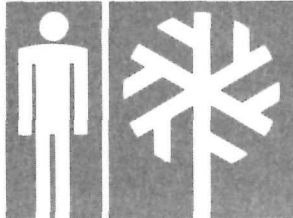


archeological investigations  
railyards

march 1991

**STEAMTOWN**  
NATIONAL HISTORIC SITE



PENNSYLVANIA

ARCHEOLOGICAL INVESTIGATIONS  
AT STEAMTOWN NATIONAL HISTORIC SITE  
SCRANTON, PENNSYLVANIA

by

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## ABSTRACT

Archaeological investigations were undertaken in the former railyards of the Delaware, Lackawanna and Western Railroad in Scranton, Pennsylvania as part of the development of Steamtown National Historic Site. Cartographic data were used to locate areas of archaeological sensitivity. Testing and monitoring were undertaken where potential archaeological resources may be affected by site development. Industrial facilities that were examined include an 1865 machine shop, portions of roundhouses dated 1865, 1902, and 1912-1916, ashing facilities from the 1870s and 1907, and a mid to late nineteenth-century foundry. An artifact deposit located adjacent to the 1909 Gas House represents an earlier domestic occupation in one area of the site. These archaeological investigations have produced data useful for architectural analysis and rehabilitation, as well as artifacts and information for the National Park Service's interpretive programs.

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## I. INTRODUCTION

Archeological investigations at Steamtown National Historic Site in Scranton, Pennsylvania, were conducted by Louis Berger & Associates, Inc. (LBA), between April 24 and May 19, 1989. The work was carried out under an indefinite quantities contract (CX-2000-8-0011) with the National Park Service, Denver Service Center (DSC). The work was conducted under two separate work orders. Work Order No. 9 covered the investigation of 10 areas defined as having high archeological potential or known resources. Work Order No. 20 related to the archeological monitoring of a program to remove contaminated soils within four additional areas of the site. The results of both of these investigations are presented in this report.

Established by Congressional legislation in October 1986, Steamtown National Historic Site is located in the historic Delaware, Lackawanna and Western (DL & W) railyard in Scranton, Pennsylvania (Figure 1). The 40-acre property is currently under development by the National Park Service and will continue to operate as a functioning railyard for steam locomotives. Archeological investigations by LBA were designed to facilitate this development by locating, identifying, and assessing the condition of buried cultural resources at the site. Data gathered from this project will be used to assess potential impacts to archeological resources and contribute to the future management of these resources. In addition, archeological information may be useful in the rehabilitation of existing railyard features and/or the construction of new facilities, as well as the interpretation of the site to the public.

The known and potential resources investigated by LBA were separated into three general categories by the scope of services for Package No. 100-42, prepared by the Eastern Applied Archeology Center. These categories were: 1) areas that had a moderate or high probability for containing remains of aboriginal occupation; 2) historic cultural resources that pre-dated the development of the site as a railroad yard; and 3) historic resources related to railroading, with particular concern for the era of steam locomotive use, circa 1850-1944.

The project area is bounded by South Washington Avenue to the east, the "China Wall" and facilities owned by the Scranton Parking Authority to the north, Cliff Street to the west, and a bluff overlooking the Lackawanna River to the south. Elevations range from approximately 685 to 755 feet above sea level. With the exception of a small section below the bluff adjacent to Washington Avenue, the topography of the project area is relatively flat at elevations greater than 735 feet.

