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Privies, Pigs, Rubbish, and Quacks: The Archaeology of Late Nineteenth and Early Twentieth Century Public Health in Knoxville, Tennessee

Tanya Alexandra Faberson
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To the Graduate Council:

I am submitting herewith a thesis written by Tanya Alexandra Faberson entitled "Privies, Pigs, Rubbish, and Quacks: The Archaeology of Late Nineteenth and Early Twentieth Century Public Health in Knoxville, Tennessee." I have examined the final electronic copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Arts, with a major in Anthropology.

Charles H. Faulkner, Major Professor

We have read this thesis and recommend its acceptance:

Faye V. Harrison, Benita J. Howell, Gerald F. Schroedl

Accepted for the Council:
Carolyn R. Hodges

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

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PRIVIES, PIGS, RUBBISH, AND QUACKS: THE ARCHAEOLOGY OF LATE NINETEENTH AND EARLY TWENTIETH CENTURY PUBLIC HEALTH IN KNOXVILLE, TENNESSEE

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Tanya Alexandra Faberson

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Writing about the archaeology of late nineteenth and early twentieth century public health was the last thing I expected to do when I started graduate school in the Department of Anthropology at The University of Tennessee, Knoxville. Somehow, after a number of class projects and research papers, I found myself continually centering my research in early Knoxville public health legislation and the social dynamics surrounding sanitation and healthcare reform. I came to love the old dusty Knoxville City Council minute books, the nineteenth century City Physician reports, and the people and their lives described therein. Like most love relationships, I came to understand the wonderful aspects of this city along with the more sinister aspects. Aspects that continue today, as the City and the State struggle over public health legislation and moral reform agendas.

Thanks are first and foremost extended to Dr. Charles H. Faulkner for his encouragement, support, and friendship. I came here with no prior experience in archaeological fieldwork and very little background in method and theory. He gave me the chance to pursue my interests in historical archaeology and develop my research ideas. He has taught me the importance of being an anthropologist within the sub-discipline of historical archaeology. Dr. Faulkner has been a great teacher, both in the classroom and in the field, and his patience and encouragement have been invaluable. I could not have done this without him. On a personal level, Dr. Faulkner has also been a great friend. He has given me

encouragement and emotional support during darker days, and he has seen me through events in my life that go beyond my role as a student. I cannot express how much that has meant to me.

I would also like to thank Dr. Faye V. Harrison, Dr. Benita J. Howell, and Dr. Gerald F. Schroedl for their support and patience during this project. Dr. Harrison and Dr. Howell have encouraged me to pursue my interests in feminist studies, and Dr. Harrison's courses and discussions have challenged me to incorporate contemporary cultural anthropological theories into historical archaeological studies. Dr. Schroedl's Method and Theory in Archaeology course, along with Dr. Faulkner's Historical Archaeology Lab course, sparked my interest in archaeological research. Both courses revealed the extensive theoretical and methodological dimensions of archaeology. The decision to pursue a career in historical archaeology occurred during these courses, and it is a decision that I happily do not regret.

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ABSTRACT

Progressive Era (circa 1890-1920) public health reformers attempted to regulate urban sanitation by supporting reactionary public health policies and laws. Archaeologists and historians have often assumed that legislation has immediate impact on behavior when the intended legislative outcome is beneficial. Even so, in Knoxville, Tennessee, the ethnohistorical and archaeological evidence does not strongly associate implementations of sanitation legislation and changes in behavior. This suggests complex social processes underlying the reform movement and people's reaction to it in the urban sphere.

Using sanitation ordinances drawn from Knoxville City Council minutes and sanitarian literature, findings indicate that sanitation reform targeted specific social groups in the urban environment. Data recovered from four Knoxville sites suggest resistance to sanitation and healthcare reforms, but that this resistance also occurred across socioeconomic classes. Understanding resistance and how it relates to the axes of race, class, and gender improves our understanding of Southern culture and the social impacts of early public health reforms, although these factors cannot wholly explain resistance in the urban sphere. Privatism and urban inertia are important interacting factors operating alongside race, class, and gender in explaining the social dynamics of early urban public health reform.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

INTRODUCTION

Legislation is often used to address current controversial social problems. When compared to contemporary legislative action and governmental initiatives, we find historically that policy-making extending beyond stated problems is in no short supply. Nor is scapegoating, and the resentment and resistance that it engenders. Even so, many historical archaeologists take a simplified view of power in terms of how public policies are implemented, enforced, and result in changes in human behavior.

Many archaeologists neglect to consider how race, class, and gender interact through systems of domination and resistance, and how groups of people are categorized by laws that aim to reinforce social norms and marginalize the "other." These views have implications for historical archaeologists interpreting artifactual evidence with relation to archival documents and their knowledge of specific historical events. When these issues are not addressed, they may affect the accuracy of our interpretations of the evidence we so carefully collect.

The Knoxville City Council Minutes and Board of Health Reports, as well as data collected from four late nineteenth and early twentieth century archaeological sites, are compared to assess the dynamics of domination and resistance in early public health reform and how these social forces operate

along race, class, and gender lines. This study will help us to better understand how class conflict can be transformed and grafted onto other types of policy and reform initiatives, how the subjects of these interventions react to the exercise of power, and how this dynamic relationship may be archaeologically manifested.

CHAPTER 2

DEFINITIONS, THEORY, AND BACKGROUND

Although much research has addressed early public health in the Progressive Era, little has focused on how public health policy was enforced, and whether this policy was resisted on local levels. By looking at four early urban public health issues -- privy construction and placement, livestock maintenance and butchery, solid waste disposal, and unorthodox medical treatments -- we can better understand how the enforcement of, and resistance to, early public health policies relate to intersections of social categories -- specifically race, class, and gender -- in the growing urban environment at the turn of the century. In the developing urban sphere of the nineteenth century, ideas of separation among social groups emerge, spatial and conceptual boundaries being dictated and enforced by the urban white middle and upper classes.

When looking at early enforcement and resistance to public health reform, it becomes apparent that the political, religious, and economic interests of the urban elite, and many aspects of early urban public health policy and health-care related legislation, were inseparably connected. Southern whites, especially white middle class women, were highly influential in the public health reform movement, motivated by a resurgence of Protestantism and Social Darwinism during Industrialization, and by anti-immigrant, racially-motivated sentiments that focused on moral purity as a way to improve the lot of the impoverished and the

living conditions of the urban sphere.

Defining Nineteenth Century Urban Sanitation and Public Health

During the latter half of the nineteenth century, citizens of the United States seized on images of prosperity, growth, and progress. The city became an icon of the American ideologies of individualism and success. Practically overnight, many small towns became metropolises, a national economy beginning to substitute for the preexisting local and regional economies. This economic shift allowed industries to intensely concentrate in cities (Bender 1975:142;Goldfield 1977:52), and cities became reservoirs of wealth and opportunity.

Urban populations grew as people relocated from rural areas to cities hoping to find gainful employment and financial security. Because of this influx, overcrowding in cities led to rampant disease and poverty. Space was limited, especially for the urban poor, and the small back yards of urban dwellings were usually crowded with clotheslines, a privy or two, and other necessary outbuildings. Limited space made it impossible for most urban poor to have recreation or to improve the urban aesthetic (Barrows 1983). Often, fences bounded urban lots, separating the home from the street, and connecting the household, property, and outbuildings into a single conceptual unit (Sandweiss 1996:350).

As increasing numbers of people moved into the cities, limited sanitation programs failed to counteract the mounting debris, dead animals, and horse

manure that littered the city streets. In addition, city dwellers often deposited raw sewage near drinking water sources (Duffy 1990:176). Cities throughout the United States were paralyzed in a logistical nightmare, trying to solve waste disposal problems as urban citizens, slaughterhouses, and tanneries dumped ever more wastes into streams and rivers (Rabinowitz 1977:111). Bodies of water had become receptacles for any undesirable refuse from both commercial entities and private citizens. Urban dwellers dumped refuse in streets and waterways because these means were convenient. As long as waste was not within the citizen's bounded and immediate living space, he or she was not concerned with where the waste ended up.

Throughout the nineteenth century, tuberculosis and pneumonia were the number one killers of Americans across the country, followed by diphtheria, scarlet fever, small pox, and measles (Duffy 1978:396). Malaria and yellow fever also occurred in epidemic proportions, but mostly in the southern states. The causes of disease were a mystery and efforts by city officials to stave off epidemics were often futile. Professional healthcare was poor or non-existent for many urban dwellers, and physicians were often unable to cure even the individuals who could afford medical care. Many people, therefore, turned to patent medicine vendors, self-proclaimed miracle workers – or "quacks" – for cure-alls and "magic elixirs" to treat disease and chronic conditions (Young 1967). These medicines were unregulated and often led to narcotic addiction, with many containing cocaine alkaloids or opiates.

By the late nineteenth century, bacteriological research indicated that

there was a link between infectious disease and filthy, overcrowded conditions (Duffy 1978:395). However, many government officials on both the federal and local levels failed to recognize the importance of sanitation reform for controlling disease epidemics and improving overall public health, and very little changes were implemented to improve city living conditions (Warner 1984).

Human Waste Disposal Practices. From the colonial era through the mid-nineteenth century, many people mistakenly distinguished between wastewater and human wastes and how these independently affected health. Many believed that the major cause of disease arose from "miasmas"; that is, toxic fumes emanating from drains, swamps, and low-lying damp areas (American Public Works Association 1976:400). Hence, many urban lawmakers forbade citizens to dispose of human fecal wastes, as well as wastes that would contaminate public drains. Instead, people deposited their excrement in privies, often unknowingly contaminating nearby wells (Blake 1956:127). Consequently, cholera and typhoid outbreaks frequently occurred in urban populations. City dwellers had unknowingly proliferated these contagions by the fecal waste disposal practices thought to protect them. It was not until 1900 that bacteriologists contested and disproved the miasma theory, but it was well into the twentieth century before public health workers and the public accepted these findings (Duffy 1990:187).

Human wastes were primarily deposited in privies throughout the nineteenth century, and less frequently, drains would be attached to privy vaults which would drain the contents into cesspools (Blake 1956:11;Tarr 1996:180).

Privies ranged from shallow holes in the ground to vaults lined with brick or stone and were usually located close to residences, sometimes even in cellars (Tarr 1996:180). Depending on whether or not the privy vault was lined, the ground could absorb the liquid waste, or the owners of lined privies would have to frequently empty the vault contents.

Removing human wastes from the urban yard was considered a private responsibility. Those wealthy enough to hire private contractors had the contents of the privy vaults removed periodically. Owners frequently filled in their unlined privies when the ground around the privy vaults became saturated with wastes, constructing new privies nearby (Tarr 1996:181). The private contractors, or "scavengers" as they were called, collected wastes in "night soil carts," often disposing of the cart contents in streams, rivers, and dumps. Sometimes, "scavengers" would sell the privy contents to reprocessing plants that produced fertilizer (American Public Works Association 1976:400;Ogle 1996:56,71;Tarr 1996). "Night soil" became the name of the privy contents because owners or "scavengers" usually emptied vaults at night to avoid offending nineteenth century "delicate sensibilities" (Schultz 1989:117). The process of emptying the vaults also created health problems and aesthetic nuisances, as owners reused privy vaults and the groundwater and wells became increasingly polluted with wastewater (Tarr et al. 1984:229).

Waterways became the preferred repository for human waste. For the greater part of the nineteenth century, property owners assumed the right to dump anything they wished into a body of water as long as the water fronted their

property, and contractors dumped the public waste they collected into "public" waterways (Duffy 1990:176). Well into the second half of the nineteenth century, people collected their water supplies from local water sources, such as streams and rivers. These individuals were not ostensibly concerned with contaminated water -- that people utilized the water source did not seem to hinder dumping (Tarr et al. 1984:228). People maintained these practices because they believed that running water purified itself. Unfortunately, diseases such as typhoid became rampant as cities downstream drew their water supplies from rivers and streams filled with raw sewage (Reinhard 1994:65;Tarr 1996:344). Even after cities implemented municipal water and sewer works, it was not until the 1930s that sanitary engineers realized the dangers of polluting public waterways with raw sewage (Tarr 1996:344). Early waterworks ordinances protected expensive public investments rather than public health, whereas later ordinances were more environmentally oriented (Ogle 1996:56).

Because sanitation ordinances protected investments, class distinctions and ideologies pervaded sanitation and public works projects. In the early nineteenth century, upper class households tended to have better access to water mains when they became available, and many of these households were able to install a single faucet in or at the rear of the house (Stone 1979:285). Wealthy households were also the first to install actual water closets within the house. A supply pipe, and later, an elevated cistern served the water closets. Not only was new technology made available to these groups earlier than those lower in socioeconomic status, the higher socioeconomic status neighborhoods

were also chief beneficiaries of early sewage and waste disposal programs (Langford 1965;Rabinowitz 1977:111).

Livestock Maintenance and Butchery Practices. As cities became ever more crowded during the nineteenth century, urbanites privately maintaining and butchering livestock within the crowded cityscape increased sanitation problems. Before city blocks became the dominant feature of urban areas, most town and city dwellers lived and produced on urban farmsteads. The urban farmsteads were very similar to rural farmsteads in that people kept livestock, such as cattle and hogs, and built chicken coops for their poultry (Stewart-Abernathy 1986:6). People used these livestock for personal subsistence or for bartering for other goods. Out of all the food animals, hogs were believed to provide the most return compared with the money required to care for and feed them (Anthony and Lewis 1961:1).

Local citizens also held horses in high regard, for both transportation purposes and as an urban power source. Horses contributed work to building construction, material production, hoisting and pulling, and driving machinery, until they were replaced in the twentieth century by gas and electric motors (Dewhurst and Associates 1947:908-909,1103,1108-9; Greenberg 1980:35; Tarr 1999:434-435).

Whether people benefited personally or economically by maintaining livestock, many animals became an increasing sanitation problem as the urban human population increased and living conditions became crowded. As urban farmsteads were transformed into city blocks, livestock were packed into smaller

and smaller work yards behind the urban dwellings. Many of these animals broke free of their pens and roamed the city streets. Free roaming livestock, private livestock maintenance, and butchery practices combined with other sanitation problems to render the poorly maintained condition of the streets virtually impassable.

Another problem created in this environment was disease. Over 150 diseases are transmitted between animals and humans, and most of these diseases are spread through direct (such as nasal secretions, feces, and milk) or indirect excretion (such as blood, carcasses, and slaughterhouse products and offal) (Strauch 1987:155). Because people openly threw trash into the streets and animals were freely running, eating, and defecating, the likelihood of epidemics was high. Waste products in open pastures can be taken care of naturally, but in the small, swampy city streets, waste products would build at an alarming and dangerous rate (Prior 1975:3). Unsanitary conditions are also dangerous for the animals themselves. Hogs, for instance, can easily catch diseases such as cholera, plague, and influenza if kept in filthy conditions (Dietrich 1910:246-247; Scarborough 1958:79; Southwell et al. 1940:304). Stray animals can transmit diseases to other strays or infect penned up livestock, as these animals freely enter other people's properties (Kaupp and Surface 1943:35).

Solid Waste Disposal Practices. Solid waste was also a growing sanitation problem during the nineteenth century. By the mid-nineteenth century, many households tended to their own solid waste disposal; thus, it was mostly a private

activity. People dumped their garbage and animal carcasses into their back yards, the city streets, or neighboring waterways (Ogle 1999:321). Although city officials across the United States considered garbage in the streets an increasing nuisance, efforts to collect solid waste usually did not begin until the late nineteenth century (Crane 2000:21).

Medicine and Healthcare. Nineteenth century healthcare was ill-prepared to face the challenges of urban overcrowding and the rampant diseases that sprung from it as the century drew to a close. For individuals that could afford visits to physicians, diagnosis usually consisted of being questioned by the doctor and a visual examination of the patient's urine (Rosenberg 1978:63). The "diagnosis" was then frequently followed by a series of purgings, bleedings, or blisterings of the patient (Numbers 1978:87). The average American citizen was far removed from medical doctors, both conceptually and physically, and many individuals avoided medical doctors when possible. Medicine and medical science were primarily individual activities with private support, and there was very little of what could be considered medical research (Shannon 1976:89). The public's sour attitude toward professional medicine and its practitioners may have stemmed from the limited knowledge even trained doctors had for curing major illnesses (Rosen 1983:15). Furthermore, the public widely knew that the chances of dying "under the knife" were as probable as dying from the illness itself (Cassedy 1991:87; Young 1961:157).

As an alternative to professional physicians, individuals could turn to proprietary medicine dealers – called "healers" – who liberally promoted cure-alls

for a variety of conditions, real or imagined. Patent medicine sales agents were able to work their "magic" by playing on people's life experiences and mistrust of doctors (Seldes 1928:300). Many patent medicine vendors would stand on street corners, preaching their form of "healing" to anyone that would listen, even going as far as having elaborate medicine shows. Even neighborhood drug stores often allowed patent medicine vendors to advertise their wares in store windows. Advertisements were often accompanied by testimonials, "true stories of miraculous healing," that sent people in droves to the corner vendors and neighborhood druggists (Holbrook 1959:241). The testimonials were aimed at fooling individuals who wanted to believe that certain elixirs would cure their ailments, and many fell under their spell and purchased the ineffective medicines. Women were especially vulnerable to the advertisements of these "quacks," making up the majority of patent medicine purchasers (Stage 1979). Women's magazines and leaflets, or newspaper sections devoted to women's issues, such as cooking, beauty, and childrearing, were often crowded with nostrum advertisements.

At the end of the nineteenth century, the patent medicine industry flourished to a degree it never had in the past, even though medical practices and technology had improved. Despite these improvements, however, the majority of professional doctors were not interested in disease prevention. Their disinterest in prevention held despite the fact that their treatments had progressively higher efficacy. As a consequence of their disinterest, common ailments proliferated (Cassedy 1991:101).

Race, Class, Gender and the Politics of Early Public Health Reform

The dynamic social processes at work during the nineteenth and early twentieth centuries can be addressed through what Karen Brodkin (1996, 1998) has called the "metaorganization of American capitalism." Brodkin (1998:24) asserts that the stability of capitalism in the United States is a direct result of occupational and residential segregation and the myth that the nation is composed of only white men and women, relegating those that are not white to either "whitening" themselves or living without the material advantages of "whiteness."

The state constructs racial and gender categories through public policies that shape the norms and practices that govern society (Brodkin 1996). Through the policies that govern marriage, immigration, census categories, and I would argue, public health, the state creates laws that have psychological and behavioral effects on people's everyday lives (Ibid.). Laws become part of the way people understand the world and how they view other people socially. Categories, such as immigrant, black, white, husband, wife, or worker all suggest a place in society. How laws pertain to categories affects the way that each group is constructed in relation to the social norm. The categories concerning race, class, and gender are continually reified and signified through social interaction, whether through the interaction between governing bodies and private citizens, or the interactions of groups and individuals (Baker 1998:17; Kessler-Harris 1989).

Laws are a means of social control. Race, class, and gender play significant roles in how many laws are constructed and enforced. Many historical and anthropological researchers (see Beaudry 1993; Duffy 1990; Ogle 1999;Tarr 1985, 1996) have erroneously assumed that early public health reforms only affected "people," "Americans," or "citizens," ignoring social climate, labor relations, and the politics of difference in the late nineteenth and early twentieth centuries. Sometimes (see Traxel 1994), only issues surrounding laws aimed at specific groups are mentioned with race issues, such as the 1896 ruling of *Plessy vs. Ferguson,* a ruling which legalized "separate but equal facilities" for white and black Americans. These researchers assume that "general welfare" laws, such as healthcare regulations and city sanitation ordinances, have been implemented for the benefit of all urban residents. The researchers do not suggest that these laws potentially targeted specific social or ethnic groups.

A great deal of anthropological research has been conducted recently indicating that many laws do indeed target certain groups and foster and maintain the creation of racial and gendered categories. Much of this research has dealt with the issue of women's labor, both in the United States and on a global level. For example, Brodkin (1996, 1998) has examined how in the late nineteenth and early twentieth centuries women of color or "off-white" status were denied the protective labor legislation given to white women workers. In a similar vein, Leith Mullings (1986:50) has studied how the labor of the working class and enslaved men and women of the mid-nineteenth century contributed to the growth of industrial society and allowed the middle and upper-class lifestyles

to exist.

Other researchers, such as Faye Harrison (1997), Maria Mies (1986), and Chandra Mohanty (1999) have examined the experiences of women workers on a global scale and how women have responded to globalization policies that affect their work and home. The researchers mentioned here are but a few among the many scholars who have found generic theories, such as traditional Marxism, which does not adequately account for race and gender differences, inadequate for understanding social change.

In order to understand how the intersections of race, class, and gender illuminate the events surrounding early public health reform, one must examine the social context of sanitation and healthcare reform in the United States in the late nineteenth century. The continuing problems with urban overcrowding, an urban infrastructure unprepared to handle growing waste problems, and unregulated healthcare practices all spurred sanitation and healthcare reform movements throughout the United States. The sanitation and healthcare reformers were often white middle-class doctors and lay people - usually women - who supported federal and localized regulations for controlling the way urban dwellers disposed of their wastes, obtained their meat, and sought medical assistance.

As mentioned, many authors have ignored the racially specific, gender-specific, and class-specific experiences of those individuals historically affected by sanitation and healthcare laws. Not only have some authors ignored the experiences of groups affected by the laws, some authors on the subject of

social, sanitation, and healthcare reform in the late nineteenth century have also ignored women's roles in the reform movements (see Duffy 1978, 1990; Young 1961). Understanding the importance of women in the push for reforms is critical for understanding the social climate of late nineteenth century cities.

By the early nineteenth century, capitalism and industrialization had created separate spheres for women and men (Rynbrandt 1999:60). As men worked increasingly outside of the home, women began to be viewed as frail, delicate, and keeper of "hearth and home". This ideal applied especially to white, upper class women, and is now referred to as the "the cult of true womanhood" (Welter 1966). Women of color, different ethnicities, and other social classes were not included in the cult of true womanhood, as the United States history of slavery and indentured servitude can attest (Mohanty 1999:367).

In the South, the cult of true womanhood was especially salient. Affluent Southern white women were considered fragile and in need of protection by male Southerners, protection from lower class whites, slaves, and free blacks. Women were also to be kept hidden from the public eye and forbidden to engage in politics (Lerda 1994:121). These ideals continued to pervade Southern society throughout the nineteenth century, especially during Reconstruction. Issues such as white poverty and racial oppression were difficult for many white Southern women to confront. But, as the physical condition of Southern cities became ever more crowded, disease epidemics ran unchecked, and even white middle-class women felt that they were unable to remain removed from the public sphere (Dye 1991:3).

Therefore, many women joined social clubs designed to combat debaucheries such as alcohol consumption and prostitution (Pivar 1973). At the same time, they aimed to enlighten the lower classes about the importance of sanitation reform and why it was necessary to improve city conditions and to ward off disease epidemics (see Beecher and Stowe 1869; Forbes-Lindsay 1918; Goodhue 1893:119-120; Sedgwick 1918). White middle-class women reformers of the late nineteenth century approached public health reform with the perspective that scientific information, such as that discovered by bacteriologists at that time, combined with a heavy a dose of Christianity could clean up the city streets, ensure safe drinking water and uncontaminated food, and put an end to the narcotic addiction associated with the patent medicine industry (Barney 2000; Rynbrandt 1999:28).

During Reconstruction, and during what became known as the Progressive Era (ca. 1890-1920), many women of differing backgrounds became involved with reform projects in their local communities. Women, regardless of race or class, were affected by the problems associated with industrialization and public health. Race and class difference lay in women's priorities for reform and the financial support they received to bring about this reform (Dye 1991:3). Many white and Latin working class women worked to improve working conditions (Hewitt 1991), while many black women fought to end segregation policies, eliminate lynching, and improve schools for black children (Neverdon-Morton 1989; Terborg-Penn 1991).

However, it was white middle class women who, with the support of

businessmen, professional associations, and politicians, were able to organize large-scale reform coalitions targeting sanitation problems and "moral decay" (Dye 1991:7; Schneider and Schneider 1993:93). The lower class white and non-white women reformers were seldom able to garner the financial support enjoyed by the affluent white women's groups, and they were also often ignored by politicians and city officials. Therefore, many of these smaller groups did not enjoy the success of the larger, mostly white and affluent reform coalitions.

It is interesting to note that the literature covering Progressive era reform movements seldom mentions the contributions of women of color or working-class women, even if "women" are the primary topic (see Lerda 1994; Rynbrandt 1999). Nevertheless, one cannot doubt the impact of the women's reform coalitions. Because of some of the early work of women reformers, such as Ellen Richards and Caroline Bartlett Crane, municipal sanitation was improved in many cities throughout the South and the United States, providing cleaner drinking water and better living conditions for urban Americans (Hunt 1912; Richards 1904, 1907; Rynbrandt 1999).

Sanitation Reform. As the number of foreign immigrants to the United States grew following the mid-nineteenth century, anti-alien sentiments spread throughout the nation (Wiebe 1967:54). These sentiments were compounded in the South as free blacks and poor whites flooded into Southern cities in search of jobs during Reconstruction. Many affluent city dwellers considered these newcomers as the breeders of poverty, crime, and political corruption (Wiebe 1967:54). Furthermore, the urban elite were convinced that if they could better

regulate people in the urban environment, and pass laws to standardize how people behave and interact in the city, they could facilitate economic transformation. This sought after transformation and vision of post-bellum economic rebirth motivated the Southern elite's paternalistic treatment of the poor, and especially of poor blacks (Grantham 1983:111,231). These reformers aimed to increase social stability by initiating programs and implementing laws that had the effect of segregating and disenfranchising black people. In the words of the reformers, they were "protecting the weak and unfortunate in deserving cases" (Grantham 1983:xvi).

Sanitation reform and social control went hand-in-hand in the American South and much of the country. Urban sanitation reform appeared to be directed primarily at cleaning and disinfecting privies and keeping human wastes out of public drinking water supplies, controlling free-roaming livestock, and cleaning filth and garbage from city streets, but further examination of sanitation reform reveals a preoccupation with moral purity as well as physical purity (Wiebe 1967:56).

As mentioned, many reformers combined their efforts to rid the city of disease and growing sanitation problems while launching campaigns against alcohol consumption and prostitution. The impulse to end moral pollution was centered within a resurgence of Protestantism. As many middle class Americans grew uneasy with the burgeoning social and physical disorder of industrializing America, they increasingly turned to their religious faith. By supporting social reforms, such as Prohibition, many felt that they were defeating alcohol

consumption for the Lord and would preserve the sanctity of their homes (Wiebe 1967:56).

Many people also listened to the preaching of Social Gospellers, men addressing the crisis of moral civilization. Many of the Social Gospellers' ideas were rooted in Social Darwinism. Social Darwinism was a racist theory that hierarchicalized all humans by race from the least evolved and most barbaric to the most evolved and civilized (Fredrickson 1971: 231). Increased disease epidemics and growing filth in the city led many to believe that African-Americans and foreign-born immigrants were not as highly evolved as white middle-class Americans and, therefore, blacks and immigrants were considered the cause of social and sanitation problems. Many reformers supported segregation policies that separated black residents from white residents.

Although even in the South some individuals disagreed with segregation policies and considered these policies unjust, many held on to the thought that all African-Americans were carriers of disease, and that segregation was necessary to safeguard whites from disease and other "forms of pollution" (Friedman 1970:122-123). There was also an idea that African-Americans became black because the entire "race" had been afflicted with leprosy, and that all African-Americans harbored "venereal [sic] diseases" (Friedman 1970:123). Because of these afflictions any contact with them, be it sharing living quarters or co-occupying a railroad passenger car, would render a white person infected (Friedman 1970:121,124).

Healthcare Reform. Healthcare reform was primarily conducted on the national level. By the turn of the twentieth century, there were still no federal laws to regulate the ways in which non-professional practitioners prepared, labeled, or advertised patent medicines (Cook 1958:29). Generally, the medicines were ineffective and some could lead to narcotic addiction (Young 1961:221). Unsatisfied consumers complained about these side effects, and magazines, such as *Collier's* and *The Ladies Home Journal*, exposed the fraudulent nature of what the medicine venders were claiming (Beck 1997:122; Cook 1958:30; Young 1961:205). However, even "legitimate" pharmacies profited from the sale of nostrums, and they continued to advertise them in newspapers and their storefront windows. Hence, the American consumer continued to purchase them.

Healthcare reformers aware of the dangers of unregulated medicines launched a crusade in the late nineteenth century against the sale of nostrums. Armed with the knowledge that many of the patent medicines contained alcohol, reformers were able to reach the ears of temperance supporters and other Americans dissatisfied with the inefficacy of most of the medicines being sold (Young 1967:30). A major stride was reached by the reformers as many newspaper editors and the American Medical Association began to decrease the number of patent medicines advertised in their journals. All of these efforts reached fruition in 1906 with the federal passage of the Pure Food and Drug Act. However, it was not actually until the passage of the Pure Food, Drug, and Cosmetic Act of 1938 that the patent medicine industry was shut down (Faberson

1999). Between the 1906 and 1938 legislation, the number of patent medicines on the market and being advertised decreased overall, but a lack of enforcement at the national and local levels allowed many nostrum dealers to continue selling their wares.

The social context of sanitation and health-care reform in United States illustrates how many of the early public health reforms were aimed at controlling urban dwellers along socially-defined lines, focusing on urban dwellers who were not white and were poor. White women reformers and their male counterparts created and reinforced social categories of "otherness;" that is, by reinforcing concepts of purity/impurity and health/disease, concepts that became linked to racial and class status. While archaeology is well-suited for studying the history of public health through archaeological features and material culture, there are some archaeologists who have overlooked how the social scientific constructs of power, domination, and resistance can influence the way we interpret the archaeological record. Thus, they have overlooked aspects of how dynamic social forces may affect artifact patterning and our understanding of past urban lifeways.

CHAPTER 3

THE ARCHAEOLOGY OF RESISTANCE

Historical archaeology is well-suited to the study of early public health, but historical archaeologists need to look more closely at how the concepts of power, domination, and resistance can help develop more accurate reconstructions of the transition from unregulated sanitation and healthcare practices to governmentally regulated public health initiatives. Problematic assumptions throughout the archaeological literature are 1) that the implementation of public health policy and health-care laws should cause an immediate change in people's private and public behavior, 2) when public works became available, the quality of health increases and urban residents radically alter their health-care practices in response to public works and sanitation reform, and 3) domination can be located in the upper class and resistance in the lower, and power in the relation between the two.

Power, and its common operational forms, domination and resistance, are not as clear cut as often assumed, especially in relation to the intersections of race, class, and gender in the developing urban sphere of the late nineteenth and early twentieth centuries. To better understand power, and how domination and resistance are represented archaeologically, this study will look to Knoxville, Tennessee, during the latter half of the nineteenth century through the early twentieth century for archival and archaeological evidence of domination and

resistance in Knoxville's urban sphere. The problem that we will address is that of detecting resistance in the archaeological record, whether that resistance is covert or overt, to better understand historical power relations in the urban sphere and how public and private behavior differed both ostensibly and conceptually in relation to individual and shared urban spaces and to the laws that attempt to enforce compliant behavior in these respective spaces.

Historical Archaeology and Public Health

The nineteenth century was rife with sanitation and healthcare problems. Legislators, supported by powerful reform organizations, implemented legislative measures regulating the ways in which city dwellers disposed of their wastes, maintained livestock, and medicated themselves. The regulation of wastes and healthcare went hand in hand with the social control of the poor in industrializing cities (Mohl 1983:39).

When reviewing historical archaeological literature, it appears that several assumptions are made regarding early public health legislation in the United States. The first assumption is that once laws are implemented mandating changes in sanitation or healthcare practices, these laws are immediately followed by city dwellers. For example, Susan L. Henry (1987:22-23), in her study of urban subsistence patterns in turn-of-the-century Phoenix, Arizona, suggests that Phoenix residents procured food primarily by purchasing professionally butchered domestic meats. She indicates that for this time period, consumer purchase of meats resulted in a low frequency of non-meat bones, or

butchering waste, on urban archaeological sites. The presence of non-meat bones, however, may indicate that these bones had some dietary utility, and were also likely commercially purchased by city dwellers. According to Henry's model, then, one should not expect continued livestock maintenance and butchery practices on urban house lots by the turn of the century, except perhaps in the maintenance of poultry. She suggests that there would not be enough space in the crowded urban environment, and that city governments often prohibited these practices.

A second example of researchers assuming that individuals follow laws once they are implemented refers to the passage of the federal Pure Food and Drug Act of 1906. Sherene Baugher-Perlin (1982:272-273), researched glass bottles in order to facilitate bottle chronology, function, and trade network analysis for historical archaeologists. In her study, she loosely dates patent medicine bottles to the nineteenth century, citing the passage of the Pure Food and Drug Act in 1906 as a rough terminal date.

Another assumption made by historical archaeologists regarding early public health is that once public works, such as water and sewer lines, are introduced to the city infrastructure, then the quality of health of urban residents improves and people no longer find the need to consume medicines. As a particular example, Patrick Garrow et al. (1996:ii), in their study of late nineteenth century public health in Knoxville, Tennessee, document the transition of the city from an "unhealthy, disease-ridden environment" to a "modern city" with a "tremendous improvement in public health." They use the availability of city

services, such as water and sewers, to account for a high frequency of medicine bottles before public works were initiated in the city, and the low frequency of medicine bottles after they were initiated. Garrow et al. (1996) furthermore attempt to document the transition from privy use to public water and sewer works based on the incorporation of public works in the urban infrastructure. This work was followed by a more recent publication (see Garrow 2000) summarizing the Garrow et al. (1996) research and other urban archaeological projects in Knoxville, Tennessee.

The assumptions made by Henry (1987), Baugher-Perlin (1982), and Garrow et al. (1996) are problematic for historical archaeologists. Recent research conducted by Brian D. Crane (2000) and M. Jay Stottman (2000) suggest that urban residents in Washington D.C. and Louisville, Kentucky, respectively, did not immediately follow sanitation regulations. Many urban residents continued to improperly dispose of their wastes (Crane 2000) and violate regulations detailing the construction dimensions of privy vaults. These studies draw into question the assumption that once sanitation regulations are implemented at the municipal level, urban residents immediately change their practices. Regarding Baugher-Perlin's (1982) analysis of patent medicines, the Pure Food and Drug Act of 1906 did not immediately stop people from consuming patent medicines, nor did it directly affect the medicine producers. The legislation was ineffective because the Supreme Court was hostile toward the notion of federal agencies interfering with state prerogatives. When the Supreme Court ruled against the Pure Food and Drug Act of 1906, the FDA was

unable to continue testing patent medicines. Therefore, some medicines were not pulled off the market until as late as 1915, once the problems between the Supreme Court and the FDA were overcome (Beck 1997:122). Again, one must be cautious when assuming that once laws are implemented, that there should be an immediate and strong correlation in individual practice.

