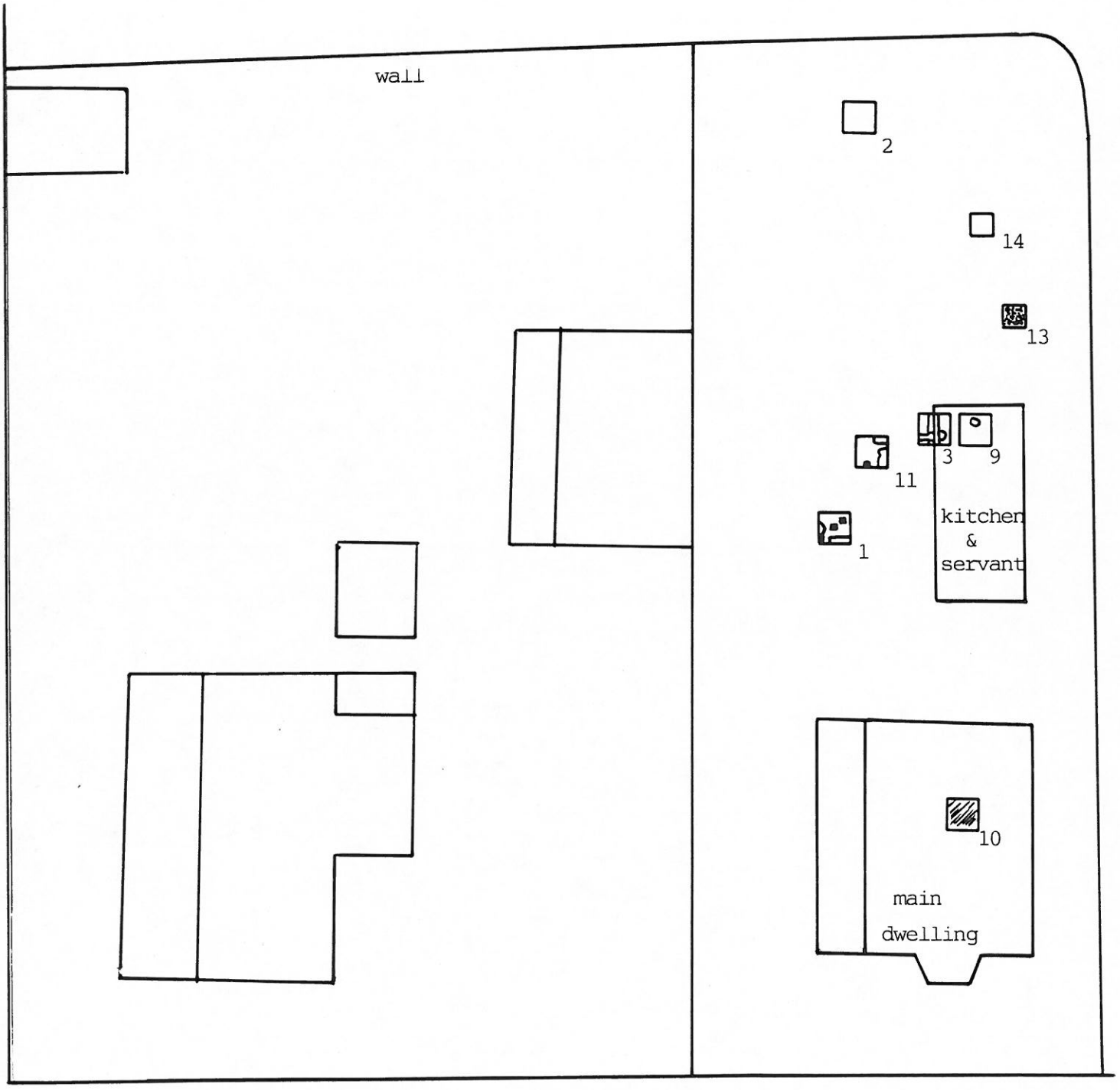


Figure 29: Lot element patterning at the Tupper lots. Outline of the structures taken from the 1884 Sanborn map. Feature and postmold outlines are shown in each unit.

domestic occupation prior to purchase of the lots by the South Carolina Railroad in the mid-nineteenth century. For example, a small structure is shown on the corner of Mary and Meeting on the 1852 Bridgens and Allen map, but no substantive evidence was encountered in Units 5-6. Use of these vacant areas for intermittent, informal refuse disposal is the more likely explanation.

The industrial activities at the site embodied radically different site formation processes. The construction of the rail lines and ensuing shipping activity resulted in the introduction of quantities of coal into the archaeological record. Though originally deposited in Zone 2, these materials have been extensively mixed, and were encountered in quantity in all Zone 1 deposits in the northern block.

By the mid-twentieth century, the domestic units along Meeting Street had, with two exceptions, been replaced with a variety of light industrial enterprises, including a meat packing plant, a tire store, a gas station, and a Buick dealership. The construction of these enterprises involved large-scale earth moving; in particular, quantities of soil were moved in the vicinity of the meat packing plant to construct a substantial foundation and a loading platform. The demolition of these structures further impacted the archaeological record. In the southern block, the demolition of the car dealership was evidently accomplished with heavy machinery, thoroughly mixing nineteenth-century domestic and twentieth-century industrial materials. Such mixing is also evident in the vicinity of the cotton yard, where auger testing revealed an entire nylon sweater at a depth of one foot below surface. Finally, the razing of the domestic unit at the Tupper lot in the 1950s resulted in some shallow mixing of nineteenth- and twentieth-century materials in Zone 1, and serious compaction of the underlying zones.

Finally, the resulting open lots have, in the late twentieth century, once again become a casual refuse disposal area, particularly for liquor bottle glass from transient citizens. Extensive evidence of this site formation process was encountered in Zone 1.

Artifact Patterning and Site Function

To date, all of the Charleston assemblages have been quantified by grouping the artifacts into functional categories, according to South's methodology (South 1977). Under this technique, artifacts are grouped by their presumed function in the daily affairs of the site occupants. By utilizing data from a number of British colonial sites, South proposed a range of variability that can be expected for the frequency percentages of artifact classes and groups. He named this range of variability the Carolina Artifact Pattern; this pattern is presumed to represent an averaging of domestic behavior. By establishing the range of normal variation, it should be possible to recognize aberrant activities as variations from these ranges.

Comparison of assemblages from mixed residential-commercial sites to the Carolina pattern is shown in Table 3; the mean for these

Table 3

Comparison of VRTC Assemblages
to Composite Artifact Profiles

	% 19th-Century Assemblage	% 20th-Century Assemblage	% 19th-Century President St.	% Townhouse Profile	% Dual-Function Profile	% Carolina Artifact Pattern
Kitchen	62.7	66.40	62.24	58.38	63.10	63.0
Architecture	32.4	30.30	32.08	36.00	25.03	25.5
Arms	.06	.22	.26	.32	.20	.5
Clothing	.5	.27	1.51	.91	1.18	3.0
Personal	.2	.29	.20	.24	.14	.2
Furniture	.2	.24	1.42	.21	.08	.2
Pipes	.5	.07	.86	2.79	5.97	5.8
Activities	3.5	2.20	1.16	1.10	4.14	1.7

sites, which include the homes and businesses of merchants and craftspeople (dual-function profile), reflects a general conformity to the Carolina pattern. The major difference is in the activities group, which averages 4.14 percent for these sites, compared to 1.7 percent for the Carolina pattern.

Research on these sites has suggested that commercial enterprises that transfer, rather than produce, goods (such as retail shops) are likely to produce little in the way of byproducts which would be recovered archaeologically. In contrast, sites characterized by craft oriented, or combined craft-domestic occupations appear to generate at least some discarded byproducts indicative of site function (Lewis 1977:177; Honerkamp et al. 1982:17,145-155; Honerkamp 1980; Zierden and Hacker 1987). The slightly elevated activities group, then, is evidently a strong reflection of commercial activity at these sites.

In contrast, data from Gibbes (Zierden et al. 1987), Aiken-Rhett (Zierden et al. 1986a), and Rutledge were used to derive a pattern for domestic-only sites (townhouse profile). These sites revealed an activities group even lower than the Carolina pattern. This is not necessarily unexpected; other researchers have noted that the empirical artifact profiles South used in establishing the Carolina pattern were actually derived from assemblages of combined domestic-craft sites. Therefore, domestic only refuse, from whatever sources, should differ from the mean for domestic artifact classes; the kitchen, clothing, personal, and furniture classes (Honerkamp et al. 1982:147-157).

The VRTC nineteenth-century assemblage shows a closer agreement to the dual-function profile, especially in the activities group, than the townhouse profile, the Carolina Artifact Pattern, or the nineteenth-century President Street site (middle class, suburban, domestic site) (Table 3). The low percentage of pipes most probably represents a temporal difference since the use of kaolin pipes declines as the nineteenth century progresses. The domestic classes (kitchen, clothing, personal, and furniture) when combined equals 63.6% for VRTC (nineteenth century), similar to the dual-function profile at 64.5%, and higher than the townhouse profile (59.7%), yet lower than the Carolina Artifact Pattern (66.4%). The architecture group percentage is higher at VRTC than the dual-function sites, however. The large amount of architectural materials is interrupted as the result of razing of houses/businesses on the block. The townhouse sites also contain the original structures, yet the architectural percentage is higher than VRTC. A different behavior is attributed to their high percentage, however: greater attention to maintenance and the financial ability for improvements and additions (Lewis 1985).

The dual-function of the VRTC block is somewhat different from the dual-function sites of the commercial core. Whereas some East Side peoples' homes and businesses were in the same structure as in the commercial core, other East Side residents tended to work away from their place of residence (Rosengarten et al. 1987). This separation of home and workplace was a major nineteenth-century social change, and is closely associated with the development of modern urban life (Wall 1985:185). In eighteenth-century Charleston, as in other

cities, the "organization of the productive unit consisted of the internal integration of house and shop, and living and working space among merchants and artisans. Their clerks, journeymen, and apprentices either lived with their employees or boarded nearby" (Wall 1985:185; see Nash 1979).