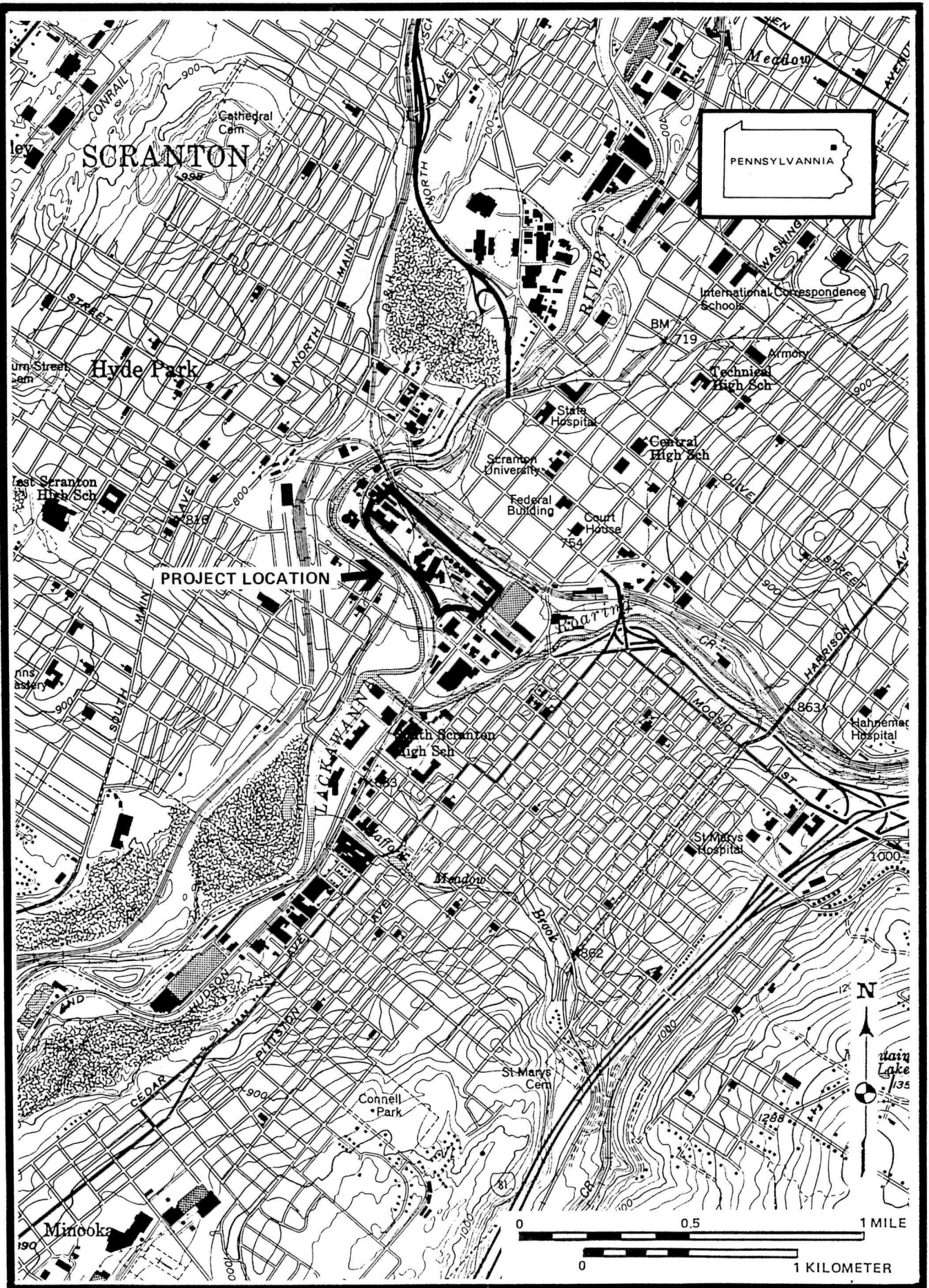


FIGURE 1: Project Area

SOURCE: U.S.G.S. 7.5' Minute Quadrangle, Scranton, Pa.



Of the 10 survey areas investigated by LBA, only seven are located on National Park Service property. Survey Area 8, adjacent to Cliff Street, is currently owned by Laminations Incorporated. Survey Areas 3 and 4 are within a parking lot owned by the City of Scranton.

Principal Investigators for the project were Dr. Michael L. Alterman of LBA and Jed Levin of the Eastern Applied Archeology Center, Denver Service Center. The Field Supervisor was Henry Holt and the field crew consisted of Keith Easley, Eric Fredriksen, Timothy Gardner, Edward Miller, and David Wolfe. Alison Helms provided supplemental historical cartographic research. Analysis of recovered ceramics was performed by Shalra Azizi and Meta Janowitz, architectural remains were analyzed by Marie-Lorraine Pipes, and glass artifacts were analyzed by Mallory Gordon and Nadia Shevchuk. The report was written by Mr. Holt and Dr. Alterman.

The project benefitted from information and organizational services provided by National Park Service staff at Steamtown. Particular gratitude is extended to Dr. John Latschar, Superintendent, Tom Armstrong, Facilities Manager, and Chris Ahrens, Chief Mechanical Officer.