Power, Domination, and Resistance

In order to test whether urban residents indeed followed sanitation and healthcare regulations in accordance with municipal and federal regulations, or whether there is disparity in the ways in which people view and follow laws, an archaeological study of early public health was conducted within Knoxville, Tennessee, using archival information - Knoxville City Council Minutes and Board of Health publications - and Phase III data recovery information gathered from four separate late nineteenth and early twentieth century downtown Knoxville sites excavated in the 1980s and 1990s (see Carnes 1982, 1983; Garrow et al. 1996; Greene et al. 1998). However, before discussing nineteenth and early twentieth century public health in Knoxville, one should develop a theoretical framework that may account for the success or failure of government-implemented public health regulatory measures. One way to critically examine the success (or failure) of public health reform measures in the nineteenth and early twentieth centuries is to examine power as it relates to domination and resistance.

Power. According to Max Weber (1921:53), power can be defined as the probability that an actor in a relationship will be able to carry out his or her will even against opposition. Power, as defined by Weber, has often been used to study formal, political institutions, such as the State's ability to exert its will over society (Holton 1996:38). This notion usually sets power apart from society, creating a unitary conception of power that describes structures instead of actions (Paynter and McGuire 1991:6-7).

Within archaeological research, scholars have often drawn upon the traditional Weberian model of power. Power is studied as a dyadic relationship, relegating one group to exerting control over another group (Paynter and McGuire 1991:5,7). Archaeologically, power is often measured by material riches, such as the architectural splendors of the elite (Paynter and McGuire 1991:7). However, the traditional, Weberian model of power can be problematic for archaeologists. By studying formal institutions of power, archaeologists run the risk of studying structures and not actions. That is, the traditional, Weberian model of power does not take into account other power-laden relationships such as those found between husband and wife, owner and worker, or doctor and patient (Ibid.).

An expanded definition of power may be more useful for archaeologists than Weber's (1921) traditional model. Samuel Bowles and Herbert Gintis (1986) oppose a unitary conception of power, instead offering what they term the "heterogeneity of power." Bowles and Gintis (1986:23) assert that power does not exist only within a single area of society, but that power is multifaceted and

can be exercised from a multiplicity of bases. By incorporating the notion of heterogeneous power within the traditional Weberian model, archaeologists can extend their studies of power to include action, and better understand how power is exercised, succumbed to, and resisted.

Domination. Dominance can be defined as the "exercise of power through the control of resources" (Paynter and McGuire 1991:10). In the past, academic research on the subject of domination has tended to deny change (see Tilly 1998:225 for a recent example), examining domination as a homogenous structure that is pervasive, exclusionary, and conservative (Miller 1989:63). However, recent research by Maria Mies (1986), Daniel Miller (1989), Chandra Mohanty (1999), Robert Paynter and Randall McGuire (1991), and James Scott (1985), to name a few, has suggested that domination is heterogeneous. That is, there is a limit on dominance, or the exercise of power, whether the power is being exerted by institutions or individuals. Non-elite groups or individuals can limit dominance by not complying, or by resisting (Paynter and McGuire 1991:11).

Resistance. Resistance, like domination, is heterogeneous and can exist in many forms (Paynter and McGuire 1991:12). According to James Scott (1985:29, 1989), resistance can occur in two forms, "open defiance" and, what he has called, "everyday forms of resistance." Open defiance and rebellion are the rarer of the two. When they occur, rebellions may achieve gains for the subordinated, but often rebellion achieves little more than to put in power a ruling group out of touch with the initial purposes of the rebellion, and for the

subordinated, a return to their former position (Scott 1985:29). Everyday forms of resistance, on the other hand, involve those actions that require little planning or coordination, and avoid direct confrontation with authority or social norms. Everyday forms of resistance can include pilfering, foot dragging, desertion, poaching, and false compliance, among others (Scott 1985:29, 1989:22).

Everyday forms of resistance can occur within any socio-economic stratum and should not be thought of merely as a tool of the underclasses. According to Scott (1989:23), everyday forms of resistance are "always a stratagem deployed by a weaker party in thwarting the claims of an institutional or class opponent who dominates the public exercise of power." Elite social groups or classes can use everyday forms of resistance to evade land reforms or various other limitations imposed upon them by the state, just as the underclasses can do the same. Anyone can "resist" in this fashion to deny the claims of a superordinate group or institution, or advance their own position (Scott 1985:32).

Detecting Resistance in the Urban Archaeological Record

The heterogeneity of resistance is difficult to study because everyday forms of resistance are usually covert, "effectively cover[ing] [their] own tracks" (Scott 1985:281). However, archaeology may offer a means for studying everyday forms of resistance (Paynter and McGuire 1991:13). For example, in the case of the present study of early public health, it has been assumed by some researchers (see Baugher-Perlin 1982; Henry 1987) that people follow

laws once they are passed. It has also been assumed that there is an immediate transition from traditional sanitation practices to modern sanitation practices once public works are introduced (see Garrow et al. 1996; Garrow 2000). These assumptions are based on the public record of sanitation and healthcare laws and the official introduction of municipal public works.

Archaeology, on the other hand, can be used as a methodological tool for testing whether people indeed followed these laws or whether there was resistance. One would assume that resistance to sanitation and healthcare regulations would be an everyday form of resistance, because it is unlikely that there would be mass rebellion against the lining of privies or limitations on solid waste disposal practices. Likely, resistance to these laws could be seen in false compliance with the regulations, or a tendency to comply in public places but not within one's private sphere. According to Paynter and McGuire (1991:11), subordinates tend to comply with the dominant order in public or unfamiliar social spaces, but they tend to become much more critical and defiant regarding their limited freedoms in their own social comfort zone, such as their homes or neighborhoods. Therefore, people from all walks of life are more likely to resist laws that they find too limiting while they are within their "home turf."

As mentioned in the previous chapter, there were four primary public health issues in the nineteenth and early twentieth century that prompted reformers and legislators to propose and implement legislative measures. The first public health issue concerns privy construction and placement within the urban work yard. The second issue concerns home maintenance and butchery

of livestock. The third issue concerns the dumping of household solid waste into work yards and city streets, and the fourth public health issue concerns unregulated healthcare and medical 'quackery' -- the sale and distribution of diverse, and often dangerous, patent medicines and treatments. Resistance to the regulation of these practices could be observed archaeologically by comparing the official documentation, such as city ordinances and boards of health publications, with the material culture and features discovered within a site or sites. For example, laws regulating the placement of the privy within the work yard or defining the constructed dimensions of the privy vault can be compared to privy features within the city to determine whether individuals complied while building them or having them built. One can also test to see whether people maintained and butchered livestock within the city after these practices were prohibited. Furthermore, one can test to see whether individuals illegally dumped solid waste or continued to purchase and consume illegal nostrums.

The documentary evidence and archaeological investigations that have been conducted in the city of Knoxville, Tennessee, offer an interesting opportunity to see whether city dwellers complied with sanitation and healthcare regulations, and whether they resisted these attempts to regulate their behavior. The rich social history of Knoxville allows for studying the intersections of race, class, and gender as they relate to issues of domination and resistance. By addressing these issues, we can add complexity to how historical archaeologists conceptualize the relationship between policy and law and people's private and public behavior. From the Knoxville City Council Minutes and Board of Health

documents, we can bring to life the activities of the early sanitation reformers, developing public health initiatives, and the emerging allopathic medical system in relation to the archaeological record.

CHAPTER 4

KNOXVILLE PUBLIC HEALTH

The Knoxville City Council and the Emergence of Public Health Policy in the Nineteenth Century

A growing urban population, increasing urban technological and economic complexity, as well as a clash between residents' aesthetic and economic concerns in nineteenth century Knoxville, led to legislative indecision concerning public health in the urban environment. The Knoxville City Council [KCC] repeatedly implemented, repealed, debated, and re-implemented sanitation ordinances in a reactionary fashion, suggesting an inability to enforce the laws, or that the laws were economically impractical for businesses and consumers.

Before 1810, only 730 people lived within the city of Knoxville, while 10,171 lived in Knox County (MacArthur 1976:20). By 1880, the city population had climbed to 9,693, and by 1910 the population reached 36,346 (Gray and Adams 1976:99). Although Knoxville's policy- and lawmakers passed many ordinances to regulate water supplies and city sanitation, the population increased so rapidly that it became difficult for the city government to meet ever-changing and ever-increasing demands. In 1882, policy-makers inaugurated city-run water utilities and commenced building city sewers in 1892 (Gray and Adams 1976). Until that time, citizens had collected water from public springs, wells, and cisterns. There was also a water cart operated by a man named

"Uncle Dick," who peddled water throughout the city from 1845 to 1885 (*Knoxville Sentinel*, Oct. 4, 1900). Without first having public water supply systems, sanitary sewers could not have developed for human waste disposal; hence, privies became a regular feature of the Knoxville urban landscape from the late eighteenth through the nineteenth centuries, and in some areas, even into the mid-twentieth century (Brewer 1976:170).

Free running animals were also a common problem in the nineteenth century Knoxville landscape as many urban dwellers continued to maintain livestock in the increasingly crowded city. People could use the animals for personal subsistence or bartering for other required goods. Local newspapers carried advertisements offering tips on caring for and preparing livestock, and people could earn money by selling their hogs to businesses like the East Tennessee Pork House and Steam Sausage Factory (Figure 4-1) (*Knoxville Daily Chronicle*, December 14, 1879:4). However, many of these animals frequently broke free of their pens or were allowed to run free by their owners. Knoxville had a particularly difficult problem managing free-running hogs, but cattle were also frequently on the loose (MacArthur 1976). As mentioned in Chapter 3, free-running livestock can be very destructive in the cityscape, and they can contribute to the spread of over 150 diseases (Strauch 1987:155).

A farmer's market was built in the 1850s, in the area currently known as Market Square, and it opened for business on January 31, 1854 (Gray and Adams 1976:97). One could purchase fresh flowers, vegetables, meat, live

HOGS! HOGS!!

Fat Hogs Wanted!!!

Parties wishing to sell Fat Hogs will find it to their interest to call on Ignaz Fadz, at the East Tennessee Pork House and Steam Sausage Factory, on the Knoxville and Ohio Railroad, as he proposes to pay the HIGHEST Market Price in CASH.

nov19-dtf.

Figure 4-1: 1879 East Tennessee Pork House and Steam Sausage Factory newspaper advertisement (*Knoxville Daily Chronicle*, December 14, 1879:4).

animals, and other products (see Figure 4-2). Butchers practiced their trade at the market house and at the pork plant beside the Tennessee River. Butchering practices led to an abundance of blood that covered portions of the market's grounds, and piles of refuse could be seen on both sides of the market house (MacArthur 1976:36). Because brick streets did not come about until 1893, having unpaved and cobblestone streets in Knoxville worsened the unsanitary urban conditions. The swampy, poorly maintained, and undrained condition of the streets rendered many impassable. These unseemly conditions likely affected commercial industry, as people had to trudge through blood, feces, garbage, and sometimes overflowing wastes from privies, in order to patronize the local shops and markets (Ogle 1999:335).

As noted above, privy use posed significant health threats in the urban environment, especially when privies overflowed or the vault contents seeped into the ground and well water. Privies were also embarrassing aesthetic and olfactory nuisances; many citizens were sometimes offended with noxious 'disease-causing' odors wafting about. Many considered removing the privy vault contents dangerous and hasslesome. Throughout the nineteenth century, numerous American cities, including Knoxville, passed ordinances regulating how citizens could construct, use, and maintain privies on private and public properties. Citizens were required to keep their privies clean and functional, mandatory privy vault depths were specified, and some cities required that privy vaults be lined with brick or stone to prevent wastes from seeping into the ground and contributing to the formation of miasmas (Blake 1956:221-222;MacArthur

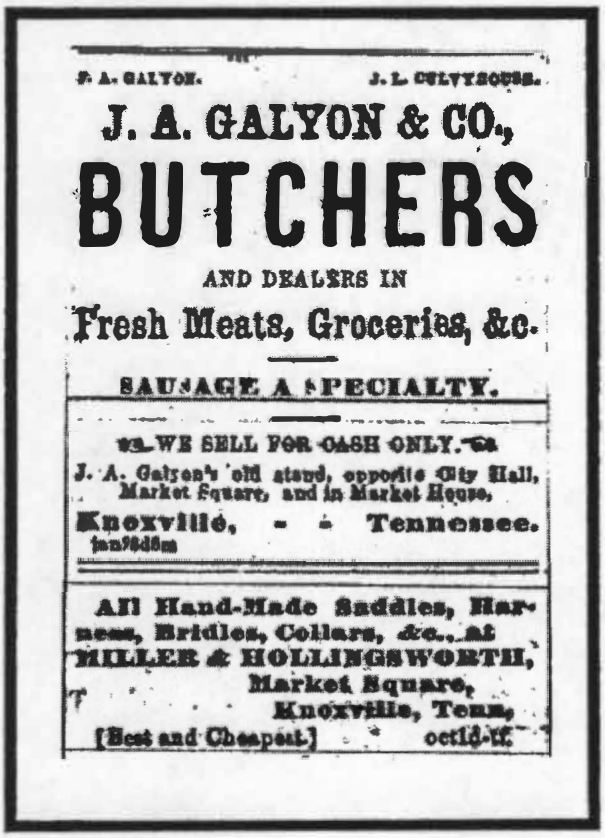

Figure 4-2: 1880 Market Square newspaper advertisement (*Knoxville Daily Chronicle*, March 2, 1880:4).

1976;Ogle 1996:56). Citizens were also given regulations regarding the maintenance and butchery of livestock within the city, guidelines for refuse disposal, and limitations on the medicines that could be sold and purchased within the corporate limits.

In 1802, during the first meetings of the Knoxville City Council [KCC], the KCC minutes mention established laws regulating sanitation and general orderliness for Knoxville's citizens. The council outlawed slaughterhouses and mandated that animal carcasses, beef hides, trash, and dung could not lie on any city lane or street for more than three hours. Hogs, in particular, were not allowed to run free on city streets, and it was ordered that the town sergeant kill any hogs found running free. They also mention the need to regulate how people were constructing, using, and maintaining privies on private property. Privies were to be sunk at least six feet deep, and any person maintaining or erecting a privy not meeting this standard depth was to be fined (Knoxville City Council Minutes [KCCM] 1802:8-9). Privy depth remained a problem within the city, and, in 1816 the KCC passed another ordinance. This 1816 ordinance threatened offenders with an increased fine of five dollars, compared to 50 cents in 1802 (KCCM 1816:4).

In 1832, Mayor Donald McIntosh was quoted warning that "a great plague and devastation awaits these United States of America," and that the citizens should use "all diligence" to keep their dwellings and "necessaries" clean (KCCM 1832:279-280). The "great plague and devastation" Mayor McIntosh referred to

was cholera, having spread through the city many times by 1832 (Gray and Adams 1976:91).

By 1838, City Council members and many city dwellers believed that *nuisances* present in the city were annoying and deleterious to health. City legislators restated laws against leaving carcasses in the city streets, and deemed it illegal to erect any "pig stye, cow pen, hen coop or pigeon house and allow them to become offensive from stench or noxious smell" (KCCM 1838:13). Violators were to be fined five dollars for every 12 hours the nuisance remained. In addition, the ordinance specifically prohibits Knoxville citizens from throwing slop from their houses or kitchens onto any street, sidewalk or lane. The KCC minutes also evidenced the fear of miasmas in Knoxville, as officials made it unlawful for any stagnant water to be left in poorly drained yards or privy pits (KCCM 1838:13). The ordinances specified that citizens must clear cellars of stagnant water, and ventilate and frequently clean privies to protect public health.

By the latter half of the nineteenth century, Knoxville's population rapidly increased, making the city ever more crowded. Between 1850 and 1860, the county population grew to 22,813, and the city's population to 5,300 (MacArthur 1976:20). During this decade, cholera and small pox became increasing problems for city officials as the city faced epidemics of cholera in 1849 and 1854 and small pox in 1850 and 1855 (Gray and Adams 1976:91). The KCC ordered the city's residents to cleanse cellars and privies of all impurities on April 19, 1850, the same day that they ordered small pox vaccinations for everyone in the city and outside the corporate limits in response to the small pox epidemic

ravaging the city that year (KCCM 1850:72). In 1855, the KCC ordered that any place small pox was found had to be quarantined, and that the residents of the quarantined area were forbidden from entering the city (KCCM 1855:226).

The 1860s witnessed increasing problems with epidemics in Knoxville. Besides tuberculosis, diphtheria, and a number of other maladies Knoxville's citizens faced on a daily basis, small pox reached epidemic proportions in 1862 and 1863, and both cholera and small pox hit the city in 1866 (Gray and Adams 1976:91; MacArthur 1976:35). In 1862, likely in response to the small pox epidemic, the KCC ordered that lime be purchased by the city and distributed to all residents in order to cleanse the town (KCCM 1862:180). Frequently during this decade, the KCC enacted ordinances to have the city cleaned of street refuse and overflowing privy contents. They also made it legal for citizens to use fecal material as garden fertilizer; however, aside from using fecal matter as fertilizer, the KCC specified that feces were offensive to the senses and citizens must remove privy contents from the city premises (KCCM 1865-1868).

The Civil War also made it difficult for city officials to control the spread of infectious diseases in the city. The City was prompted to build several frame houses to use as pest houses for small pox patients, as the military presence in the city increased the number of small pox sufferers and there was limited space to house them (Gray and Adams 1976:92-93). These problems continued after the war, however, and the City Council was prompted to continue enforcing quarantines of all residences housing individuals with smallpox (KCCM 1866:340).

Hogs were also an issue for the KCC during the late 1860s. The City Council mentioned hogs in 1868, detailing comprehensive measures to keep them from running freely throughout the city. If hogs were found running free, they were to be impounded, an announcement of their description and state of impoundment was to be posted at the court house, and a formal pound was to be set up by two of the city aldermen (KCCM 1868:471). If their owners did not claim the hogs within three days, the animals were to be publicly auctioned, the proceeds going to the city. As the KCC was concerned with hogs during this time period, they also addressed a growing problem with stray dogs. Being less valuable economically than hogs, dogs found running free, muzzled or unmuzzled, were to be immediately shot (KCCM 1869:550).

In the 1870s, yellow fever spread in epidemic proportions throughout the state of Tennessee, but luckily Knoxville's altitude and climate protected the city's inhabitants from the scourge of the disease affecting other Tennessee cities such as Memphis (Furman 1961:175; MacArthur 1976:35; Warner 1984:410). In order to keep yellow fever at bay, Knoxville city officials initiated quarantine measures against the entry of the disease. Nevertheless, the City's inhabitants continued to battle epidemics such as cholera and small pox.

The year 1873 witnessed another cholera outbreak in the City (Gray and Adams 1976:91). In response to the epidemics, the "hog law" was re-implemented restricting free-running hogs within the corporate limits of the City (KCCM 1873:240). However, they amended the ordinance to also read that it was a misdemeanor to take someone else's hog and turn it loose so that it will

get impounded. Apparently, Knoxville's citizens were finding interesting ways of creating trouble for one another. In addition to the hog law, the KCC also took this time to forbid merchants and animal keepers to build hog sties, cow pens, or stables within 50 feet of a residence, dining room or kitchen (KCCM 1873:240). Within a month of the re-implementation of the hog law, it was repealed and re-implemented again (KCCM 1873:251).

In 1874, a Knoxville Sanitary Committee was created and the KCC passed more restrictive measures governing sanitation and how citizens could construct and use privies. On March 6, 1874, the KCC stated that:

> Privies constructed without a pit and not substantially screened from sight, and all built over water courses or ponds within reach of high water so that fecal matter may get into and pollute either the creeks and their estuaries running through the city, all privy pits, sinks, or cesspools filled within two feet of the surface, or that may be overflowed by surface water running in, and all ... matter deposited in privies without pits and not removed every three months are hereby declared nuisances detrimental to health (KCCM 1874:344-345).

Apparently, Knoxvillians had been dumping human wastes into the waterways of the city. This situation in Knoxville was very similar to local practices in many cities throughout the United States, and new information regarding the origins of disease made it imperative for cities to control waterway dumping. The KCC made it legal for the Sanitary Committee to enter any home, yard, or cellar and

inspect these areas at will. These invasive procedures were necessary to force citizens to comply with the ordinances.

The KCC repealed and re-implemented the hog law again in 1875 (KCCM 1875:471). The City Council appears to have been locked in a continuing debate surrounding the issue of hogs in the city, and according to A. B. Tadlock (1876:10), the Knoxville city physician, the hog law had been poorly enforced in prior years. Many citizens felt that hogs helped maintain cleaner streets with their scavenging activities (Tadlock 1876:10). Battling their way through the amendment and repeal of the hog laws, the City Councilmen continued to lament the stench of urban hog pens. They also mention goats as a nuisance, and applied the hog laws to goats (KCCM 1875:489).

A map of the city wards in and surrounding the downtown area can be seen in Figure 4-3. Gay Street is used as the East/ West dividing line on the map between several of the downtown wards. In 1876, the *Second Annual Report of the City Physician* was published regarding the public health of Knoxville for the year 1875 (Tadlock 1876). During 1875, it appears that the highest number of deaths out of the eight wards within the corporate limits of the city occurred in the fifth (40), sixth (31), seventh (30), and first (24) wards, followed by much lower numbers in the remaining wards (Tadlock 1876:15-16). Interestingly, three of these wards are located east or northeast of Gay Street. Out of the total deaths in 1875, the majority of people died from consumption (pulmonary tuberculosis) (27), followed by pneumonia (25), still births (15),

Figure 4-3: 1895 New Map of Knoxville Tenn., and Suburbs showing city wards (Ogden Bros. & Co. 1895).

cholera infantum (13), and ascites (10) (Tadlock 1876:15-16). The highe numbers of consumption were seen almost equally in the first, fifth, sixth seventh wards, but pneumonia appeared to affect a large number of ind in all eight wards.

In response to these growing concerns with disease mortality in the city, the city physician made many suggestions for the improvement of disease control. Tadlock (1876:9-10) encouraged the removal of livestock from Market Square in order to decrease the "noxious elements" of "excrementious matter or garbage" resulting from their presence there, and recommended more stringent regulations concerning the construction dimensions of privies. He (1876:10) also recommended that the "hog law" be enforced in order to decrease the number of hogs running free in the city because of "the acknowledged unfitness of his flesh for food after thriving on dead cats, rats, poultry and other alley filth."

According to Tadlock (1876:4-5), the majority of disease and sanitation problems in the city were a result of people living in impoverished and dependent conditions, namely emancipated blacks, who illustrate "most forcibly the consequences of abused and neglected sanitary and hygienic laws." He (1876:4) stated that he was impressed, however, with their "wonderful tenacity" because he doubted "if the white race were stripped of our homes and in almost total ignorance, mercilessly thrown upon the world, destitute of means of subsistence to contend with a race vastly superior in wealth and education, whether the death rate would not be more appalling."

In 1876, a Knoxville-wide representative vote was held concerning whether hogs should be allowed to remain within the corporation (see Table 4-1). Representatives of each ward voted either "hogs" or "no hogs," and "no hogs" won by two votes (KCCM 1876:608). Interestingly, the wards that had a majority that voted in favor of retaining hogs in the city were in the first, fifth, seventh, and eighth wards. All of these wards are located east or north of Gay Street. The third ward is also located east of Gay Street, and they voted against retaining hogs in the city, although the vote was very close. The result of the "hog law" vote entailed keeping the "hog law" in effect, i.e., not allowing hogs to run free; however, the close outcome did not necessitate removing hogs from within the city limits. In spite of this legal and political wrangling, hogs continued to be a significant part of daily life in Knoxville, with between 600 and 700 hog pens reported in the city in 1883 (KCCM 1883:261; *Knoxville Daily Chronicle* [KDC], July 14, 1883:1).

In 1876, Knoxville city officials also became concerned with cattle. They forbade owners from allowing cows to run free at night, but cattle were nearly permitted free reign during the day (KCCM 1876:617). By 1885, the City Council prohibited owners to allow cows to run free at certain times of the day, thus keeping thoroughfares clear for other traffic (KCCM 1885:117). Any cow found running free at designated times, or causing a disturbance at night, would be impounded. This ordinance was repealed in 1886 (KCCM 1886:279); however, by 1890, the City Council again decided to implement the cow ordinance, stating that all "cow brutes" must be off the streets by May 15 (*Knoxville Evening*

Table 4-1: Knoxville-wide representative vote concerning the presence of hogs in the city divided by ward (KCCM 1876:608).

WARD	*"HOG"*	*"NO HOG"*
1	87	44
2	17	78
3	42	49
4	16	89
5	141	64
6	57	146
7	75	44
8	105	28
TOTAL	540	542

Sentinel [KES], April 26, 1890:1). This abrupt decision to rid the city of cows was immediately followed by a decision to finally rid the city of hogs, not only disallowing free running hogs, but also forbidding owners to keep hogs in the city at all (KCCM 1890:144).

The 1880s had also been a difficult decade for city officials dealing with disease. In 1882, S. B. Boyd, the Secretary of Knoxville Board of Health published his eighth annual report detailing mortality for the year 1881. According to Boyd (1882:4), the highest numbers of deaths throughout the city were a result of consumption (39), pneumonia (27), cholera infantum (13), typhoid fever (12), marasmus (11), and convulsions (10). There does not appear to be much of an improvement in the consumption and pneumonia rates when compared to the statistics listed for 1875 (Tadlock 1876). The city wards with the highest mortality counts were also very similar to 1875 with 60 deaths in the seventh ward, followed by the first (32), fifth (23), and sixth (22) wards (Boyd 1882:4).

In 1885, Boyd published a similar report for the year 1884. The highest numbers of deaths throughout Knoxville were a result of consumption (70), followed by pneumonia (29), typhoid fever (27), cholera infantum (26), inflammation of the bowels (14), marasmus (14), inflammation of the brain (12), measles (12), and convulsions (11) (Boyd 1885:10-11). As in 1875 and 1881, the death rates were highest in the seventh (85), fifth (59), first (48), and sixth (39) wards. By 1881, the eighth ward needed to be included with the wards with the highest mortality counts. They had 54 (Boyd 1885:11). An added ward,

labeled the ninth, also had a high mortality count of 58. Some of the high mortality counts, such as that seen in the seventh ward, may be accounted for by a large overall or growing population in certain wards. In the year 1884 alone, the seventh ward had the highest birth count (110), followed by the ninth (87), and fifth (59) wards (Boyd 1885:13). No total population data, divided by ward, are given in the report; therefore, it is difficult to ascertain the overall impact of the diseases on a particular ward.

Boyd (1885:6) added some interesting details to his report concerning the occupations of the deceased in 1884. Out of all the deaths, 215 people were listed as having no occupation, 32 were designated as housewives, 28 were laborers, and 13 were housekeepers. Several other occupations with high death rates for that year were merchants, washerwomen, sporting-women (i.e., prostitutes), and servants (Boyd 1885:6).

In addition to the increased legislation to rid the city of livestock during the 1880s, the City Council continued to debate and implement legislation concerning privies and solid waste disposal. Laws were instituted to prohibit two or more house lots from sharing a single privy (KCCM 1885:35), and no "dirt, filth, or slops" were to be swept or placed in the street (KCCM 1885:75). Apparently, citizens were to place all of their solid waste into barrels or boxes to be picked up by the Sanitary Committee, but it is unknown whether this service was available throughout the city.

Knoxville, Tennessee, and the Age of Progressive Era Reform

The 1890s and the early twentieth century witnessed significant changes in Knoxville public health legislation. This time period is known as the Progressive Era, and Knoxville was one city among many in the United States that attempted to transform its small, industrializing cityscape into a metropolis. Knoxville's industrializing boom had started in the mid-nineteenth century. Following the Civil War, many rural Appalachian folk, European immigrants, and recently emancipated African-Americans flocked to Knoxville in search of gainful employment and economic opportunities. Immigrants secured jobs in the city's industries such as iron-ore production – for example, the Knoxville Iron Company – or one of the various marble-finishing or meat-processing plants (MacArthur 1976:42).

Between 1850 and 1890, the city population grew from 2,076 residents to 22,535 (U.S. Bureau of the Census 1850, 1910). By 1920, Knoxville's population was 77,818 city residents; three times the number of citizens in 1890 (U.S. Bureau of the Census 1920). The city was unprepared for the booming population growth, and overcrowding in many parts of the city was a result. Overcrowding in Knoxville encouraged rampant disease and swelled poverty. Many poor white and black urban residents could not afford to live in single-family dwellings, and often resided in crowded shacks, side-by-side housing in what appeared to be disorganized neighborhoods. Many city dwellers accepted boarders to earn money that they used to purchase necessities (Daves 1926). Many black city dwellers suffered from segregation policies that placed them in

the worst of the housing areas (Traxel 1998). Urban dwellers suffered in crowded living spaces, in the mounting debris and household rubbish, in the animal carcasses and horse manure that increasingly littered the city streets. As mentioned above, the debris of urbanization surfaced and became a growing sanitation concern for city officials. Human needs for sustenance and healthy living conditions, urban economics and white middle-class aesthetics, clashed.

It was during this time when public health reformers gathered momentum in their drive to improve sanitation and healthcare in Knoxville. Increasing urbanization, and a shift from rural- to urban-centered economies, led to an increase of middle class professionals and businessmen. The spatial structure of the urban environment was affected by this change, as these professionals helped reconfigure the socio-economic landscape of cities from those of urban farmsteads, responsible for their own welfare, to industrial and residential city blocks (Grantham 1983:xv; Stewart-Abernathy 1986). Limited space became a commodity -- delineated, owned, and bounded.

As an example of the magnitude of this class shift, by 1868, middle-class professionals and practicing attorneys began to outnumber dry good stores and saloons (MacArthur 1976:34). Many of these professionals were advocates for social reform as well as sanitation and healthcare reform. Many of these professionals and businessmen were white northerners who had traveled to the South after the Civil War searching for business opportunity. Another group that filled the ranks of this new urban middle class was composed of native white Knoxvillians who had not been wealthy before the war, but became successful in

its aftermath. These professionals formed a new elite group, a white urban middle class, a class that embraced economic expansion, capitalism, and urban growth (Killian 1985:47-48; McDonald and Wheeler 1983:18). The new urban elite did not welcome newcomers seeking the same upward social mobility that they had found. Instead, the white urban middle class, with its focus on economic expansion and growth, embraced a continuity with the past by cherishing memories of the antebellum South and creating myths of association; that is, they would designate themselves descendants of the fallen planter aristocracy (Killian 1985:45-46). Many of those embracing the "Golden Age of the antebellum period" failed to recognize that many of their ancestors would not have enjoyed the luxuries of the small planter aristocracy, and conveniently forgot that many members of the elite had been Northerners (Killian 1985:45).

Many members of the white urban middle class expressed disdain for the impoverished members of society. In this disdain, they held the same racist notions as many antebellum Confederate supporters (Killian 1985). Many African-Americans, white in-migrants from the Appalachian Mountain region, and European immigrants were met with scorn and distrust as they entered Knoxville in the late nineteenth century. The "Negro Problem," as it was considered by the white elite (Friedman 1970:124), intensified as African-Americans quadrupled their numbers to 3,149, by 1880 composing 32 percent of Knoxville's population (U.S. Bureau of the Census 1880). At different time periods during the latter half of the nineteenth century, German, French Swiss, and Irish immigrants traveled to Knoxville searching for work and opportunity, but even larger numbers of rural

Appalachian whites flocked to the city from the hinterlands of East Tennessee, Virginia, and North Carolina (MacArthur 1976:20-21; McDonald and Wheeler 1983:24). Many blacks, Appalachian whites, and Irish immigrants were only marginally skilled and took low-wage jobs in the factories, wholesale shops, and industries (McDonald and Wheeler 1983:19). Low skill labor further distanced them from the elite.

Unfamiliar settings and the complexities of city life made it difficult for some newcomers to adjust to the changing urban environment. White in-migrants from Appalachia found it difficult adopting new urban cultural patterns of behavior. In the traditional rural areas of the Appalachian Mountains, many had relied on strong kinship bonds and cooperation to meet their needs. In Knoxville, these social networks were no longer reliable as extended family members became distanced, and the city's population grew such that neighbors became strangers (Appleby 1970:39; Mayo 1970:32). White Appalachian in-migrants were traditionally suspicious of government, reluctant to communicate with strangers, willing to resort to violence in a dispute, and held racist attitudes towards people of color (Appleby 1970:34; McDonald and Wheeler 1983:24).

Along with Appalachian whites, African-Americans faced many difficulties adjusting to city life. The oppressive and dehumanizing treatment of Africans under slavery had been justified by many with an ideology meant to distance those of African descent from the ideals of democracy and freedom (Sowell 1983:121). This ideology was used to justify segregation and disenfranchisement policies following Emancipation. In the city, blacks were

oppressed by white middle class attitudes of racism and elitism, Appalachian in-migrant hatred and suspicion, and European immigrants' racism (Appleby 1970:34; Brodkin 1998).

European immigrants in the South also dealt with waves of rejection and racist attitudes by the white urban elite. In the latter half of the nineteenth century, many Germans and French Swiss immigrants were welcomed into Knoxville and prospered (MacArthur 1976: 20-21). By the turn of the century, many Irish Catholics immigrated to the city to work in the railroad industry. They were not welcomed by the urban elite. This rejection was due to religious differences. Most of the elite were Protestant, and the elite scorned the presence of Roman Catholics in the city (Gibney 1986:29). For Catholics, being denied access to the Protestant churches closed them off from a major arena of business and economic life. The French Swiss and Germans were both Protestant groups and had been able to blend in with Protestants already present in the city. Thus, they integrated more easily into social and economic life (MacArthur 1976).