By the late nineteenth century, the two were no longer integrated, and in some cities separate socioeconomic neighborhoods had emerged (Wall 1985; Warner 1962, 1968). The household changed "from a unit of economic production to one only concerned with consumption and social reproduction" (Wall 1985:185). Social relationships were enhanced by the spatial concentration of the "walking city", one small enough for pedestrian traffic to be practical (Radford 1974; Wall 1985; Warner 1962, 1968). This spatial arrangement was not static, and a number of changes, industrial, technological and social, occurred throughout the nineteenth century which allowed physical expansion to occur. Though its finite water boundaries limited such expansion in Charleston, industrial growth and the development of the Neck suburbs reflects these changes. The antebellum suburbs, in contrast to the eighteenth-century city, were overwhelmingly residential. The VRTC block had both homes and businesses, situated side by side. King and Meeting streets became the major thoroughfares for the city, delineating an eastern or a western boundary for the residential suburbs. It comes as no surprise than that the railroad, fighting against public outcry, could choose no other location for its structures and tracks than between the two thoroughfares, giving the VRTC block an additional industrial function.

Spatial Patterning

As anthropologists, archaeologists have used spatial patterning, the arrangement of people, resources, and institutions across the landscape, to explore social structure and social organization. In cities, changes in social structure are consistent with urbanization, and these changes are reflected in land use. It is assumed that land will be used with increasing density and specialization as the community becomes more urban (Rothschild 1985:163). Increasing urbanization will in turn result in physical changes in the landscape (Mrozowski 1987:3).

Rothschild (1985) has suggested that urbanization is reflected in the degree to which land in a community is formally integrated into that community by being built upon or defined in some other formal way. Such processes in Charleston and elsewhere include landfilling, construction of drainage and other municipal systems, separation of home and workplace, and increasing regulation and attention to daily needs such as water procurement, livestock maintenance, food procurement, and sanitary waste management (Calhoun et al. 1984; Honerkamp and Council 1984; Mrozowski 1987; Rosengarten et al. 1987; Sapan 1985; Wall 1985; Zierden and Hacker 1987).

The spatial patterning of Charleston, particularly on the individual site level, reflects the particular demands of the urban

environment. During the eighteenth and nineteenth centuries, most of the structures found dispersed across the rural plantation site were also crammed onto the constricted urban lot (Castille et al. 1982:5; Wade 1964:61). Urban compounds, particularly those located within the commercial core, were organized to make the most efficient use of available land.

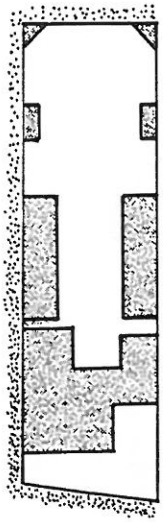
The proposed model of site-specific spatial patterning in Charleston is based upon historical and archaeological research at upper status sites. There are several reasons for the predominance of this data base. Such sites are better documented, and a larger proportion of them have survived with main house, outbuildings, and property lines intact. Also, a relatively large number (4) of such sites have been examined archaeologically in recent years, providing additional information on spatial patterning (Zierden and Grimes 1988). In contrast, middle to lower class sites have been more difficult to study, and with only one exception, archaeological studies have concerned an entire city block where property lines and structure locations changed through time (Zierden and Hacker 1987; Zierden and Raynor 1988) (Figure 30).

In Charleston, lots were deep and narrow, to maximize the available street frontage. Houses fronted directly on the street, with the narrow end facing the road. The southern side was open, complete with piazzas, while the northern side was devoid of openings, allowing residents to take full advantage of prevailing breezes while maintaining maximal privacy. Two English architectural styles adapted to semi-tropical conditions in the Caribbean proliferated in the city and became famous as the Charleston single house and the Charleston double house (Calhoun 1986; Weir 1983). The single house received its name from its one room width. Typically the single house contained two rooms to a floor, with a hall between containing the staircase, and a piazza to the south or west. The gable end fronted the street, and entrance was through a false door onto the piazza. Later, this plan was modified slightly; the entrance was placed on the northern side of the house, resulting in a suite of rooms along the south side (Rogers 1980:66). As its name suggests, the double house contained four rooms to a floor, with a central hall, and was often grander than the simpler single house. The larger Charleston houses, particularly the double houses, were often elevated, with an above-ground basement; the second floor was then the first living floor. This served to catch prevailing breezes, and to "distance" the occupants from public streets (Coclanis 1985:612; Weir 1983). The first floor of Charleston houses often contained a business, while residents lived on the upper floors; this was particularly common in the commercial core.

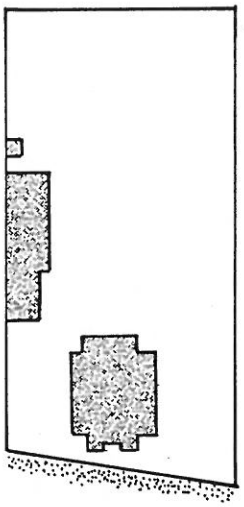
Behind the main house, auxiliary structures were arranged within a fenced compound, and often included slave quarters, kitchen, stable, well at mid-lot, and privy in a rear corner. Gardens, both ornamental and functional, might be planted and livestock might be kept. While there was some variation in the size, content, and arrangement of these structures, they were considered basic functional components of urban life, and were present in some form. The urban compounds of the wealthy often contained substantial brick structures for all of these functions (Zierden et al. 1986a; 1987; Zierden and Grimes 1988). The

Relative Lot Size and Structure Distribution

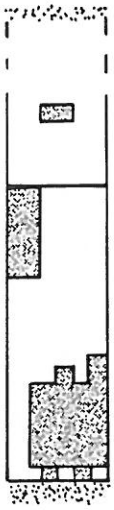
19th Century Charleston



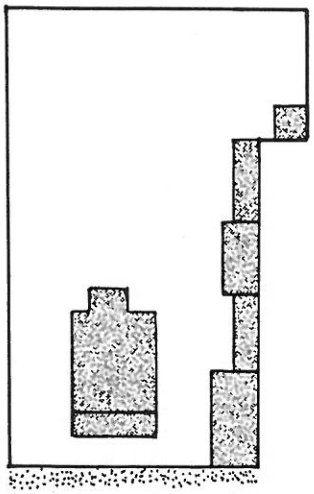
Aiken–Rhett



Gibbes



John Rutledge

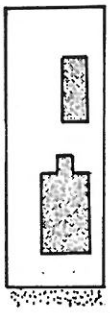


Miles Brewton

Upper class suburban residential

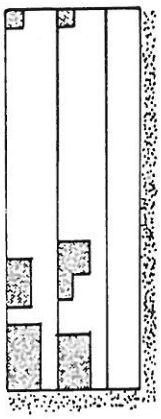
66 Society

President Street

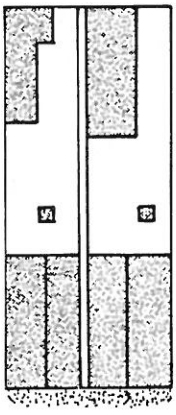


VRTC Meeting Street

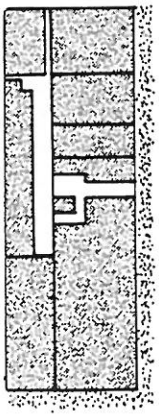
Middle class suburban residential



1808



1850

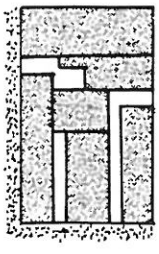


1902

Charleston Place

city core commercial–residential

(multiple lots)



McCrady's Longroom

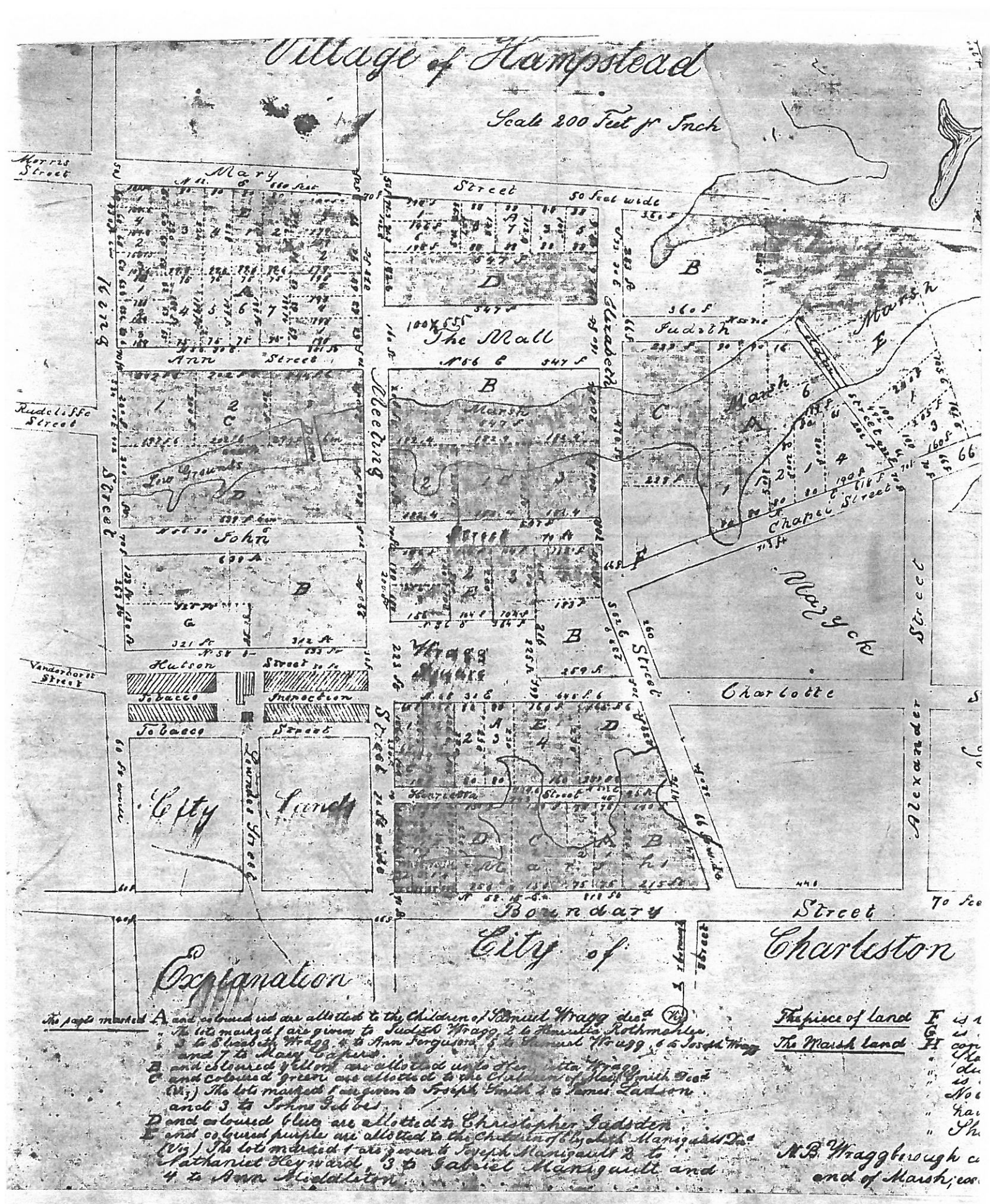
properties of less affluent residents might contain less substantial structures, or fewer outbuildings; such residents owned fewer horses and fewer, if any, slaves, for example. More than one household might share privies, wells, or passageways (Honerkamp et al. 1982; Zierden and Hacker 1987:99).