## II. PREHISTORIC BACKGROUND

The prehistory of Lackawanna County and adjacent counties is not well understood. The present state management plan for cultural resources does not cover northeastern Pennsylvania (Raber 1985:3). State archeological site files do not record any prehistoric sites in Lackawanna County, although avocational archeologists have reported sites in the vicinity of Scranton. Nevertheless, it is possible to provide a general overview of regional prehistory from studies conducted in northeastern Pennsylvania and adjacent portions of New Jersey, particularly along the Delaware River valley (Andrefsky 1983; Kinsey 1972; Kraft 1986).

Native Americans have inhabited portions of Pennsylvania for at least 10,000 years. The earliest well-documented prehistoric groups, referred to as Paleo-Indians, lived in an environment that was influenced by the retreating Wisconsin glacier. Temperatures were colder and there was less vegetation than at the present time. It appears that Paleo-Indians specialized in hunting herd animals, such as caribou and bison, that would have flourished in these conditions. Paleo-Indian tools, including distinctive fluted spearpoints, are typically made of high-quality cryptocrystalline rocks, such as chert and jasper. Access to sources of these materials is considered one of the determinants of Paleo-Indian settlement (Gardner 1977; Goodyear 1979).

The subsequent Archaic period (ca. 8000-1000 B.C.) is associated with climatic warming and development of deciduous forests in the area. As a result of changing environmental conditions, which included the migration and extinction of large game species, subsistence patterns included a greater reliance on small game, plants, and aquatic resources (Cleland 1976). These changes were accompanied by new technologies and tool types.

The Woodland period, ca. 1000 B.C. to European Contact, is distinguished by the manufacture of ceramics. Changes in ceramic technology and decoration provide an additional means of defining and dating Woodland cultures. Major Woodland habitation sites were located in the floodplains of rivers and major streams. At the same time, Woodland groups appear to have used upland and low-order stream environments more frequently than their Archaic predecessors. During the Late Prehistoric period, the Native Americans who inhabited this region were part of a proto-Iroquoian sphere (Kent 1984:17). By A.D. 1500, fortified towns provided the major focus of settlement (Kent 1984:297). During the eighteenth century, there were possibly three Native American towns on the Lackawanna River in the Scranton area (Donehoo 1928a:72; 1928b:8, 18).

Scranton is situated in the glaciated section of the Appalachian Plateau. Bedrock consists of sandstone and shale, which would have provided poor sources for lithic tools. However, there are local gravel deposits that could have supplied suitable material for stone tools. The project area's proximity to the Lackawanna River and Roaring Creek would have provided access to numerous food resources, water, and transportation. While the location of the project site is considered to have a high potential for supporting prehistoric occupation, it is highly probable that the industrial development of the property has obscured any evidence of prehistoric activity.

### III. HISTORICAL BACKGROUND

Scranton was originally part of the township of Providence, which was formed in 1771 by settlers from Connecticut on lands purchased from the Six Nations. In 1778, Luzerne County was formed and included this area. In 1790, the county was divided into 11 townships, one of which was Providence. Lackawanna County was created in 1886, when Luzerne County was divided into four smaller counties (Downs 1914; Hitchcock 1914).

The history of Scranton is closely tied to the mining and processing of anthracite coal which is concentrated in this area of northeastern Pennsylvania. Providence was a small town, known locally as Slocum Hollow, until the development of the coal and iron industries in the mid-nineteenth century. From the 1850s, the project area has been dominated by forges, machine shops, and railroad maintenance facilities. By the late nineteenth century, Scranton was surrounded by mines and collieries.

A Historic Resource Study (HRS), prepared by A. Berle Clemensen, DSC Historian, presents a history of steam-era railroading in the Northeastern United States, the DL & W Railroad, and the Scranton railyard. The following overview is based on the Clemensen report and additional cartographic research conducted by LBA.

The history of the DL & W railyard and adjacent Dickson Manufacturing Company site is directly related to the establishment of an early nineteenth-century iron industry in Scranton. As early as 1800, local bog iron ore was being smelted by Benjamin and Ebenezer Slocum. The discovery of substantial ore deposits in 1839 at the confluence of the Lackawanna River and Roaring Brook led to the organization of The Scrantons, Grant and Company which commenced blast furnace operations in 1842. In order to successfully compete in regional markets, the company commenced construction of a railroad in 1850, following the Legget's Gap right-of-way. The chief product manufactured at this time by the newly organized Scrantons and Platt Company was T rails, made expressly for the construction of the New York and Erie Railroad. This manufacturing venture followed an unsuccessful attempt at the production of nails, which failed due to the inferior quality of the local ore (Clemensen 1988:53-54).