By the end of the nineteenth century, the impenetrability of the elite for many in-migrant groups led poverty to become a serious economic problem in Knoxville. Although technological and industrial innovations increased the number of opportunities for urban workers, many urban residents, such as blacks, Appalachian whites, and Irish immigrants, were denied "progressive improvements" in their living conditions and work environments (McFarland 1975:125). Wages were low and overcrowded housing conditions often bordered

on the uninhabitable. Refuse-littered streets, overflowing privies, and free-roaming livestock present in the city, became associated with poor, working-class neighborhoods. These conditions motivated Knoxville's wealthier citizens to separate themselves from poor whites and blacks. White and black workers were needed in the factories and industries of the elite, but the elite themselves often feared their workers and treated them with disdain (McDonald and Wheeler 1983:26). Impoverished people, living without adequate shelter, became an embarrassing contradiction to the national identity. The ever-increasing residential segregation only widened the social divide between rich and poor, white and "other."

Because poverty was linked to dirt and disease, it was a natural assumption for the white elite that sanitation problems were the fault of the poor, both black and white. Many Americans placed personal blame on those who failed to achieve economic security and social status. This economic failure was attributed to a lack of character, a moral weakness, and even an indication of sinfulness. As David W. Noble (1972:72) stated, "The formula that to be sinful was to be poor and to be poor was to be sinful" was prevalent and widely accepted at the turn of the century.

After the Civil War, the new urban elite did not consider rural white Appalachian people much different from African-Americans. Rural Appalachian whites were considered poor, uneducated, and backward by the urban white middle class (McDonald and Wheeler 1983), a stereotype tracing back to the Antebellum period when they were scorned by the white plantation aristocracy,

and even black slaves, as the "po' whites" (Killian 1985:46). Many blacks and Appalachian in-migrants suffered under disenfranchisement policies in the late nineteenth century (Key 1949:542). Even so, disenfranchisement did not unite these groups; instead, the poor working class became more separated along racial lines. There was pervasive competition and mounting hostility between white and black workers, as poor unemployed white workers suspected blacks of stealing their jobs (Grantham 1983:291). Poor whites also feared European immigrants, as immigrants increased competition for jobs and often worked for non-union wages (Baker 1998:89). The perceived threats to job security only resulted in increased violence and strife between poor blacks and whites, and likely destroyed any potential for a united working class protest aimed at reshaping capitalist industry and society and improving conditions for all those living in poverty (Stromquist 1997:2; Thernstrom 1973).

By 1890, reform efforts by the white elite led the KCC to prohibit livestock owners from maintaining and butchering animals within the corporate limits of the city. That same year, the KCC implemented legislation making it unlawful for privy owners or property occupants adjacent to First or Second creeks or within the city limits to maintain a privy less than six feet in depth (KCCM 1890:205-206). This is the same depth designation listed in the first meeting of the City Council in 1802 (KCCM 1802:8-9). By 1892, privy owners and private contractors had to first obtain a permit from the Board of Public Works to clean out a privy (KCCM 1892:5). The Board of Public Works would then designate the night an owner or contractor could clean out the privy and where the contents

were to be disposed. Eventually, one could not build a privy pit without first having obtained a Board of Public Works permit (KCCM 1895:265-266).

When examining the records of the KCC for this time period, it is apparent that the city officials frequently received pressure from, and were swayed by, various groups of professionals and public health reformers regarding sanitation, healthcare, and social control. For example, there was very little pharmaceutical regulation on the national or local level, and even measures to prohibit the sale of nostrums on Sunday to curb the sale of medicines containing alcohol was met with resistance by local druggists and rarely enforced (KCCM 1889:3). Most of the druggists were considered prominent citizens, and the KCC appears to have found it difficult to enforce the necessary fines.

In 1890, members of the local chapter of the Women's Christian Temperance Union (WCTU) approached the KCC to abolish prostitution in the city. The Knoxville WCTU, led by Mrs. Lizzie Crozier French, was highly influenced by evangelical religiosity (DeVoe 1976; Lerda 1994:127). The members of the WCTU, who were primarily affluent white women, campaigned for an end to immoralities in society and supported prohibition. Many of the members of the Knoxville chapter, including Mrs. French, campaigned for women's suffrage and had worked in the last quarter of the nineteenth century in benevolent societies to extend aid to the "worthy poor" (Creekmore 1958:188-189; DeVoe 1976:341). Prostitution, once considered a legal occupation for a woman in 1885 (Boyd 1885:6), was considered linked to the evils of alcohol consumption and highly immoral by the WCTU. Therefore, they sought to

"prohibit women from loitering at saloons and beer houses" and to prohibit the maintenance of "bawdy houses" within the city limits (KCCM 1890:244). Apparently, there had been ordinances regulating "bawdy houses" in the past, but with increased pressure from groups such as the WCTU, the KCC decided that it was "no good to make a fuss and do nothing," and they began to strictly enforce the ordinance by hiring a police matron and imprisoning prostitutes (KCCM 1890:251-252). Nevertheless, many brothels continued to operate in the city in spite of their being considered "only of a lower class" by the KCC and "a disgrace and annoyance to decent ladies and children who are compelled to pass along the streets" (KCCM 1893:395). By 1905, the "lewd characters ... loitering at saloons and parading themselves on public streets accosting men" were no less a problem for the KCC than they were decades earlier (KCCM 1904:99).

Increased pressure by reform groups did not quell all of the City's social or public health problems. Although the City had initiated public water works as early as 1882, and sewer works in 1892, the City continued to have difficulty regulating the construction and use of privies in the city (Brewer 1976:155,171). Apparently, some city dwellers were not obtaining permits from the Board of Public Works before digging their privy pits, and many of these pits were "too close to the dwelling" (KCCM 1895:265-266). In 1903, the KCC outlined very specific regulations regarding the construction of privy pits, detailing that:

> Every privy vault erected within the city shall have a vault under it not less than two feet in width, four feet in length, and five feet in depth in side

> measurements when completed, walled up with stone or brick and laid in hydraulic cement so as to hold water and retain its contents (KCCM 1903:591-592).

The ordinance further instructed those building a privy near enough to a sewer line to attach it directly to the sewer in order to drain its contents (Ibid.: 592). Privies were to be three feet from all streets or alleyways and screened from view. These stringent regulations regarding privies occurred on the same day that the KCC implemented increased measures to safeguard the city's residents from incidences of small pox, cholera, yellow fever, measles, or diseases in the "diphtherial membranous group" (Ibid.:589). These measures included full compliance with Board of Health regulations regarding notification in the event of one of these diseases, warning signs being posted on the houses where the diseases are present, and corpse interment within 12 hours for individuals that died from the diseases.

In 1907, consumption (81) was the leading cause of death for Knoxvillians, followed by pneumonia (76), diarrhoea and enteritis (71), violence (64), heart disease (41), Bright's disease (39), and typhoid fever (28) (Knoxville Board of Health [KBH] 1908:2). The deaths from typhoid fever numbered 18 individuals using cistern, well, or surface water, and 11 deaths were among individuals living in "unsanitary conditions" with the presence of "broken sewer pipes, unsanitary privy pits, or general unhealthy conditions" (Ibid.:4). Interestingly, the high number of violent deaths was a result of railway accidents and injuries (17), homicide (17), burns and scalds (8), fractures (7), and various forms of death

such as suicide (by poison, firearms, and cutting instruments), drowning, and legal execution (KBH 1908).

From the KCC minutes and the Knoxville Board of Health reports, one can postulate that privies were a common feature of the urban landscape well into the twentieth century. "Night soil grievances" were referred to the Sanitary Committee in connection with the Health Officer (KCCM 1904:59), and a plot of land was purchased by the KCC in 1904 on which to erect an airtight building over a sewer line for the night soil cart-man to deposit privy contents directly into the sewers (Ibid.:67). Although sewer lines were constructed in small extensions in residential neighborhoods throughout the early twentieth century (Brewer 1976:171), one can see that for at least the first two decades of the century, some urban dwellers continued to utilize privies. In 1908, the Knoxville Board of Health (KBH) published its *Annual Report of the Board of Health of the City of Knoxville, 1907* detailing the continual use of privies in the city (KBH 1908). According to the report, 31 deaths out of 39 cases of typhoid fever reported occurring in the eleventh, tenth, and first wards were in houses that were not connected to sewer lines and dependent upon privies for human waste disposal (KBH 1908:4). Furthermore, many citizens continued to directly connect their privies and water closets with First, Second, and Third creeks, contaminating the waterways that some Knoxvillians continued to utilize as a water source (KBH 1908:14).

As late as 1928, the KBH lamented the lack of adequate sanitary sewer facilities throughout the city, blaming the "high morbidity and mortality rates from

filth born diseases" on the continual use of privies (KBH 1928:35). During 1927, it was estimated that approximately 700 privies were in common use by Knoxville's citizens (Ibid.). Privy use versus indoor water closets, and later, full bathrooms, likely had much to do with access to water and sewer lines, and the finances to connect them to one's home.

By the turn of the century, livestock no longer appear to be a problem for the KCC, having been replaced by dogs and cats as a primary nuisance requiring legislative measures. However, there appears to be some evidence that livestock continued to be raised in some parts of the city, especially hogs, mules, horses, cattle, and poultry (Welles 1919). In 1907, the KBH (1908:16) reported 52 dead cows found during premises inspections. By 1919, some house lots within the city still contained hog wallows, maintained by poor yard drainage and the presence of a hog or two (Welles 1919:39).

Littering and illegal dumping were continual problems in the first decade of the twentieth century (KCCM 1905:296), and it was not until 1907 that a Sanitary Street Committee was proposed by the KCC to keep the city streets clean for ten years (KCCM 1907:110). Solid waste also appears to have been a persistent problem, especially for residents in the eastern portion of the city. Instead of decreasing the amount of waste, the city had been adding to it. Apparently, for a number of years dead animals were removed from other parts of the city and deposited in the eastern portion of the city until 1903, when Fillmore Morgan – whose job it was to deposit the carcasses there – was forbidden to continue the practice in order to prevent the contamination "of the water flowing into the river

above the pump station" (KCCM 1903:592). It is also not certain how many residents actually had their solid waste collected from their homes as these tasks were usually performed by private companies for a fee (KCCM 1901:417). Many urban residents carted their solid waste to dump spots located within the city, proving a "nuisance as well as a menace to the health of those residing near them" (KBH 1908:15). It was not until 1905 that scavenger carts were employed by the city for public solid waste collection, but even these carts usually deposited the waste into local dump sites (KCCM 1905:165-166).

The use of patent medicines also became an increasing problem by the turn-of-the-century. The KCC attempted to regulate the distribution of elixirs containing morphine or cocaine by making it a misdemeanor to sell, barter, or give away the drugs without a prescription from a regular practicing physician (KCCM 1901:343). Opium and laudanum were added to the list in 1905 (KCCM 1905:167). This task was very difficult, however, as many nostrums were mislabeled and did not reveal whether their contents included morphine or cocaine (American Medical Association 1912:551). The federal implementation of the Pure Food and Drug Act in 1906 helped to curb some of these practices, but not until the implementation of the Pure Food, Drug, and Cosmetic Act in 1938 were more stringent regulations of patent medicines enforced (Faberson 1999).

Managing public health in the urban environment proved to be a complex task for the Knoxville City Council and the Board of Health. During the Progressive Era we see the repeated re-implementation of various laws related

to public health and healthcare. The Knoxville City Council implemented policies concerning how privies were to be dug, how animals were to be kept in the urban environment, how wastes were to be disposed of, how private and public spaces were to be kept clean, and how elixirs were made available in the urban environment. For the most part, these ordinances, policies, and laws were reactionary, following the tide of epidemics and other health concerns in the City.

CHAPTER FIVE

ARCHAEOLOGICAL ANALYSIS

A representative sample of four late nineteenth and early twentieth century Knoxville archaeological sites was analyzed to ascertain the relative state of public health in the city during this time period, and whether systems of domination and resistance interacted along the axes of race, class, and gender. Each site is represented by one city block made up of multiple lots (Figure 5-1). All four sites were previously excavated in the 1980's and 1990's by various archaeological contract firms as part of mitigation projects. The data recovered by the researchers of these sites were submitted as reports to the contracting development companies involved in the projects, and copies of the reports were filed with the Department of Anthropology at the University of Tennessee, Knoxville.

Synthesizing site information from urban archaeological contract reports to gain a city-wide perspective is a relatively new venture (Mullins and Klein 2000:232). Generally, urban archaeological site reports are written on a site-by-site basis, revealing specific information about particular sites. Synthesizing multiple site data will hopefully increase our knowledge of the city as a whole and as a result aid scholars in understanding Southern urban historical lifeways. However, there are drawbacks to synthesizing data retrieved from various site reports. There are many differences in the ways in which archaeological contract

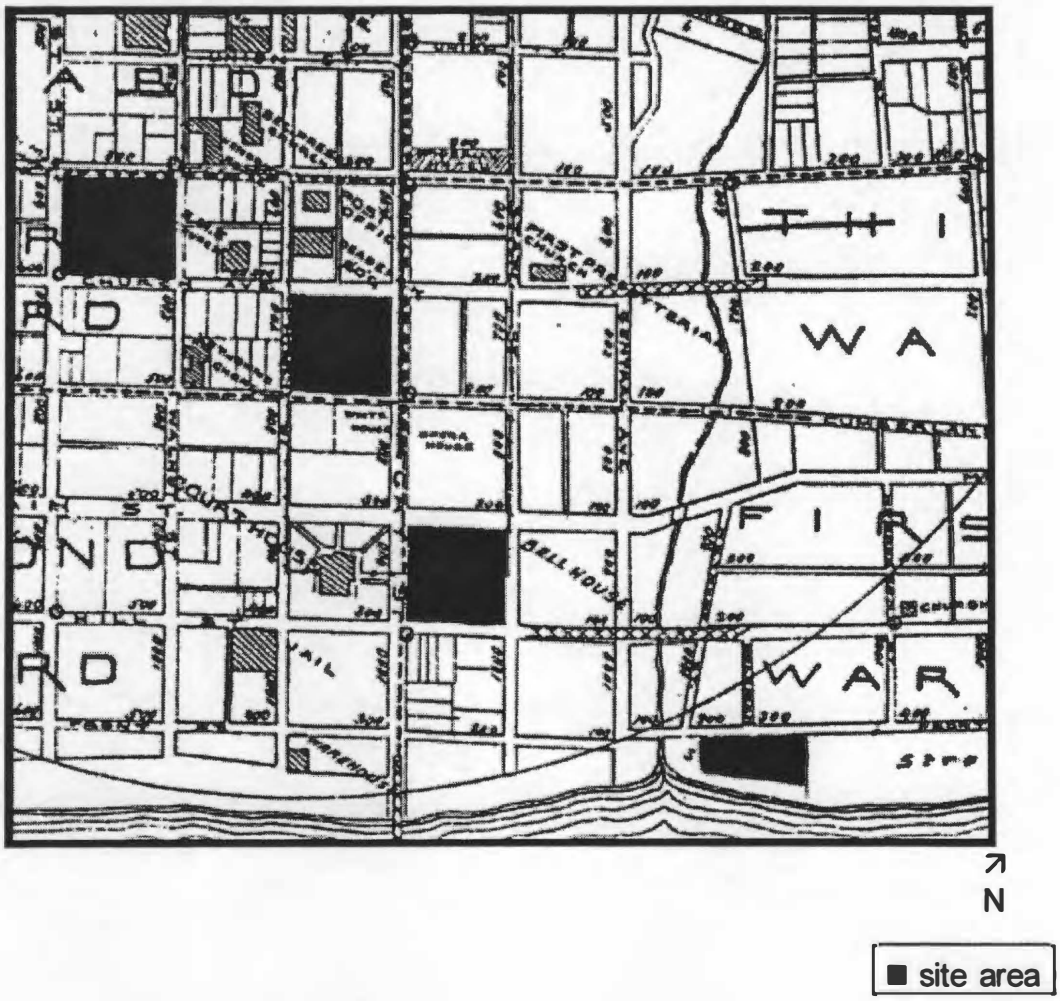

Figure 5-1: 1895 New Map of Knoxville, Tenn., and Suburbs showing sites used in this study (Ogden Bros. & Co. 1895).

firms prepare site reports and how much information about a site the reports contain. Hence, some reports will have more complete information than others. The amount of information in a particular report depends on the research design of the archaeologists and the scale of archaeological investigation at the site. Two reports used in this study, Block 3 Center City Redevelopment Project Number 2 (Carnes 1982) and River View Towers (Carnes 1983), were salvage projects and did not involve any large-scale testing or excavations. The other two site reports, comprising the Waterfront Redevelopment Project Area (Greene et al. 1998) and the Knoxville Courthouse Block (Garrow et al. 1996), were extensive projects involving full-scale research designs and Phase II testing and Phase III data recovery. The four reports used in this study were chosen because they are all within, or within close proximity to, the downtown area and contained features and material culture dating from the latter half of the nineteenth century to the early twentieth century. Downtown Knoxville has witnessed both residential and commercial development since the City's inception in 1791 (Garrow 2000). It was also the first area within the city purported to receive public water and sewer works in the late nineteenth century (Brewer 1976), making the area appropriate for a study of early public health and sanitation.

It has been noted in earlier chapters that the Knoxville City Council (KCC) implemented and re-implemented regulatory ordinances regarding sanitation and healthcare. One should be able to compare these ordinances with archaeological features and recovered material culture in order to determine

whether Knoxville citizens formerly occupying these sites adhered to public health regulations. The KCC ordinances detailed in Chapter 4 indicate that throughout the nineteenth and early twentieth century, the KCC outlined specific instructions for privy construction and placement within the urban work yard, livestock maintenance and butchery, and solid waste disposal. Therefore, one could assume - like Baugher-Perlin (1982), Henry (1987), and Garrow et al. (1996) - that shortly after these laws are passed that there is a correlating change in privy construction, home livestock butchery, and solid waste disposal practices and a general improvement in Knoxvillian health. However, if Knoxville citizens did not adhere to these laws, any resistance to city health and sanitation ordinances should have a direct effect on the material and structural patterning of the urban archaeological record.

Evidence of resistance to public health policy could include privy dimensions not meeting the standard measurements defined in the KCC ordinances, evidence of continued livestock maintenance and butchery within the urban work yard following prohibitions of these practices, evidence of illegal patent medicine consumption, and evidence of solid waste disposal in illegal areas, such as back yards, privies, and cisterns. Given this, one should be able to compare archaeological features and material culture with the KCC ordinances in order to test whether Knoxville's citizens adhered to health and sanitation regulations.

Analytical Methods

The four urban archaeological sites in this study consist of commercial city blocks that were once divided into both domestic and commercial lots throughout the nineteenth and early twentieth centuries. Each individual site will be described and analyzed. Site descriptions include brief summaries of the testing and excavation methods employed by the researchers on each project. Feature information, associated artifacts, and urban work yard spatial organization for each house lot within these four sites will be carefully analyzed in terms of social/cultural reconstructions and land use patterning. Features such as privy holes, cisterns, and midden deposits, with their material contents should shed light on the four primary public health issues addressed as a part of this research: privy construction and placement within the urban work yard, livestock maintenance and butchery, solid waste disposal, unregulated healthcare, and medical "quackery."

As noted in Chapter 4, all Knoxville City Council ordinance specifications regarding privy and cistern dimensions were given in the English measurement system of feet and inches. Therefore, all metric measurements described in the site reports were converted to feet and inches in this study to facilitate feature/ ordinance comparisons.

Artifacts recovered from each feature that are relevant to studies of public health, such as medicine bottles and medical devices, personal hygiene and cosmetic items, and faunal remains, are classified according to a scheme developed by Roderick Sprague (1981). This typology was developed for late

nineteenth and early twentieth century sites. Sprague's (1981) classification scheme is appropriate for this study because it is more specific regarding artifact function than Stanley South's (1977, 1979) popular, yet very generalized, scheme, which was designed with colonial-period sites in mind.

Sprague's (1981) functional typology contains eight different groups, two of which are relevant to studies of public health. The personal items group includes subgroups such as body ritual and grooming, medical and health, and birth control devices. South's (1977, 1979) system places pharmaceutical bottles under the kitchen artifact group, but does not include other medical devices with this category. The other category developed by Sprague (1981) that is relevant to this study is the domestic items group. Within this category, faunal food remains are placed within the subgroup of gustatory items.

Block 3 Center City Redevelopment Project Number 2 (East/West Mall)

In the spring of 1980, archaeologists of the Midsouth Anthropological Research Center at the University of Tennessee were alerted that local relic collectors were pillaging subsurface historical features at the proposed site of the Hilton Hotel (Carnes 1982:1). The site was set in the present location of the Hilton Hotel, on the city block bounded by Locust, Church, and Walnut streets and Clinch Avenue (Figure 5-2). The archaeologists pursued legal permission from the site developers to conduct controlled excavations of the site, and the developers granted the archaeologists permission shortly thereafter.

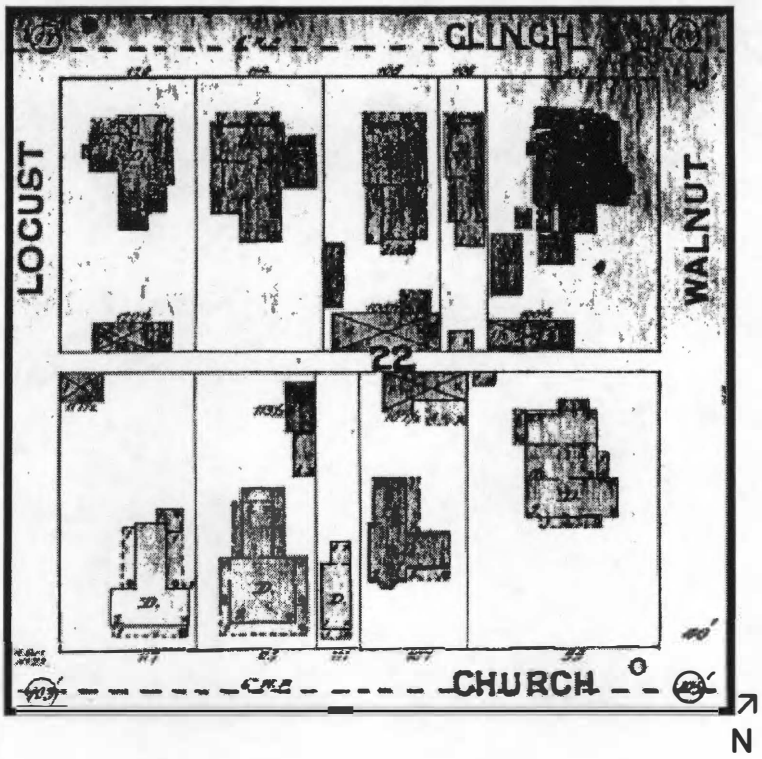

Figure 5-2: 1890 Sanborn Fire Insurance Map showing the Block 3 Center City Redevelopment Project Number 2 (East/ West Mall), Knoxville, Tennessee, site.

Artifact and feature analysis. The Midsouth Anthropological Research Center archaeologists identified ten features within the site. Together, these features consisted of one cellar, two cisterns, eight privies, and one undetermined feature. Unfortunately, relic collectors partially destroyed several features in their hunt for rare bottles and other "great finds" before archaeological reconnaissance could be conducted (Carnes 1982:1). The archaeologists salvaged the remaining artifacts, and gathered any available information on each feature. A thorough artifact analysis was not conducted following the salvage work at the site due to funding and time limitations (Jefferson Chapman, January 29, 2001, pers. comm.). Therefore, a complete artifact inventory is not available for this site. Some mention is made in the report concerning various medicines and "food scraps," but the artifactual information on this site is very limited.

Figure 5-3 details the location of each feature within the site area. The following feature descriptions are based on the information provided in the Midsouth Anthropological Research Center site report (Carnes 1982). All of the information gathered in the report was obtained through archaeological reconnaissance, on-site mapping, and artifact analysis (Carnes 1982:3). The dwellings and occupants associated with each feature are discussed in Chapter 6.

Feature 1

Feature 1 consisted of the remains of a cellar. The cellar-fill comprised bricks, ashes, mortar fragments, roofing slate, and other architectural material. According to Carnes (1982:3,22), the cellar was likely associated with a

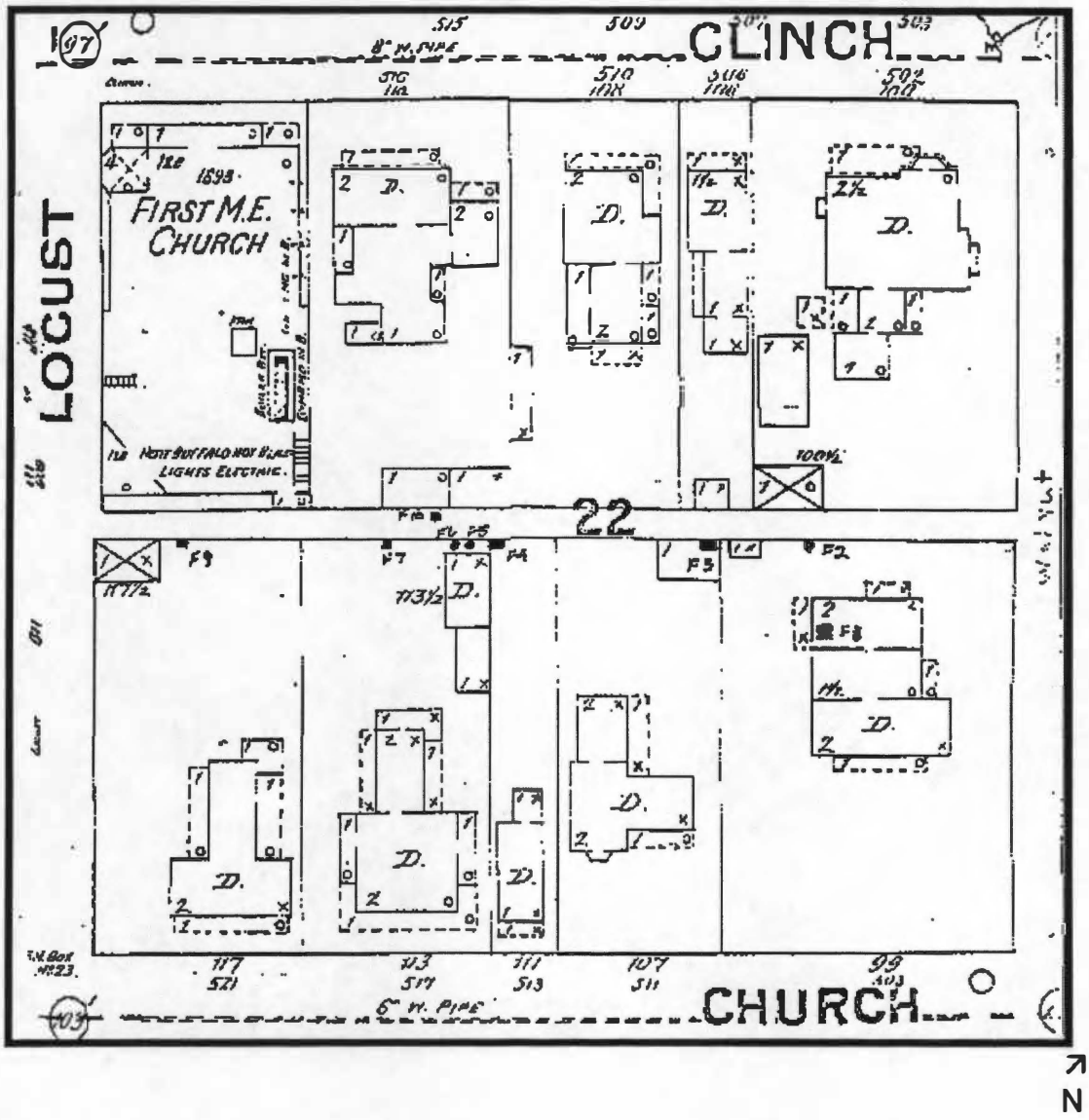

Figure 5-3: 1890 Sanborn Fire Insurance Map of Block 3 showing the locations of the features discovered at the site (Carnes 1982: Figure 2).

physician's office building located at 611 Walnut Street that post-dated 1900. This feature did not contain any artifacts relevant to this study.

Feature 2

Feature 2 was a circular cistern measuring 6.5 feet in diameter and 12 feet in depth. The cistern was constructed of brick, with sand and clay mortar. Over 3000 artifacts were recovered from this feature; however, this particular feature had been heavily disturbed by bottle collectors (Carnes 1982:7). Some of the artifacts recovered included medicine bottles such as "Dr. Wayne's Expectorant," "Dr. Wistar's Cherry Balm," "Sand's Sarsaparilla," and faunal remains that included pork, beef, venison, fowl, snapping turtle, and fresh water mussels. The feature dated approximately between the 1840s and 1870s (Carnes 1982:9). According to the archaeologists at the site, Feature 2 was likely associated with a former residence at 99 W. Church Street.

Feature 3

This feature was a rectangular, earthen-walled privy hole measuring 4.5 feet by 3.8 feet wide, and 7.5 feet deep. Feature 3 had also been heavily disturbed by relic collectors, but did contain some medical and health group artifacts such as medicine bottles. Two medicine bottles recovered from this feature and listed in the report were "Dr. Pierce's Favorite Prescription" and "Lydia Pinkham's Vegetable Compound." The recovered faunal remains were represented in the report as "food scraps" (Carnes 1982:9). According to Carnes (1982:9), the artifacts dated approximately from 1875-1900. The privy itself likely

predated or closely dated the artifacts recovered from the feature. This feature was associated with a residence located at 107 (later 511) W. Church Street.

Feature 4

Feature 4 was a privy hole lined with dressed limestone and sandy mortar that measured 5.8 feet by 3.4 feet in width by 3.7 feet in depth. Looters at the site had also disturbed this feature. Carnes (1982:11) noted that the artifacts consisted mostly of domestic and medical debris. Interestingly, a case of broken medicine bottles that were usually filled on-site by a doctor were also found among the artifacts in this feature in addition to 45 faunal remains. Carnes (1982:11,14) gave no specific date for this feature, but it likely dated sometime between 1886 and the early twentieth century considering the information she lists in her report. The privy appears to have been associated with a residence located at 111 (later 513) W. Church Street (Carnes 1982:14).

Feature 5

The archaeologists did not excavate this feature because it had been extremely disturbed by relic collectors. According to Carnes (1982:14), the circular feature was likely a well or a privy that had been associated with a boarding house located at 113 (later 517) W. Church Street.

Feature 6

Feature 6 was a cluster of three earthen-walled privy holes located six to eight feet west of Feature 5 within the work yard of 113 W. Church Street. The placement of the square 4 feet by 4 feet privy holes, which appeared to intrude on each other, suggested filling and reuse of that general area for the placement

of the privy within the work yard (Carnes 1982:14). No depth measurements were given in the report. Domestic group artifacts dating between the 1870s and 1910s were recovered from this feature, but the report lists no further details.

Feature 7

This feature was a rectangular-shaped, earthen-walled privy hole dating between the 1870s and 1910s. The privy hole measured 3.5 feet by 3 feet in width. The archaeologists did not excavate this feature, and depth measurements were not taken (Carnes 1982:15). Therefore, no culture period was established for this feature. The feature was located on the northern property boundary of 113 W. Church Street, approximately 23 feet west of Feature 6.

Feature 8

Feature 8 was a rectangular-shaped, brick-lined cistern. The bricks lining this feature appeared to have been covered by lime mortar at one time. This feature had been highly disturbed by relic collectors, and the archaeologists at the site did not recover any artifacts. The construction, use period, and associated dwelling of Feature 8 remains undetermined; however, Carnes (1982:15) suggested that it likely post-dated the 1870s.

Feature 9

Feature 9 was a rectangular, earthen-walled privy hole with a 3-foot diameter. Looters had also disturbed this feature. Carnes (1982:15-16) noted that the recovered artifacts included ceramics, glass, and one boar's tooth.

Feature 9 dated from the mid to late nineteenth century and was associated with a dwelling on 117 (later 521) W. Church Street.

Feature 10

Feature 10 was a circular, earthen-walled privy hole measuring 4 feet by 6 feet in diameter, located 10 feet northwest of Feature 6. This feature dated between 1860 and 1880 (Carnes 1982:16). It may have been associated with 113 W. Church Street or 1141 (later 516) Clinch Avenue, or possibly an earlier structure (Carnes 1982:17). It was unclear which house lot the privy hole was associated with because it was located near the center of a former alleyway. Several medical and health group artifacts were recovered from this feature including an amber glass medicine bottle embossed "U.S.A. Hosp. Dept.," dating to the Civil War Era and a hypodermic needle (Carnes 1982:16). A cologne vial in the body ritual and grooming group was also discovered.

Summary of the Center City Site

The features uncovered during the salvage of Block 3 Center City Redevelopment Project Number 2 (East/ West Mall) did not reveal very much information regarding home livestock maintenance and butchery, or solid waste disposal practices, during the latter half of the nineteenth century. However, the few medicines listed in the report, in addition to the information regarding the privies and cisterns discovered at the site, are useful for studying early public health on this block. The interpretation of public health on this block is discussed in the following chapter.

River View Towers Site (formerly the C & C Plaza Site)

The River View Towers site, formerly the C & C Plaza site, is located on the same block as the present-day Andrew Johnson Office Plaza, bounded by Gay and State streets, and Main and Hill avenues (Figure 5-4). In early January 1983, Midsouth Anthropological Research Center archaeologists at the University of Tennessee were alerted that grading activities had begun on the proposed C & C Plaza site (Carnes 1983:1). An archaeological service contract was negotiated between the Midsouth Anthropological Research Center and the developers of the site in order to salvage archaeological features and historic material culture.

Artifact and feature analysis. The archaeologists identified 13 features at the River View Towers site. These features consisted of three privies, the foundational remains of a schoolhouse and a residence, five cisterns, and two cellars. Figure 5-5 details the location of each feature within the site. The following feature descriptions and artifact analyses were based on the information provided by the Midsouth Anthropological Research Center contract report on the River View Towers site (Carnes 1983). All of the information was obtained through archaeological reconnaissance, on-site mapping, and artifact analysis by the Midsouth Anthropological Research Center team.