Spatial patterning on suburban sites is expected to be somewhat different from that of the commercial core. Many of the sites in these areas served only as residences, with the site occupants commuting to work in the commercial core or, in the case of wealthier citizens, deriving income from plantations and a variety of enterprises. The lots of the suburban areas were often more spacious, and indeed were specifically chosen for these attributes. For example, lots within the Charleston Place block, central to the nineteenth-century business district, were initially long and narrow; over the years, they were continually subdivided to a point where the majority measured 30 feet in width, but were over 200 feet long. In contrast, wealthy suburban townhouses examined archaeologically were between 80 and 150 feet wide, and over 250 feet deep. Lots in Charleston tended to be a standard depth; street frontage was the valued commodity, and the width of the lot reflected the buying power of the owner.

Changes in the spatial patterning of the VRTC blocks exhibit many of these trends. By the early nineteenth century, an expanding population pushed the areas of settlement north across Boundary Street. Large plots of land on the Neck, functioning as plantations or held for speculation, were subdivided and sold. In the case of John Wragg's estate, the property was divided among heirs, but the varying size and dispersed nature of the holdings indicate that at least some portions were intended for resale. The King Street lots sold first and brought the highest prices, as businesses followed their customers up this main thoroughfare (Calhoun and Zierden 1984; Gilreath 1981). As in the lower city, lots tended to be long and narrow, and front the major thoroughfares. All of the corner lots on the VRTC property fronted either Meeting or King streets. The few lots that fronted the secondary streets were soon purchased by the South Carolina Railroad.

For several decades, holdings remained larger than those in the city. But as the population grew, lots continued to be partitioned. As in other portions of the city, lots in the VRTC blocks were subdivided longitudinally. Because blocks in the Neck tended to be smaller than those downtown, the average suburban lot was smaller than its counterpart in the city by mid nineteenth century. As in many other areas of Charleston, the filling of the creeks in the center of the southern block created new real estate. Major creeks also transected the northern block throughout the nineteenth century (Figure 31).

The VRTC blocks are relatively large, but occupation of the central portions of the block by the South Carolina Railroad foreshortened the residential/commercial lots, particularly along Meeting Street. By mid-nineteenth century, the King Street lots were between 150 and 250 feet deep, but less than 50 feet wide. The



The parts marked A and coloured red are allotted to the Children of Samuel Wragg dec.d (W)
" The lots marked / are given to Judith Wragg, 2 to Henrietta Rothmahler,
3 to Elizabeth Wragg, 4 to Ann Ferguson, 5 to Samuel Wragg, 6 to Joseph Wragg
and 7 to Mary Capers.
B and coloured yellow are allotted unto Henrietta Wragg
C and coloured green are allotted to the Children of Mary Smith Dec.d
(Viz) The lots marked 1 are given to Joseph Smith 2 to James Ladson
and 3 to John Ladson
D and coloured blue are allotted to Christopher Gadsden
E and coloured purple are allotted to the Children of Elizabeth Manigault Dec.d
(Viz) The lot marked 1 as in event to Joseph Manigault 2 to
Nathaniel Heyward, 3 to Gabriel Manigault and
4 to Ann Middleton

The piece of land F is
The Marsh land G is
H con
"
"
"
"
N.B. Wraggborough
end of Marsh, ea

Figure 31: Plat of Wraggsborough, showing subdivisions and low land.

exception was William Aiken's imposing townhouse, which was built in 1811 and retained its original dimensions of 150 feet by 300 feet. The Tupper lot on Meeting Street likewise retained relatively generous dimensions, roughly 200 feet by 100 feet. But the small lots in the southern block were seriously foreshortened by construction of the freight depot. By the 1850s, these lots averaged 50 feet in width but were barely 100 feet deep. Though lot dimensions varied considerably, by the mid nineteenth century the VRTC blocks had become as congested as the lower city. Like the downtown business district, this residential/commercial/industrial tract was a mixed neighborhood, housing whites and blacks, planters and industrial slaves.

The majority of structures along Meeting Street were wooden single houses, such as the Lilienthal house. On the average, support structures for the VRTC households were fewer and less substantial than those of the wealthy elite. The small lots usually contained a detached kitchen and privy. Sheds were present, and sometimes straddled a property line, indicating that they were shared by two households. The brick storefronts along King Street tended to be more substantial, and the rear yards contained a variety of support structures. Many of these were in fact small business structures, such as bakeries and print shops, while others were more domestic in nature, or were listed as "dwellings", possibly for employees. The spatial patterning along Meeting Street suggests a middle class status for residents along this frontage; this is supported by census data (see Chapter 2). The King Street frontage, in contrast, seems to have been occupied by a highly varied group throughout the nineteenth century.

While land use on the Neck differed from that of the lower city, individual lots were laid out in remarkably similar ways. Responding to the same daily needs and confined to a comparable amount of space, residents of the Neck turned their single houses sideways, built kitchens behind them, and put as much distance as possible between their wells and privies. The arrangement of lots and buildings over the suburban landscape, however, varies from that of the older city in significant respects.

In the colonial city, many dwellings doubled as places of business. In newer sections, including the Neck, residential and commercial functions tended to be separate. Tradesmen and women, corner grocers, and King Street retailers might live above their shops, but manufacturers, mechanics, and railroad employees usually resided some distance from their workplaces. This trend conformed to conditions imposed by new industries and represented a break with the mercantile past.

The presence of the South Carolina Railroad in the center of the VRTC blocks reflects this new trend. Relatively inexpensive and unregulated real estate on the Neck, and in the center of the blocks, was purchased early in the nineteenth century for this ambitious enterprise. The construction of the passenger depot and cotton yards made the VRTC site a hub of new activity. Slaves owned by, and working on, the railroad were housed on the blocks throughout the nineteenth century, but archaeological evidence of these people is

ephemeral (see page 110). The shipping activities attracted stables and dray yards.

Many of the South Carolina Railroad structures still stand on the VRTC blocks, mute testimony to the former importance of the area as a transportation center. Extensive tracks still run throughout the property. Use of this portion of the city as a hub of human activity and intracity transportation will continue with construction of the Visitor's Reception and Transportation Center.

Subsistence Strategies

Investigation of subsistence strategy is an important aspect of archaeological research in Charleston. Since 1982, consistent methods have been applied to the recovery and analysis of faunal and botanical remains. These have been used to address a number of research problems, including cultural conservatism, adaptation to local environments, resource utilization, ethnicity, and social variability.

Research on subsistence practices on the southeastern Coastal Plain has been aimed at delineating a regional pattern of animal utilization, using vertebrate remains from a variety of sites (Reitz 1979; Honerkamp and Reitz 1982; Reitz and Honerkamp 1983, 1984; Reitz and Scarry 1985). The pattern is characterized by heavy dependence on beef, and utilization of a variety of wild species indigenous to the local environment. This archaeological model is in contrast to the documentary evidence, which suggests a heavy dependence on pork (Genovese 1974; Hilliard 1972; Gray 1933). The model is also in contrast to the traditional Old World English diet (Anderson 1971; Reitz and Honerkamp 1983). The Charleston data fit the model of resource utilization for the southeastern coastal plain (Reitz and Honerkamp 1984).

Recently, subsistence research has focused on two topics, with promising results. The first is rural-urban contrasts. Based on research on a number of sites, it appears that there are basic dietary differences between rural and urban sites, which cross-cut temporal, ethnic, and social boundaries (Reitz 1986). Urban citizens relied more heavily on domestic fauna, mammals and birds, than did their rural neighbors, most likely because of the function of the market in the urban setting. Domestic meats may have been more available to urban citizens because of the market (Calhoun et al. 1984). In contrast, wild game would have been more difficult to obtain for the average urban citizen. Wild game was more easily obtained by rural citizens, while domestic fauna would have been available less often. Data from recently excavated sites, including Aiken-Rhett, Gibbes (Ruff 1987), and Charleston Place (Carder 1987) all conform to this model. Although data is less extensive, similar trends are noted in floral remains. Wild plant foods are extremely rare in urban samples, while cultigens such as corn and wheat have been noted (Trinkley 1987; Trinkley et al. 1985).

Another trend emerging from this recent research involves indicators of socioeconomic status (Reitz 1987; Ruff 1987).

Zooarchaeological research on sites in the Southeast indicates that diet is sensitive to status (Reitz and Cumbaa 1983; Schultz and Gust 1983). High status should be reflected in a diet that was varied, expensive, or difficult to maintain. Domestic fauna appear to be the mainstay of the urban diet, while wild taxa provided variety.

Faunal data from Gibbes, Rutledge, and Aiken-Rhett (Ruff 1987; Reitz 1988; Zierden and Grimes 1988) conformed to this model. All were heavily dependent on domestic fauna, primarily cow, and have higher percentages of caprines, which are rare on other Charleston sites. The elite diet was quite diverse, and contained a large amount of wild taxa, including estuarine and offshore fishes and wild birds. Alligator was recovered from the Aiken-Rhett site, and the three sites contain a number of turtles, all of which were considered delicacies (Rogers 1980). While these sites exhibited greater diversity in food animals, they also contain a lower amount of commensal taxa, suggesting the financial and physical ability to provide a more sanitary environment. Another marker of upper class faunal assemblages is the presence of sawed and sliced bones in eighteenth-century contexts, suggesting that the use of individual cuts of meat prepared with a saw may have begun as an upper class habit. Basically, wealthy Charlestonians enjoyed a diet that was expensive; expense may be considered in terms of time invested, as well as money invested (Reitz and Cumbaa 1983).