In 1851, the Lackawanna and Western Railroad was completed from Scranton due north to Great Bend, near the border with New York, where it connected to the New York and Erie Railroad. The Scrantons railroad holdings were expanded in 1853, with completion of a route to the New Jersey border by way of the Delaware Water Gap. In the same year, the various holdings were consolidated under the name Delaware, Lackawanna and Western. Through an 1856 lease and contractual arrangement, the railroad extended its service to

Hoboken, New Jersey, and thus to the New York City market (Clemensen 1988:54, 91).

By 1857, the DL & W railroad operations in the City of Scranton included an engine house and attached machine shop, a foundry, boiler shop, and car house, all located west of Washington Avenue. Evidence of residential occupations on both sides of Washington Avenue south of Mechanic Street appears on cartographic records of this period. At the west end of the DL & W railyard, passenger and freight depots had been constructed in addition to a number of buildings housing peripheral industries, which included the William Cook machine shop, the Kirlin planing mill, a gun works and a limekiln (Amsden 1857).

Between 1865 and 1877, substantial modifications occurred within the yard. These included the addition of a larger roundhouse and machine shop in 1865, the expansion or rebuilding of the foundry, and the addition of freight car, passenger car, paint, and blacksmith shops east of Washington Avenue. Mechanic Street was subsumed within this expansion, most likely as the result of the construction of the new roundhouse and machine shop (Figure 2). By this time, the Cook machine shop ownership had changed hands and become the Dickson Brothers locomotive manufacturing concern (Hopkins 1877). According to Clemensen (1988:57), these expansions were directly related to an increase in the transport of anthracite coal, which by 1874 constituted approximately 90 percent of the freight carried by the DL & W.

The next major alterations to the railyard occurred in the early twentieth century when the company made efforts to modernize its infrastructure. Many of these changes were directly related to the expanding size of motive power (Clemensen 1988:64). As depicted by Volk and Keuhls (1918), these alterations included the razing of the earliest roundhouse and adjacent foundry and an enlargement of the circa 1865 roundhouse and turntable to the southwest. The machine shop adjacent to the enlarged roundhouse was rebuilt with a configuration offset to the west. The Storehouse, Scrap Bins, Boaring House, Store House and Gas House were erected on the west side of Washington Avenue and large machine and erecting shops were built on the east side of Washington. These were relatively massive structures constructed of concrete and a combination of brick and concrete. A new 400-foot-long cinder pit with overhead travelling crane and a 900-foot-long coal trestle was added in 1906. The 1864 passenger structure was removed after a new passenger terminal and office building opened in 1908 along Lackawanna Avenue in the Scranton business district (Clemensen 1988:69).

Alterations were also made during the early 1900s to the structures formerly owned by the Dickson brothers under the successive ownership of the American Locomotive Company, the Sall Mountain Company, Williams Ice Cream Company, and the Quackenbush Warehouse (Clemensen 1988:103). These modifications were the last major