The report of the River View Towers site yielded slightly more detailed information regarding the artifacts recovered from each feature than the Center City site report, but the information in the River View Towers report is still not complete. Only artifacts with datable manufacturer's marks, patents, and styles

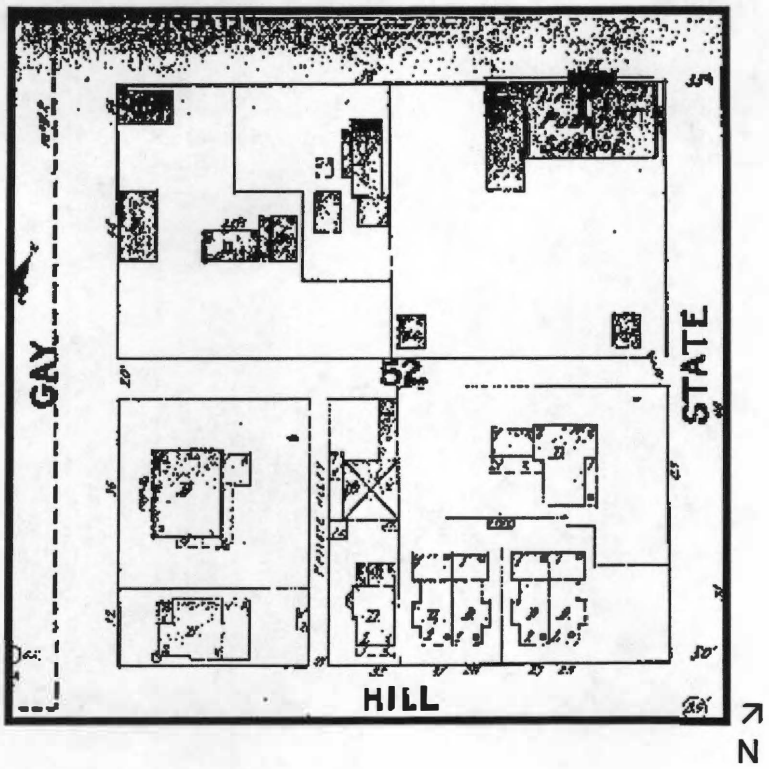

Figure 5-4: 1890 Sanborn Fire Insurance Map showing the River View Towers site.

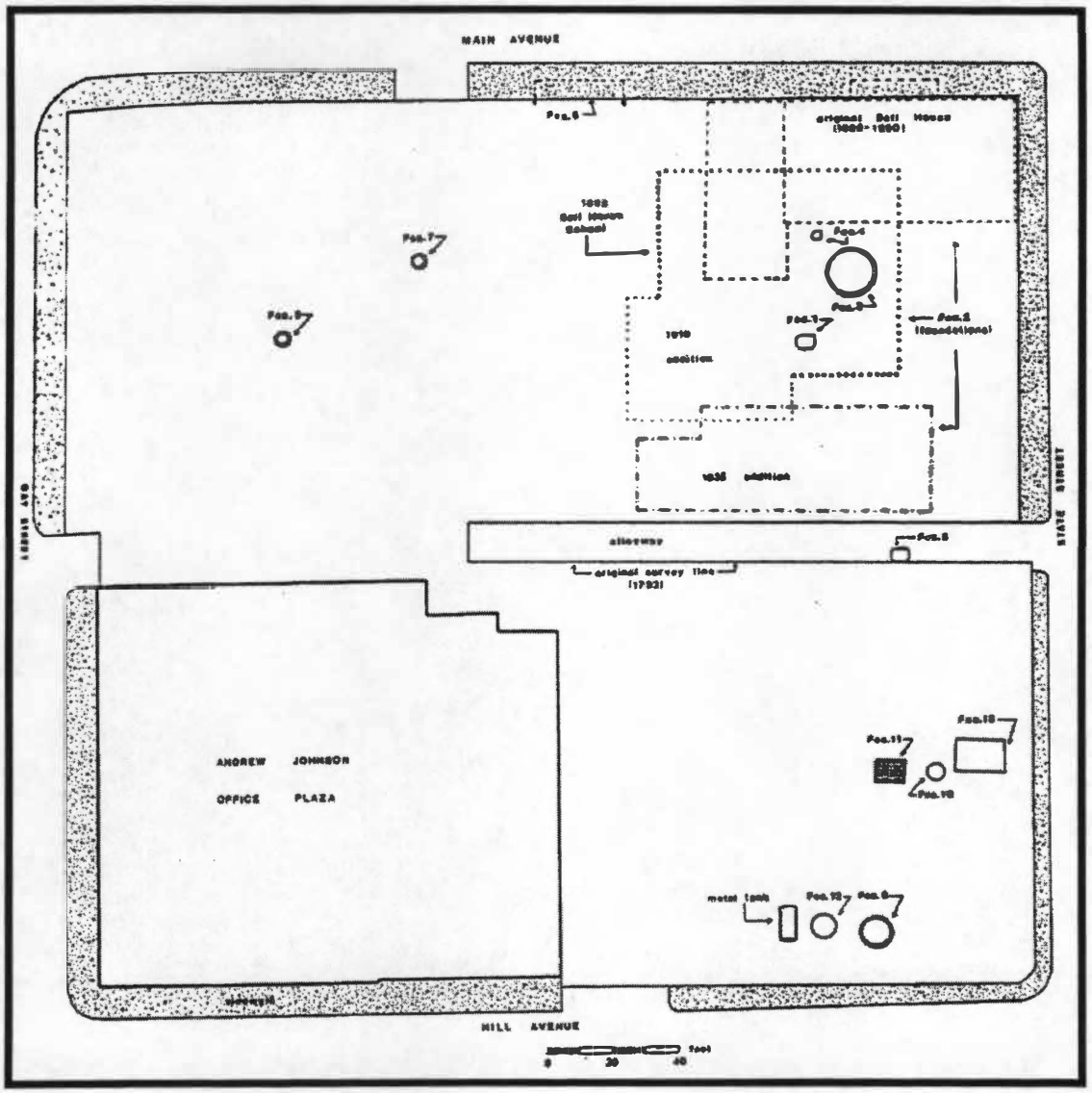

Figure 5-5: Map of the River View Towers site showing the locations of the features discovered at the site (Carnes 1983: Figure 1).

were listed in the report, and this was further biased by the looting activities of relic collectors, who usually hunt for marked or embossed artifacts. No detailed artifact analysis information could be obtained for this site, even for the artifacts that are listed in the report.

Feature 1

Feature 1 was the remains of an earthen-walled privy hole measuring 3 feet in diameter by 9 feet in depth. The artifacts in the privy fill dated roughly between 1850 and 1900 (Carnes 1983:46,96). According to Carnes (1983:46), the largest percentage of artifacts recovered (48.2%) were domestic group items, including an abundance of food bones such as cow, pig, chicken, and turkey. Unfortunately, no detailed analysis of the faunal remains was conducted at the time by the archaeologists, and it is unknown whether the faunal remains represented commercially butchered and purchased meats, or livestock and poultry that were butchered on-site. Fifty-eight bottle fragments were also recovered, but no detailed information is given in the report.

Feature 2

The foundation of the second Bell House School, which stood from 1898 to 1977, was discovered at this site and labeled Feature 2. All of the material culture recovered from this feature dated to the 1920s. According to Carnes (1983:47), no substantial archaeological excavations were conducted on this feature due to the recent nature of the structure and material culture.

Feature 3

Feature 3 was a 16-foot diameter cistern that dated between 1880 and 1890. It was likely associated with the occupation of the Bell House Hotel after it ceased to be used as a hotel and was converted into a school that ran from 1872 until 1890 (Carnes 1983:98). According to Carnes (1983:103), this cistern was likely used by the school for drinking water and fire protection. Only 57 artifacts were recovered from this feature. No specific information about these artifacts was provided in the report (Carnes 1983).

Feature 4

Feature 4 was an earthen-walled privy hole that was not excavated by the archaeologists at the River View Towers site. According to Carnes (1983:103), the privy feature was located beneath the second Bell House school building and, therefore, predated 1898.

Feature 5

This feature was a circular, earthen-walled privy hole measuring 3 feet in width by 5.2 feet in depth. A total of 428 artifacts was recovered from this feature and dated to the early nineteenth century. Feature 5 dated to the 1790s or the early nineteenth century. There was no known associated dwelling with this feature (Carnes 1983:104).

Feature 6

Feature 6 was the remains of a brick foundation of a small structure that was likely once the residence of Henry Carper at 28 Main Avenue. The foundation was three brick courses in height, and the artifacts recovered from

this feature dated from the early nineteenth century to the last quarter of the nineteenth century.

Feature 7

Feature 7 was a small, 5-foot diameter cistern that dated from 1874 to 1900. This feature was likely associated with the Henry Carper residence at 28 (later 38 and 208) Main Avenue. Two embossed medicine bottles were recovered from this feature, including "Mayr's Wonderful Stomach Remedy, Chicago" and "Emerson Drug Co., Baltimore, MD."

Feature 8

Feature 8 was a small, 5-foot diameter cistern that contained artifacts dating between the 1890s and the 1920s. This feature was likely associated with a dwelling located at 904 Gay Street (Carnes 1983:105). According to Carnes (1983:54), many domestic group artifacts were recovered from this feature. Two embossed medicine bottles were noted in the report, including "E.R. Squibb Co." and "George W. Albers, Knoxville, Tennessee". Faunal material was also recovered from this feature, but no specific information was listed in the report (Carnes 1983:55).

Feature 9

Feature 9 was a cistern associated with duplex dwellings at 25 and 27 (later 203 and 207) Hill Avenue. Only the bottom portion of the feature was excavated, and no measurements were listed in the report. The occupants of the duplex changed frequently. According to Carnes (1983:106), the cistern was likely in use from 1900 until the 1920s or 1930s.

Feature 10

Feature 10 was a 6-foot diameter cistern with a complete brick dome dating from 1875 to the early 1880s. This cistern was associated with a dwelling at 43 (later 915) State Street. Twenty faunal remains, including domestic species, were recovered from this feature, but no further information is provided in the report (Carnes 1983:57).

Feature 11

This feature was a brick-lined cellar measuring 6 feet by 8 feet in width. The archaeologists at the site could not accurately measure the total depth of the feature, because the feature had been truncated by twentieth century landscaping activities (Carnes 1983:108). The cellar was a subterranean, walk-in storage facility that, like Feature 10, was associated with 43 State Street. The cellar was likely in use from 1875 until the late 1880s, when it was filled by a single episode of deposition (Carnes 1983:108). According to Carnes (1983:58), the artifacts recovered from Feature 11 included a significant number of faunal remains such as cow, pig, chicken, goat, and goose. She notes in the report that some of the faunal material displayed butchery marks, but does not go into any further detail.

Feature 12

Feature 12 was an 8-foot diameter cistern with cement plaster walls that was in use from 1890 through the 1920s (Carnes 1983:59). This feature was associated with a duplex dwelling at 29 and 31 (later 209 and 211) Hill Avenue. The report for this site lists one embossed medicine bottle, "W. Albers

Pharmacist, Knoxville, Tenn.," that was recovered from this feature. No details are given regarding the recovered faunal material.

Feature 13

Feature 13 was a wood-lined cellar measuring 10 feet by 15 feet in width, and 6 feet in depth, dating from the 1850s to the early 1860s (Carnes 1983:109). This feature was located in the front yard of the dwelling at 43 State Street. A glass cosmetic bottle, embossed "Lyons for the Hair Kathairon New York" was recovered from this feature in addition to over 3,957 faunal remains. The faunal material included cow, pig, chicken, turkey, duck, squirrel, goat, rabbit, and fish. Carnes (1983:79) noted that many of the faunal remains displayed butchery marks, but there was no in-depth analysis of the faunal remains.

Summary of the River View Towers Site

The features discovered during the archaeological salvage of the River View Towers site, like the Center City project, did not reveal very much information regarding home livestock maintenance and butchery, or solid waste disposal practices, during the latter half of the nineteenth century. However, the few medicines listed in the report, in addition to the information regarding the dimensions and construction dates of the privies and cisterns discovered at the site, are useful for studying early public health on this block. The interpretation of public health on this block is discussed in the following chapter.

Proposed Northside Waterfront Redevelopment Project (40KN149)

The Proposed Northside Waterfront Redevelopment Project, Site 40KN149, was excavated in late 1996 and early 1997 by University of Tennessee Transportation Center staff (Greene et al. 1998). Site 40KN149 was composed of two city blocks adjacent to the mouth of First Creek and the Tennessee River that were proposed for redevelopment by the city of Knoxville. Earlier Phase II testing of the site in 1995 revealed small areas containing cultural material (Pietak et al. 1995). Therefore, a large-scale, systematic Phase III excavation of this site was conducted in order to legally comply with federal laws regarding the preservation of historic sites and also to study the historical and sociocultural processes of Knoxville's past (Greene et al. 1998:6).

Site 40KN149 is divided into Blocks 1 and 2 (Figure 5-6). Only Block 2 contained any features relevant to this study. The Block 1 site area consisted of an industrial/ commercial area east of the mouth of First Creek. Block 1 contained a large number of artifacts, but massive episodes of fill made it impossible for the archaeologists on the project to determine specific occupations (Greene et al. 1998:63). Block 2 was a residential area on East Front Avenue that was also located east of First Creek. East Front Avenue is currently known as Riverside Drive. This block is especially interesting because the area was predominately middle and upper class in its inception in the 1890s. By the early twentieth century, however, the neighborhood began to decline and was considered a slum by 1919 (Welles 1919).

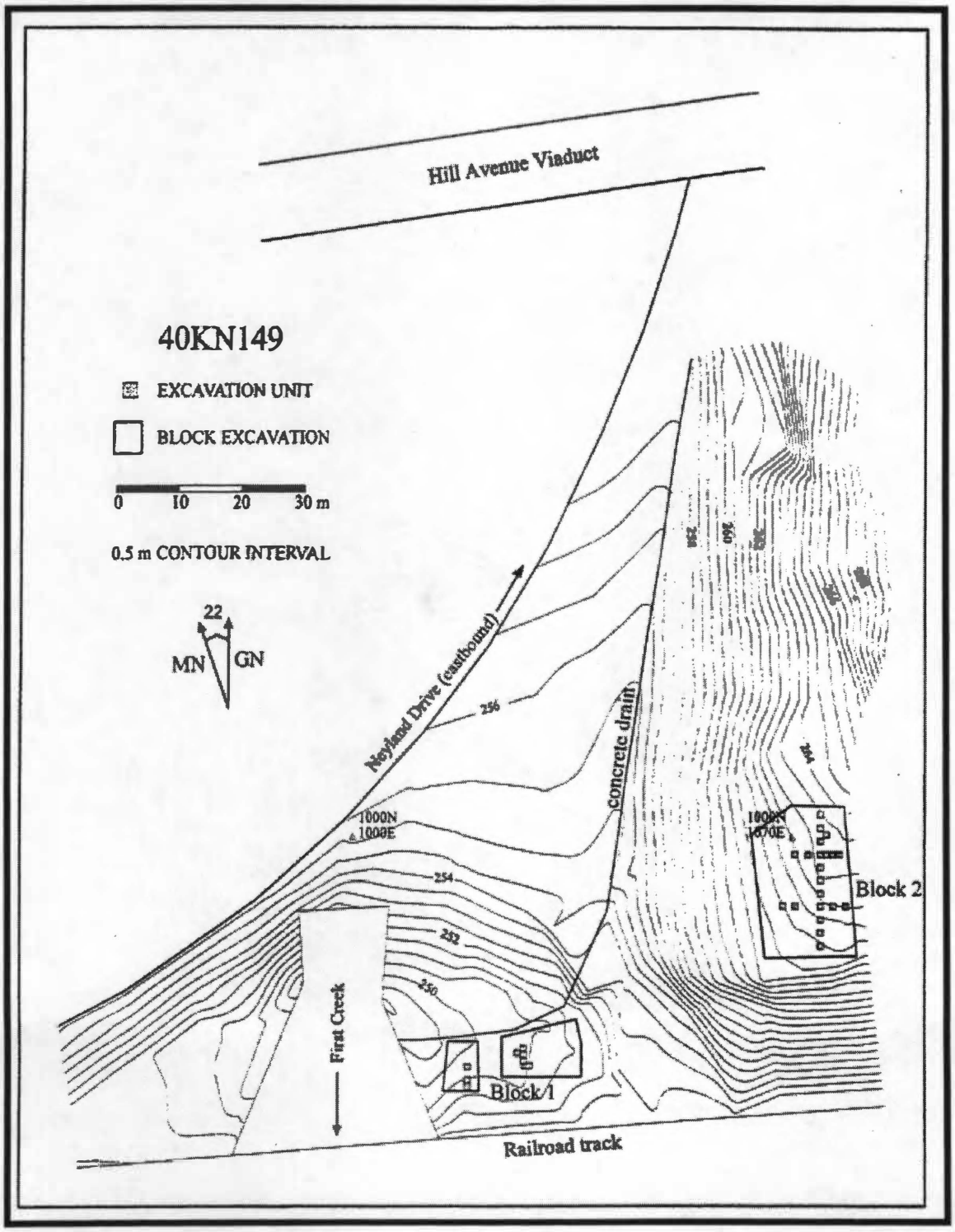

Figure 5-6: Site 40KN149 plan view map showing Blocks 1 and 2 (Greene et al. 1998: Figure 3).

Artifact and feature analysis. The Transportation Center staff at Site 40KN149 not only conducted intense fieldwork and laboratory analysis of the recovered material culture, but also conducted thorough archival research concerning the occupants of the site area. The feature, artifact, and historical information follows. One midden feature and six privy features were recovered during the Phase III excavation of Block 2 that are relevant to this study. Feature numbering during this project began with Feature 5. Features 1 through 4 were assigned during the Phase II testing of the site and were not reassigned during the Phase III excavation process (Greene et al. 1998:63). The features of Block 2 were mapped by the Transportation Center archaeologists and can be seen in Figure 5-7.

Embossed or labeled medicine bottles, in addition to other medical and health-related items, recovered from each feature will be included with each feature description. Unmarked or indeterminate bottles are not very useful for studies of early public health; therefore, an exhaustive list of all indeterminate medicine bottle fragments will not be included with this study. The faunal remains recovered from Block 2 are discussed in its own section.

Feature 5

Feature 5 was a pit feature that was likely the base of an uprooted tree (Greene et al. 1998:68). The feature was located in Test Unit 22. There was an abundance of late nineteenth and early twentieth century artifacts

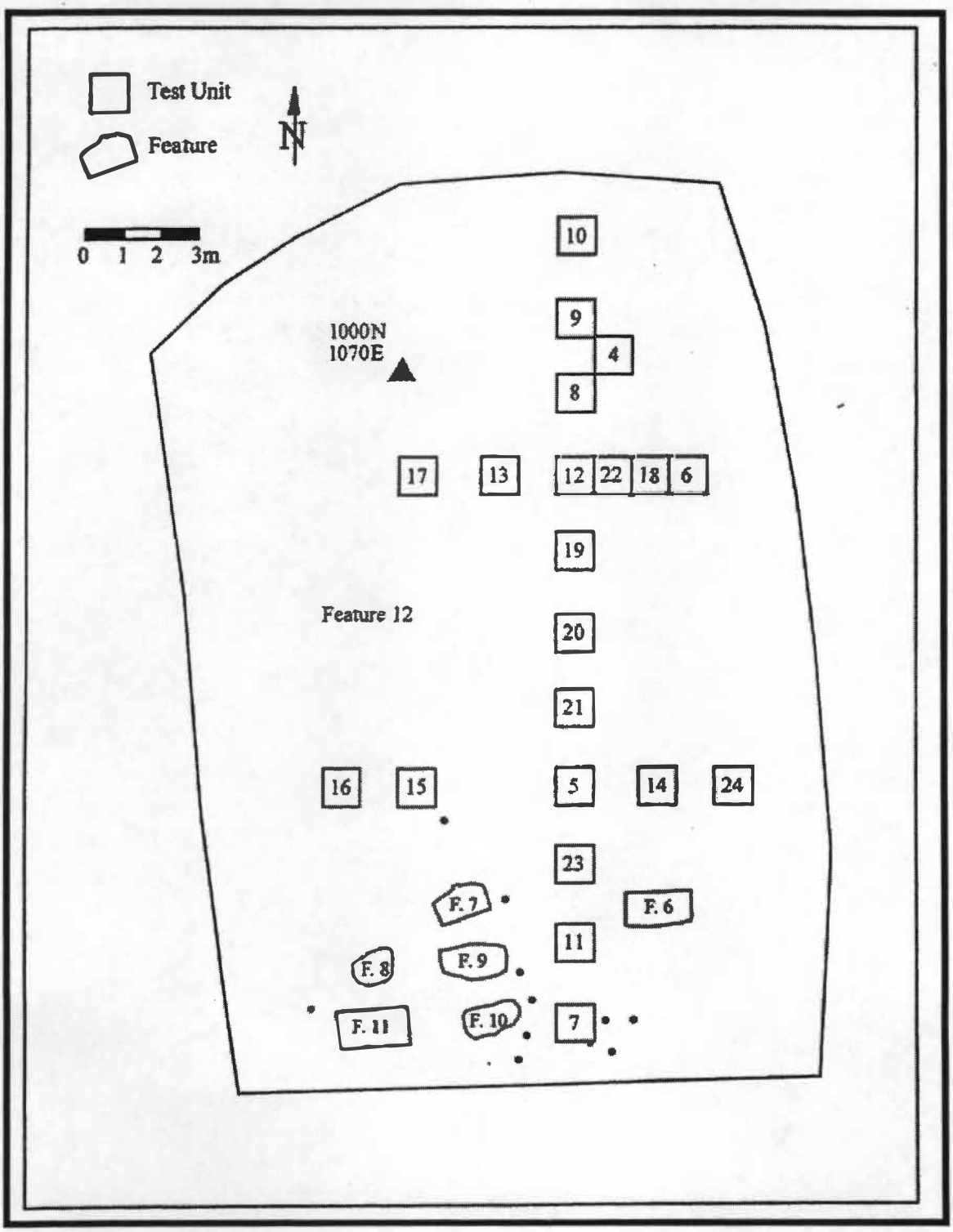

Figure 5-7: Map of features and test units excavated in Block 2 of Site 40KN149 (Greene et al. 1998: Figure 35).

recovered from this feature; however, only one clear panel bottle fragment was discovered among these artifacts (Greene et al. 1998:166).

Feature 6

Feature 6 was a brick-lined privy that was constructed prior to 1880 that contained artifacts dating to the late nineteenth century (Greene et al. 1998:68). The privy measured 5.41 feet by 2.95 feet in width by 4.59 feet in depth. According to Greene et al. (1998:68), the lack of early artifacts in this feature is likely the result of frequent privy cleaning and reuse. This privy was associated with a residence on 8 East Front Avenue, which was built in 1865. Several unmarked medicine bottles were recovered from this feature in addition to a plastic enema syringe (Greene et al. 1998:112).

Feature 7

Feature 7 was an earthen-walled privy hole measuring 5.51 feet by 3.28 feet in width, by 3.05 feet in depth. This feature was clustered with Features 8-11 (Figure 5-8), all earthen-walled privy holes, suggesting that as soon as one privy was full, another privy was dug adjacent to it (Greene et al. 1998). Feature 7 was very shallow and likely the last privy in this cluster that was dug. All of the artifacts recovered from this feature dated to the late nineteenth century.

Features 7-11 were associated with a dwelling on 206 East Front Avenue and were in use from the 1890s to the 1910s (Greene et al. 1998:42). In 1890, this dwelling was listed as 4 East Front Avenue, but it was later renumbered to 206 East Front Avenue between 1890 and 1901 (Greene et al. 1998:33). The privy cluster was located approximately 9.84 feet away from Feature 6,

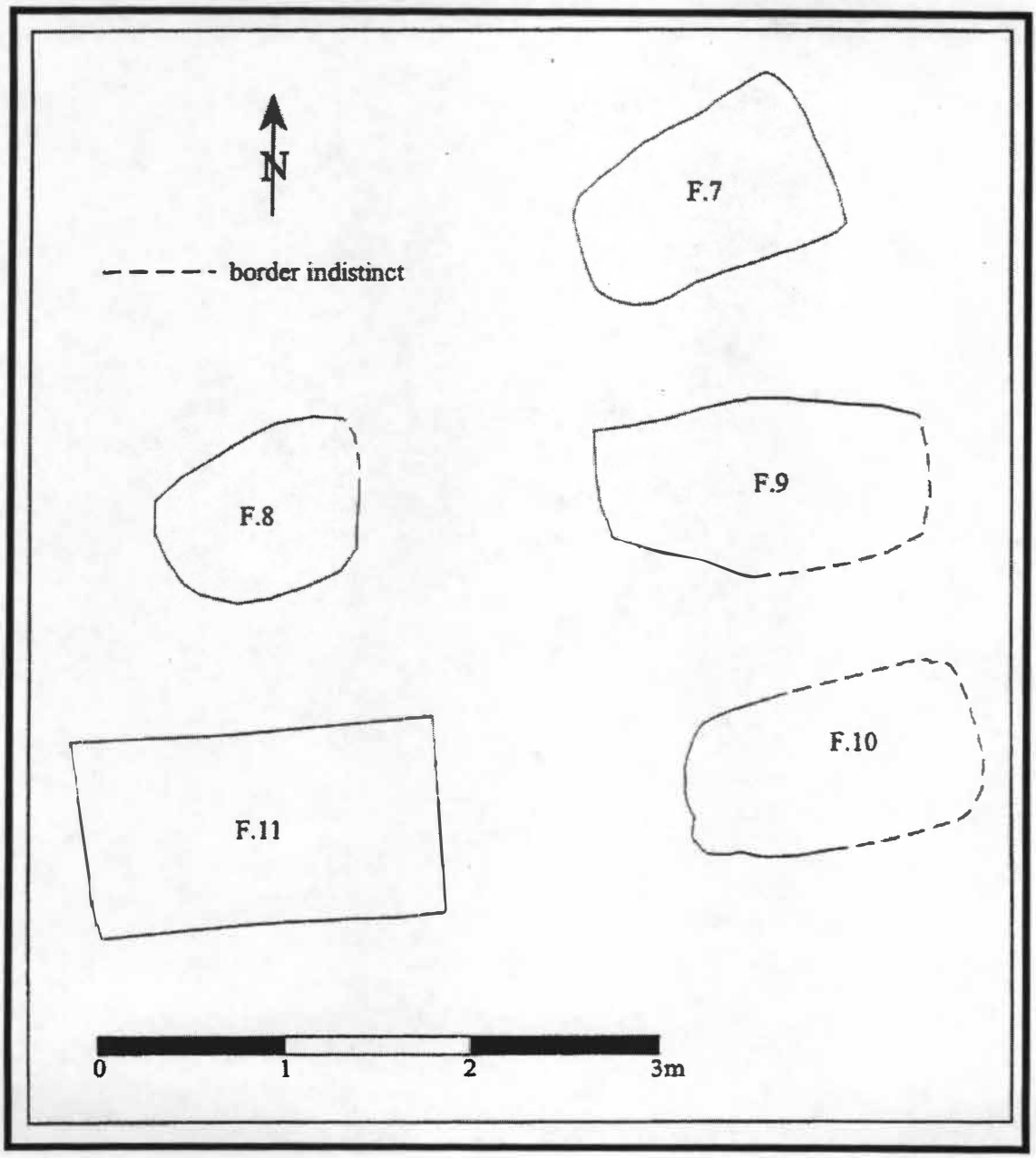

Figure 5-8: Features 7 – 11 at Site 40KN149 (Greene et al. 1998: Figure 39).

separated by a line of postholes. Greene et al. (1998:68) believe this suggests that a fence divided the backyards, and associated privies, of 8 East Front Avenue and 206 East Front Avenue.

Several unmarked medicine bottle and cosmetic jar fragments were recovered from this feature in addition to a brown glass medicine bottle marked "Malt-A-Tonic/ East Tenn Br G Co./Knoxville" (Greene et al. 1998:115).

Feature 8

This feature was an earthen-walled privy hole that measured 6.17 feet by 2.99 feet in width, and 3.84 feet in depth. A small number of artifacts were recovered from this feature dating to the late nineteenth century. Several unmarked medicine bottles were recovered from this feature including a cobalt glass medicine bottle fragment embossed "Bromo-Seltzer" (Greene et al. 1998:119).

Feature 9

Feature 9 was an earthen-walled privy hole that measured 5.81 feet by 3.05 feet in width. No depth measurement for this privy was given in the report. A small number of artifacts were collected from the bottom of this feature that dated to the late nineteenth century (Greene et al. 1998:73). A significant number of unmarked medicine bottle fragments were recovered from this feature in addition to fragments from an aqua glass panel bottle embossed "L.M. Green/Woodbury, N.Y." and fragments from a blue-green glass medicine bottle embossed "[Mrs.] Winslow's [sooth]ing syrup.../[Cu]rtis [& Perkins]/ Proprietor[s]" (Greene et al. 1998:121).

Feature 10

This feature was an earthen-walled privy hole that measured 4.99 feet by 5.02 feet in width, and 5.58 feet in depth. Two embossed medicine bottles were recovered from this feature including a clear glass medicine bottle marked "W. P. Co," and two blue glass medicine bottle fragments marked "...MBLER Pa...KEASB[EY]" (Greene et al. 1998:123).

Feature 11

Feature 11 was an earthen-walled privy hole measuring 7.02 feet by 3.74 feet in width, and 6.46 feet in depth. Several cosmetic artifacts were recovered from this feature including a clear glass perfume bottle fragment, a metal cosmetic jar lid, and a milk glass cosmetic jar fragment (Greene et al. 1998:125). However, none of these cosmetic items were marked regarding their specific contents. Interestingly, no medicine bottle fragments were recovered from this feature.

Feature 12

Feature 12 was a black midden soil deposit located in the back yard of 206 East Front Avenue. Like Features 7-11, a large number of historic artifacts were recovered from this feature dating from the late nineteenth century to the early twentieth century. There are no lists of artifacts for this particular feature in the report (Greene et al. 1998). Instead, Greene et al. (1998) break down the remainder of the artifacts for Block 2 by test unit. None of the medical and health group artifacts recovered from Test Units 3 - 24 of Block 2 were identifiable regarding their contents.

Faunal Remains

The faunal remains recovered from the Block 2 of Site 40KN149 were identified by Transportation Staff using the Vertebrate Comparative Skeletal Collection at the University of Tennessee, Knoxville. All of the faunal remains recovered from the site were classified according to order, family, genus, and species and recorded according to provenience and modification (Greene et al. 1998:169-170).

A large number of faunal remains were recovered from Block 2 of the site, both from the features and the test units. Domestic animals identified in the assemblage included *Bos* sp. (cow), *Sus scrofa* (domestic pig), *Gallus gallus* (chicken), *Caprid* sp. (sheep/goat), and *Meleagris gallopavo* (turkey). Non-domesticated faunal remains recovered from Block 2 included rabbit, squirrel, redhorse, catfish, and duck (Greene et al. 1998:177).

The largest concentration (3) of identifiable *Ovis aries* (sheep) remains was recovered from Feature 6 (Greene et al. 1998:177). Three other *Caprid* (sheep/goat) remains were recovered from the test units in Feature 12 (Greene et al. 1998:174-176). Feature 12 contained an abundance of *Bos* sp. (cow) and *Sus scrofa* (pig), with 51 pig specimens versus 41 cow specimens (Greene et al. 1998:177). The *Bos* sp. (cow) remains recovered from the privy features all displayed cut marks and evidence of burning. All of the *Bos* sp. (cow) remains at the site appear to have been meat bones. The *Sus scrofa* (pig) remains recovered from the privy features and Feature 12 were composed of meat and

non-meat bones, such as cranial fragments, teeth, maxillae, and phalanges (Greene et al. 1998:172-173,175-176).

Summary of Site 40KN149

The features and material culture discovered during the Phase III data recovery of Block 2 at Site 40KN149 revealed interesting information regarding early public health in the site area. The features relevant to this study were associated with two house lots within Block 2. A privy predating 1880 was associated with 8 East Front Avenue, and five privies and a midden feature were associated with the occupation of 206 East Front Avenue.

The Knoxville Courthouse Block (40KN145)

Site 40KN145, also known as the Knoxville Courthouse Block, was excavated by Garrow & Associates under contract to the General Services Administration as part of the legal compliance process from March 21, 1994 through April 29, 1994 (Garrow et al. 1996). This site, composed of one city block, was bounded by South Gay, Market, and Church streets, and West Cumberland Avenue (Figure 5-9). The archaeological project primarily focused on three building lots on South Gay Street and West Cumberland Avenue. The deposits discovered in these lots were located in the backyards of former businesses that faced South Gay Street in the late nineteenth century; however,

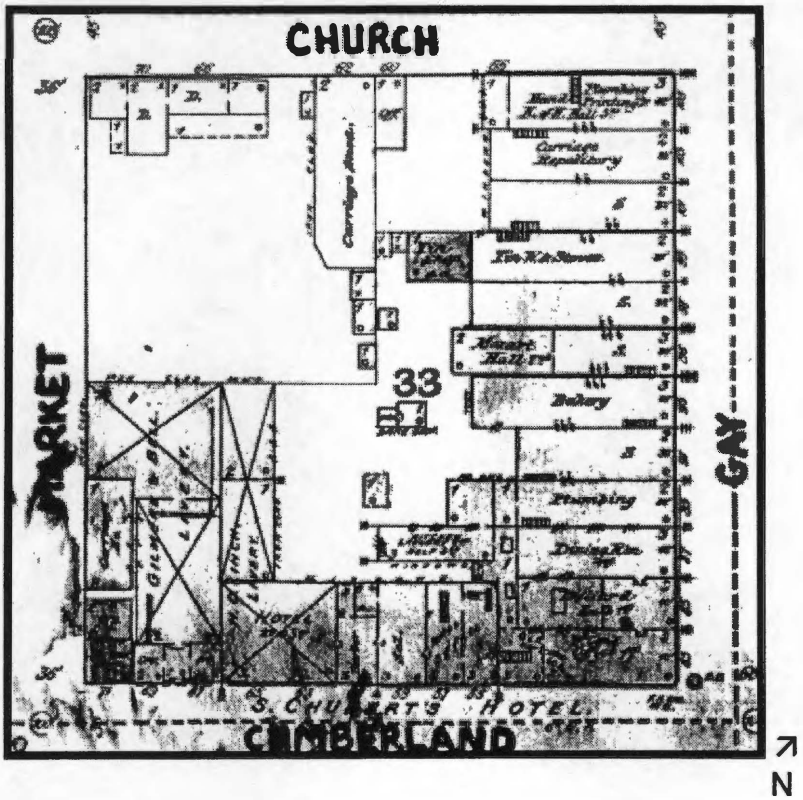

Figure 5-9: 1890 Sanborn Fire Insurance Map showing the Knoxville Courthouse Block (40KN145).

some domestic deposits were discovered along with the commercial deposits (Garrow 2000:195; Garrow et al. 1996).