The diet of the middle class is not nearly so well defined. Recently, fauna from three presumed middle-class sites have been examined. These include 66 Society Street and President Street, as well as VRTC. Unfortunately, the samples were too small to analyze diversity. While the VRTC sample was less diverse than those of the upper-class sites, this may well be a function of sample size. It is interesting to note that the small VRTC sample mirrored the larger one from the Charleston Place site (see Appendix I). Like VRTC, Charleston Place was an intensely occupied block of businesses and residences. The neighborhood seems to have been primarily middle class with other residents from a variety of social and ethnic groups. As discussed by Elizabeth Reitz (Appendix I), the similarity may signal a middle-class dietary pattern or may reflect an averaging of urban foodways. In either case, the agreement between the two samples strengthens the research results for Charleston foodways.

Socioeconomic Status

The investigation of class differences, or socioeconomic status, has been a central concern of historical archaeologists in recent years (Binford 1972). Pioneering investigations of the archaeological manifestations of status have focused on southern plantation sites (Otto 1977; Lewis 1985; Drucker 1981) and Spanish colonial sites (Deagan 1983), where occupants of the site, and their social and ethic affiliations are known.

Urban centers are characterized by distinct social groups living and interacting within a prescribed area. For this reason, status studies are an important aspect of urban archaeological studies

(Baugher and Venables 1987; Garrow 1987; Shepard 1987; Spencer-Wood 1987). A major problem with status studies in Charleston has been a lack of specific documentary information on site inhabitants, and the inability to associate individual site contexts with specific occupants (Zierden and Calhoun 1987). Exceptions to this are the Aiken-Rhett, Gibbes, Rutledge and Miles Brewton sites, federal/antebellum townhouses owned and occupied by wealthy and prominent planter-merchants. (Historical archaeologists have long recognized the bias in the documentation of white, wealthy, male history to the neglect of other groups in this country [Glassie 1977]) Excavations at the four elite townhouse sites in Charleston have provided data for a preliminary model of suburban residential land use by the Charleston elite and the material correlates of high status within an urban setting in the late eighteenth and early nineteenth centuries (Zierden and Grimes 1988). This data has also been compared to the one known lower status site, dating to the same time period, Lodge Alley (Zierden et al 1983a).

Based on this model, status should be reflected in four aspects of the archaeological record: patterns of material culture, diet, housing, and site location. Comparative data suggests that site location was a conscious, value-laden choice, deliberately made for a number of reasons, one of them being status-related. For example, wealthy planters chose suburban lots for their relative spaciousness and access to "healthy breezes." House and lot size choices were made on the basis of the owner's buying power. With street frontage the prized commodity in Charleston, upper status lots are two to four times wider than lower or middle class site lots.

The material culture, another status indicator, for our elite sites, reflects their elegant (and thus, costly) lifestyle in the late eighteenth/early nineteenth centuries. Artifact groups and types examined for clues to socioeconomic status include architecture, kitchen, clothing, furniture and personal items. Kitchen items include glassware and tableware of which higher percentages of porcelain and transfer printed ceramics, and decorative table glass relative to the other kitchen items are most indicative of high status. The high percentage of architectural items in the upper status sites reflects more substantial housing and greater attention to building maintenance, as well as additions and improvements (Lewis 1985).

Status should also be reflected in clothing, personal, and furniture items. Research on lower class sites reveals a dearth of personal or luxury items, with an emphasis on subsistence and shelter (kitchen and architecture) (Singleton 1980; Trinkley and Caballero 1983). Wealthy people, in contrast, would have had large proportions of these items. However, we may not see these items in the archaeological record since most would have been highly curated and rarely discarded. Rather than looking at the percentages of these artifact groups, we may have to simply examine individual items that comprise the groups for clues to socioeconomic status.

Research at nineteenth-century sites, VRTC, President Street site (Zierden and Raynor 1988) and 66 Society Street site (Zierden et al. n.d.), indicate that the material correlates of status for sites of

the late eighteenth/early nineteenth centuries, are inappropriate to use for the determination of status at the nineteenth-century sites (Table 4). With the rise of industrialization in the nineteenth century, the mass-production of goods which increased availability and lowered costs, allowed different social groups access to what was previously considered elite goods. One reason given for lower status groups wanting the elite goods is the process of emulation, where material items associated with an elite are purchased by non-elites to improve their position in the social group (Miller 1982).

Up until the nineteenth century, the presence of Chinese porcelain is considered an indicator of high status in the United States (Stone 1970:88). However, during the nineteenth century, porcelain was directly imported into the United States in enormous quantities; the ware became less expensive and its quality deteriorated sharply. Thus, the recovery of Chinese porcelain from a nineteenth-century site is not a reliable indicator of high financial status (Herman et al. 1975:66; Lewis 1978:104). At the same time, less expensive American- and British-made porcelains are also introduced into the market (Kovel and Kovel 1953).

The overall percentage of ceramics relative to other kitchen items declines as the nineteenth century progresses due to an increase in the production of glass products and the development of other storage containers using metal materials, such as tin cans. In the mid nineteenth-century President Street site assemblage, ceramics comprise 60% of the kitchen group and glass, 40%. By the late nineteenth century, the proportions are inverted with ceramics comprising only 25% of the kitchen group and glass, 73%. Tin cans appear in the later assemblage at 2%. The pattern is reinforced by the VRTC data. In the VRTC nineteenth-century assemblage, ceramics constitute 25% of the kitchen group, glass, 69%, and tin cans, around 6%. A predominance of glass (82%) and minimal amount of ceramics (13%) in the VRTC twentieth-century assemblage indicates that the pattern continues into this century.

With an increase in glass products, the relative percentages of table glass increase also in nineteenth-century sites. In fact, the percentages of table glass at the VRTC site (4.9%), the President Street site (3.55% - an overall average for both nineteenth-century assemblages), and the post-1833 occupation at 66 Society Street site (4.1%) are all greater than the elite suburban federal/antebellum townhouse mean (2.32%). Once again we see that temporal differences in Charleston sites are a major factor in discerning socioeconomic status indicators. Whether or not table glass could continue to mark status differentiations in the nineteenth century (i.e. that upper status sites would have an even greater percentage of table glass than the above mentioned sites) is unanswerable at this time since no mid to late nineteenth-century upper class sites have been investigated in Charleston to date. It is suspected, however, that with table glass increased availability, types of table glass (such as crystal) rather than an overall percentage of table glass will have to be examined for indicators of socioeconomic status.

The overall percentage of clothing, personal and furniture groups for the nineteenth-century sites is similar to the earlier upper status townhouse sites mean (Table 4). The introduction of kerosene lamps which contain another new glass product, chimney glass, in the nineteenth century and their increased use throughout the century augments the percentages of furniture items. As previously mentioned, we may have to simply look at the individual items within these groups for clues to socioeconomic status. The VRTC nineteenth-century furniture and clothing groups contained some interesting artifacts, such as the story button and the SC militia button, but none that are indicative of status. Furniture tacks, buttons, etc. could have belonged to various members of different classes. Several personal items, however, are suggestive of middle income: jewelry pieces (one made of copper and one made of black glass, imitating jet) and a cosmetic jar from France. These items are of lesser value than items made of ivory, gold, crystal and gemstones recovered from the suburban townhouse sites (Zierden and Grimes 1988), yet are probably more costly than poor white immigrants or enslaved blacks could afford, although this is difficult to judge.

The VRTC nineteenth-century artifact assemblage is similar to the President Street site and the post-1830 66 Society Street site. Based on documentary information, both the President Street site and 66 Society are interpreted to be of middle class status (Zierden and Raynor 1988; Zierden et al. n.d.) Documentary evidence suggests that many of the VRTC residents were middle class, also; however, before we can clearly determine the VRTC residents' status, we need to discern the material correlates of nineteenth-century Charleston status. Research at VRTC, along with the other two sites, has produced a data base for which refined questions about socioeconomic status can be addressed. We now have a clearer understanding of the effects of temporal differences of sites in Charleston. Investigations of upper and lower status mid to late nineteenth-century sites are necessary for comparative data to address questions about socioeconomic status in Charleston in the nineteenth century.

TABLE 4
Percentages of Material Correlates of Status Indicators
for Late Eighteenth/Nineteenth-Century Sites

	Porcelain/Transfer Printed Wares (% of ceramics)	Table glass (% of kitchen)	Architecture	Clothing, Personal, Furniture
Late 18th/Early 19th Sites:				
Townhouse (upper status)	21.97	2.32	36.0	1.36
Lodge Alley (low status)	9.00	.04	17.8	.88

Table 4 continued:

19th Century Sites:

VRTC	26.8	4.90	32.4	.80
66 Society Street				
-post-1830 component	19.4	4.10	26.6	1.00
President Street				
-mid 19th century component	22.0	1.00	31.0	1.62
-late 19th " component	29.3	6.10	33.1	4.64
-combined	24.5	3.55	32.1	3.13

Charleston and Industrialization

In a study of the railroad complex of Chattanooga, Tennessee, Council and Honerkamp (1984:161) discerned several recurring themes in the railroad's history. The railroad's role in the local economy was not limited to the transporting of goods, creating commercial linkages to other areas, but was also a consumer of goods and caused the development of other industries. The same occurred in Charleston. Following the railroad, the East Side witnessed the development of other industries, such as foundries and a railroad car manufacturer, to supply the railroad with needed materials.

The railroad and the other industries bolstered the economy of the East Side. The neighborhood quickly filled with artisans and laborers who journeyed a short distance to their place of employment, building or renting their homes around and between the large planters' houses first built on the Neck. The prosperity of the Neck became more apparent at the end of the Civil War. During the war, the Neck had experienced a building boom, as citizens retreated from the shelling of the lower city. While the lower wards had been debilitated from the war, the Neck emerged with a new sense of importance, recovering quickly from the war's devastation. For years the "burned district" of the lower city lay in ruins, while the Neck was a bustle of activity. Crossing Calhoun Street was like "passing over hundreds of miles and hundreds of years," coming into "a new city," advancing suddenly into "a new era" (South Carolina Institute 1870:38,43).