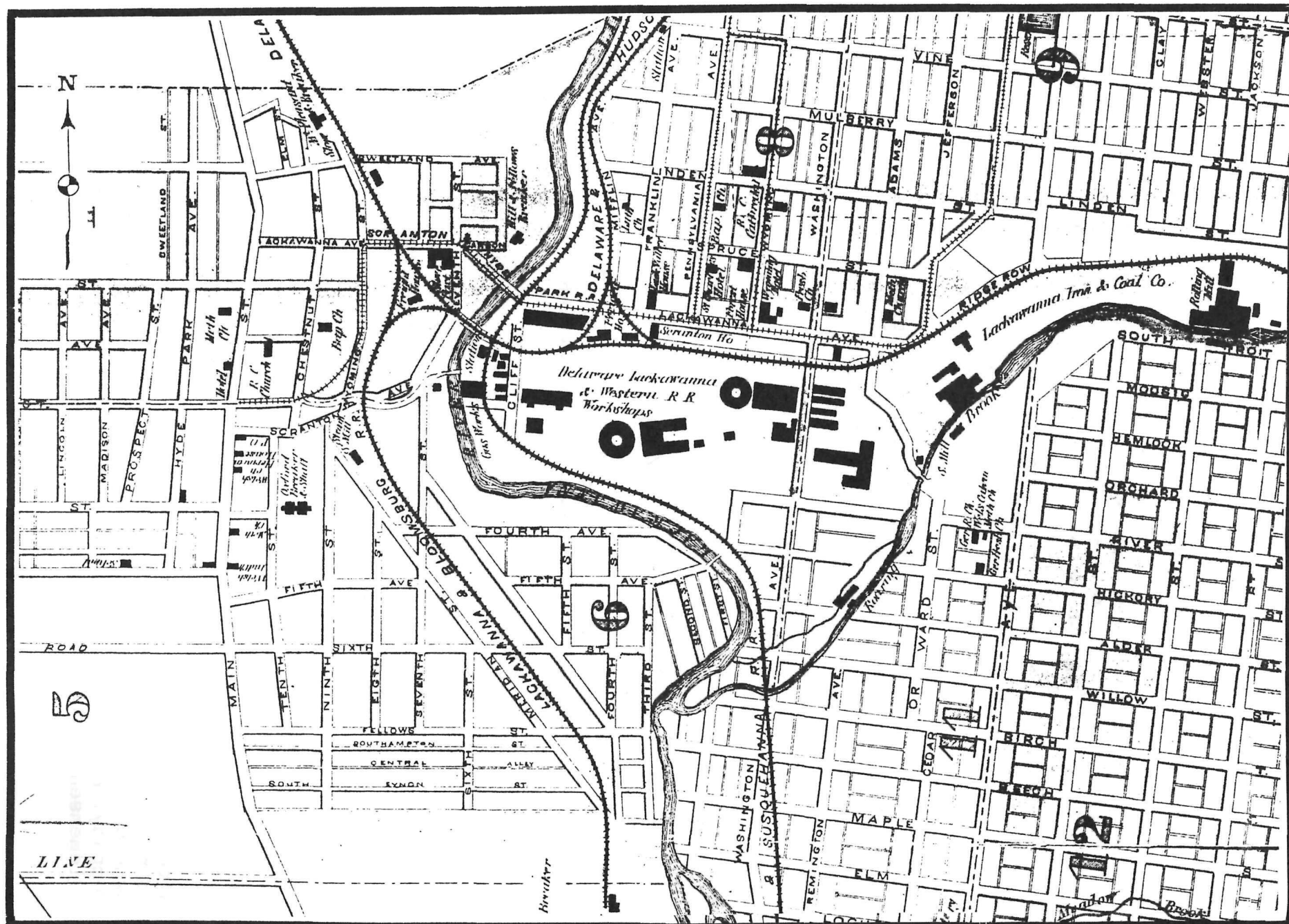


FIGURE 2: 1873 Map of Scranton Showing Delaware, Lackawanna and Western RR Workshops

SOURCE: Beers 1873. Atlas of Luzerne County, Pennsylvania



changes within the railyard prior to its conversion to a diesel repair facility. Beginning in 1944, the Scranton yard was altered to include diesel fuel storage tanks and changes to the Machine Shop. The Machine and Erecting Shops, closed in 1949, were acquired by the United States Army and developed into a complex for the manufacture of artillery shell casings (Clemensen 1988:79, 85). (This portion of the complex is located outside of the Steamtown National Historic Site.)

In 1960, the Delaware, Lackawanna and Western merged with the Erie Railroad to become the Erie Lackawanna. The last steam locomotive at the Scranton yard left service at this time. After the Erie Lackawanna declared bankruptcy in the 1970s, the Scranton yard became a part of the Consolidated Railroad Corporation (CONRAIL) system. The City of Scranton purchased the yard in 1985 as part of an arrangement to house the Steamtown collection of locomotives and rolling stock (Clemensen 1988:85, 90).

On October 30, 1986, Public Law 99-591 established Steamtown National Historic Site "to further public understanding and appreciation of the development of steam locomotives in the region." Encompassing approximately 40 acres of the DL & W Railroad yard, the site consists of the land, historic roundhouse, switchyard, and associated buildings, track, and equipment.