Artifact and feature analysis. Site 40KN145 was thoroughly researched and carefully excavated by Garrow & Associates, resulting in a very detailed site report. The feature and artifact information follows. The three building lots researched in this project contained several features important to this study: five privies, a midden deposit, and a cistern (Garrow et al. 1996). A cellar, designated as Structure 1, was also discovered during this field project. Figure 5-10 details the features discovered at the site. The feature numbering listed below follows the Garrow et al. (1996) site report. Included in each feature description is a list of any recovered labeled or embossed medical and health group artifacts. Discussion of the faunal remains recovered from Site 40KN145 will be treated as its own section.

Feature 1

Feature 1 was brick-lined privy associated with a building lot addressed as 709 South Gay Street. The privy hole was located in the extreme southwest corner of the lot (Garrow et al. 1996:81). According to Garrow et al. (1996:81,86), the privy was likely in use during the late nineteenth century and it was also likely the last privy used on the lot. It was no longer in use by 1903, except perhaps as a trash receptacle. This feature measured approximately 4 feet by 4.5 feet in width, by 5 feet in depth according to the information given in the field investigation portion of the report (Garrow et al. 1996:83-84).

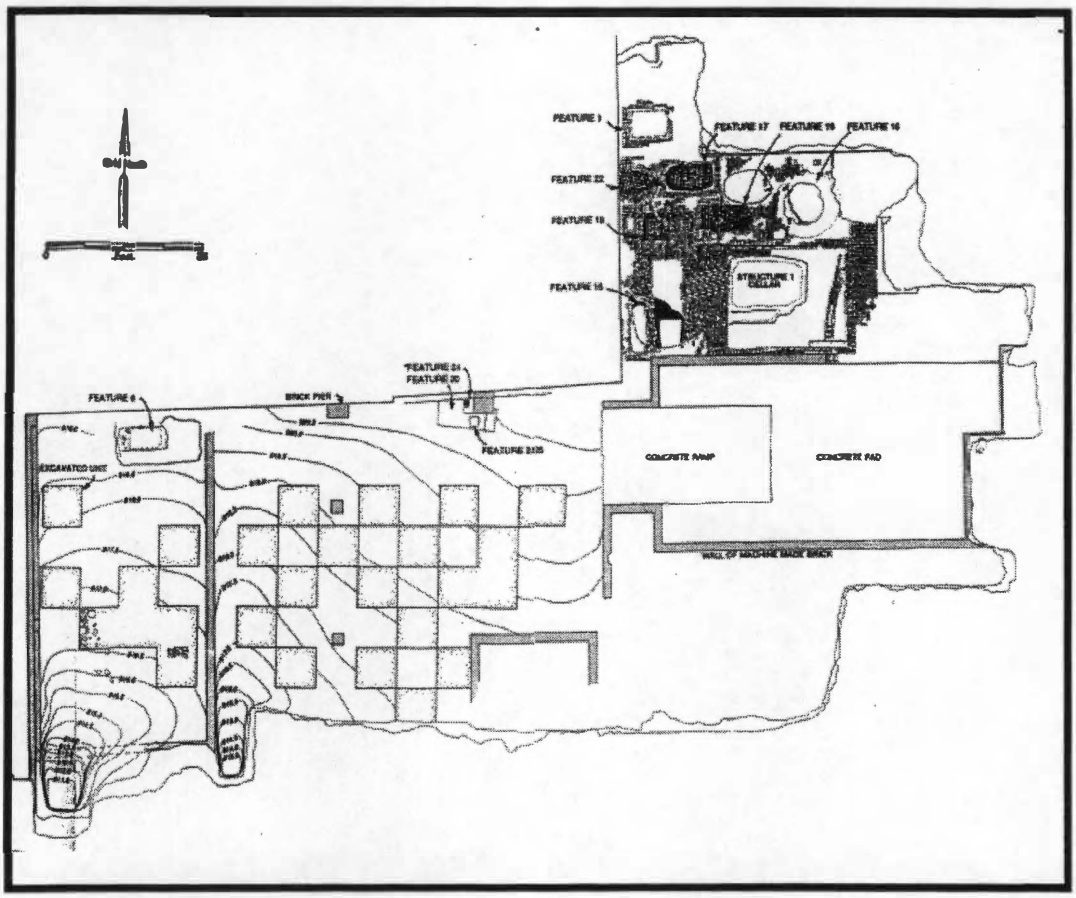

Figure 5-10: Map of features and test units excavated at 40KN145 (Garrow et al. 1996: Figure 21).

Thirteen glass medicinal bottles were recovered from this feature. Three bottles were embossed, indicating their former contents (Garrow et al. 1996:176). The three bottles included "Mexican Mustang Liniment, Lyon Manufacturing Company, New York," "Bromo-Seltzer Emerson Drug Co., Baltimore, MD," and "Dr. King's New Discovery For Consumption, Bucklen & Co.". A glass syringe fragment was also recovered from this feature.

Feature 2

Feature 2 was the remains of a brick wall that had been constructed on top of Feature 1 (Garrow et al. 1996:81). Apparently, it was part of an addition made in the early twentieth century to the primary building located at 709 South Gay Street.

Feature 6

Feature 6 was a wood-lined privy measuring approximately 5.5 feet by 3 feet in width, by 3.5 feet in depth (Garrow et al. 1996:153-154). This feature was associated with the Schubert Hotel on Cumberland Avenue, which was built in 1881. The privy hole remained open, and possibly in use, until 1895, and it may have received trash into the early twentieth century (Garrow et al. 1996:158).

The majority of the artifacts recovered from this feature were found in the upper levels, suggesting that most of the artifacts were placed there after the feature no longer functioned as a privy. Six medicine bottles, and possibly a seventh bottle that was either a medicine or a perfume bottle, were recovered from this feature (Garrow et al. 1996:308). The medicine bottles included two

identifiable patent medicine bottles that were embossed "Gargling Oil, Lockport, N.Y."

Feature 15

This feature dated to the 1790s and was likely the remains of an early, earthen-walled privy hole (Garrow et al. 1996:94,142). It may have also been a root cellar. No dimensions were given in the report for this feature. This privy hole was associated with a building lot at 711 South Gay Street.

Feature 16

Feature 16 was a hydraulic cement-lined cistern built in 1868 associated with 711 South Gay Street. The cistern measured approximately 6 feet by 5 feet wide and 17 feet deep and contained a dimple in the base (Garrow et al. 1996:132). B. F. Allison, a whitewasher and brick mason from Hawkins County, Tennessee, constructed the cistern in 1868. Allison inscribed his name into the cement of the cistern as it was being built. However, all of the artifacts recovered from the fill in the cistern dated to the early twentieth century, and the feature was likely capped prior to 1916 (Garrow et al. 1996:142).

The archaeologists recovered 106 complete glass bottles from the cistern, five of which were medicine bottles (Garrow et al. 1996:280). Two of these bottles were embossed. However, the actual contents were only determined for one bottle, which was "Mexican Mustang Liniment, Lyon Mfg Co. New York." The other bottle was embossed "C.W. Abbott & C." One glass syringe part was also recovered from the top of this feature (Garrow et al. 1996:291).

Feature 17

Feature 17 was a brick-lined privy hole that dated between 1868 and 1895 that was located in the rear yard of 711 South Gay Street. The approximate privy dimensions were 3.5 feet by 3.5 feet in width, by 7.5 feet in depth.

Twenty-six medicine bottles were recovered from the two lowest levels of this feature. These levels contained night soil (Garrow et al. 1996:241). Fifteen of these bottles were identifiable. Eleven bottles were embossed "F. Brown's Ess of Jamaica Ginger, Philada," two were embossed "Haviland & Co., Druggists, New York, Charleston & Augusta," and two bottles were embossed "Donne's Gonorrhea Injection" (Garrow et al. 1996:130).

Two cosmetic jars were also recovered from this feature, one plain white-bodied ironstone and the other clear glass (Garrow et al. 1996:255). The exact former contents of these jars could not be determined. Both of these artifacts were recovered from the night soil. Other relevant items recovered from this feature included a Bakelite syringe and bakelite syringe parts, a glass syringe and glass syringe parts, and a hard rubber nozzle for a hygiene product. These items were also recovered from the night soil. This feature may have been used as a trash receptacle into the early twentieth century, after it was no longer being used as a privy by the main occupants of this address (Garrow et al. 1996:144).

Feature 18

Feature 18 was a wood-lined privy hole dating between 1868 and 1895 (Garrow et al. 1996:115,144). The privy hole measured approximately 3 feet by 3 feet in width, by 4.5 feet in depth (Garrow et al. 1996:116). This feature was

located in the backyard of 711 South Gay Street, and overlapped in time with Feature 17 (Garrow et al. 1996:144). Several medicine bottles were recovered from this privy including one embossed "Albers & Co. Mary Quire," which came from a local druggist that was in business in Knoxville from 1880-1888 (Knoxville City Directories 1880-1888), and three bottles embossed "F. Brown's Ess of Jamaica Ginger Philada." This feature may have been used as a trash receptacle into the early twentieth century (Garrow et al. 1996:144).

Feature 19

Feature 19 was a wood-capped and wood-lined privy hole that measured approximately 3 feet by 3 feet wide, by 5.5 feet deep (Garrow et al. 1996:110). This feature dated between 1868 and 1895, and was likely in use during the same time as Features 17 and 18, two other privy holes in the backyard of 711 South Gay Street (Garrow et al. 1996:144). Feature 19 had been cleaned out before it was filled, and it had not been used as a trash receptacle. Therefore, very few artifacts were recovered from this feature. However, one medicine bottle, "F. Brown's Ess of Jamaica Ginger Philada", was recovered from this feature.

Feature 20

Feature 20 was a privy hole that measured 6 feet by 3.5 feet in width, by 1.75 feet in depth that was associated with the Schubert Hotel (Garrow et al. 1996:158,163). The report does not state whether the privy was earthen-walled or lined. Furthermore, the depth measurement of this feature is not reliable because the feature had been truncated sometime before the Phase III data

recovery of the site (Garrow et al. 1996:317). This feature dated between the construction of the hotel in 1881 and 1895. Very few artifacts were recovered from this feature, and no recognizable medical and health-related items were recovered.

Feature 22

Feature 22 was a wood-lined privy hole discovered in the backyard of 711 South Gay Street that dated between 1868 and 1895. The privy hole measured approximately 3 feet by 3 feet in width, and 3.5 feet in depth (Garrow et al. 1996:109). This feature was located immediately west of Feature 17. Feature 22 was likely in use around same time as Feature 19, another privy hole in the 711 South Gay Street work yard. Very few artifacts were recovered from this privy hole, and the majority of the artifacts were discovered in the top two levels. Only one amber glass medicine bottle was discovered in this feature embossed "Boyles Hop Bitters 1872."

Feature 24

Feature 24 was a square posthole discovered within the eastern half of Feature 20. No artifacts were recovered from this feature (Garrow et al. 1996:164).

Feature 25

Feature 25 was a round posthole discovered in the eastern half of Feature 20. No artifacts were recovered from this feature (Garrow et al. 1996:164).

Structure 1

The archaeologists at the site designated the remains of a cellar associated with an unknown building located at 711 South Gay Street as Structure 1. The building associated with this cellar was unknown, but likely used for commercial and not residential uses (Garrow et al. 1996:195). The cellar appears to have been filled following the Civil War, but the associated building was not torn down until the mid-twentieth century (Garrow et al. 1996:105,195). Only the fragments of three unidentifiable medicine bottles were recovered from the cellar fill (Garrow et al. 1996:197). No cosmetic items were recovered, and the few faunal remains that were recovered were not informative (Garrow et al. 1996:201).

The Buried Midden

An intact midden feature was discovered beneath 3.5 feet of fill on the original Lot 42 of the study block (Garrow et al. 1996:145). The midden was associated with a building that once fronted West Cumberland Avenue and was likely sealed under fill by 1868 (Garrow et al. 1996:294). Thirty test units were excavated to uncover the midden. Features 21, 23, 26-29,32-45,47-50, were discovered during the excavation of the midden, and they all appeared to be postholes representing garden fences or animal pens (Garrow et al. 1996:147). The eastern half of the site area containing the midden deposit appears to have been a backyard of a livery stable until sometime between 1851 and 1860. The majority of the artifacts recovered from the midden were likely associated with a residence that was built on the east end of the lot between 1851 and 1860. The

occupant of this residence was a "Dr. Mallet." No further information regarding this individual could be located (Garrow et al. 1996:14).

A small assemblage of artifacts was recovered from the buried midden deposit. The majority of these artifacts predate the Civil War. No medical and health group artifacts were recovered from the midden deposit (Garrow et al. 1996:302).

Faunal Remains

A total of 5,371 faunal bone fragments was recovered from Site 40KN145. The faunal remains from each feature were examined separately and divided into 18 separate assemblages (Garrow et al. 1996:343). Domestic animals identified in the assemblage included *Bos* sp. (cow), *Sus scrofa* (pig), *Gallus gallus* (chicken), *Caprid* sp. (sheep/goat), and domestic cat and dog. Non-domesticated fauna recovered from the site included squirrel, rabbit, cottontail rabbit, fish, opossum, raccoon, bobcat, duck, geese, dove, quail, rat, mouse, clam, oyster, and mussel (Garrow et al. 1996:345).

Only the faunal remains from Features 1, 4, 6, 15, 16, 17, 18, and 20 were analyzed to determine relative butchering cut frequencies. According to Garrow et al. (1996:358), beef was the preferred meat of the former occupants of the Courthouse Block, followed by pork. Mutton appears to have been consumed less frequently. Chicken was also frequently consumed (Garrow et al. 1996:362).

The *Bos* sp. (cow) remains at the site were represented by both meat and non-meat bones, such as tails, skull fragments, and teeth (Garrow et al.

1996:355). The majority of the non-meat beef remains were recovered from Features 1, 6, 15, 17, and 20. The *Sus scrofa* (pig) remains were also represented by both meat and non-meat bones, such as skull fragments, teeth, carpals, tarsals, and phalanges (Garrow et al. 1996:356). The majority of the non-meat pork remains were recovered from Features 1, 6, 15, 16, 17, 18, and 20. All of the *Ovis aries* (sheep) remains were meat bones except one phalanx recovered from Feature 20 (Garrow et al. 1996:357).

Summary of 40KN145

The Knoxville Courthouse Block (40KN145) consisted of both residential and commercial city lots that are relevant to this study. Feature 1, associated with 709 South Gay Street, was a brick-lined privy. According to Garrow et al. (1996:166), the majority of the artifacts recovered from this feature dated from 1901-1902 or 1906-1909. Several features were discovered in the backyard of 711 South Gay Street (Garrow et al. 1996:109). Feature 15, an earthen-walled privy hole or root cellar dated to the 1790s. Four privies, Features 17, 18, 19, and 22, and a cistern, Feature 16, all dated between 1868 and 1895. Feature 6, a wood-lined privy hole, was associated with the Schubert Hotel, which was built in 1881. Feature 20 was also a privy associated with the hotel, but the report did not indicate whether it was lined or earthen-walled. The buried midden behind a former building that fronted West Cumberland Avenue that dated between 1851 and 1868 appears to have been associated with a domestic occupation.

CHAPTER 6

RESULTS

When examining the KCC minutes described in Chapter 4, it is apparent that many sanitation ordinances were implemented and re-implemented throughout the nineteenth and early twentieth centuries. Chapter 5 detailed the archaeological data recovered from four separate sites in downtown Knoxville used in this study. This chapter will compare the relevant features and material culture recovered from each site with the regulations in place by the KCC, followed by intersite comparisons.

It is important here to recall both the sanitation and healthcare regulations, and that the city introduced public water works in 1881 and sewers in 1892 (Brewer 1976). Several assumptions have been made by historical archaeologists (see Baugher-Perlin 1982; Henry 1987; Garrow 2000; Garrow et al. 1996) concerning the effectiveness of regulations on changing people's sanitary practices and the incorporation of public works as a means of gauging the level of public health within a city. These results will be tested against these assumptions.

Cisterns and privies are the most relevant features to use in this study. Approximate construction dates and use periods will test whether city dwellers discontinued using traditional methods for obtaining drinking water and disposing human wastes once public water and sewer works were incorporated by the city

as per Garrow's (2000) and Garrow et al.'s (1996) assertion. Privy dimensions will also be compared with the regulations of the City Council to test whether Knoxville residents constructed their privy vaults within the limits of the ordinances.

The relevant material culture includes faunal remains, particularly of livestock, and medical and health group artifacts, including medicine bottles and medical devices. The faunal remains will be used to test whether there is a possibility that livestock were maintained and home-butchered after regulations were in place prohibiting those practices. As mentioned, Henry (1987) has used city ordinances and the decrease in urban house lot space as a methodological tool for studying faunal remains in urban contexts. Baugher-Perlin (1982) has used the implementation of the 1906 Pure Food and Drug Act as a methodological tool for dating patent medicine bottles from historic sites. An interpretation of these results, and how one can use theories of race, class, and gender within a framework of domination and resistance in studies of early public health, will be discussed in the following chapter.

In the previous chapter, the archaeological data were described according to site and feature number. Here, the information will be presented according to site and house lot in order to facilitate the reconstruction of the sanitation and healthcare practices of the former occupants of the sites.

Block 3 Center City Redevelopment Project Number 2 (East/ West Mall)

When examining the archaeological data recovered from the Block 3 site, several former house lots within the site reveal interesting information regarding the land use and early public health practices of the former occupants of the lots. The features discovered during archaeological reconnaissance of the site primarily post-dated the American Civil War through the turn-of-the-century, although one feature, a cistern, dated between the 1840s and 1870s. All of the relevant features at this site were associated with residences on W. Church Street. Unfortunately, the faunal remains recovered from the features were not discussed in detail in the report (Carnes 1982) and cannot be used for examining former livestock maintenance and butchery on this site. Features discovered at the Block 3 site that were not associated with a particular dwelling or house lot are not discussed here.

99 W. Church Street. Reverend Thomas Humes (1815-1892), a prominent white Knoxville citizen, resided at this address with his family from as early as 1841 until his death. Humes had been a Unionist war hero during the American Civil War and had been involved in the mercantile business, journalism, and ministry. Humes also became the tenth president of The University of Tennessee, and remained in that position from 1865 until 1883 (Carnes 1982:9). Feature 2, a circular cistern dating between the 1840s and 1870s, was likely associated with the Humes occupation (Carnes 1982:9). The cistern would have been located on the northern border of the lot, adjacent to an east-west transecting alley (Figure 6-1). Another cistern, Feature 8, was a brick-

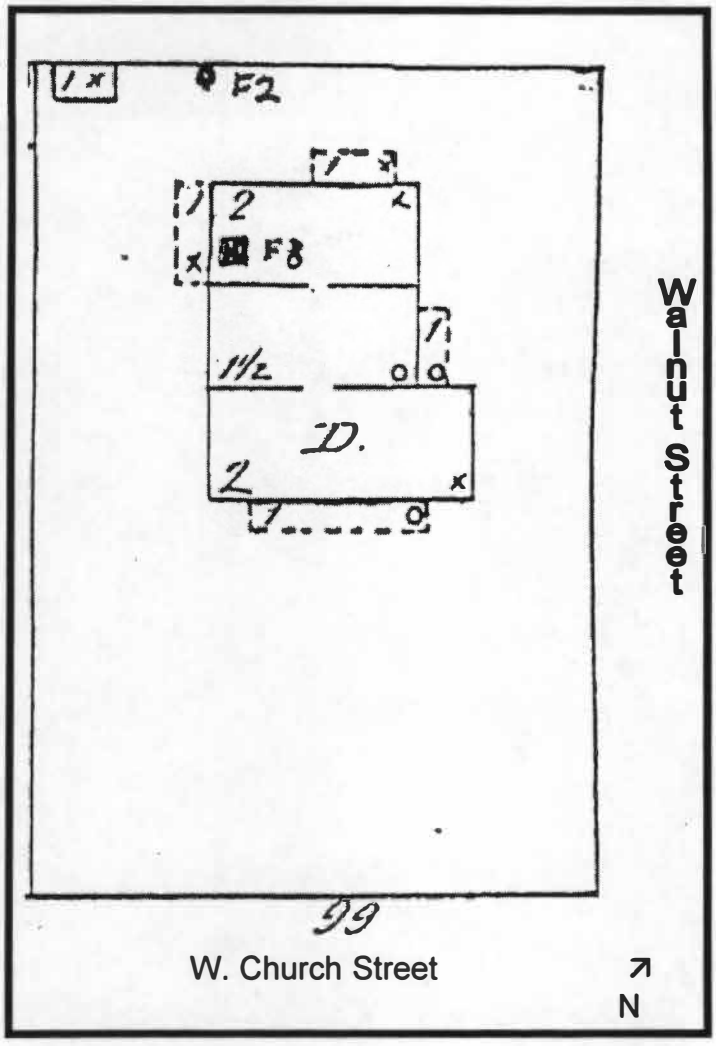

Figure 6-1: 1890 Sanborn Fire Insurance Map of Block 3 showing the location of Features 2 and 8 at 99 W. Church Street (Carnes 1982: Figure 2).

lined cistern that post-dated the 1870s (Carnes 1982:15). The dwelling associated with this feature was indeterminate. By 1903, this lot was crowded with doctors' offices and commercial buildings (Figure 6-2).

Because Feature 2 was no longer in use by the 1870s and likely filled while the Humes resided there, the medicine bottles recovered from this feature reveal interesting information regarding the ailments Humes, or members of his family, may have experienced. One of the medicine bottles, "Dr. Wistar's Cherry Balm," was described as a remedy for consumption of the lungs (Fike 1987:28). This bottle could date anywhere between 1841 and 1942. As mentioned in Chapter 4, consumption (or tuberculosis as it is formally known), was a continual problem for Knoxvillians in the mid-nineteenth century through the early twentieth century. "Sand's Sarsaparilla," another medicine bottle recovered from the site, dates between the 1840s and 1858. It was described as a blood purifier (Fike 1987:220). During this time period, purifying the blood was one way in which individuals thought they could cure themselves of various ailments. "Dr. Wayne's Expectorant," another medicine bottle recovered from this feature, was likely used to treat upper respiratory congestion. A manufacturing date for this bottle was not discovered.

107 (later 509 and 511) W. Church Street. One feature relevant to this study was discovered on this lot. Feature 3 was an earthen-walled, rectangular privy hole that measured 4.5 feet by 3.8 feet in width, by 7.5 feet in depth (Carnes 1982:9). It was located on the extreme northeast corner of the lot (Figure 6-3). It is likely that the privy no longer functioned as a human waste receptacle

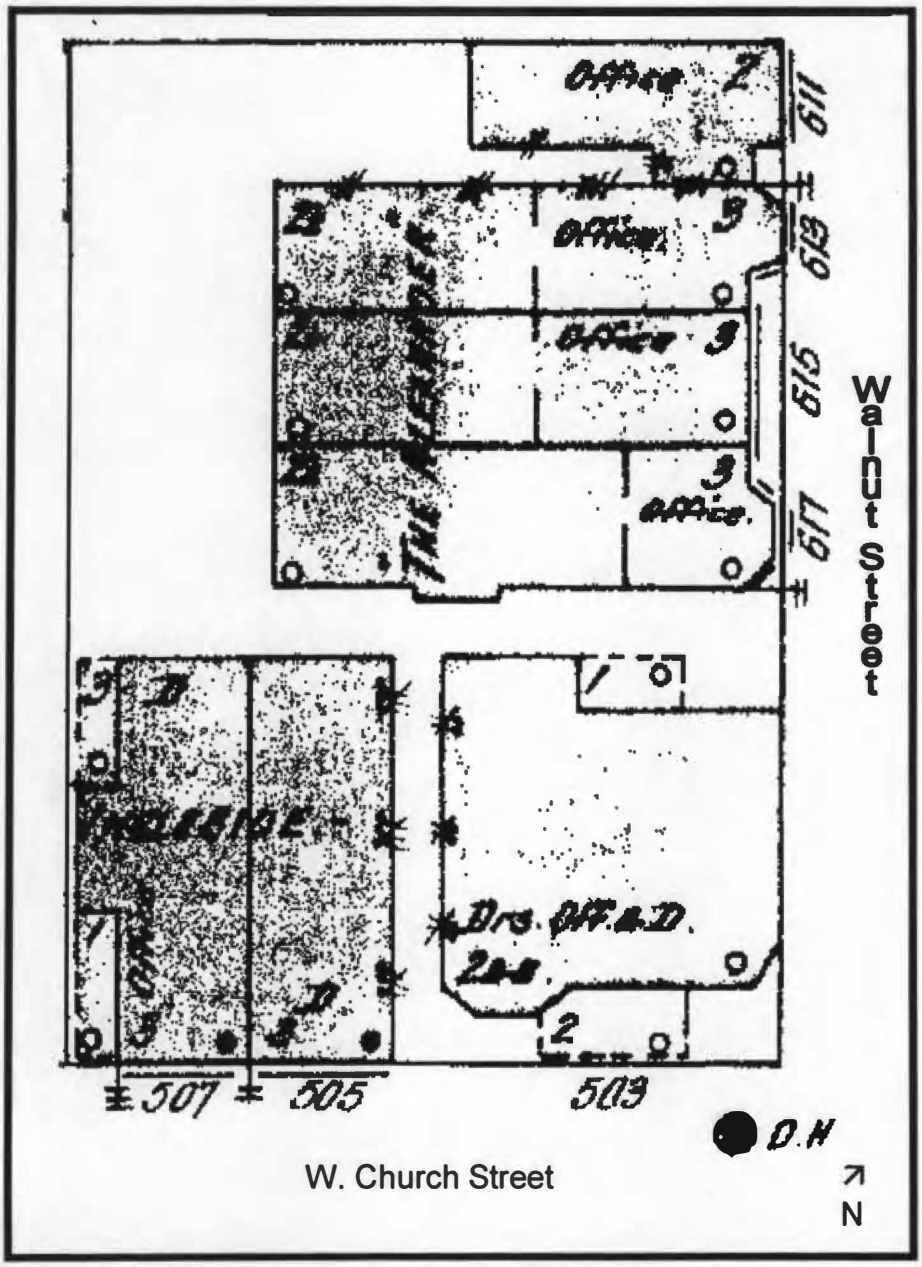

Figure 6-2: 1903 Sanborn Fire Insurance Map showing the twentieth century changes to the house lot formerly addressed 99 W. Church Street and occupied by the Humes family from 1841-1892.

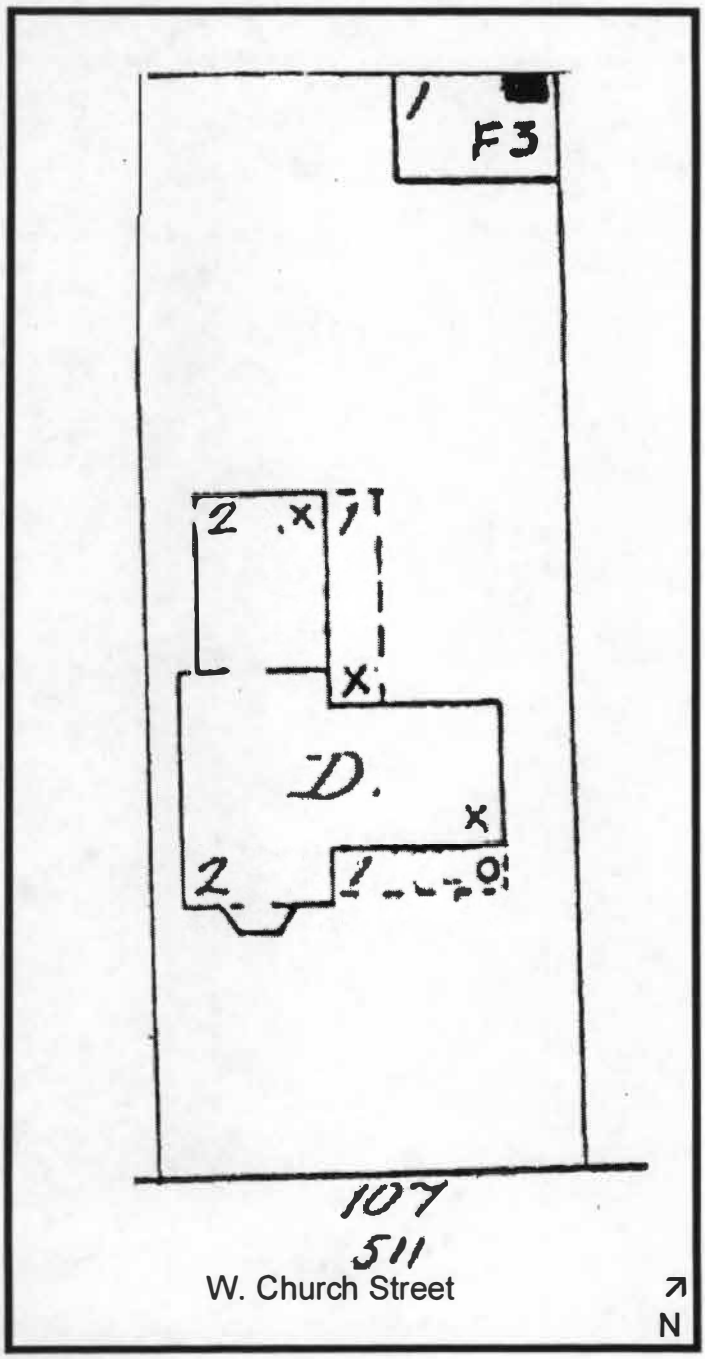

Figure 6-3: 1890 Sanborn Fire Insurance Map of Block 3 showing the location of Feature 3 at 107 W. Church Street (Carnes 1982: Figure 2).

sometime within the last quarter of the nineteenth century because the artifacts recovered from the privy fill dated to that time period. Figure 6-4 displays the changes made to the work yard of the lot by 1903.

John L. Rhea, a white American Civil War veteran, resided at this address from 1868 until his death in 1910 (Carnes 1982:11). Following the Civil War, he became a dry goods businessman and a benefactor of the University of Tennessee. Following his death, the dwelling was occupied by his son and later converted into a physician's office building in 1925 (Carnes 1982:11). Feature 3 was likely in use during the time period that Rhea resided at this address, and was also likely used as a trash receptacle during the time of his occupation.

When comparing the dimensions of the privy with the regulations of the City Council during that time period, it is apparent that the privy hole was dug to the necessary depth. At that time, it was only required by the KCC that privies be dug six feet in depth, and this privy hole had a depth of 7.5 feet. It was not until 1903 that the KCC required privy pits to be lined with stones or brick (KCCM 1903:591-592).

Two interesting medicine bottles were recovered from this feature. The first bottle was "Dr. Pierce's Favorite Prescription." This medicine was advertised in 1888 as the only guaranteed cure for women, claiming to cure chronic weaknesses and any complaints females might have (Fike 1987:177). It is interesting that this medicine was frequently advertised on barn roofs in 48 states in the late nineteenth century, and although ineffective, the manufacturers of this "medicine" were able to avoid the regulations of the Pure

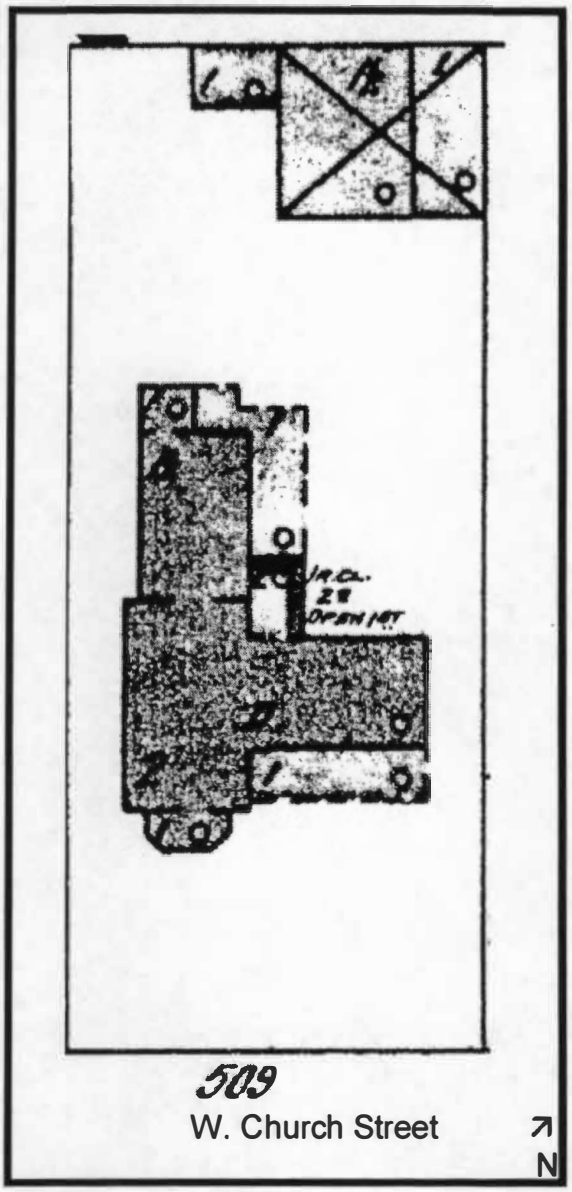

Figure 6-4: 1903 Sanborn Fire Insurance Map showing changes to the Rhea lot by the twentieth century.

Food and Drug Act of 1906 and the Pure Food, Drug, and Cosmetic Act of 1938 (Holbrook 1959:173). By 1942, "Dr. Pierce's Favorite Prescription" was still a household name.

The other medicine bottle recovered from Feature 3 was "Lydia Pinkham's Vegetable Compound." This medicine was considered a "female aid," and dates between 1873 and the 1920s (Cramp 1921:160; Fike 1987:85). The label claimed to cure falling of the womb, leucorrhoea, inflammation and ulceration of the womb, diseases of the bladder, dysmenorrhea, uterine tumors, diseases of the ovaries, and any other "female weaknesses" (Cramp 1921:163; Fike 1987:150; Stage 1979).