A second theme witnessed in Chattanooga and in Charleston was the hostility of the majority of the city residents to the railroad. While some civic leaders pushed for the railroads to rejuvenate the city's dying commercial life, city residents viewed the railroad as a hazardous enterprise and blocked its entrance into the city proper (Rosengarten et al. 1987:113), conserving the older method of transportation in the city, horse and pedestrian movement.

A third theme witnessed in Chattanooga but not in Charleston, is the adherence to a model of evolution of urban circulation proposed by Condit (1977): horse and pedestrian movement, followed by railroads and inter-urban rail systems, followed by the automobile. Charlestonians never allowed the railroads or any rail system to enter the city proper. Thus, while Charleston had the nation's second railroad company, it never physically altered Charleston's town plan

nor did it revive Charleston's economy. Charleston failed to invest prudently in railroad development and the burgeoning system eventually bypassed the city. "Unwilling to turn toward manufacturing, unable to diversify her trade, and unsuccessful in linking herself to the growing steam powered national transportation system, Charleston's aspirations for economic growth were doomed to disappointment" (Pease and Pease 1985:188).

Industrial Slavery

In the eighteenth century, urban slaves were employed as servants, laborers, semiskilled craftspeople, and skilled artisans. As southern cities developed industrially, a new class of workers, industrial slaves, emerged. The material culture of industrial slaves is expected to be more limited than that of other urban slaves, especially those who were able to hire out their own time.

The ownership of slaves by a company changed the traditional master-slave relationship, depersonalizing it. Stockholders might hold shares in an undifferentiated gang of slaves; William Aiken, for example, requested compensation for "3/37 shares of 91 slaves" owned by West Point Mills (Rosengarten et al. 1987). Under corporate control and responsibility, the food, health care, and housing of slaves suffered. Assigned to menial and hazardous jobs, industrial workers were often in danger of losing life or limb. Masters who leased Negroes to railroad companies seemed particularly nervous about their slaves' safety, charging higher wages and sometimes taking out insurance policies on their workers in recognition of the risks they would incur (Goldin 1976:38).

Assuming the Negro tenements or barracks which the South Carolina Railroad provided for its workers were typical, industrial slave housing was congested. If the slaves the Railroad owned in 1860 were divided among the three slave dwellings ascribed to the Company in the 1864 Ward Book, and if all three barracks were the size of the one on King Street, then more than 30 people would have been living in a space 20 feet wide and 60 feet long. In comparison, the slave quarters behind Joseph Manigault's house measured 20 by 40 feet and sheltered about 12 servants (Rosengarten et al. 1987).

The artifactual remains of industrial slaves, no doubt reflecting the poverty and congestion in which these people lived, makes their archaeological record even harder to decipher than sites associated with other urban slaves or white laborers. Testing at the VRTC site revealed that isolating the railroad slave barracks, thus a specific industrial slave component, was inconclusive. Although historical documents/maps exist that indicate the location of railroad slave dormitories, the location of the living quarters continually changed, like the use of other railroad buildings according to the needs of the company. The occupation for each location was short (i.e. a few years). If as expected that the material culture of industrial slaves is quite limited and the time of occupation brief, then remains will be sparce, at best.

A test unit was placed where "Negroes dwellings" were marked on a mid nineteenth-century map. The unit hit a brick foundation pier, marking the southwest corner of a building (see page 70). The builder's trench (and thus, pier), the posthole, and the bottom zone (Zone 3, level 2) in the unit are the only mid nineteenth-century proveniences, and are associated with one another (blue transfer printed whiteware sherds found in the builder's trench and posthole mend together to form a plate.). The top part of the post in the posthole rotted by the late nineteenth century (see Table 1). The material culture was sparce, containing primarily nails and whiteware sherds. A brass button, a furniture tack, a few pipstems, some flat glass, and clear and olive-green bottle glass, and a couple pieces of white porcelain, pearlware, yellow ware, stoneware and Colono ware were also recovered. The material culture represents the variety possible in any typical mid nineteenth-century Charleston assemblage. Besides being sparce in quantity, it provided no other clues to determine if in fact this was the corner of the slave dormitory, nor provided any additional information as to of what an industrial slave assemblage would be comprised. Despite the difficulties discovered in this new area of research, archaeological investigation of industrial slave sites still offers the possibility of broadening our perspective on urban slavery and should be considered in any other area where the possibility exists.

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APPENDIX I

VERTEBRATE FAUNA FROM THE VISITORS RECEPTION AND TRANSPORTATION CENTER, CHARLESTON, SOUTH CAROLINA (38Ch897)

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Archaeological excavations throughout the 1980s in the Charleston area have provided an increasing amount of information about the eighteenth and nineteenth century use of animal resources there. When data from these excavations are combined, they provide a general pattern of Charleston subsistence. This pattern includes remains from high and lot status sites as well as sites containing mixed residential/commercial deposits. Therefore it is a composite of general animal use practiced within the city and against which an individual site's variation may be measured for evidence of social or temporal variables. While the city-wide collection is very large, collections from individual sites generally are small. Interpretation of variations among these samples has been conservative due to concern for the biases associated with small samples. There have been few opportunities to explore this question, but recent work suggests that the time may be appropriate to reconsider sample size biases for urban vertebrate assemblages.

For the city as a whole, 44% of the vertebrate individuals are domestic animals (Table 1). Domestic mammals have comprised 29% of the individuals. These have primarily been cows and pigs; only a few sheep and goats have been identified. Chickens often comprise a higher percentage of individuals than do specific domestic mammals. Occasionally additional domestic birds such as Muscovy ducks or rock doves are also found.

Wild animals thought to have been used for food have comprised 43% of the individuals identified. Quite a few wild mammals have been identified. Wild mammals include opossums, rabbits, squirrels, raccoons, and deer. While there is great variety in the types of mammals identified, they rarely comprise a high percentage of the individuals. The fact that they are found so frequently, even in low numbers, suggests that they were part of the diet rather than because they were accidental inclusions of scavenging animals. The most common wild birds are Canada geese and turkeys, although occasionally ducks, herons, rails, and other small birds are also identified. Aquatic reptiles such as diamondback terrapins, other pond turtles, snapping turtles, and alligators are occasionally found in Charleston collections, but are rarely abundant. Given the estuarine location of Charleston, the limited range and abundance of fishes in archaeological sites in the city is unexpected and is the primary way in which urban collections differ from rural ones. Most of the fishes identified from Charleston are from the estuarine setting rather than either freshwater or offshore fishing grounds.

Commensal taxa are almost always found in large numbers, contributing over 13% of the individuals. Rats and mice of both Old and New World origin are quite common in Charleston collections and remains of dogs, cat, horses, snakes, and amphibians are also encountered.

Although this seems like a long and diverse list of animals, species lists from sites on nearby rural plantations are far more

diverse (Reitz 1986). One of the possible explanations for this observation has been that rural samples generally are larger than those from Charleston. Many of the samples studied from the city were very small and it is known that one of the consequences of small samples is reduced diversity. Therefore, it has not been known whether these small samples contain a limited range of animals because the samples are small, or whether the restricted species list actually reflects historic reality.

The majority of the materials summarized for the general Charleston summary are from a large sample collected during excavations at Charleston Place (Table 1). This collection represents animal use in a primarily working class neighborhood in which there were both residential and commercial activities (Zierden and Hacker 1987). Since many of these properties were rented, the identity and economic status of most of the occupants of this area are not known. It has been assumed that the Charleston Place materials probably reflect restricted access to goods in the sense that the debris recovered probably was not disposed of by wealthy individuals. Neither, however, would most of the residents at this site have been as poor as those from Lodge Alley (Zierden et al. 1983a). This collection probably reflects a general, average, middle class use of animal resources.

Since the Charleston Place sample is also the largest of the faunal collections in the city, the general Charleston pattern is heavily influenced by the Charleston Place sample. Hence the impression of Charleston subsistence obtained from it might not actually be that of the city as a whole so much as this average, middle class activity. Difference between the Charleston Place summary and summaries from other sites might be due to sample size rather than to cultural or temporal variables.

Karen G. Wood (1988) reported on a small vertebrate collection recovered from the proposed site of the Visitors Reception and Transportation Center (VRTC) during tests there in 1986. This collection appeared to be very similar to that from Charleston Place in terms of time period and cultural affiliation (Table 1). This site also was occupied by primarily middle class households and small shops who rented their properties. The primary difference between Charleston Place and the 1986 VRTC faunal assemblages was a slightly higher percentage of birds and commensal taxa in the VRTC collection (Table 1). The VRTC domestic birds were exclusively chickens and the only wild birds were a duck and a turkey. The range of wild birds and domestic birds in the Charleston Place collection was much greater, although these individuals comprised a lower percentage of the individuals estimated for the collection. The VRTC commensal taxa were primarily rats, although a cat was also recovered. Domestic animals, wild mammals, aquatic reptiles, and particularly fishes were found in numbers slightly below what was found for Charleston Place. Interpretation of this comparison was limited because of the small sample size involved, but it was intriguing to note that although the VRTC sample recovered during the 1986 excavations was small, it nonetheless appeared similar to both the Charleston composite and to the summary for Charleston Place.

This has interesting implications for the question of sample size biases for urban faunal assemblages. It appears that the 1986 vertebrate collection from the VRTC site occupied by a similar social group more or less at the same time is very much like that from Charleston Place, in spite of the differences in sample size. Recent additional work at the VRTC site provides an opportunity to explore this further in that the 1986 and 1988 samples from the VRTC site may also be compared for evidence of similar animal use patterns. It also provides an opportunity to increase the size of the VRTC sample for comparison with that from Charleston Place.

Methods

Field work at the VRTC site was conducted by The Charleston Museum under the direction of Martha Zierden in 1988. During excavation, faunal materials were recovered using 1/4-inch dry screen. All of the vertebrate remains reported here were associated with low density nineteenth-century domestic occupations at the site. A list of the samples examined for this study are included in Appendix A.