#### IV. RESEARCH DESIGN

##### A. PREVIOUS ARCHEOLOGICAL RESEARCH

An Archeological Planning Overview of Steamtown National Historic Site (Zitzler 1987) was prepared as part of a Comprehensive Management Plan directed by the DSC. This study was conducted by The American University through a Cooperative Agreement with the Eastern Applied Archeology Center, DSC. The planning overview includes an Archeological Base Map that depicts the predicted locations for cultural resources at Steamtown. The base map accompanies a written description of the cartographic record from 1854 to 1898.

Archeological investigations conducted at Steamtown prior to the testing program reported here included excavations at the partially extant roundhouse by The American University (Zitzler 1988). The intent of this investigation was to examine structural evolution from 1865, when the DL & W constructed the first roundhouse at this location, until 1937, when the last major alterations occurred with the construction of the modified driver drop pit. The site was significantly altered during this period; a total rebuilding and expansion of the structure was undertaken in 1902 and repeated modifications were made later in the twentieth century. Zitzler's investigations involved the excavation of 10 trenches, which provided data on the foundations of the roundhouse, turntable, and transfer table. In addition, numerous features related to the operation of the roundhouse were documented.

##### B. PREHISTORIC RESOURCE POTENTIAL

The recovery of prehistoric remains from the project area is partly determined by historical developments that would have affected site preservation. Although there has been extensive construction within the railroad yard, it was considered possible that remains of prehistoric occupation would have survived in relatively undisturbed portions of the site. The objective of testing for prehistoric resources was to determine if undisturbed soils were present in areas where aboriginal habitation might have occurred.

The research design for the project area recognized that any prehistoric resources located at Steamtown National Historic Site would be significant because of the paucity of data on aboriginal occupation in this region. Thus, the first question to be addressed if any prehistoric sites were identified was the nature of prehistoric land use through time. This question entails several basic issues: differential use of space, the type and diversity of resources utilized, and the degree of settlement mobility. It was anticipated that the function and duration of aboriginal

occupations in the project area could be reconstructed from an array of data, including artifact diversity and function and the presence and function of features.

### C. HISTORIC CONTEXT

A review of historic maps indicated early to mid-nineteenth-century houses along South Washington Street in an area of Steamtown National Historic Site that appeared to have been relatively undisturbed by later industrial development. This area, marked Area 2 on the archeological base map, was considered to have the potential to contain historic archeological deposits related to preindustrial occupation of the site.

Based on available documentation, the land uses that might be reflected in this area's archeological resources included residential activities and, possibly, those associated with light industry. The data required to interpret the nature of residential occupations include details of historic land-use activities and the types of households present (e.g., social and economic affiliation), and archeological information such as feature placement, refuse disposal, landscaping activities, and building size, shape, and location. In the event that intact household deposits were located through field testing, the research design called for additional historical research to delineate the structure of the households that occupied the area of investigation. Critical data to be collected would have included the size, age structure, makeup, and income level of the site's households.

Consumer behavior, one of the aspects of residential occupation most conducive to archeological investigations, was also identified as an important area of study by the research design if appropriate data are available. Broadly defined, consumer behavior includes aspects of foodways, differential purchasing patterns for various types of material goods, and the allocation of income for household necessities, investments, and recreation (cf. Klein and Garrow 1984; Miller 1980).

### D. THE SCRANTON RAILROAD YARDS

Archeological remains of structures and deposits related to the use of the Scranton railroad yards were expected to provide data on craftsmanship and construction methods. Construction techniques and the types of materials utilized embody a system of values that, by and large, are not always accessible through documentary sources. In addition, certain deposits can be informative about working conditions and worker lifeways in the railroad yards.

As mentioned above, archeological remains can provide data on historic land-use patterns. Archeological deposits from the project



area have the potential to demonstrate the effects of industrialization upon earlier occupants of the area. In addition, the recovery and interpretation of technological apparatus can provide information on when certain technological advances were implemented at the site. This information may indicate disjunctions between available technology and what was utilized at the site, which could reflect: 1) pressure from workers against introducing equipment that reduced the number or skill level of railroad employees, 2) prohibitive costs; or 3) changing attitudes toward safety and efficiency.

In addition, the most direct contribution of the archeological survey was considered to be the recovery of historic railyard components that could provide information for reestablishing steam-power railroad services and developing interpretive exhibits and programs at the park.