111 (later 513) W. Church Street. Feature 4, a limestone-lined privy hole measuring 5.8 feet by 3.4 feet in width and by 3.7 feet in depth, was located on the extreme northwest corner of this lot (Figure 6-5). The privy was in use sometime between 1886 and the early twentieth century (Carnes 1982:11,14). Following the turn-of-the-century, it appears that there may have been two privies at the rear of the lot (see Figure 6-6). During the use period of Feature 4, the dwelling associated with this feature was occupied by a number of different residents until approximately 1917 (Carnes 1982). They were likely tenants. It is interesting to note that the privy hole did not meet the standard depth of six feet required by the KCC. Although a case of broken medicine bottles was recovered from this feature, they were likely deposited sometime after the privy was no longer in use. It is possible that they were deposited during the time a physician's office was located within the main building, after 1917 (Carnes 1982).

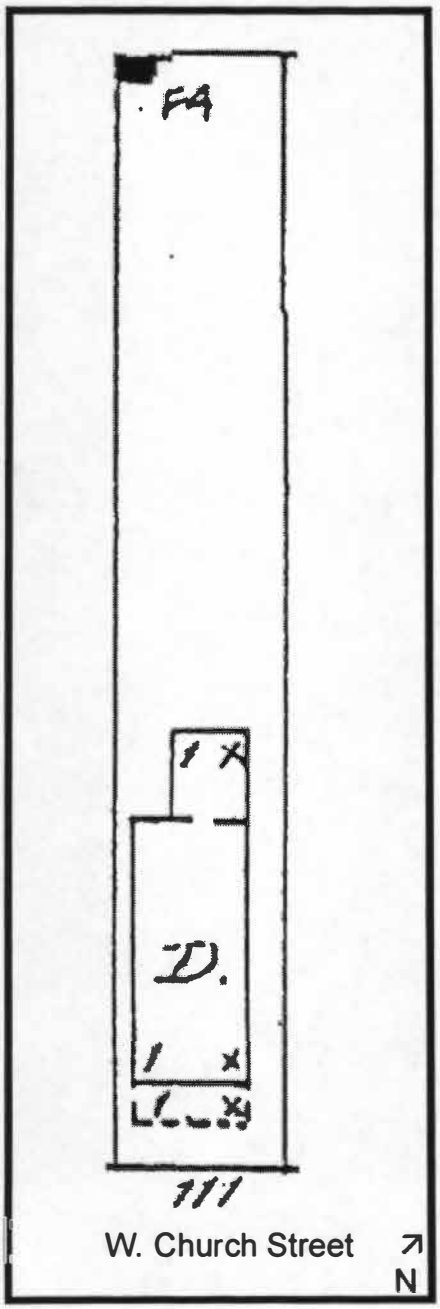

Figure 6-5: 1890 Fire Insurance Map of Block 3 showing the location of Feature 4 at 111 W. Church Street (Carnes 1982: Figure 2).

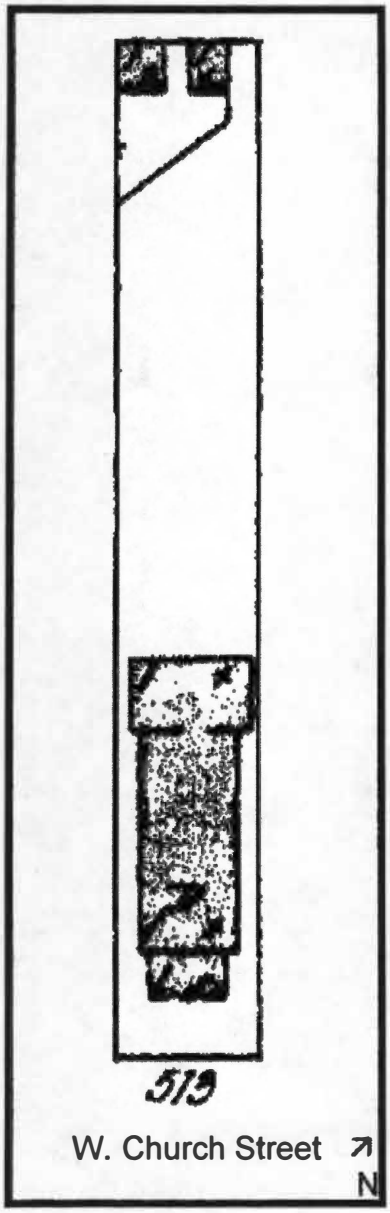

Figure 6-6: 1903 Sanborn Fire Insurance Map showing changes to work yard by the twentieth century.

113 (later 517) W. Church Street. Three features were associated with this lot (Figure 6-7). Feature 5 had been disturbed by relic collectors and was not excavated. Feature 6 was a cluster of three square, earthen-walled privy holes located near the northeast corner of the lot, behind the servants' quarters addressed as 113 ½ W. Church Street. Unfortunately, only the width measurements were described in the report, and not the depth measurements (see Carnes 1982:14). This feature likely dated between the 1870s and the 1910s. The close proximity of the privy hole with the servants' quarters is noteworthy. Feature 7 was located on the northern boundary of the lot, west of features 5 and 6. This feature was likely the remains of a rectangular, earthen-walled privy hole, but again, no depth measurement is given in the report (Carnes 1982:14). Like Feature 6, this feature dated between the 1870s and the 1910s. The dwelling associated with these features had been a boarding house operated by Mrs. E.C. Branner from 1869-1894. Figure 6-8 displays the changes to the work yard by the turn-of-the-century.

117 W. Church Street. Feature 9, a rectangular, earthen-walled privy hole, was associated with the dwelling on this lot and dated between 1870 and 1900. The privy hole had a 3-foot diameter, but no depth measurements were provided in the report (see Carnes 1982:15). The feature was located on the northern border of the lot, eight feet east of the servants' quarters addressed as 117 ½ W. Church Street (Figure 6-9). It is unknown whether the privy had been utilized by members of the main dwelling, servants, or both (Carnes 1982:16).

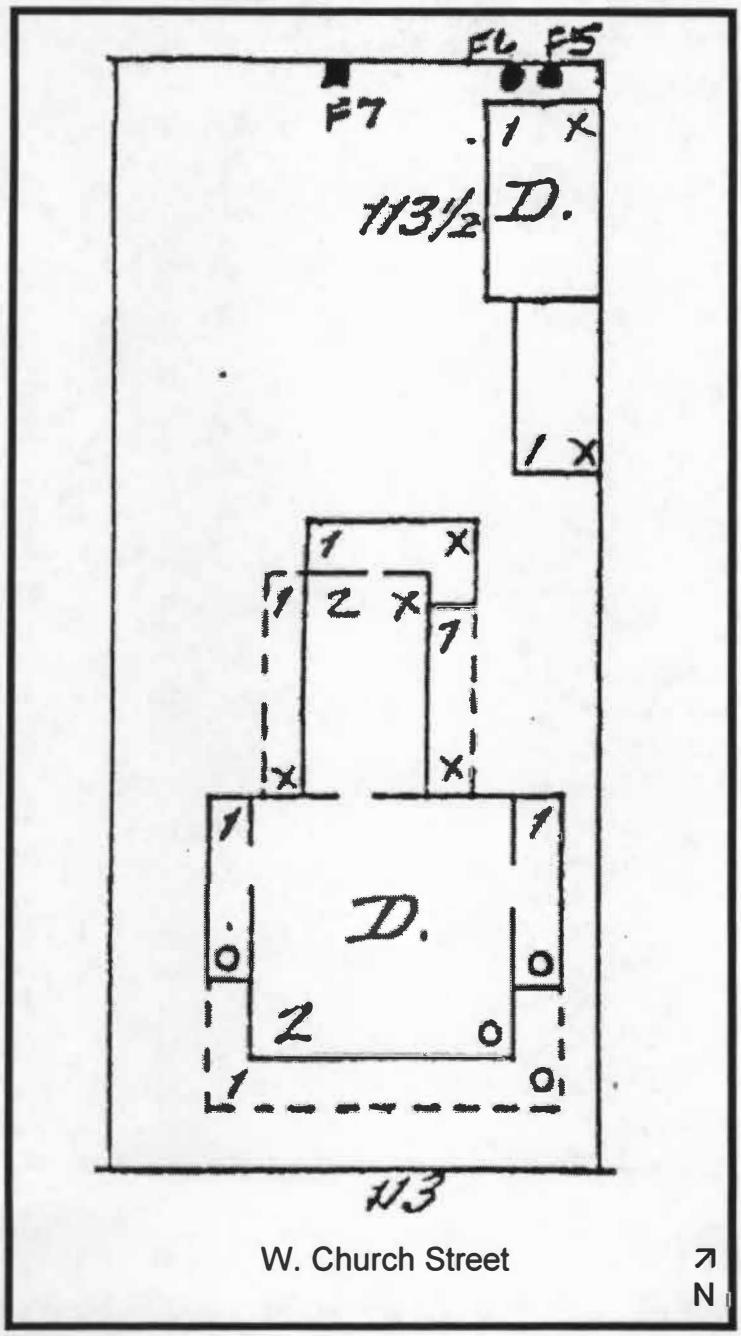

Figure 6-7: 1890 Sanborn Fire Insurance Map of Block 3 showing the location of Features 5, 6, and 7 at 113 W. Church Street (Carnes 1982: Figure 2).

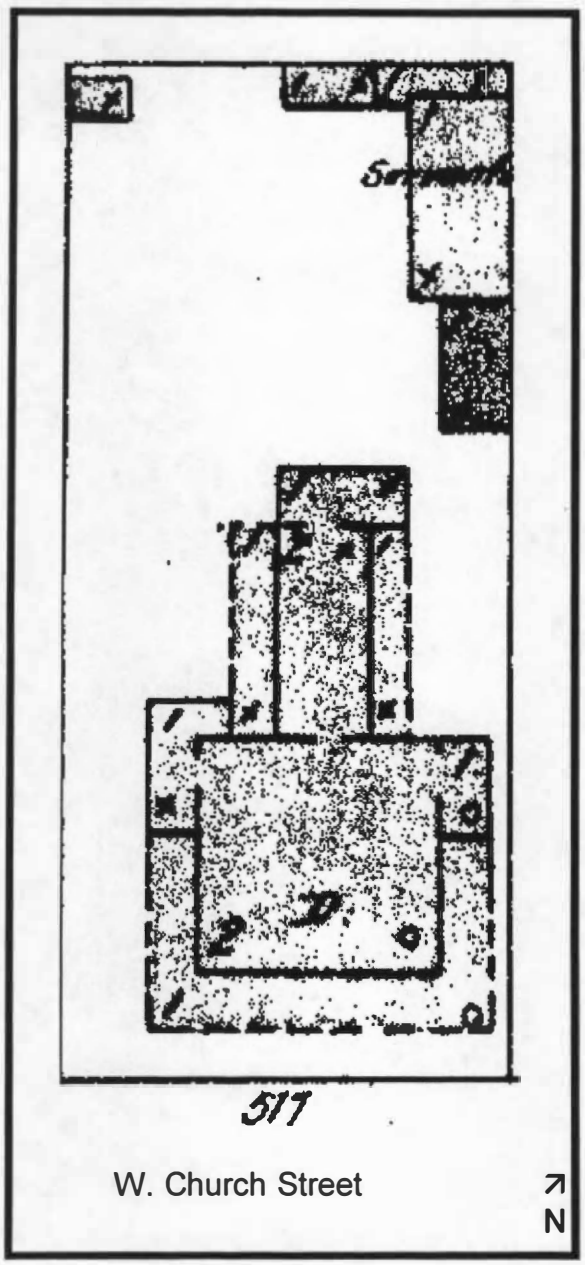

Figure 6-8: 1903 Sanborn Fire Insurance Map showing changes to work yard by the twentieth century.

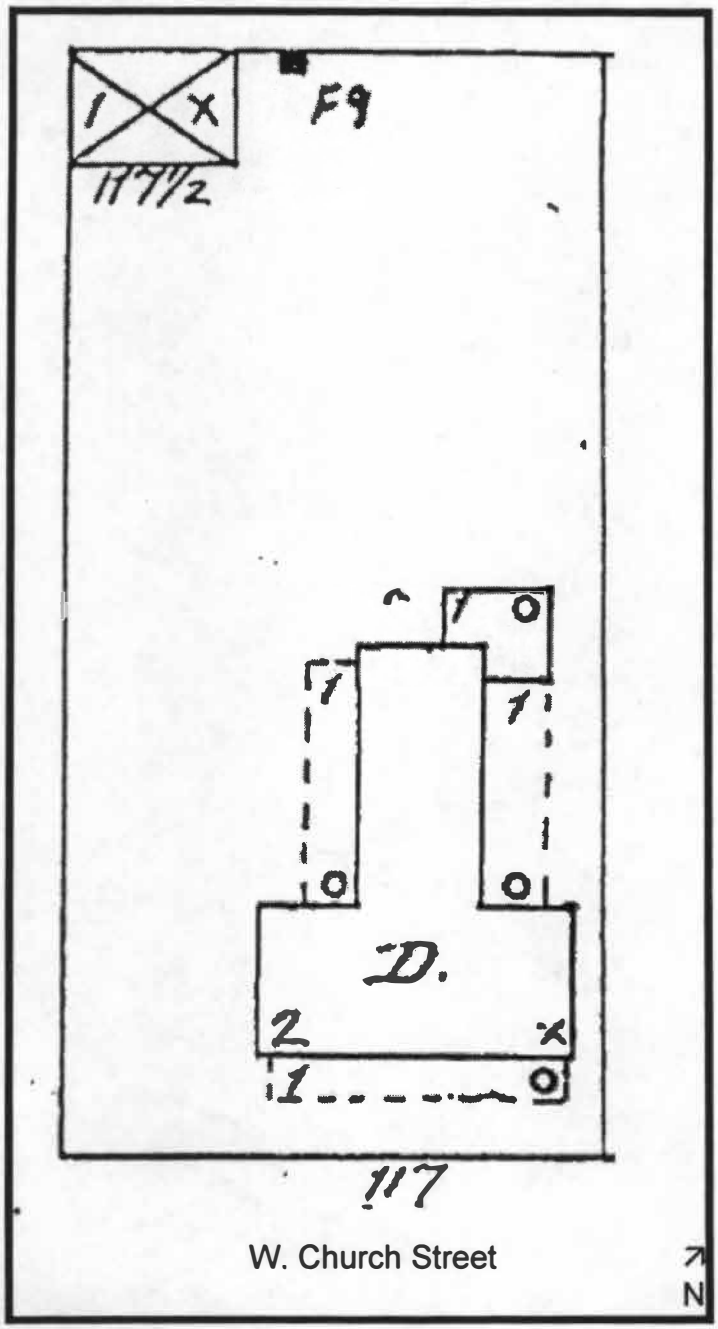

Figure 6-9: 1890 Sanborn Fire Insurance Map of Block 3 showing the location of Feature 9 at 117 W. Church Street (Carnes 1982: Figure 2).

The main dwelling had been constructed between 1870 and 1876, and occupied by H. H. Taylor, an attorney (Carnes 1982:16). Taylor resided in this house until after 1898, when the house became occupied by his daughter, Carrie Taylor. By 1930, this lot was vacant.

River View Towers Site (formerly the C & C Plaza Site)

The features discovered during archaeological reconnaissance of the River View Towers site primarily dated from the mid-nineteenth century through the early twentieth century, except one privy feature, which dated to the late eighteenth or early nineteenth century. The faunal remains recovered during this salvage project were not discussed in any detail in the report (Carnes 1983) and cannot be used for examining former livestock maintenance and butchery on this site. Features discovered at the River View Towers site that were not associated with a particular dwelling or house lot will not be discussed here. Unfortunately, the archaeologists excavating the site were unable to associate two of the privy features at the site with dwellings or house lots.

Bell House Hotel (later Bell House School). The Bell House Hotel was located on the northwest corner of the study block between Main Avenue and State Street. The hotel operated from 1852 until 1872, when it was converted into a school building. Feature 1, an earthen-walled privy hole measuring 3 feet in diameter and 9 feet in depth, was located approximately 35 feet south of the former hotel (Figure 6-10). The privy hole was likely in use during the time the hotel was in operation, and later used as a trash receptacle into the late

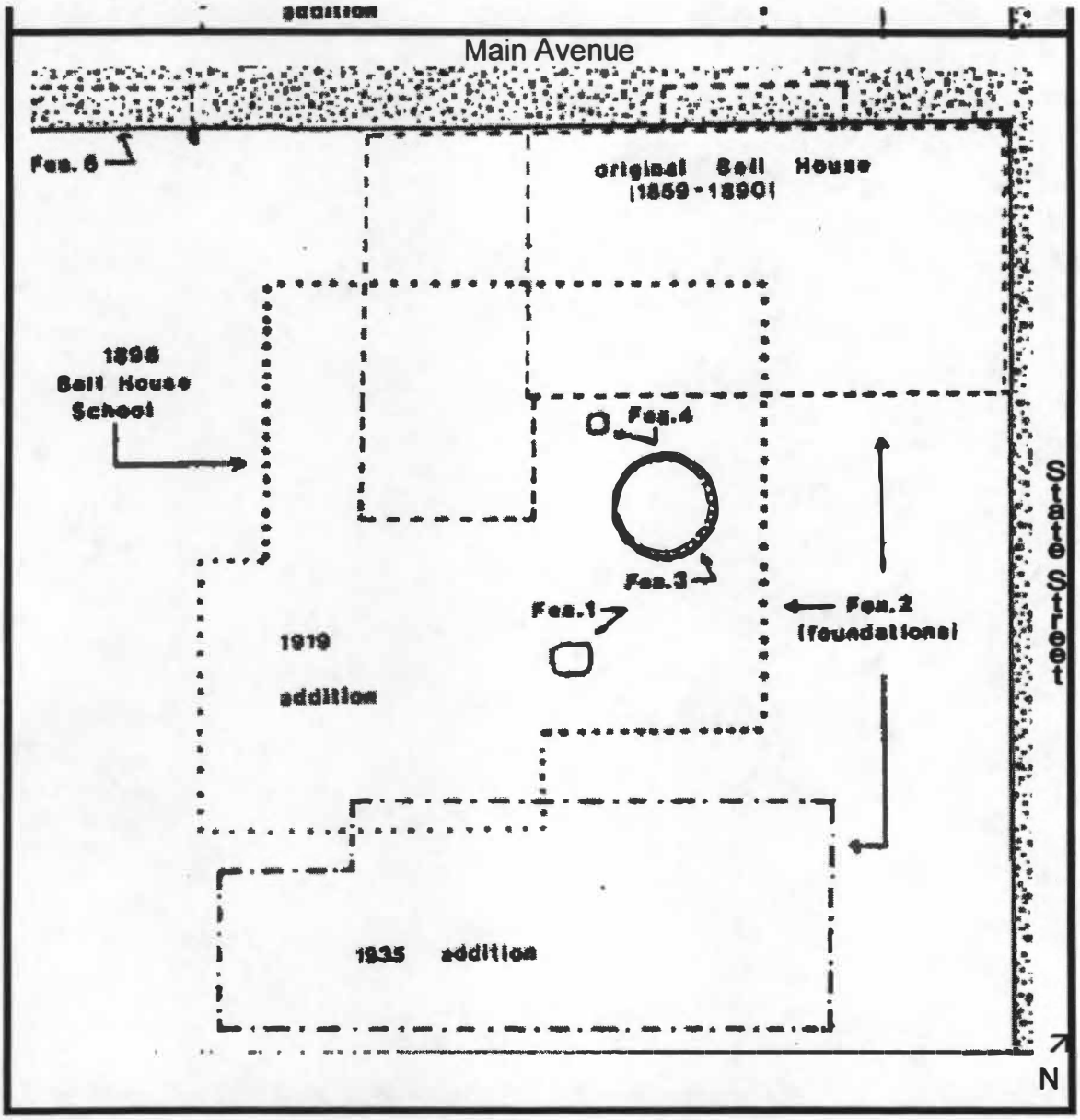

Figure 6-10: Map of northeast quadrant of River View Towers site showing features associated with the Bell House Hotel/ Bell House School (Carnes 1983: Figure 1).

nineteenth century (Carnes 1983:46,96). It appears that the hotel complied with KCC sanitation ordinances regarding privy depth during this time period. In 1872, the Bell House Hotel was converted into the Bell House School and operated until 1890 (Figure 6-11) (Carnes 1983:98). Feature 3, a 16-foot diameter cistern, was associated with the school during this time period and likely used for drinking water and fire protection (Carnes 1983:103). The school was razed around 1890 and a new school built in 1898, which operated until the 1960s.

28 (later 38 and 208) Main Avenue. This lot was located immediately west of the Bell House Hotel/ School lot. Henry Carper, a white male of unknown occupation, resided at this address in the last quarter of the nineteenth century until sometime between 1900 and 1905, when a C. C. Richardson occupied the dwelling (see Figures 6-12 and 6-13) (Carnes 1983:104). Feature 7, a 5-foot diameter cistern, was likely in use during the Carper occupation of the lot. Several medical and health group artifacts were recovered from the cistern fill. These bottles included "Mayr's Wonderful Stomach Remedy, Chicago" and "Emerson Drug Co., Baltimore, MD." The manufacturers of the stomach remedy claimed that the medicine was a remedy for "stomach troubles, indigestion, gases in the stomach and intestines, dizziness and fainting spells, colic attacks, torpid liver, constipation, gastritis, yellow jaundice, appendicitis, etc" (American Medical Association 1912:483). The contents of the bottle actually had no medicinal properties and contained olive oil, Rochelle salts, and licorice (American Medical Association 1912:485). It is unknown what the contents of

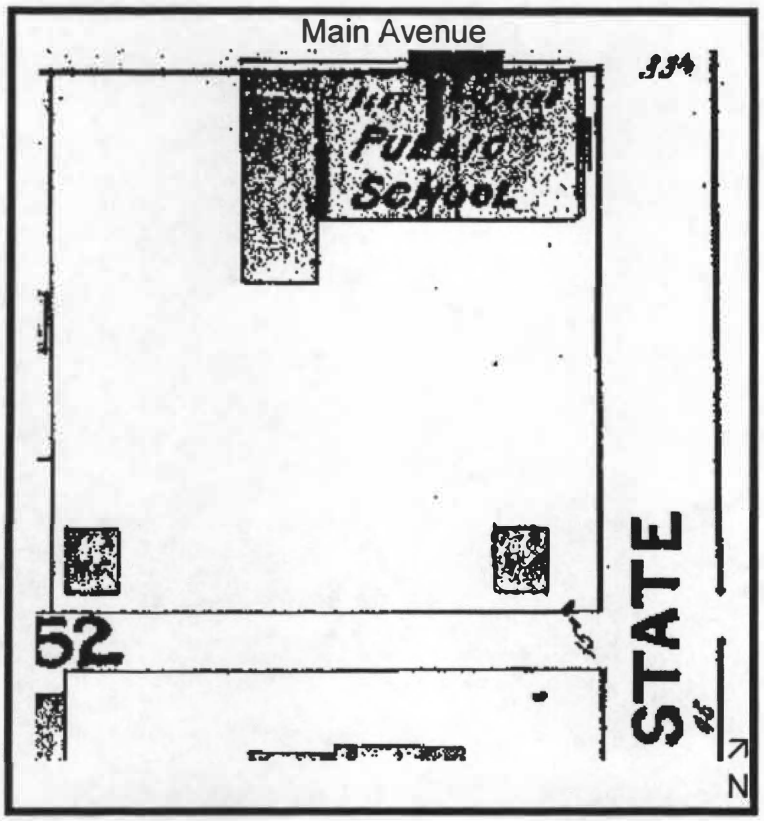

Figure 6-11: 1890 Sanborn Fire Insurance Map of the first Bell House School.

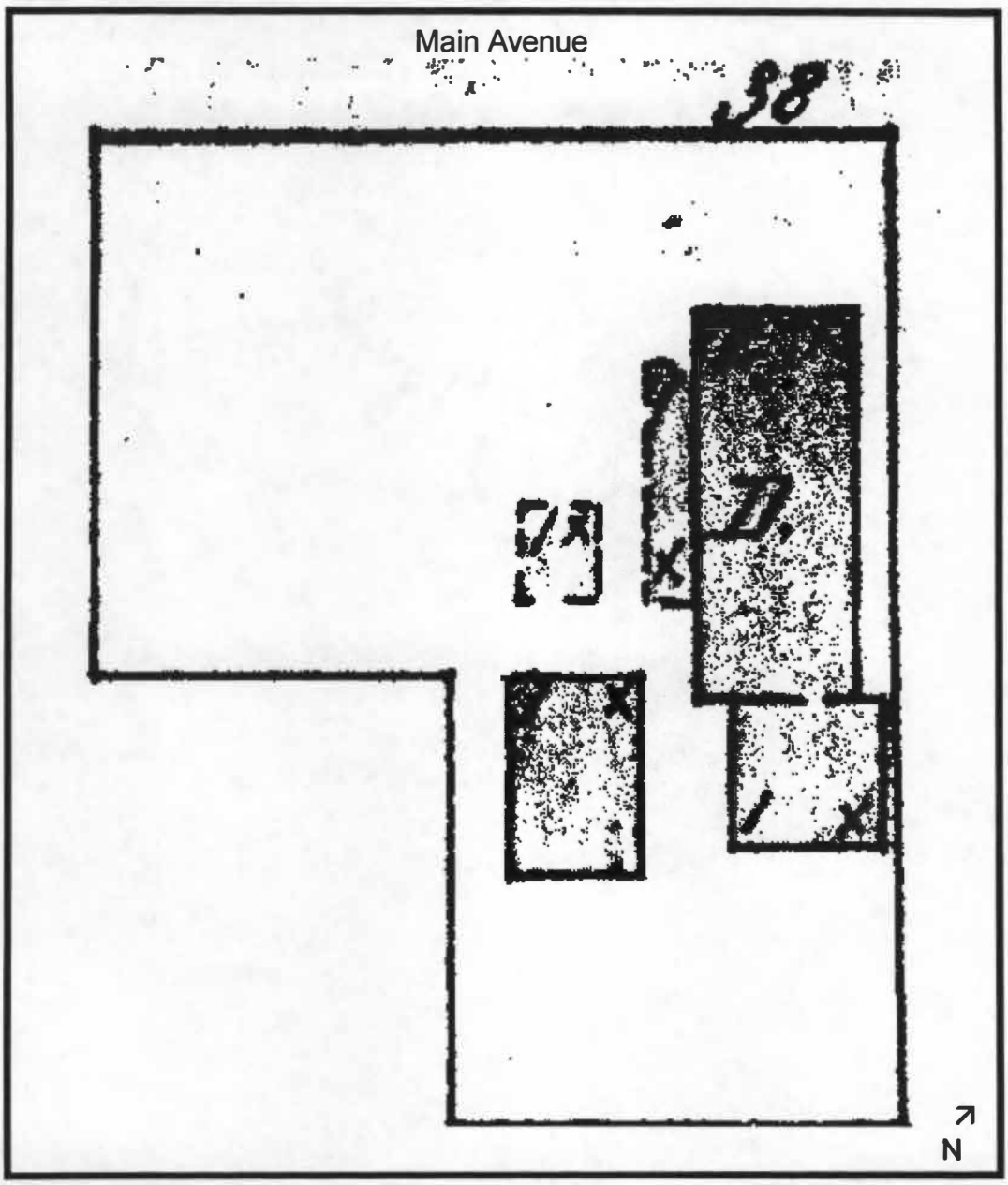

Figure 6-12: 1890 Sanborn Fire Insurance Map showing Henry Carper residence at 38 (later 208) Main Avenue.

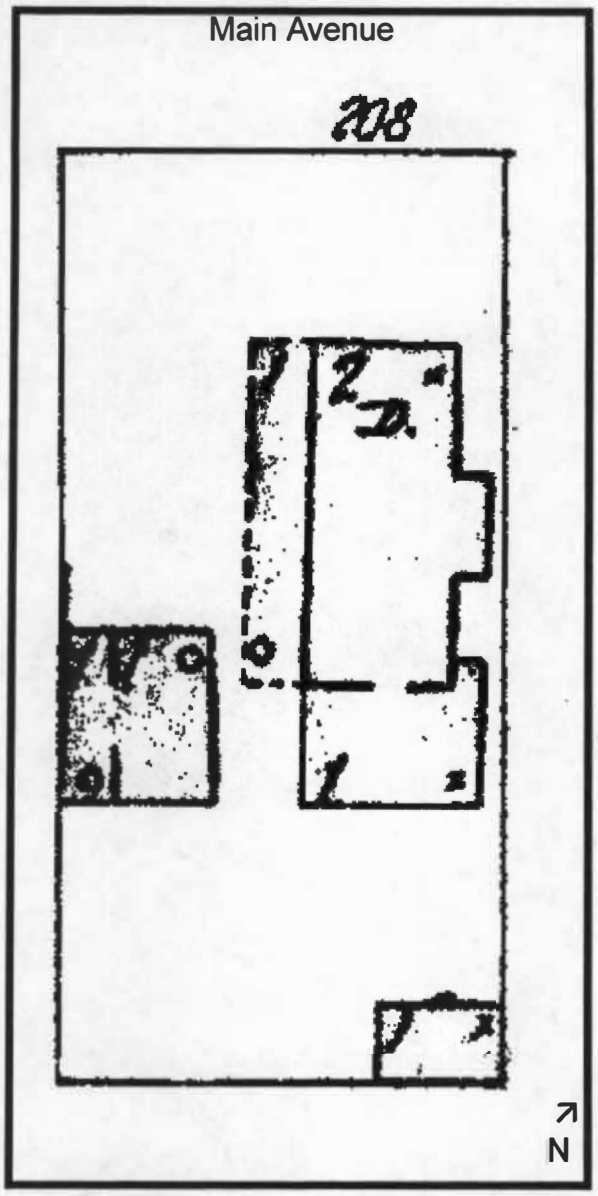

Figure 6-13: 1903 Sanborn Fire Insurance Map showing the location of the main dwelling and outbuildings as the residence became occupied by C. C. Richardson sometime between 1900 and 1905.

the Emerson Drug Company bottle may have been. Both medicine bottles post-date 1871 (Baldwin 1973). The site report does not state whether the medicine bottles were deposited during the Carper or the Richardson occupation of the dwelling.

904 South Gay Street. Feature 8, a 5-foot diameter cistern, was associated with this lot. C.P. McNabb, a white physician, resided in the main dwelling from 1895 until the 1920s (Figure 6-14) (Carnes 1983:105). The artifacts that were recovered from the cistern date to the McNabb occupation of the lot. Two embossed medicine bottles, including "E. R. Squibb Co." and "George Albers, Knoxville, Tennessee" were recovered from this feature. The Squibb bottle post-dates 1857, but no other information could be discovered about this bottle (Fike 1987:182). The George Albers bottle dates between 1880 and 1888 according to the Knoxville City directories, but the contents of the bottle are unknown.

25 and 27(later 203 and 207) Hill Avenue. Feature 9, a cistern with unknown dimensions, was associated with the duplex dwelling on this lot (Figure 6-15). The occupants of the duplex changed frequently and were likely tenants. Carnes (1983:106) stated that the archaeological investigation of this feature indicates that the cistern was in use from 1900 until the 1920s or 1930s.

29 and 31 (later 209 and 211) Hill Avenue. Feature 12, an 8-foot diameter cistern, was associated with this lot and in use from the 1890s through the 1920s (see Figure 6-15) (Carnes 1983:59). Like the duplex dwelling at 25 and 27 Hill Avenue, multiple tenants resided in the duplex at 29 and 31 Hill Avenue. Only

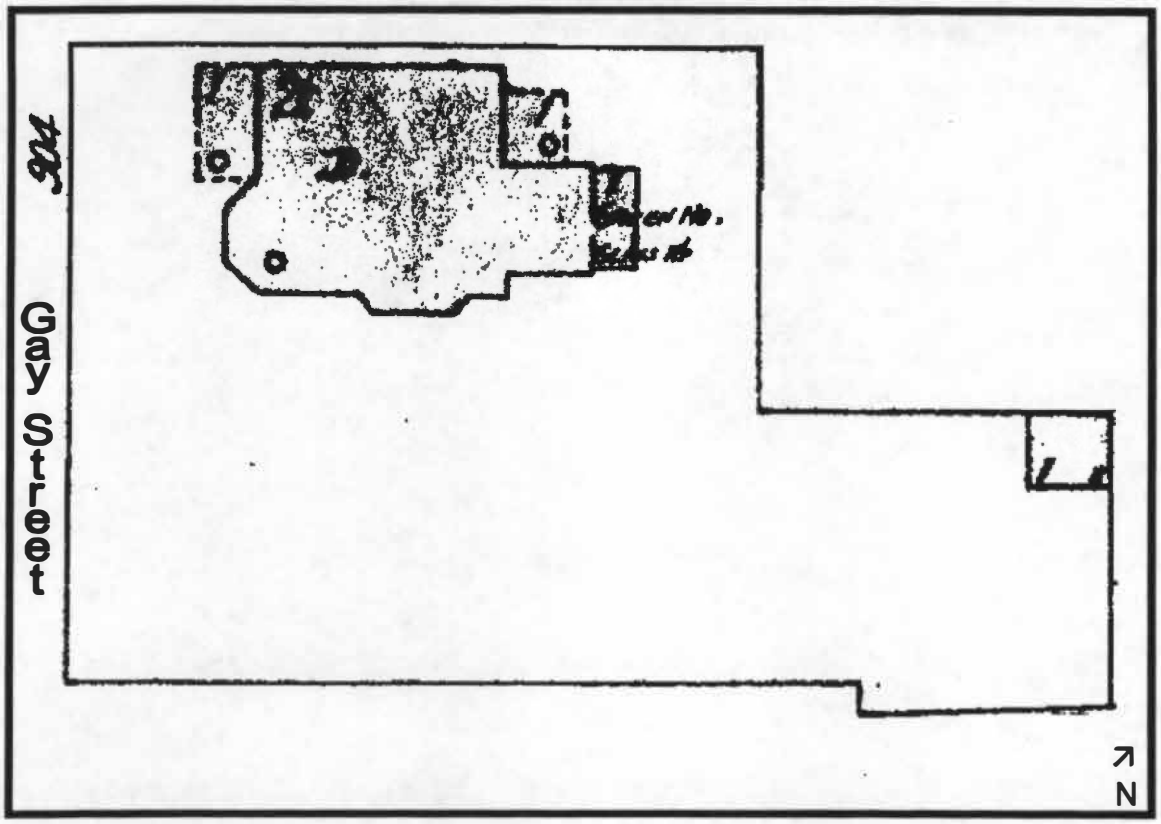

Figure 6-14: 1903 Sanborn Fire Insurance Map showing C. P. McNabb residence at 904 Gay Street.