The vertebrate materials recovered were examined using standard zooarchaeological methods. All identifications were made by Gwyneth Duncan using the comparative skeletal collection of the Zooarchaeological laboratory, Department of Anthropology, University of Georgia. Bones of all taxa were counted and weighed to determine the relative abundance of the species identified. A record was made of identified elements. Age, sex, and bone modifications wre noted when observed. Butchering marks, such as cutting, slicing, or hacking were recorded and, where preservation allowed, measurements were taken following the guidelines established by Angela von den Dreisch (1976). Minimum Number of Individuals (MNI) were determined based on paired elements and age. In calculating MNI, faunal materials recovered from the site were considered a single analytical unit.

While MNI is a standard zooarchaeological quantification medium, the measure has several problems. MNI is a measure which emphasizes small species over large ones. This is easily demonstrated by a hypothetical sample which consists of four rats and only one deer. While four rats represent a larger number of individuals, one deer will supply substantially more meat. A further problem with MNI is the assumption that the entire individual was utilized at the site. From ethnographic evidence we know that this is not necessarily the case, particularly in regard to larger individuals and for animals utilized for special purposes (Thomas 1971; White 1953). This is an especially relevant issue when dealing with historic samples where marketing of processed meat products was substantial, but the exact extent unknown. Additionally, MNI is influenced by the manner in which the data from the archaeological proveniences are aggregated during analysis. The aggregation of separate samples into one analytical whole (Grayson 1973), allows for a conservative estimate of MNI whle the "maximum distinction" method applied when analysis discerns discrete sample units results in a much larger MNI.

Furthermore, some elements are simply more readily identified than others and the taxa represented by these elements may appear more significant in the species list than they were in the diet.

Biomass determinations attempt to compensate for problems encountered with MNI. Biomass provides information on the quantity of meat supplied by the animal. The predictions are based on the allometric principal that the proportions of body mass, skeletal mass, and skeletal dimensions change with increasing body size. This scale effect results from a need to compensate for weakness in the basic structural materials, in this case, bone. The relationship between body weight and skeletal weight is described by the allometric equation:

$$Y=aX^{b}$$

(Simpson et al. 1960:397). Many biological phenomena show allometry described by this formula (Gould 1966, 1971). In this equation, X is the skeletal weight or a linear dimension of the bone, Y is the quantity of meat or the total live weight, b is the constant of the allometry (the slope of the line), and a is the Y-intercept for a log-log plot using the method of least squares regression and the best fit line (Casteel 1978; Reitz and Cordier 1983; Reitz et al. 1987; Wing and Brown 1979). A given quantity of bone or a specific skeletal dimension represents a predictable amount of tissue due to the effects of allometric growth. Values for a and b are obtained from calculations based on data at the Florida State Museum, University of Florida. The allometric formulae used here are presented in Table 2.

Biomass and MNI are subject to sample size bias. Casteel (1978), Grayson (1979), and Wing and Brown (1979) suggest a sample size of at least 200 individuals or 1400 bones for a reliable interpretation. Small samples frequently will generate a short species list with undue emphasis on one species in relation to others. It is not possible to determine the nature or the extent of the bias, or correct for it, until the sample is made larger through additional work.

The presence or absence of elements in an archaeological sample provides data on butchering and animal husbandry practices. The elements recorded from the VRTC site were summarized into categories for body parts. The forequarter category includes the scapula and ulna. No carpals or metacarpals, associated with forefeet, were identified. The hindfeet include the tarsals and metatarsals. The hindquarter category includes the femur and tibia. The feet category include those bones identified only as metapodials and phalanges. These elements could not be assigned to other categories. In order to provide a better image of the elements identified and their location on a carcass, the elements identified for the artiodactyls have been presented visually (Figures 1-4). In these figures, loose teeth are not illustrated. Bones identified only as feet are illustrated on the right hind foot.

Relative ages of the species identified were noted based on observations of the degree of epiphyseal fusion for diagnostic elements. When animals are young their bones are not fully formed.

Along the area of growth, the shaft and the end of the bone, the epiphyses, are not fused. When growth is complete the shaft and epiphysis fuse. While environmental factors influence the actual age at which fusion is complete (Watson 1978), elements fuse in a regular temporal sequence (Gilbert 1980; Schmid 1972; Silver 1963). During analysis, bones identified were recorded as either fused or unfused; the bones were then placed into general categories based on the age in which fusion generally occurs. This is more informative for unfused bones which fuse in the first year or so of life and for fused bones which complete growth at three or four years of age than for other bones. An element which fuses before or at eighteen months of age and is found fused archaeologically could be from an animal which died immediately after fusion was complete or many years later. The ambiguity inherent in age grouping is somewhat reduced by recording each element under the oldest category possible. Attempts to age animals are particularly relevant to an historic site. Indications of an animal's age may provide data concerning animal husbandry practices such as the utilization of younger animals for food and older animals for nonfood by-products or slaughter of older animals after their usefulness in draft, wool, or dairy production is over.

In order to summarize the data, the species list was reduced into several categories based on vertebrate class and husbandry practices. Domestic mammals include pigs (Sus scrofa), cows (Bos taurus), and sheep or goats (Caprine, Capra hircus). These latter animals are combined due to the difficulty in distinguishing between them. Domestic birds were chickens (Gallus gallus) and rock doves (Columba livia). Wild birds include ducks (Anas spp., Aix sponsa) and turkeys (Meleagris gallopavo). Turkeys may actually belong in the category of domestic birds. According to the American Poultry Association (1874), standards of excellence for these two species had been established by the mid-nineteenth century. The only wild mammals identified were an opossum (Didelphis virginiana) and a squirrel (Sciurus spp.). No aquatic reptiles were identified. Commensal taxa included Old World rats (Rattus spp.) and a dog (Canis familiaris). It should be noted that only biomass for those taxa for which MNI had been determined is included in the summary table. For example, biomass for UID fish is not included, while biomass for Caprine is.

Results

The materials from the 1988 excavation at the VRTC site are very similar to those from the 1986 excavation reported earlier (Wood 1988). The 1988 sample is small. It consisted of 791 bones weighing 1,391.52 gm and contained the remains of at least 21 individuals (Table 3). Most of the bones were from Unit 9, Zone 2 level 1 (FS#39, 84% of the fragments). This provenience contained the only dog, caprine, goat, duck, turkey, rock dove, and scup remains identified from the 1988 excavations. It was a midden deposit dated to the 1880s.

Domestic animals contributed most of the individuals and biomass in the 1988 VRTC collection: 48% of the individuals and 89% of the biomass for which MNI had been estimated (Table 4). The principal

domestic mammal was cow (Bos taurus), which contributed 10% of the individuals and 39% of the biomass. Pigs (Sus scrofa) also contributed 10% of the individuals and 22% of the biomass. Caprines contributed 14% of the individuals, and 22% of the biomass. At least one of these caprines was a goat (Capra hircus). Chickens (Gallus gallus) also contributed at least 10% of the individuals and 6% of the biomass. The other animal included in the domestic category was the rock dove (Columba livia). While this animal is currently considered feral, during the nineteenth century many if not most of the rock doves found in archaeological sites must have been associated with consumption and sporting uses of these birds.

Wild, non-commensal taxa contributed 33% of the individuals and 9% of the biomass for which MNI had been estimated (Table 4). The only wild mammals identified were an opossum (Didelphis virginiana) and a squirrel (Sciurus spp.). Although these animals are small, they actually may have contributed 2% of the biomass, if they were consumed at all. The current evidence does not permit determining if they were actual food animals or animals which occur naturally at the site and hence were commensals. The opossum was found in Unit 9 Zone 2, a deposit which dated to the 1850s. The squirrel was found in Feature 14, a deposit which dated to the 1890s.

The other wild animals included ducks (Anas spp, Aix sponsa), a turkey (Meleagris gallopavo), and two fishes. Except for one fish, all of these animals were found in Unit 9 Zone 2. Wild birds constituted 14% of the individuals and 7% of the biomass. The fishes included two taxa not commonly found in Charleston. The snapper (Lutjanidae) has some members which may be found in inshore waters, but this is primarily an offshore animal in this area. The scup (Stenotomus spp.) likewise is not common in Charleston waters. It is less likely to be found in offshore waters than the snapper but more likely to be found in more northerly areas. The snapper was found in Feature 17, a feature deposited in the 1850s, and the scup in Unit 9 Zone 2. Both fishes were identified from cranial fragments.

Commensal animals are fairly common in Charleston collections. In the 1988 VRTC collection, Old World rats (Rattus spp.) contributed 14% of the individuals and the single dog (Canis familiaris) comprised 5% of the individuals. Rats were found in Unit 9 Zone 2 and Feature 12, while the dog was found in Unit 9 Zone 2.

A restricted number of elements were identified. The artiodactyl elements identified in the 1988 VRTC collection are summarized in Table 5 and presented in Figures 1-3. The pigs were identifed almost entirely from teeth, with only two post-cranial elements recovered. The cow and caprines, however, are represented only by post-cranial remains. In the case of the cows, they included two forequarter and one hindquarter fragment. The Caprines were identified primarily from elements from the hindquarter and hindfoot. The dog was identifed from a scapula and an occipital fragment. Unidentified egg shell was also recovered.

Modifications to the bones included evidence of sawing, cuts, rodent and dog gnawing, burning, and hacking (Table 6). Most of the

modified bones were in Unit 9 Zone 2. This included 53 of the 60 sawed UID mammal bones and all of the sawed cow and caprine bones. The other sawed UID Mammal bones were in Unit 9 Zone 2 (3 bones), Feature 14 (1 bone), and Feature 17 (3 bones). Most of the rodent gnawed bones were also in FS#39. This provenience contained nine of the rodent gnawed UID Mammal bones, one goat bone, and five UID Bird bones. Interestingly, the one gnawed rat bone was from this provenience. One of the burned bones was in FS#39 and the other two were from Unit 9 Zone 2.

Evidence for the age of the animals used is limited because of the small sample. Only three of the Caprine bones could actually be aged (Table 7). However there is evidence for the age of these animals which cannot be summarized in this fashion. The eruption and wear patterns for the pig teeth indicate that at least one individual less than eighteen months of age and one individual older than eighteen months of age was used. One of the cow individuals was probably at least a subadult and may have been younger. The other cow was probably an adult. Two of the Caprines were less than eighteen months of age and one was older than eighteen months of age at death. Six of the UID Bird bones were from immature birds. The dog was a puppy.