## V. FIELD AND LABORATORY METHODS

### A. FIELD METHODS

Archeological testing at Steamtown National Historic Site consisted of 23 backhoe trenches and a single hand-excavated trench within eight noncontiguous survey areas and mapping in two additional areas (Figure 3). The boundaries of these 10 survey areas, with the exception of Area 8, were defined by the scope of services (Package No. 100-42) that was prepared by the Eastern Applied Archeology Center, DSC. These areas were identified as sensitive on the basis of a previous archeological planning document (Zitzler 1987), cartographic research, and other information. Within two of the survey areas, 6 and 7B, excavations took place partially or entirely outside of the boundaries defined by the scope of services. In both of these situations, the trenches placed by LBA reflect the actual locations of the targeted resource based on additional cartographic research and preliminary excavation results.

Machine excavations ranged in length from 7 to 31 feet, depending upon preliminary field results and excavation conditions, with a mean length of 18.8 feet. The width of the machine trenches ranged from 2 feet to over 5 feet. Depths of excavations ranged from 1.2 feet to 12.4 feet below ground surface.

Trench placement within the survey areas was guided primarily by the locations of structures shown on historic maps (Amsden 1857; Graves and Steinbarger 1898; Hopkins 1877; Hunter and Howell 1888; Volk and Kuehls 1918). These maps were projected at a common scale of one inch to 200 feet, which is compatible with modern site plans. Where applicable, Sanborn fire insurance maps using a scale of 1 inch = 50 feet were employed in conjunction with modern maps at the same scale. Archeological trenching enabled LBA to test the veracity of the historic cartographic series and "ground truth" Zitzler's (1987) archeological base map.

The probable locations of historic building foundations were identified in the field by surveying from either street centerlines and road intersections on the City of Scranton grid or standing buildings on the site. The orientation of the city grid was employed during excavation because the majority of the structures within the project area, both extant and demolished, were constructed according to this grid. The survey grid was defined by South Washington Avenue to the east and Cliff Street on the west, both running north to Lackawanna Avenue.

Additional trenches were placed judgmentally following consultations with the Eastern Applied Archeology Center. These trenches were designed to further examine the extent and integrity of identified archeological deposits, particularly in areas where construction is anticipated.

All trench profiles and features were drawn to scale and photographed. Soil depositional units were described by texture, content, and color, using Munsell Soil Color classifications.

A 40-gallon sample of soil from each excavated stratum was screened through 1/4-inch wire mesh. In addition to the materials that were collected by screening, additional artifacts were saved on a judgmental basis. The remains recovered from judgmental sampling were typically large. Artifacts were cataloged according to their horizontal and vertical provenience and by their means of recovery, either screened or judgmentally collected. An inventory of the assemblage, comprising 953 artifacts, is provided in Appendix 1.

Overburden fill deposits of unknown origin were generally not screened fully. However, deposits likely to yield intact cultural remains were subject to full screening. As excavations proceeded, it became apparent that fill soils of unknown origin (chiefly ash, slag, cinders, and fragmentary firebrick) were present in all of the survey areas investigated by LBA. Only two of the survey areas, Areas 2 and 5, yielded deposits of artifacts and nonstructural features that could be directly related to activities associated with the historic structures.

At the close of the survey project, LBA received a directive to monitor the removal of contaminated soils from four areas within the boundaries of the Steamtown National Historic Site (see Figure 3). Of the four areas where soils removal was scheduled for excavation, three were monitored by LBA. Soil removal operations within the fourth area were postponed. As with the survey excavations conducted by LBA in Areas 1-8, all exposed architectural features were mapped in profile and plan view, where appropriate, and photographed.

## B. LABORATORY METHODS

All recovered artifacts were cleaned, identified, and cataloged. Historic materials were sorted into the following categories for analysis: ceramics, curved glass, architectural remains, small finds, faunal, and industrial-related.