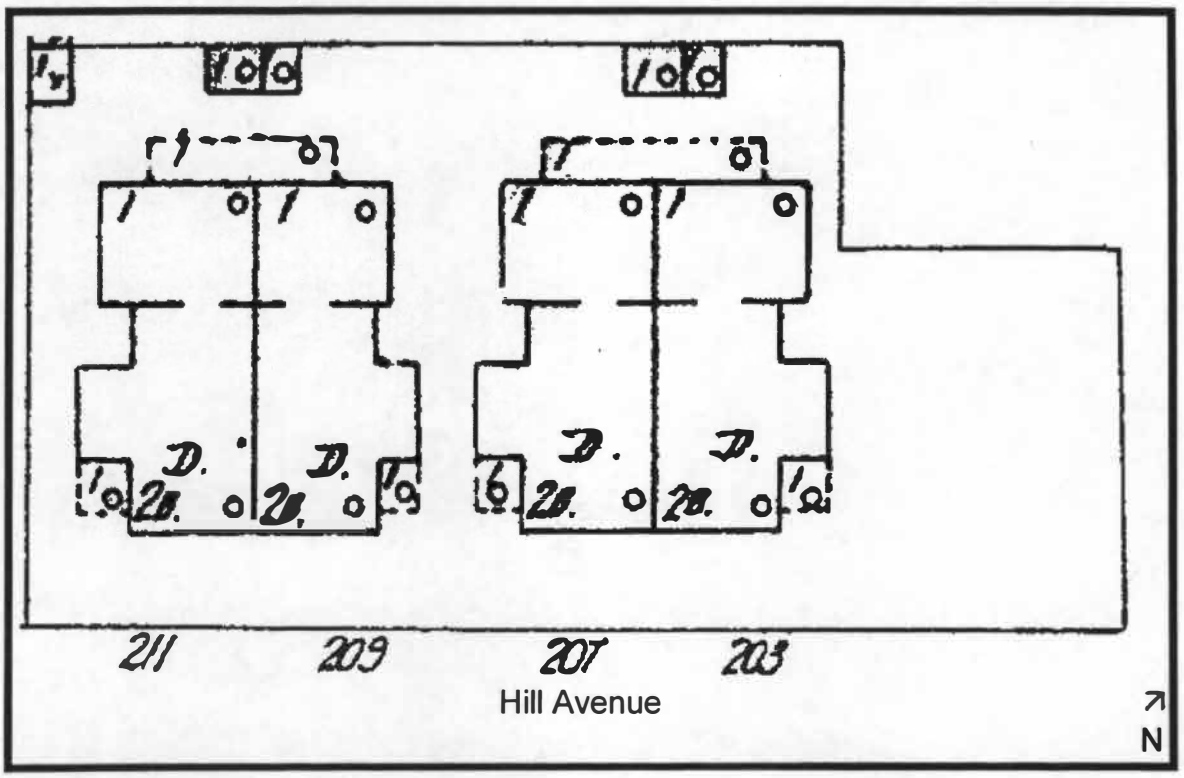

Figure 6-15: 1903 Sanborn Fire Insurance Map showing duplex dwelling at 25 and 27 (later 203 and 207) and 29 and 31 (later 209 and 211) Hill Avenue.

one embossed bottle, "W. Albers Pharmacist, Knoxville, Tenn." is listed in the site report. The bottle dates from 1880 to 1888 according to the Knoxville City directories, but the contents are unknown.

43 (later 915) State Street. Feature 10, a 6-foot diameter cistern dating between 1875 and the early 1880s, was associated with this lot (Figure 6-16). The cistern was only in use for a short period during the time that Herman O. Nelson, a gun and locksmith shop owner, resided at the address in the 1870s (Carnes 1983:107). No medical and health group artifacts were recovered from this feature.

Proposed Northside Waterfront Redevelopment Project (40KN149)

The Phase III data recovery project at Site 40KN149 was guided by an explicit research design, and the information regarding early public health at this site is much more complete than that recovered from the salvage projects discussed above. Site 40KN149 was composed of two city blocks, labeled Block 1 and Block 2 (Figure 6-17) (Greene et al. 1998). The Block 2 excavation revealed interesting information regarding public health on two house lots, addressed 8 East Front Avenue and 206 East Front Avenue. One feature was associated with 8 East Front Avenue and predated 1880 (Greene et al. 1998:68). The other features were associated with 206 East Front Avenue and date between the 1890s and the 1910s.

According to Greene et al. (1998:42), there was little residential construction in the East Front Avenue site area until the late nineteenth century.

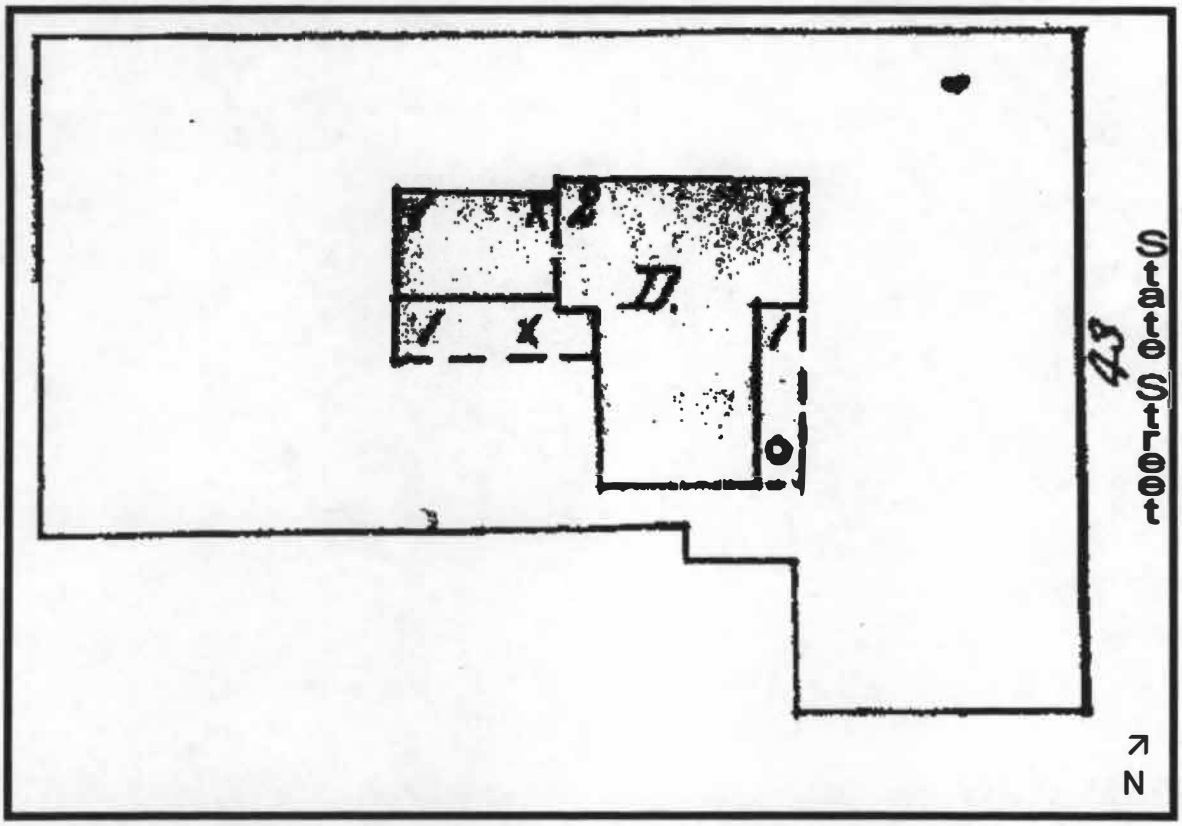

Figure 6-16: 1890 Sanborn Fire Insurance Map showing 43 (later 915) State Street.

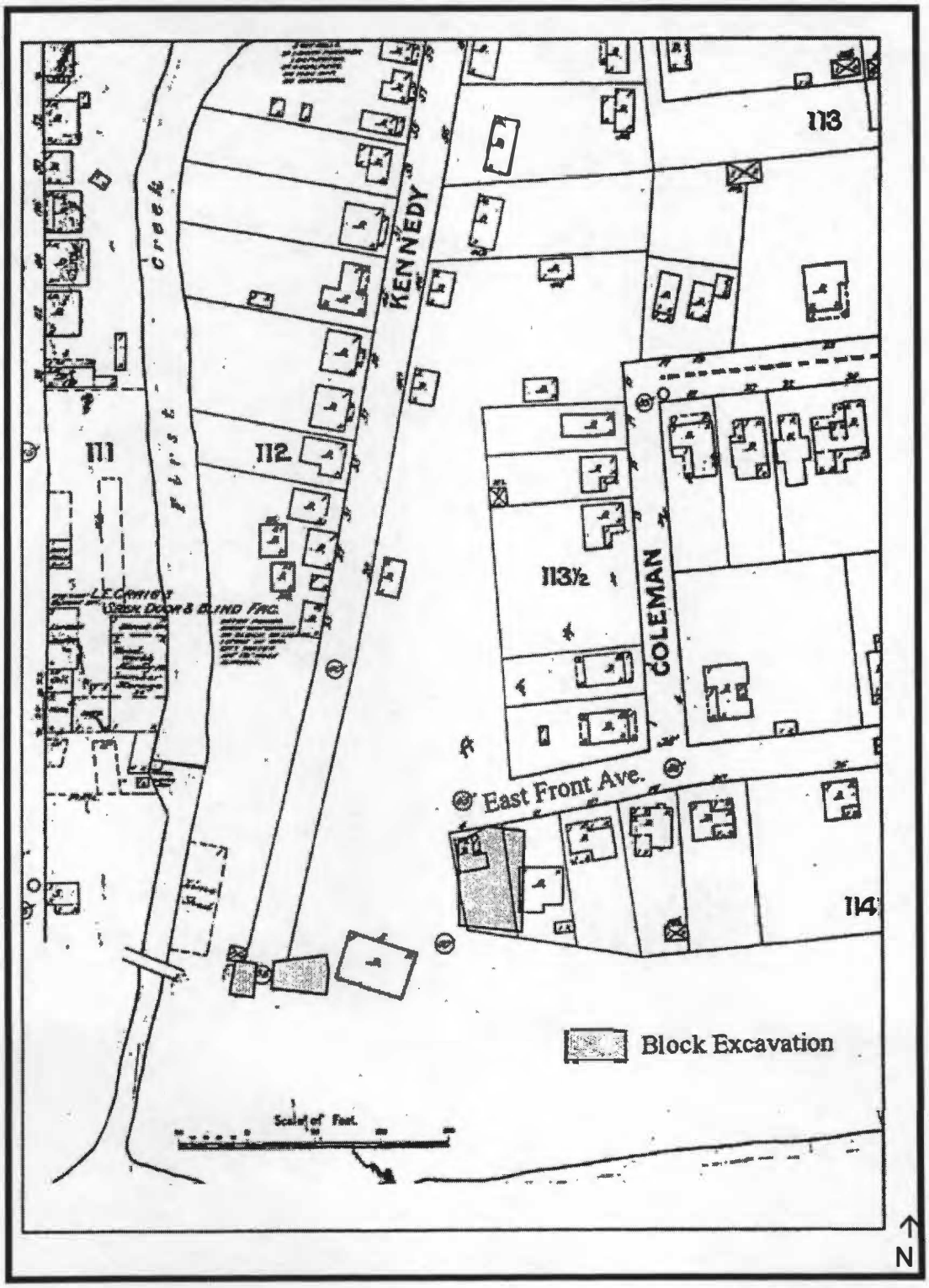

Figure 6-17: 1890 Sanborn Fire Insurance Map showing location of Blocks 1 and 2 at Site 40KN149 (Greene et al. 1998: Figure 11).

By 1900, the area was densely populated by prosperous residents, and most of the residents on East Front Avenue owned their homes (Greene et al. 1998:42). Economic changes occurred within the next 20 years leading to the decline of the neighborhood, and many of the houses were divided into apartments by the 1920s.

8 East Front Avenue. Feature 6, a brick-lined privy hole that was constructed prior to 1880 was associated with the dwelling on this lot (Figure 6-18) (Greene et al. 1998:68). The privy hole measured 5.41 feet by 2.95 feet in width by 4.59 feet in depth. When comparing the dimensions of the privy hole to the KCC guidelines dictating the construction of privies during this time period, this privy was not constructed to the regulated depth of six feet.

According to Greene et al. (1998), the dwelling on this lot was occupied by an individual named N.W. Adcock until it was torn down in 1891. Although records could not be located regarding Adcock's ethnoracial status, he may have been white as all of the residents on the block were white through the 1910s (U.S. Bureau of the Census 1900, 1910). Adcock was employed as a peddler (Greene et al. 1998:26). By 1890, James King, a boatman, occupied the residence. Although the 1890 U.S. Bureau of the Census records no longer exist, King was also likely white. Although the dwelling was torn down by 1891, Greene et al. (1998:26) suggest that it is likely that nearby residents at 206 and 210 East Front Avenue continued to use the privy for a number of years after the Adcock/ King residence was destroyed. Very few artifacts were recovered from

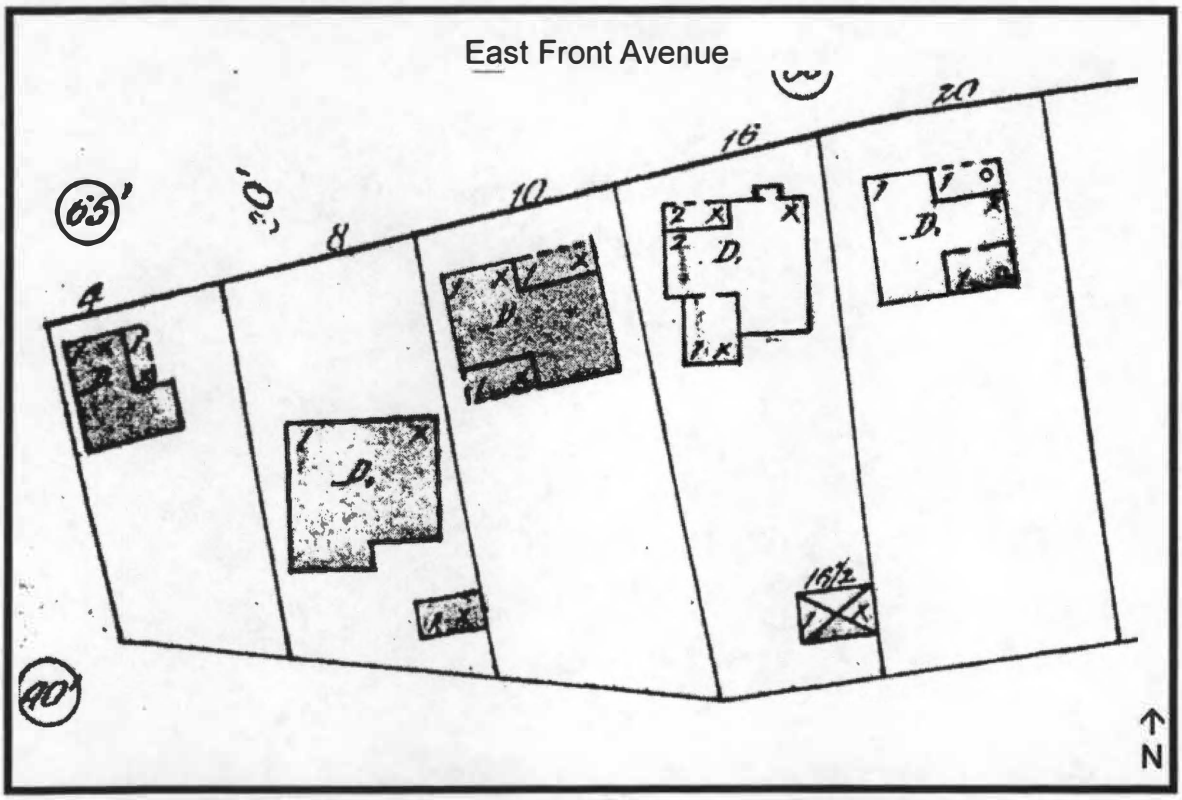

Figure 6-18: 1890 Sanborn Fire Insurance Map showing house lots along East Front Avenue, including 8 East Front Avenue.

this feature. According to Greene et al. (1998:68), the privy hole may have had its contents periodically removed and the hole reused successively over a period of time.

206 East Front Avenue. Several features were associated with the dwelling on this lot (Figure 6-19). Features 7-11 were a cluster of privy holes and Feature 12 was a large midden feature in the work yard of the lot that was sampled with 22 test units. All of the privy holes were in use from the 1890s to the 1910s, and the midden contents were deposited during the same time period (Greene et al. 1998:42).

According to the U.S. Bureau of the Census report in 1900, it appears that two families may have been residing in the dwelling on this lot at the turn-of-the-century. William F. Dow, a white sign painter likely lived there with his wife, Anna, and their two children, in addition to James Hicks, a white day laborer, with his wife, Oma, who worked as an operator at a knitting mill. It is unknown what happened to the Dow and Hicks families because in 1901, Houston George, a carpenter was listed in the Knoxville City Directory at this address. George, along with the Dow and Hicks families, were likely tenants. B. R. Strong and W. Epps owned the property. Apparently, George attempted to purchase the property from Strong and Epps as early as 1895, but he did not make payments and the property was returned to Strong and Epps that same year (Greene et al. 1998:33).

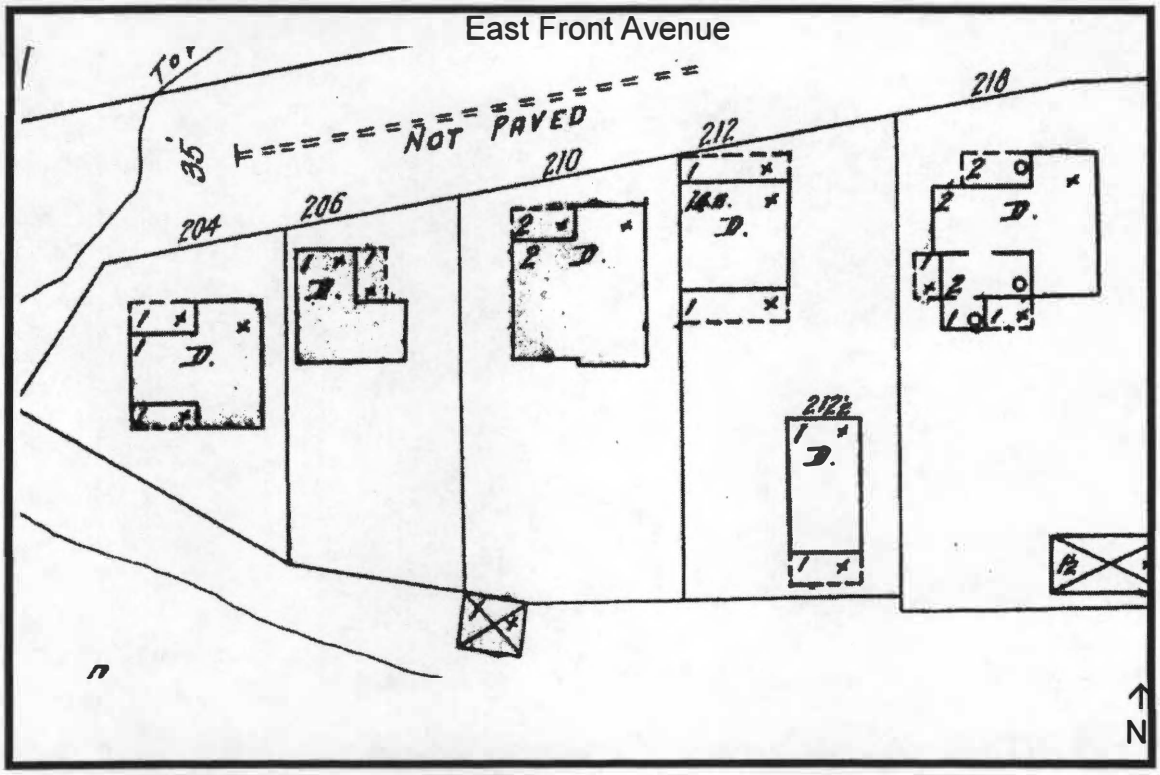

Figure 6-19: 1903 Sanborn Fire Insurance Map showing house lots along East Front Avenue, including 206 East Front Avenue.

George likely resided on the property as a tenant from 1901 until 1905. Following George, J. Thomas Cagle, an engineer, purchased the lot from Strong and Epps and resided on the property with his wife, Mollie, and their daughter, until 1925, where after the dwelling became vacant. The house was later reoccupied in 1950 and was finally razed in the 1960s during the Mountain View urban renewal project (Greene et al. 1998:21). It is interesting that many residents on this block were working class families, with many of the men working as day laborers, hucksters (i.e., peddlers), boat pilots, meat stall salesmen, feed store drivers, contractors, and pearl hunters. Wives also often worked as knitting mill operators, dress makers, pants factory seamstresses, and jewelry and department store clerks. Older single daughters often worked similar jobs to their mothers, and in at least one case, a boy worked as an elevator operator (U.S. Bureau of the Census 1900, 1910).

A number of different families, including the Dows, Hicks, George, and Cagles, likely contributed to the material deposited in the large midden feature and the construction and utilization of the privy holes on the lot, and they may have also used the privy hole at 8 East Front Avenue after the dwelling on that lot was torn down. All of the privy hole features at 206 East Front Avenue (features 7-11) were earthen-walled, and only a few them were constructed in compliance with KCC regulations regarding depth. By 1903, all privies were to have a vault laid in hydraulic cement and lined with stone or brick, with a depth of 5 feet

(KCCM 1903:591-592). Before this date, privies were not necessarily required to be lined, but they were supposed to be six feet deep.

According to Greene et al. (1998), the small area in which the privy holes (Features 7-11) were dug suggests that once a privy hole was full, another privy was dug adjacent to it. Feature 7 was an earthen-walled privy hole measuring 5.51 feet by 3.28 feet in width, by 3.05 feet in depth (Greene et al. 1998). Feature 8 measured 6.17 feet by 2.99 feet in width, by 3.84 feet in depth. Feature 9 measured 5.81 feet by 3.05 feet in width. The depth measurement for this feature was not listed in the report. Feature 10 measured 4.99 feet by 5.02 feet in width and 5.58 feet in depth. Feature 11 was 7.02 feet by 3.74 feet in width by 6.46 feet in depth. Feature 7, the shallowest of all the privy holes in this cluster, was likely the last privy dug on the lot (Greene et al. 1998).

Several medical and health group artifacts were recovered from the privy hole features. "Malt-A-Tonic" was recovered from Feature 7, but no information could be found regarding its former contents. Feature 8 contained a cobalt glass medicine bottle embossed "Bromo-Seltzer" (Greene et al. 1998:119). This medicine was labeled a headache cure, but actually led to impotence and sometimes death from acetanilide poisoning (American Medical Association 1912:499). The "L. M. Green/Woodbury, N.Y." bottle fragment recovered from Feature 9 was likely from "Dr. Boschee's Syrup of Tar and Wild Cherry Compound" or "Green's Dyspeptic Medicine." The syrup was a cough medicine and the dyspeptic medicine was supposed to treat stomach ailments (Fike 1987:164). Both of these bottles date to the late nineteenth century. Another

medicine bottle recovered from Feature 9, "Mrs. Winslow's Soothing Syrup," was marketed to treat teething babies and dates between 1849 and 1906 (Fike 1987:231). The "soothing" was taken off the label after the passage of the Pure Food and Drug Act of 1906.

Two medicine bottles were recovered from Feature 10, including bottles embossed "W. P. Co." and "...MBLER Pa...KEASB[EY]," but no specific information could be discovered regarding their contents. Some body ritual and grooming group artifacts were recovered from Feature 11, but these were unmarked, and the medical and health group artifacts recovered from the midden feature were highly fragmented and unidentifiable.

Faunal Remains. Based on the study of the faunal remains, the former occupants of 8 East Front Avenue and 206 East Front Avenue consumed overall more pork than beef (Greene et al. 1998:177). They also consumed sheep, chicken, and wild fauna, such as rabbit, squirrel, redhorse, catfish, turkey, and duck. The large midden, Feature 12, contained an abundance of pig remains. According to Davidson (1982:389), the higher number of pig remains may indicate winter activity; that is, because pork spoils faster than beef, many people consumed pork more frequently in the winter months than in the warmer seasons before refrigeration was available. The higher percentage of pork deposited in the midden may reflect this practice.

Beef remains were recovered from both the privy features and the midden (Greene et al. 1998:177). The analysis of the beef remains indicated that most of cuts had been from long bones in the flank area of the animal, likely steak or

sirloin cut (Greene et al. 1998:177). Analysis of the beef bones indicated off-site butchery, where cuts of meat were purchased commercially and brought back to the site. Although evidence of on- or off-site butchery of the sheep and pig remains was not discussed in the report (see Greene et al. 1998), the faunal inventory indicates that non-meat pig remains, such as teeth, cranial fragments, maxillae, carpals, and phalanges, were recovered from the site. Although it is possible that the non-meat bones were commercially butchered and brought back to the site, the presence of non-meat pig bones may suggest that the former occupants of 206 East Front Avenue maintained a pig or two on the lot at the turn-of-the-century. According to Welles (1919), pigs were still a common feature of the Knoxville landscape into the early twentieth century, especially in poorer neighborhoods.

The Knoxville Courthouse Block (40KN145)

Like Site 40KN149, the Phase III data recovery project at the Knoxville Courthouse Block (40KN145) was guided by an explicit research design. This site is particularly interesting because Garrow et al. (1996) attempted to gain information concerning early public health in Knoxville from the site data. As discussed in Chapter 3, Garrow et al. (1996) document the transition of poor public health to improved public health in the city by the presence – or lack – of medicine bottles within various features at the site. They also attempt to document the transition from privy use to public water and sewer works based on the incorporation of public works in the urban infrastructure. Unfortunately, these

assumptions affected the way in which features were dated by the archaeologists. For example, Garrow et al. (1996:123,144,225) assume that features, such as cisterns and privies discovered at the site, were no long in use by 1895 because public water and sewers were available in the city.

Nevertheless, the Phase III data recovery at 40KN145 was much more complete than the work conducted at Block 3 Center City or the River View Towers site. Site 40KN145 was composed of residential and commercial lots. Three lots on the city block revealed interesting early public health information, including 97 (later 709) and 95 (later 711) South Gay Street and the Schubert Hotel at 57 Cumberland Avenue. According to the dating techniques of the archaeologists investigating the site (Garrow et al. 1996), the majority of the features were in use during the late nineteenth century, but the majority of artifacts date to the turn-of-the-century or the early twentieth century.

97 (later 709) South Gay Street. Feature 1, a brick-lined privy measuring 4 feet by 4.5 feet in width, by 5 feet in depth, was located on the extreme southwest corner of the lot (Figure 6-20) (Garrow et al. 1996:81,83-84). According Garrow et al.'s research (1996:81,86), the privy was likely in use during the late nineteenth century. They state that the privy was likely no longer in use by 1903, except as a trash receptacle because the building does not appear in the 1903 Sanborn Fire Insurance Map of the block (Figure 6-21). However, several privy holes associated with a neighboring building, 95 (later 711) South Gay Street, never appeared on the 1890 or 1903 Sanborn Fire

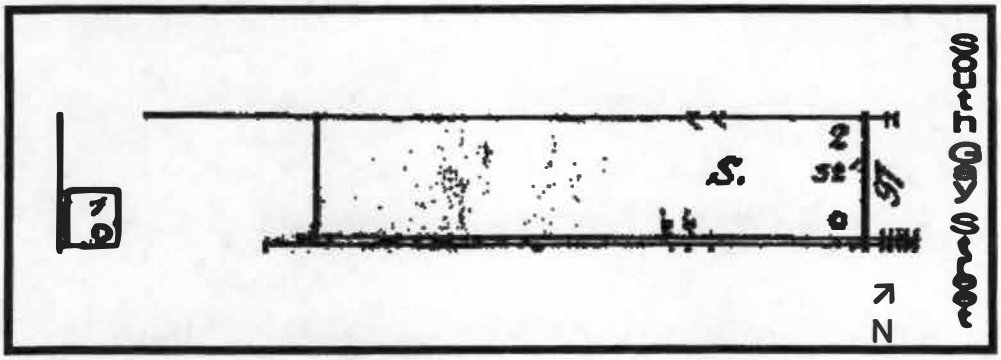

Figure 6-20: 1890 Sanborn Fire Insurance Map showing privy (Feature 1) in the extreme southwest corner of 97 (later 709) South Gay Street.

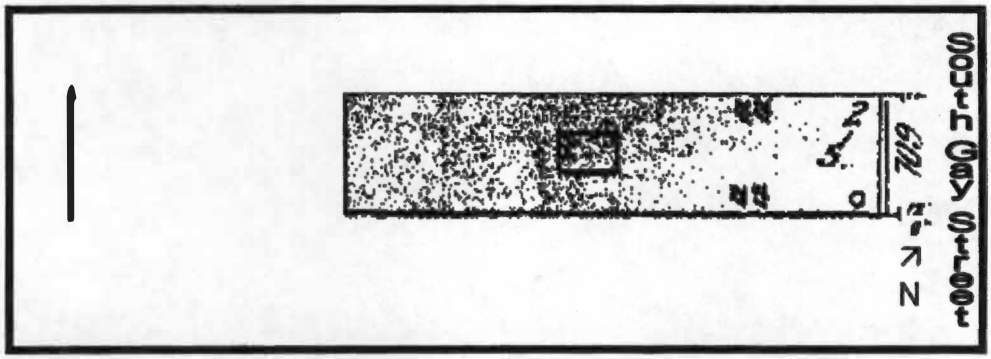

Figure 6-21: 1903 Sanborn Fire Insurance Map showing lack of outbuildings behind 709 South Gay Street.

insurance Map. Hence, the assumption that the Feature 1 privy was no longer in use by 1903 may not be accurate.

The building associated with this feature served as a store in the late nineteenth century, a cigar-making business by 1895, and later a saloon/ restaurant and a liquor store after the turn-of-the-century (Garrow et al. 1996:86). Because the privy was constructed sometime within the last quarter of the nineteenth century, it was not constructed in compliance with the necessary depth of six feet. However, the depth was only one foot outside of the standard.

According to Garrow et al. (1996:166), the majority of artifacts recovered from this feature dated to the restaurant/ saloon period from 1901-1902 or 1906-1909. The restaurant/ saloon was likely a working-class establishment based on the large number of roasts and pigs feet – essentially inexpensive cuts of meat - that were recovered from Feature 1 (Garrow et al. 1996:372).

Four medical and health group artifacts were also recovered from Feature 1. The first bottle, "Mexican Mustang Liniment," dated between 1871 and the early twentieth century and was purported to treat scalds, burns, colds, cuts, bruises, strains, sore throat, inflammation, glass, scratches, sweeny, spavins, ringbone, strains, lameness, shoe boils, and harness sores (Fike 1966). "Bromo-Seltzer" was a headache medication marketed mostly to women that was dangerous and taken off the market in 1906 (American Medical Association 1912:499). The third bottle, "Dr. King's New Discovery For Consumption," was quoted as being the medicine that "strikes terror" to doctors, but actually contained a morphine and chloroform mixture that actually killed consumptives if

taken regularly (Holbrook 1959:22). The bottle dates between 1898 and the early twentieth century (Fike 1987:109). A glass syringe fragment was also recovered from this feature.

95 (later 711) South Gay Street. Several features were associated with the main building on this lot (Figures 6-22 and Figure 6-23). James C. Moses, a white male, likely constructed the building, having purchased the property in 1860. He owned a hardware store on the lot until his death between 1871 and 1873, but resided elsewhere and likely only used the building for business purposes (Garrow et al. 1996:144).

Feature 15, an earthen-walled privy hole or root cellar, predated the Moses occupation of the lot and dates to the 1790s. This early feature was likely associated with original Lot 40, owned by Col. David Henley in the late eighteenth century. Henley was not a very wealthy man compared to other more affluent white Knoxvillians in the late eighteenth century, but he was likely respected for his position in the War Department (Garrow et al. 1996:371).

Four privies, Features 17, 18, 19, and 22, and a cistern, Feature 16, were also discovered on the lot and dated between 1868 and 1895 (Figure 6-24). Garrow et al. (1996:226) believe that because a city sewer line was operating in downtown Knoxville by 1893 that the privies in the backyard of 711 South Gay Street likely no longer functioned as privies after that date. The privies were placed very close together within the backyard of the lot, and one privy, Feature 19, was only two feet away from the cistern. During this period of time, the

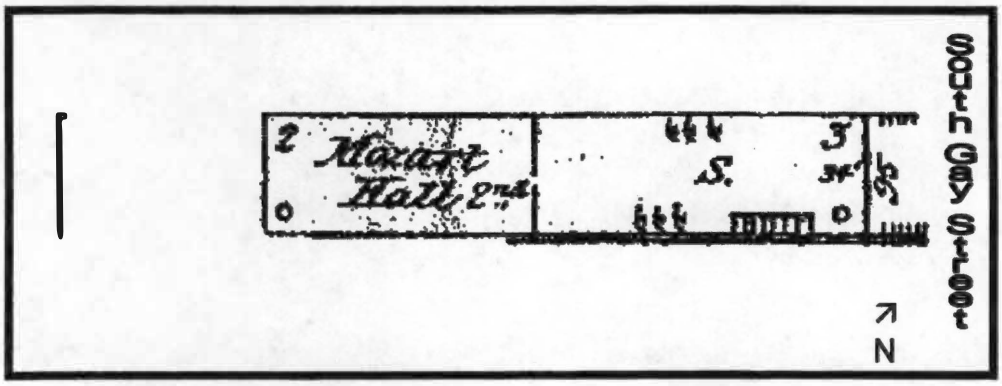

Figure 6-22: 1890 Sanborn Fire Insurance Map showing 95 (later 711) South Gay Street.