Evidence for the sex of the animals used is limited because of the small sample. Five UID Bird bones contained medullary deposit associated with females in egg laying condition (Rick 1975). Two of the chicken bones contained a similar deposit, indicating that at least one hen was consumed. One of the turkey bones was a tarsometatarsus with a spur, indicating that the individual was a male.

Table 8 contains the measurements taken from the VRTC site. These will be added to the growing data base from Charleston which will be used to analyze the size of domestic animals in Charleston during the eighteenth and nineteenth centuries.

Discussion

The VRTC samples from 1986 and 1988 are very similar in size, but suggest slightly different uses of domestic and wild fauna (Tables 1 and 4). The 1988 sample contains the remains of slightly fewer domestic animals, especially of chicken. Wild mammal individuals are more abundant in the 1988 sample than in the 1986 one, and fish less abundant. The percentage of commensal taxa is essentially the same. When the species lists are compared, MNI was estimated for the same number of taxa, 14 in each case. There is no overlap in the actual wild mammal and fish species identified in the two samples, however. None of the wild mammals or fishes identified in the 1986 sample were found in the 1988 one and vice versa. While use of the summary percentages of one or the other of these samples to typify animal use in this neighborhood would produce a similar interpretation, the evidence for specific animals used is quite different.

When the results of these two VRTC studies are combined, they

produce a summary which is very similar to that from Charleston Place (Table 1). In terms of percentages there are very few differences. However, in terms of taxa identified, the larger Charleston Place collection is far more diverse. MNI was estimated for 21 taxa on the combined VRTC species list while MNI was estimated for 41 taxa in the Charleston Place species list. This increased diversity is most significant in the variety of fishes identified. In fact, there is little overlap in terms of the fishes identified at the two sites. Three of the five taxa for which MNI was estimated in the VRTC sample are not found in the Charleston Place collection. The Charleston Place species list contains 13 different fish taxa, only two of which were found in the VRTC list. Interestingly, when all of the Charleston collections are considered together, all of these fish taxa are represented.

This exercise suggests several possiblilities. One is that sample size may not be overly important when MNI is considered in large summary categories. It was this possibility which recommended the application of this approach to small urban samples in the first place. The second is that for a true glimpse of the diversity of animals used by humans or living around their houses, it is important to have very large faunal collections. Small samples may provide an accurate interpretation of general patterns, but the complexity and variety of Charleston diet as reflected in the wide variety of wild animals identified from larger samples would be lost. Small samples have their uses. They should not be dismissed out of hand, but they should be used cautiously.

Acknowledgements

I wish to thank Martha Zierden for the opportunity to examine the faunal remains from the Charleston Visitors Reception and Transportation Center. I also appreciate the assistance of Gwyneth Duncan.

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Figure 1. Visitors Reception and Transportion Center: Pig Elements Identified. Not shown are 14 teeth.

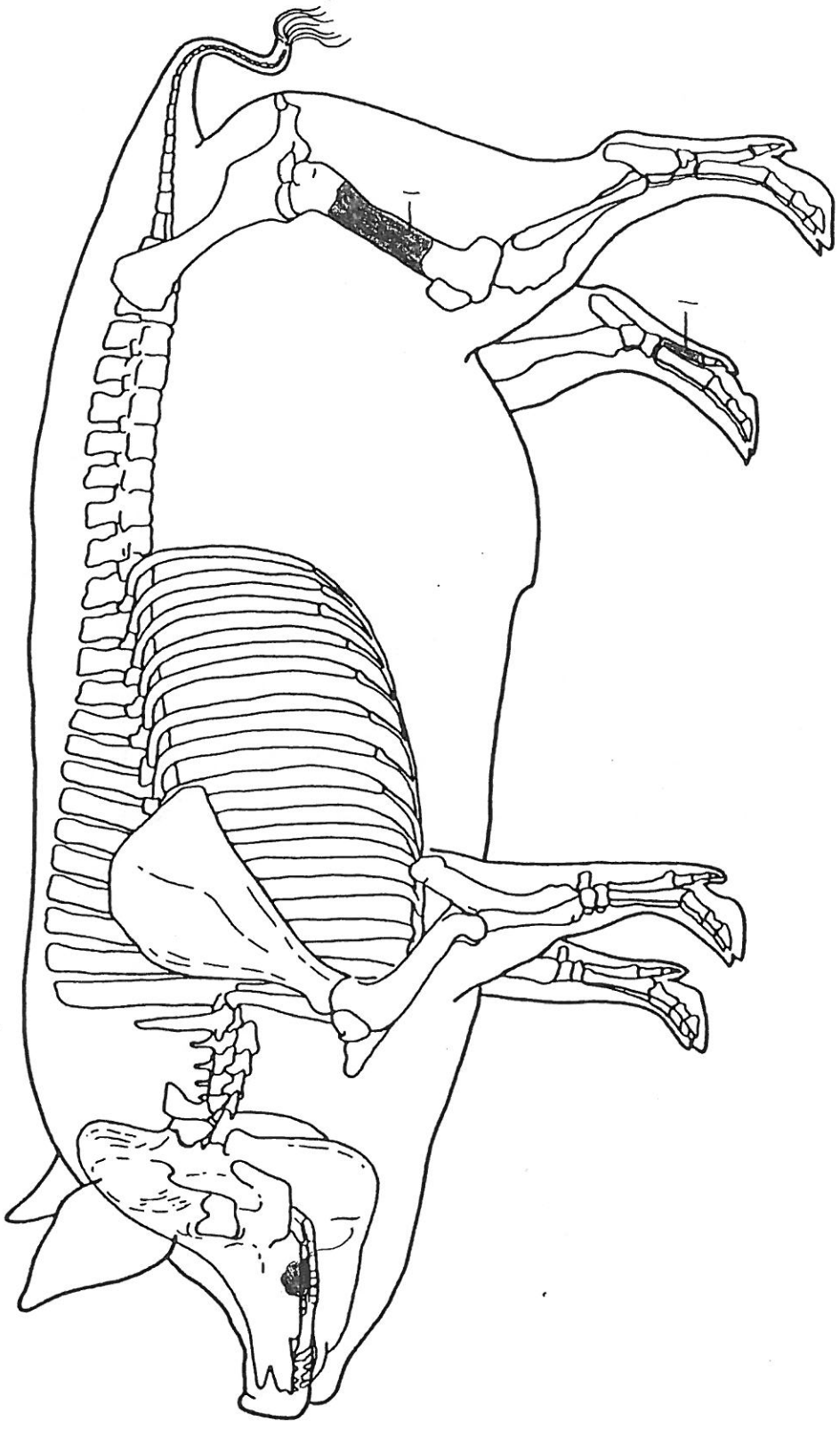

Figure 2. Visitors Reception and Transportion Center: Cow Elements Identified.

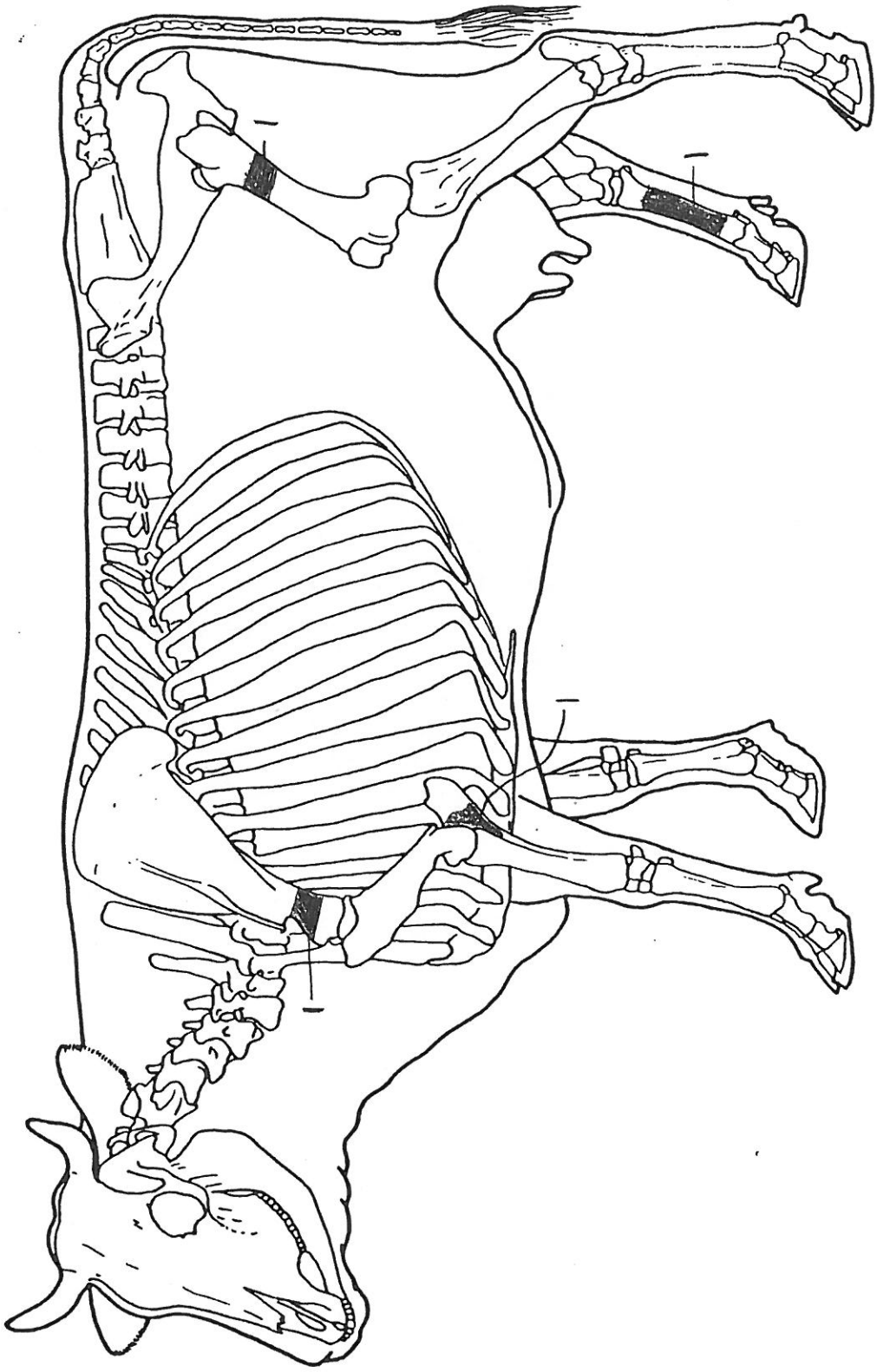

Figure 3. Visitors Reception and Transportion Center: Caprine Elements Identified.