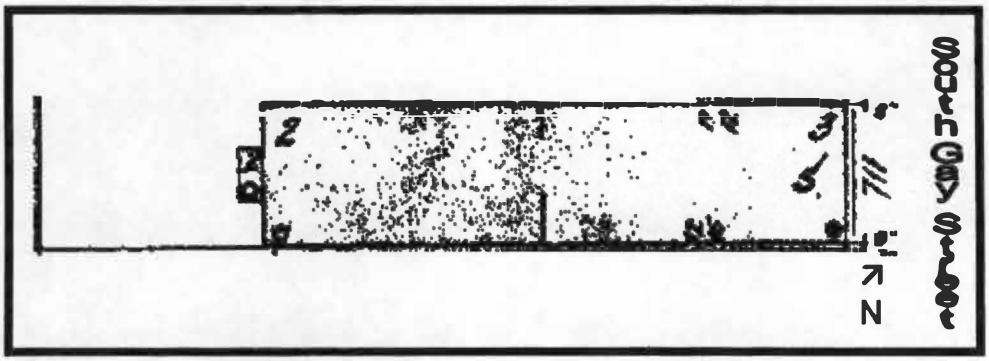

Figure 6-23: 1903 Sanborn Fire Insurance Map showing 711 South Gay Street.

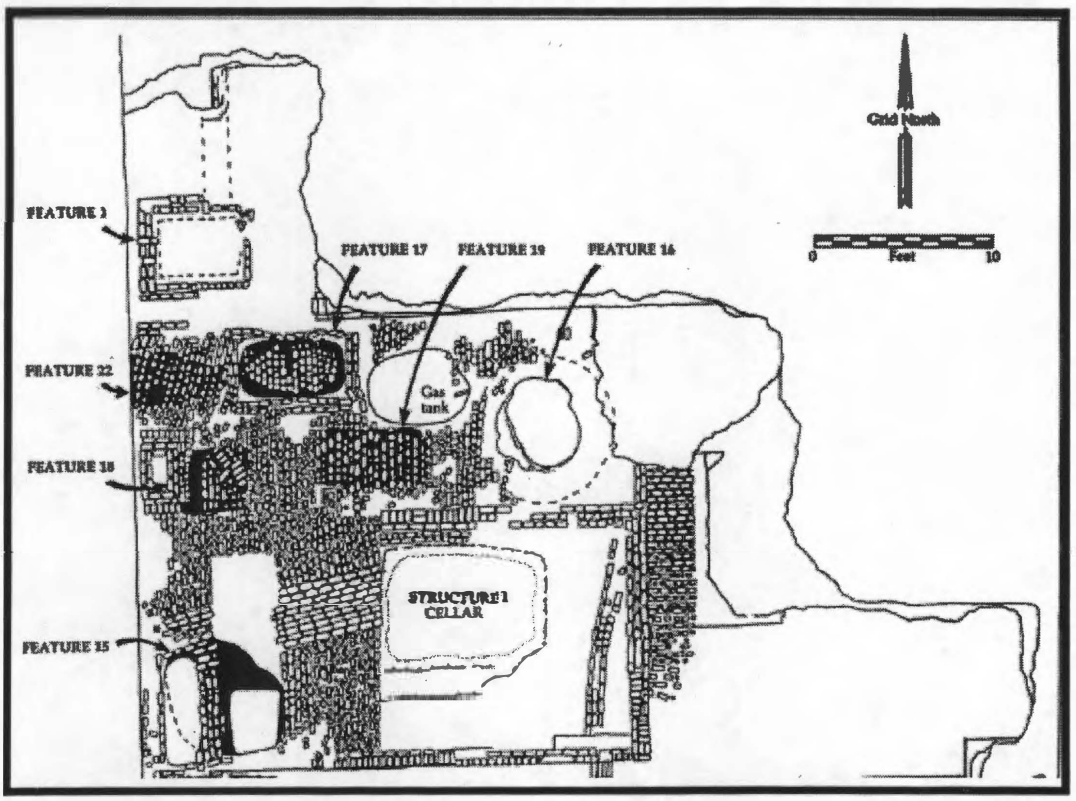

Figure 6-24: Map of the features discovered in the back yards of 97 (later 709) and 95 (later 711) South Gay Street (Garrow et al. 1996: Figure 25).

building changed from a hardware store to a grocery in the 1870s. By 1890, the front of the building was empty, but the rear was being used as a music practice room, called the Mozart Hall (Garrow et al. 1996:64). From 1895 to 1913, a fruit stand or confectionary was located in the building, and from 1914 until 1919, the Citizens Auto Club occupied it. The building continued to change hands throughout the early twentieth century, and according to Garrow et al. (1996:64), the three-story building was torn down sometime after 1950.

Feature 17 was a brick-lined privy hole that measured 3.5 feet by 3.5 feet in width and 7.5 feet in depth. This was the largest privy hole discovered at 711 South Gay Street (Garrow et al. 1996123,225). Feature 17 was concurrently in use with Feature 18, another privy hole on the lot. This feature was a wood-lined privy hole that measured 3 feet by 3 feet in width by 4.5 feet in depth. It is noteworthy that a brick-lined privy was in use during the same time a wood-lined privy was utilized. Feature 19 was a wood-lined privy hole that measured 3 feet by 3 feet in width by 5.5 feet in depth (Garrow et al. 1996:110). According to Garrow et al. (1996:214), this feature was likely filled when Feature 17 or 18, both privies, were dug. Feature 22, was also a wood-lined privy hole and possibly the earliest privy hole on the lot, excluding the possible eighteenth century privy associated with original Lot 40 (Garrow et al. 1996:109). This feature measured 3 feet by 3 feet in width, and 3.5 feet in depth. According to Garrow et al. (1996:109), the fill in this feature was likely back-dirt from a replacement privy nearby.

Feature 16 was a cement-lined cistern constructed in 1868. Garrow et al. (1996:142) suggest that the feature was likely abandoned between 1884 and 1895 and used as a trash receptacle while the building on the property was used as a fruit stand and confectionery, and briefly while the function of the building served as an auto parts store starting in 1914.

Many medical and health group artifacts were recovered from features 16, 17, and 18. Garrow et al. (1996:374) feel that the contents of features 16, 17, and 18, were deposited during the time the building was occupied by the fruit stand or confectionary in the early twentieth century. Features 19 and 22 likely pre-dated Features 16, 17, and 18, and contained very few artifacts.

Like Feature 1, "Mexican Mustang Liniment" was recovered from Feature 16. Another bottle, embossed "C.W. Abbott & C.," was also recovered from Feature 16, but the contents are unknown. Garrow et al. (1996:284-285) claim that the low occurrence of medicine bottles in the Feature 16 cistern compared to the Feature 17 privy indicates the general improvement in health of Knoxville's citizens by the early twentieth century.

Feature 17 contained bottles embossed "F. Brown's Ess of Jamaica Ginger, Philada," "Haviland & Co., Druggists, New York, Charleston & Augusta," and bottles embossed "Donne's Gonorrhea Injection" (Garrow et al. 1996:130). "F. Brown's Ess of Jamaica Ginger" dates between 1865 and 1921 and was likely marketed as a cure-all (Fike 1987:128). One of the "Haviland" bottles was corked and still contained its original contents, which proved to be cod liver oil (Garrow et al. 1996:242). Cod liver oil was frequently advertised as an aid for

digestion and to treat wasting diseases, colds, and lung and throat troubles (Schroeder 1969:790). The "Donne's Gonorrhea Injection" bottles are interesting because there was no cure for this sexually transmitted infection during this time period (Young 1967:101). Garrow et al. (1996:260,262) suggest that the syringe parts also recovered from this feature could have been used to administer the "Donne's Gonorrhea Injection" medication.

Feature 18 contained a bottle embossed "Albers & Co. Mary Quire," which came from a local druggist that was in business in Knoxville from 1880-1888 (Knoxville City Directories1880-1888), and three bottles of "F. Brown's Ess of Jamaica Ginger." Feature 19 also contained "F. Brown's Ess of Jamaica Ginger". "Boyles Hop Bitters 1872" was recovered from Feature 22. Hop bitters were often advertised as blood purifiers, liver regulators, and life and health restorers (Holbrook 1959:87).

It is apparent that the only privy hole in compliance with KCC regulations was Feature 17, measuring 7.5 feet in depth. The other privy holes nearby were not in compliance, sometimes by several feet. Feature 22, possibly the earliest nineteenth century privy on the lot, may have been constructed by James Moses, owner of the hardware store on the lot from 1860 until sometime between 1871 and 1873. The cistern, Feature 16, was also constructed during the Moses ownership of the lot. Although the cistern was lined with hydraulic cement, it is interesting how closely the subsequent privies were placed to the cistern, and each other, within the backyard of the lot.

Schubert Hotel. Two privy hole features were located behind and associated with the Schubert Hotel, which was built in 1881 (Figure 6-25). The hotel was an affluent establishment, drawing wealthy travelers to Knoxville in the late nineteenth century, but the building went into a steady decline starting in the early twentieth century until it burned down in 1943.

Feature 6 was a wood-lined privy hole measuring 5.5 feet by 3 feet in width by 3.5 feet in depth (Garrow et al. 1996:153-154). According to Garrow et al. (1996:152,163), the privy was likely only used by hotel staff, as the hotel offered water closets and indoor bathrooms for the hotel guests as early as 1884. Although many, if not all, servants at the Schubert Hotel were African-American, there was no archaeological evidence to support the supposition that they used this privy (Garrow et al. 1996:374).

Feature 20 was also a privy hole associated with the hotel, but the report did not indicate whether it was lined or earthen-walled. It measured 6 feet by 3.5 feet in width, by 1.75 feet in depth. The depth measurement of this privy is not reliable because the feature had been truncated sometime before the excavation of the site (Garrow et al. 1996:317). Like Feature 6, Garrow et al. (1996) suggest that the privy hole had been used by hotel servants.

According to the archaeologists studying the site, both privy features were likely used concurrently and date from 1881 to 1895. Because Garrow et al. (1996) assume that privies are no longer in use once sewers were available in Knoxville, they date the privies to this short period of time. Nevertheless, it is

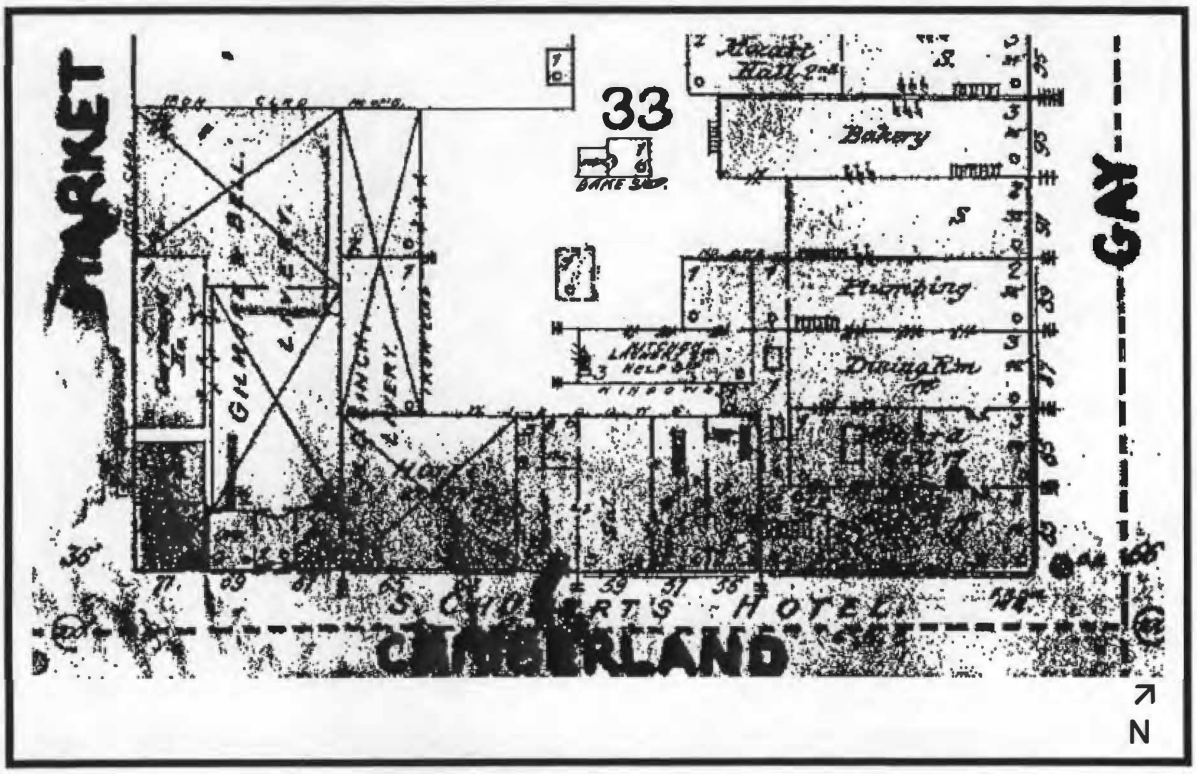

Figure 6-25: 1890 Sanborn Fire Insurance Map showing the Schubert Hotel on Cumberland Avenue.

apparent that the Feature 6 privy hole was not in compliance with the depth regulations for privies during that time period, nor later.

Two medical and health group artifacts were recovered from Feature 6 (Garrow et al. 1996:308). The two glass medicine bottles recovered from Feature 6 were embossed "Gargling Oil, Lockport, N.Y." These bottles date between 1833 and 1948, and contained 48% alcohol. It was labeled that it cured burns and scalds, chilblains, frostbite, rheumatism, chapped hands, flesh wounds, lame back, piles, corns, cramps, boils, and weakness of the joints, among other things (Fike 1987:192). This medication was marketed with different colored labels for humans and animals. No medical and health group artifacts were recovered from Feature 20.

Faunal Remains. Overall, beef was the preferred meat of the former occupants of the site, followed by pork (Garrow et al. 1996:358). Mutton appeared to have been consumed less frequently. Fowl, such as chicken and turkey, were also frequently consumed (Garrow et al. 1996:362). It was assumed by the researchers that all cow, pig, and sheep remains were butchered and purchased at local markets and brought back to the site. However, the faunal analysis section of the site report (Garrow et al. 1996:342-363) describes non-meat *Bos* sp. (cow), *Sus scrofa* (pig), and O*vis aries* (sheep) bones, such as tails, teeth, and cranial bones that were recovered from the site. These non-meat bones, in addition to hooves, carpals, and tarsals, may indicate on-site butchery (Chaplin 1971:66; Reitz 1987:108).

Several features yielded interesting differences in relative butchering cut frequencies. Feature 1, a brick–lined privy associated with 709 South Gay Street, yielded a large number of roasts and pigs feet, which is consistent with the building being used as a saloon or restaurant in the early twentieth century (Garrow et al. 1996:363). Feature 16, a cement-lined cistern associated with the building located at 95 (later 711) South Gay Street, yielded a high frequency of high cost beef and roast cuts (Garrow et al. 1996:363). The early twentieth century occupants of this building using the cistern as a refuse receptacle were likely affluent and wealthy enough to afford expensive steaks and roasts. Feature 18, a wood-lined privy also associated with 711 South Gay Street, yielded a high frequency of pigs' feet and a small frequency of beef remains deposited during the early twentieth century. According to Garrow et al. (1996:363), this feature received refuse during the time the building was primarily used as a confectionary or fruit stand. Therefore, this feature may have received faunal refuse from the saloon or restaurant located next door at 709 South Gay Street.

Intersite Comparisons

Several interesting differences can be observed when examining the data recovered from each of the four sites synthesized in this study. The first obvious difference was the way in which the data were collected by the archaeologists. The Block 3 Center City (Carnes 1982) and River View Towers (Carnes 1983) site reports were both written following salvage archaeological reconnaissance

work conducted at the sites. Significant information regarding the material culture recovered from the sites was omitted from both reports, or was not available due to the nature of the salvage project, and many feature measurements were not complete. Therefore, the usefulness of the information in these reports is limited.

The other two site reports detailing the Phase III data recovery on Site 40KN149 (Greene et al. 1998) and Site 40KN145 (Garrow et al. 1996) were much more complete in their research designs and reporting methods. However, many problems existed with these reports, especially the Knoxville Courthouse Block (40KN145) site report. These problems included professional biases regarding the absence of on-site livestock butchery on late nineteenth century and early twentieth century urban sites, and the dating of features based on assumptions about public works in Knoxville in the late nineteenth century.

Synthesizing site reports written at different times and by different archaeologists can be a difficult process, dealing with inconsistent reporting techniques and research strategies. What may seem like a large sample, such as a series of house lots within a site area composed of a large part of a city block, may become a very small sample due to the inconsistencies and omissions in the reports regarding crucial feature and artifact information. As a method, archaeological sampling may recover little information regarding the lifeways of former site occupants because of the level of disturbance at the site or other problems confronting field archaeologists. This is further limited by

incomplete reporting and assumptions regarding feature dates and artifact pattering.

The second difference observed in the data recovered from the four site reports is in the former occupants of the site, and whether each site was composed of primarily residential or commercial house lots. The features discovered at the Block 3 Center City site were associated primarily with late nineteenth century white, affluent residences along W. Church Street, which later became professional businesses, primarily physicians offices, in the early twentieth century.

The River View Towers site was composed of features associated with a mid-nineteenth century hotel, which became a school in the 1870s, and several late nineteenth and early twentieth century residences on South Gay Street, and Main and Hill avenues. The occupants of the residences on this site were both affluent white home-owners, and duplex tenants.

Block 2 of Site 40KN149 was composed of two late nineteenth, early twentieth century house lots in a primarily white, working-class city block alongside the Tennessee River. Site 40KN145 was composed primarily of commercial lots, including the Schubert Hotel, along South Gay Street and Cumberland Avenue.

There were also some similarities among the four sites. Although it is possible that African-Americans resided on the city blocks examined in this study, and may have been employed at the various commercial and professional businesses mentioned above, there was no archaeological evidence of their

presence or differences in ethnicity based on artifact deposition at the sites. The archival information gathered by the archaeologists at the sites and the census data at the turn of the century indicate that the majority of the occupants in the various house lots of the four sites were white.

An important conclusion is that both affluent and working class individuals at the sites appear to have not followed KCC ordinances regarding sanitation practices. Although the faunal evidence is for the most part inconclusive, the presence of non-meat bones at Site 40KN149 and Site 40KN145 suggests that home livestock maintenance and butchery, especially maintenance and butchery of pigs, may have occurred on some house lots after these practices were prohibited by the KCC.

There is also evidence that many individuals resisted KCC privy construction regulations, both before and after the turn-of-the-century. That is, there appears to be no set pattern for predicting who will follow sanitation regulations and who will not. Some affluent residents at the Block 3 Center City site constructed privies to the necessary depth, but others did not. The Bell House Hotel at the River View Towers site had a privy that was constructed within compliance with the regulations, but the privy behind the Schubert Hotel at Site 40KN145 did not appear to meet these regulations. Even within the same lot, some privy holes may have been dug to the proper depth, and others may not have been (see 711 South Gay Street and 206 East Front Avenue).

The evidence furthermore suggests that some former occupants at the four sites were not following KCC regulations regarding solid waste disposal, but

further research is necessary to prove this supposition. Residents at 206 East Front Avenue were disposing of their waste within the work yard of their lot, but it is unknown during what period of time the waste was deposited into the midden. Obviously, many residents were depositing solid waste into their privies, both while the privies were utilized for human waste disposal, and after they functioned as trash receptacles.

Many interesting medical and health group artifacts, primarily medicine bottles, were recovered from all four sites, but the information is limited due to the few embossed medicine bottles recovered from the sites and the number of fragments of bottles with unknown contents. It is apparent that medicines were being consumed by residents of both residential and commercial lots, and that many of the former occupants were consuming nostrums that were ineffective, and sometimes even dangerous. Because the information regarding what medicines Knoxvillians were consuming is limited by the reports, a further large-scale analysis of the medical and health group artifacts from the sites should be conducted.

CHAPTER 7

DISCUSSION AND CONCLUSION

Privatism, Urban Inertia, and Resistance

When examining the late nineteenth and early twentieth century historical documents and archaeological data recovered from the four archaeological sites used in this study, it is apparent that many sanitation ordinances were being resisted by turn-of-the-century Knoxvillians. This resistance appears to primarily be centered within what Scott (1985) termed "everyday forms of resistance;" that is, Knoxville citizens did not comply with sanitation and healthcare regulations. The repeated re-implementation of KCC ordinances suggests that the KCC's public heath policies were often reactionary and difficult to enforce. The historical information also suggests that certain groups, such as poor white Appalachian in-migrants, African-Americans, and European immigrants designated as "off-white" were the target of KCC policy makers and their white middle-class reform supporters.

However, the preliminary investigation of the former occupants of the sites utilized in this study (Carnes 1982, 1983; Garrow et al. 1996; Greene et al. 1998), suggests that everyday resistance to public health reforms was conducted across class boundaries. Although no house lots on any of the four sites contained definitive evidence of African-American occupation, future

archaeological research on other Knoxville sites occupied by this group may enable archaeologists to compare similar data.

Early in the sanitation movement, reformers relied on good will, reason, and volunteerism to motivate people to change their unsanitary lifeways. Early on, the sanitarians' agenda was changing refuse disposal practices and keeping livestock from running free in the urban environment (McFarland 1975:111). However, few sanitarians had illusions about volunteerism, and thus advocated increased legislative efforts. In a typical policy-maker's move, the KCC struck when the iron was hot, producing a succession of ordinances after each of several disease epidemics during the latter half of the nineteenth century. The number of ordinances passed in a single year peaks at the end of the nineteenth century, likely in response to sustained pressure from the established urban elite and the outbreak of numerous epidemics.

The number of times that the KCC discussed sanitation ordinances concerning privy cleaning, household refuse disposal, and home livestock butchery in each year, and implemented and re-implemented ordinances concerning these practices, indicates the degree to which these laws were resisted. Many urban residents did not dig vaults deep enough or clean these vaults regularly, risking groundwater contamination. If we consider resistance to animal ordinances, the number of ordinances the KCC passed peaks in the late nineteenth century. This peak in animal ordinances suggests that KCC was addressing urban residents who continued maintaining and butchering livestock on small house lots, activities that were in defiance of laws implemented to curtail

these practices. Although the faunal data retrieved from the four sites (see Carnes 1982, 1983; Garrow et al. 1996; Greene et al. 1998) were not conclusive regarding continued home butchery practices in the city, the Knoxville historical records suggest that many urban dwellers resisted private livestock ownership prohibitions.

When one analyzes resistance, it is useful to consider that it was difficult for people to believe that what they were doing, such as continuing to butcher their own animals within the city or not promptly cleaning their privy, could result in serious consequences to the general urban welfare, a degradation in urban well-being extending beyond the aesthetic. The literature provides three generalized explanations for resistance to sanitation laws and the resulting lag time between when sanitation laws were passed and when urban citizens began to change their practices in response to the laws. The first reason given is that there was a general public and governmental ignorance of disease causing agents (Beaudry 1993; MacArthur 1976; Tarr 1985). This idea hearkens back to miasma theories before the advent of modern bacteriology.

Another explanation of resistance to legislative reforms points to the social and economic ethos of privatism. Although Maureen Ogle (1999) concedes that sociocultural and economic processes fostered resistance to public water works projects in mid-nineteenth century America, her recent research indicates that "privatism" can explain why it took decades to change sanitation practices from private to public works projects. According to Ogle (1999), citizens who lived in a time of limited government involvement could

easily cooperate with one another, if they personally benefited from the interaction. As a corollary, they did not want to participate in acts that redistributed wealth and did not promote their own interests. So much of the U.S. social ethos is based on notions of "rugged individualism" and "privatism"; participating in projects for the sake of the public good was not part of this agenda. Many people perceived a loss of autonomy if they involved themselves in community projects. If the sanitarians had it their way, people would have to rely on larger regulative "systems," big government controlling what seemed an abstract and irrelevant concept: unsanitary conditions. The concept of privatism may account for white middle and upper class resistance to public health regulations, as well as the possible resistance of minorities and the underclasses.

Urban inertia has also been applied as an explanation for resistance to sanitation reforms. According to R. J. Johnston (1971), "urban inertia" can be loosely defined as the difficulty in changing land use patterns once parcels of land are given over to particular uses. This process is usually the result of high costs in changing land use. In his research on unauthorized refuse disposal practices in El Paso, Texas, Edward Staski (1991) expanded Johnston's definition beyond land use to include behavioral responses of urban citizens to the built environment. Staski (1991) observed a lag time between the implementation of regulations prohibiting unauthorized refuse disposal and correlate changes in practice by urban citizens in late nineteenth century El Paso. Apparently, El Paso citizens continued littering, well after anti-litter

ordinances were implemented. Staski noted that they especially littered in places where they saw litter already present.

Ignorance of disease causing agents, privatism, and urban inertia may all be applied to explain late nineteenth and early twentieth century resistance to KCC sanitation and federal healthcare reforms. In Knoxville, there appeared to have been a general governmental and public ignorance of disease causing agents in the city. KCC implemented many sanitation ordinances directly following disease epidemics, and enforcement appears to have been much stricter for a certain period of time. City Council members debated the need for increased enforcement in the KCCM and attempted harsher measures, such as increasing fines, but after the epidemic quelled, the KCC did not appear to have been readily concerned with sanitation issues.

As discussed in Chapter 4, many of the ordinances the KCC passed throughout the nineteenth and early twentieth centuries required Knoxville residents to construct privy vaults to certain dimensions, and not dump refuse into the city streets. For example, in 1885 the KCC stated that it is a misdemeanor "to sweep or place in city streets any kind of dirt, filth, slops, or offal," and in 1890, the KCC reiterated that it was unlawful for any Knoxville resident to construct a privy pit "not at least six feet in depth". Even well after these standards were codified, the archaeological excavations of the various privies and work yards used in this study (Carnes 1982, 1983; Garrow et al. 1996; Greene et al. 1998) indicate that many urban residents and business

owners did not construct their privy vaults according to city specifications, and continued dumping refuse into their work yards and city lanes.

Privatism and urban inertia could account for many people continuing to illegally construct their privies at too shallow depths, maintain livestock in crowded urban lots, dump refuse in the streets, and purchase illegal and dangerous nostrums. Sanitation and healthcare were long considered private activities. If some urban residents witnessed others illegally dumping refuse into the streets, others likely used this to justify their own activities – a similar thought process to the one we use to justify breaking speed limit laws today.

When livestock are living in crowded city conditions and roaming free, they contribute to many sanitation problems and health hazards (Strauch 1987:155). However, people's belief in their inalienable right to control their own subsistence and livestock may have encouraged them to resist laws aimed at appropriating these rights for sake of the sanitarian's agenda. Suggesting the sanitarian's agenda was impeded by urban inertia may in some respects be true when we consider the change from urban farmstead to bounded city block. As Staski's (1991) interpretation of the concept suggests, many urban residents ignored prohibitory livestock ordinances and continued butchering and maintaining their own animals, and because of this disavowal of the law, other urban residents likely followed. What is most apparent when considering these practices is that many people found hogs personally valuable. As late as 1919, urban residents continued to not only raise poultry, but were also raising hogs in small wallows behind their houses (Welles 1919). The working classes' personal economic

interests and needs for subsistence may have superceded the reactionary laws of the Knoxville City Council and the white middle-class professional elite's sanitation reform agenda. Urban inertia, combined with privatism, probably best explain why it took nearly 100 years to change public health practices.

By the beginning of the twentieth century, people appear to have been adjusting to new technological conveniences, and the improving urban aesthetic. The struggle between the individual and community over public health issues seems to have decreased over time as increased public awareness concerning the causative agents of disease became more widely known, and food and other necessities became more accessible and affordable. Medical technology changed, new industries arose, and the old ties with the countryside were severed as the modern city culture of twentieth century America emerged.

Implications for Urban Archaeology

Documentary and archaeological evidence indicates that there was a wide spectrum of ways people reacted to the health reform movements of the late nineteenth and early twentieth centuries. The archaeological data in this study reveal that whereas many individuals likely conformed to sanitary regulations, overall there was resistance. This resistance to regulations was due to economic and social factors operating in the late nineteenth and early twentieth centuries (Geismar 1993). That one does not see widespread conformity to social and moral ideals in the archaeological record presents a unique problem for the archaeologist. If there is no way of fully determining whether urban citizens

followed sanitation regulations or not, then archaeologists have to overcome any preconceived notions of culture as a static system, and reinterpret culture dynamically, as constantly being redefined by individuals as actors in social groups (Ford 1994:49). The historical archaeologist studying Progressive Era public health should not posit a deterministic model of culture that separates meaning in social action from individuated meanings for these actions. Many social, cultural, historical, and technological forces were at work in the change from privy use to public works, and perception and meaning were constantly redefined by individuals and groups grounded within particular social and historical contexts (Ford 1994:49).

As mentioned, several assumptions have been made by historical archaeologists (see Baugher-Perlin 1982; Henry 1987; Garrow 2000; Garrow et al. 1996) regarding public health regulations and changes in private sanitation and healthcare practices. Although the results of this study are preliminary at best, the archival and archaeological evidence suggests that archaeologists should be wary of making deterministic assumptions regarding the implementation of public health regulations. Baugher-Perlin (1982) suggests that archaeologists can date patent medicine bottles according to the implementation of the 1906 Pure Food and Drug Act. However, this study suggests that a lack of enforcement and privatism contributed to many nostrums continuing to be sold and consumed by many American citizens into the first half of the twentieth century.

According to Henry's (1987) research in Phoenix, Arizona, archaeologists should not expect to find much material evidence of home butchery on urban sites after commercially butchered meats are made available to city residents. However, even with availability of commercially butchered meat, many Knoxville citizens likely continued maintaining and butchering livestock on some urban house lots. Although this study did not reveal definitive material evidence of concentrated livestock maintenance and butchery throughout the city, archival data and the re-implementation of KCC ordinances suggest that there should be sites containing evidence of home butchery within the Knoxville city limits. That is, there should be sites with a moderate to high frequency of non-meat bones, perhaps even adjacent to sites where there is a high frequency of commercially cut meat bones.

Archaeological research in Phoenix resulted in the recovery of some non-meat bones within the city. However, Henry (1987) assumes that these were likely purchased by consumers due to the potential dietary utility of some non-meat bones, such as necks for roasts or stew meat. While this may be the case for Phoenix, Arizona, at the turn of the century, the presence of non-meat bones on other urban sites should be examined carefully in light of new evidence suggesting that home butchery may have continued long after it was prohibited in various cities throughout the United States. Hence, positing deterministic assumptions regarding laws and changes in human behavior may increase archaeological error regarding feature and artifact analyses.

This argument can also apply to Garrow (2000) and Garrow et al.'s (1996) assumptions regarding changes in sanitation practices once public works are made available in the city and the presence or absence of medicine bottles as an indicator of improved Knoxvillian health. These assumptions limited the research scope at the Knoxville Courthouse block (40KN145), and the archival information and other site data all suggest that there was not an immediate transition from Knoxville as a disease-ridden city to one of increased public health. Archaeologists must examine and reconstruct the lifeways of urban citizens cautiously with respect to complex reactions to city legislation and changing social and ecological factors, and be careful in making deterministic assumptions about legally prohibited behaviors and how they affect the archaeological record.

As one can see from the data collected during this study, contract site reports, although difficult at times to synthesize and interpret, may yield significant information regarding urban lifeways and should not be dismissed. Future research may produce more information about resistance to sanitation and healthcare reforms, and whether resistance is stratified along class and racial lines.

Conclusion

Implicit in the ethos and worldview of the sanitation reformers were certain assumptions about how the social environment should operate, and how urban citizens should interact in the city environment. Many of these assumptions are arguably race, class, and gender based. Reformers were reliant on the

"rationality," goodwill, reason, and volunteerism of the urban poor and others in need of "improvement." When this cooperation was not forthcoming, the white middle and upper classes did not step up expensive public works projects, but instead sought to influence behavior by way of public policy, laws, surveillance, and punishment. Thus, legislation was often poorly enforced, and was often ignored, or covertly or overtly resisted.

A general ignorance of disease causing agents was prevalent, and the industrializing, urban economic system fostered self-reliance and a distain for governmental interference in private matters related to sustenance and sanitation: the philosophies of privatism and "rugged individualism." The public good was not part of the private agenda of the urban citizen. One can see these forces underlying Staski's concept of urban inertia, that urban dwellers were not motivated to change the ways with which they were operating within the private sphere or the ways that they were using their personal land. This resistance no doubt affected the general conditions of the city.

Minority and working class needs for economic security and for subsistence in the urban sphere superseded the reactionary laws of the Knoxville City Council's sanitation reform agenda, an agenda that reflected the moral codes of the white middle and upper classes. These ordinances and more generally the sanitation reform movement were a means for the white middle and upper classes to express their views of the ideal social order, a means to influence "other" people's belief systems and behaviors regarding moral behavior, sanitation, and pollution in the developing city environment. As Mayor

McIntosh maintained, without reform "a great plague and devastation await[ed] these United States of America," no doubt what he perceived to be a plague of "otherness" devastating the traditional middle-class moral order in the developing urban sphere.

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VITA

Tanya Alexandra Faberson was born in October 1973 in Melbourne, Australia. She grew up in Belleville, Illinois, where she attended St. Peters Cathedral Grade School and then Belleville Township High School East. After graduating from high school, she briefly attended college, and then served in the US Air Force – specifically, as an Airborne Warning and Control Systems Operator, Base News Writer, and Snack Bar Vendor – and was honorably discharged in 1993, a veteran of Desert Shield / Storm. The "Airman" saw no action, except for four horrendous weeks of combat survival school, wherein she skinned and ate rabbits and drank hot cocoa between "resistance training" sessions -- being buried in the snow, confined in a locker, and repeatedly interrogated – activities which are supposed to be top secret, so don't tell anybody, especially Saddam Hussein...

Returning home after the military, she decided to finish college on Uncle Sam - because he owed her - attending Illinois State University in Normal, Illinois. It was during this time that Tanya's daughter, Tylar, was born.

At ISU, Tanya studied anthropology and biology, graduating in May 1998. After completing her undergraduate studies at ISU, she moved to sprawling Clinton, Tennessee, and began graduate school at the University of Tennessee, Knoxville. While working on her MA degree at UTK, Tanya has had the opportunity to work on a variety of archaeological field projects and to take part in a community of scholars.