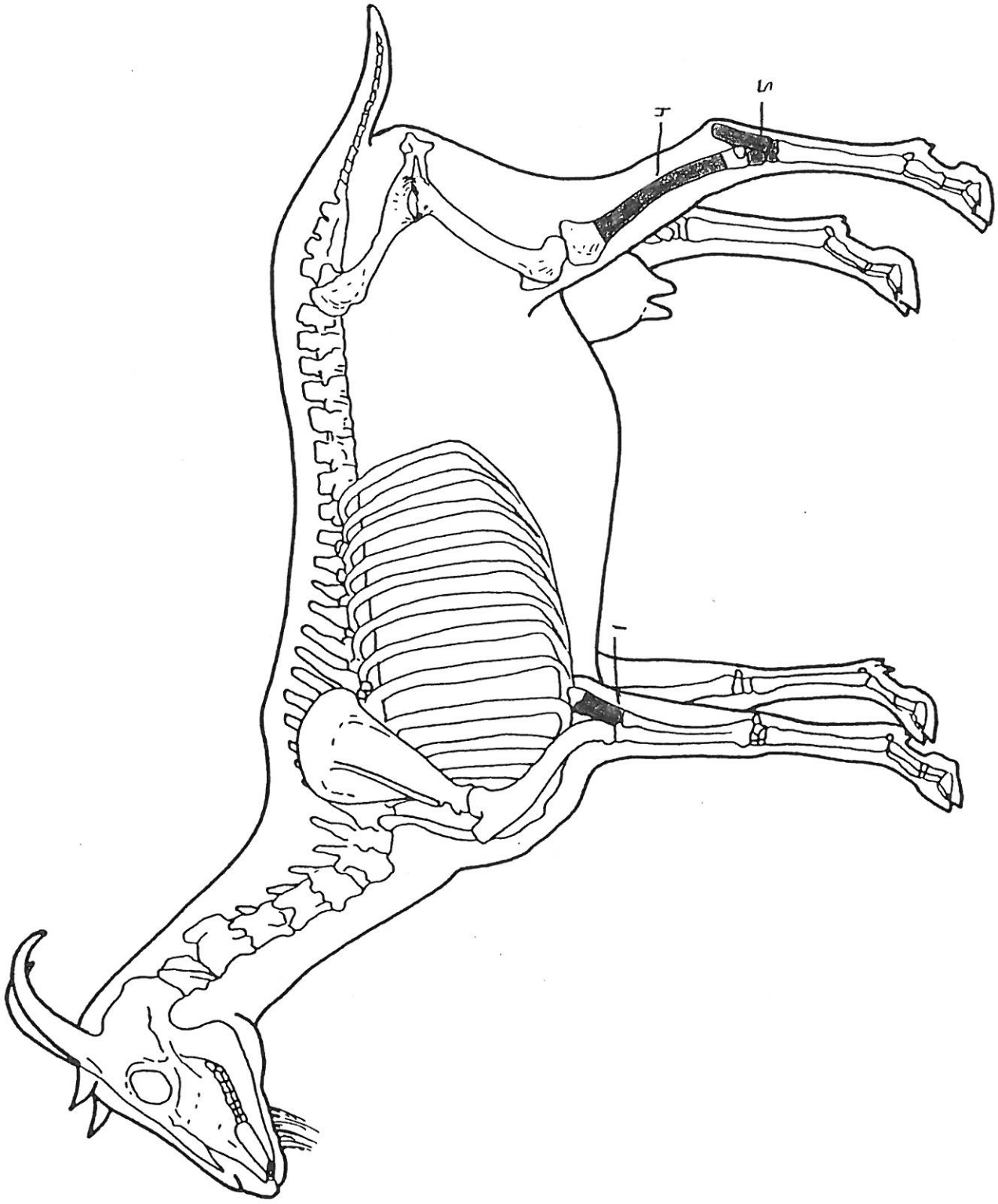

Table 1. Charleston Summaries*.

	General		VRTC-1986		Combined VRTC		Chas. Place	
	MNI	%	MNI	%	MNI	%	MNI	%
Domestic Mammals	191	29.2	7	26.9	14	29.8	85	29.4
Domestic Birds	98	15.0	6	23.1	9	19.1	59	20.4
Wild Mammals	56	8.6	1	3.8	3	6.4	23	8.0
Wild Birds	68	10.4	3	11.5	6	12.8	28	9.7
Aquatic Reptiles	32	4.9	1	3.8	1	2.1	14	4.8
Fishes	124	18.9	3	11.5	5	10.6	40	13.8
Commensal Taxa	86	13.1	5	19.2	9	19.1	40	13.8
TOTALS	655		26		47		289	

*Notes. The general category includes data from the following sites: Aiken-Rhett, Atlantic Wharf, Charleston Place, First Trident, Gibbes, Lodge Alley, and McCrady's.

Table 2. Allometric Values Used in Study*.

Faunal Category	N	Y-Intercept (a)	Slope (b)	r^2
	Bone Weight (kg) to Body Weight (kg)			
Mammal	97	1.12	0.90	0.94
Bird	307	1.04	0.91	0.97
Osteichthyes	393	0.90	0.81	0.80
Perciformes	274	0.93	0.83	0.76
Sparidae	22	0.96	0.92	0.98

*Note: The allometric formulae is $Y=aX^b$, where Y is biomass, X is bone weight, and a and b are appropriately scaled constants, n is the number of observations used in the regression, and r^2 is the proportion of total variance explained by the regression model (Reitz and Cordier 1983; Reitz et al. 1987).

Table 3. VRTC: Species List.

	Count	MNI		Wt, gms	Biomass	
		#	%		kg	%
UID Mammal	633			971.00	12.838	69.7
Didelphis virginiana	1	1	4.8	2.6	0.062	0.3
Opossum						
Sciurus spp.	1	1	4.8	0.35	0.010	0.1
Squirrel						
Rattus spp.	12	3	14.3	3.11	0.073	0.4
Old World Rat						
Canis familiaris	2	1	4.8	1.05	0.027	0.1
Domestic Dog						
Sus scrofa	17	2	9.5	56.67	0.995	5.4
Pig						
Bos taurus	4	2	9.5	104.62	1.728	9.4
Cow						
Caprine	8	3	14.3	57.2	1.004	5.4
Sheep/goat						
Capra hircus	2			26.89	0.509	2.8
Goat						
UID Bird	84			39.85	0.584	3.2
Anatidae	1			0.81	0.017	0.1
Duck family						

Table 3. VRTC: Species List. (cont.)

	Count	MNI		Wt, gms	Biomass	
		#	%		kg	%
Anas spp.	4	1	4.8	9.5	0.158	0.9
Dabbling duck						
Aix sponsa	1	1	4.8	0.87	0.018	0.1
Wood duck						
Gallus gallus	14	2	9.5	15.85	0.252	1.4
Chicken						
Meleagris gallopavo	2	1	4.8	8.17	0.138	0.7
Turkey						
Columba livia	1	1	4.8	0.32	0.007	tr
Rock dove						
UID Fish	2			0.05	0.003	tr
Lutjanidae	1	1	4.8	0.05	0.002	tr
Snapper family						
Stenotomus spp.	1	1	4.8	0.57	0.001	tr
Scup						
UID Vertebrate	—	—		91.99	—	
TOTAL	791	21		1391.52	18.426	

Table 4. VRTC: Summary.

	MNI		Biomass	
	#	%	kg	%
Domestic Mammals	7	33.3	3.727	83.3
Domestic Birds	3	14.3	0.259	5.8
Wild Mammals	2	9.5	0.072	1.6
Wild Birds	3	14.3	0.314	7.0
Aquatic Reptiles				
Fishes	2	9.5	0.003	0.1
Commensal Taxa	4	19.0	0.100	2.2
TOTAL	21		4.475	

Table 5. VRTC: Elements Identified.

	Pig	Cow	Caprine	Goat
Teeth	14			
Other Cranial Elements	1			
Vertebrae				
Forequarters		2	1	
Forefeet				
Feet	1	1		
Hindquarters	1	1	2	2
Hindfeet	—	–	5	–
TOTAL	17	4	8	2

Table 6. VRTC: Modifications Observed.

	Sawed	Cut	Gnawed		Burned	Worked	Hacked
			Rodent	Dog			
UID Mammal	60	13	13		3	2	
Old World rat			1				
Pig		1	1				
Cow	2						
Sheep/goat	1	2		1			
Goat	1	1	1				1
UID Bird		3	7				
Dabbling duck		1					
Wood duck		1					
Chicken		3	1				
Turkey	—	2	—	–	–	–	–
TOTAL	64	27	24	1	3	2	1

Table 7. VRTC: Number of Elements Identified for Selected Age Categories.

	Caprine
Less than 16 months of age at death	
Greater than 16 months of age at death	
Less than 28 months of age at death	2
Greater than 28 months of age at death	
Less than 42 months of age at death	1
Greater than 42 months of age at death	-
TOTAL	3

Table 8. VRTC: Measurements.

Taxon	Element	Dimension	Measurement, mm
Anas spp.	Humerus	Bp	22.5
		GL	94.7
		Bd	14.6
Gallus gallus	Coracoid	GL	63.35
		Lm	60.25
	Humerus	SC	8.25, 7.8
	Ulna	Bp	10.2
		Dip	12.4
	Carpometacarpus	GL	33.8
		L	31.3
		Bp	10.4
		Did	6.9
	Femur	SC	6.55
		Bd	14.5
Columba livia	Humerus	Bd	9.5

Appendix A: VRTC Samples Studied.

FS#:
39
40
41
43
47
48
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52
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62
66