Identifiable ceramics and glass were the most useful artifact types for determining the date ranges of various depositional units. Ceramics were tabulated according to ware, type, decorative attributes, and makers' marks. Where possible, vessel form was

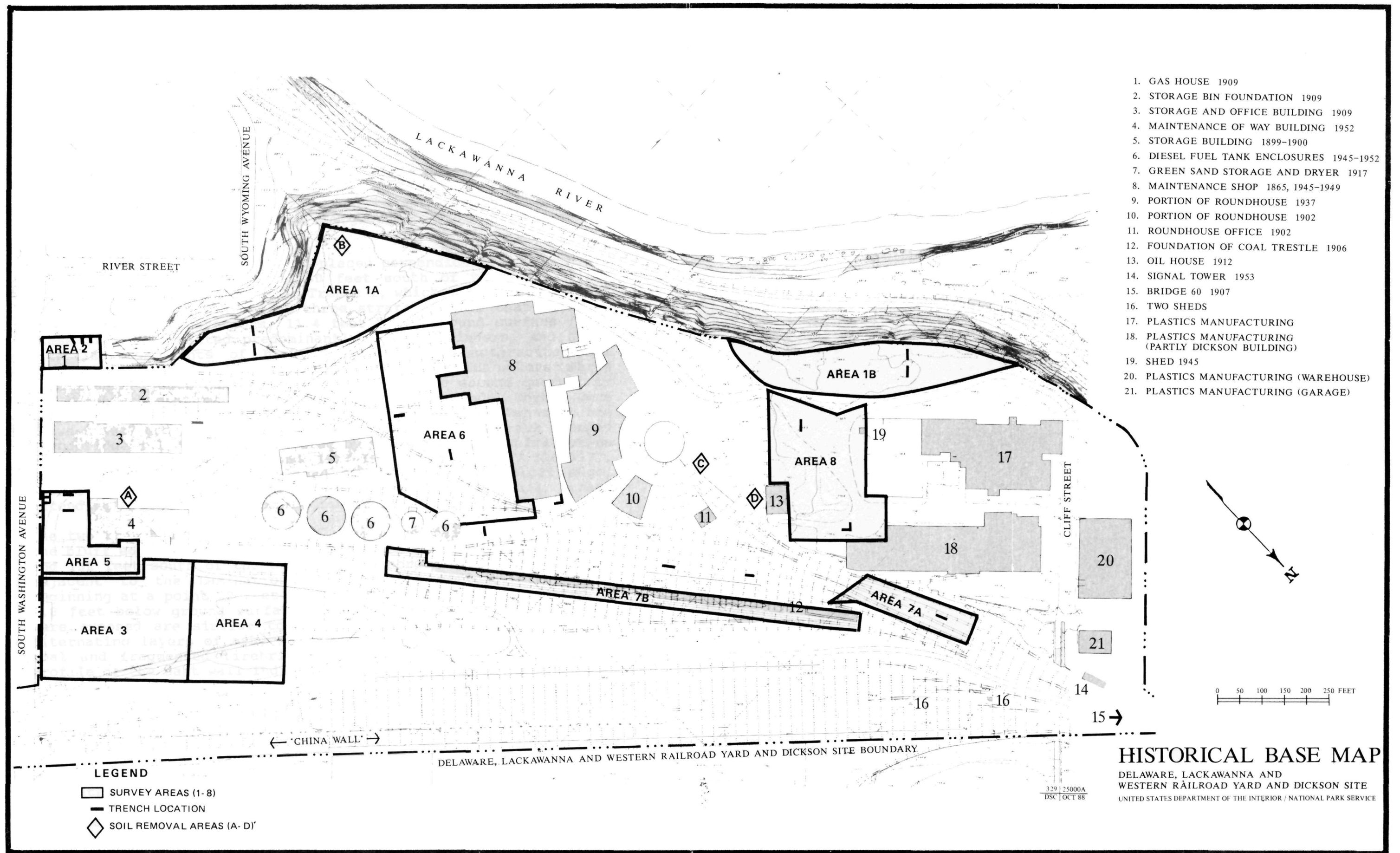


FIGURE 3: Survey Areas 1-8 and Trench Locations

identified. Curved glass was tabulated according to functional categories. Dates for glass vessels are derived from technological attributes, such as pontil marks and mold seams, as well as embossments.

Recovered materials that will be retained by the park will be cataloged according to the Automated National Cataloging System (ANCS) and curated at Steamtown National Historic Site.

## VI. RESULTS

### A. SURVEY AREAS 1A AND 1B

A total of four backhoe trenches were located on two sections of the bluff overlooking the Lackawanna River in order to determine if natural stratigraphy was present beneath episodes of fill. Trenches were placed in areas of low ground to avoid obvious mounds of fill.

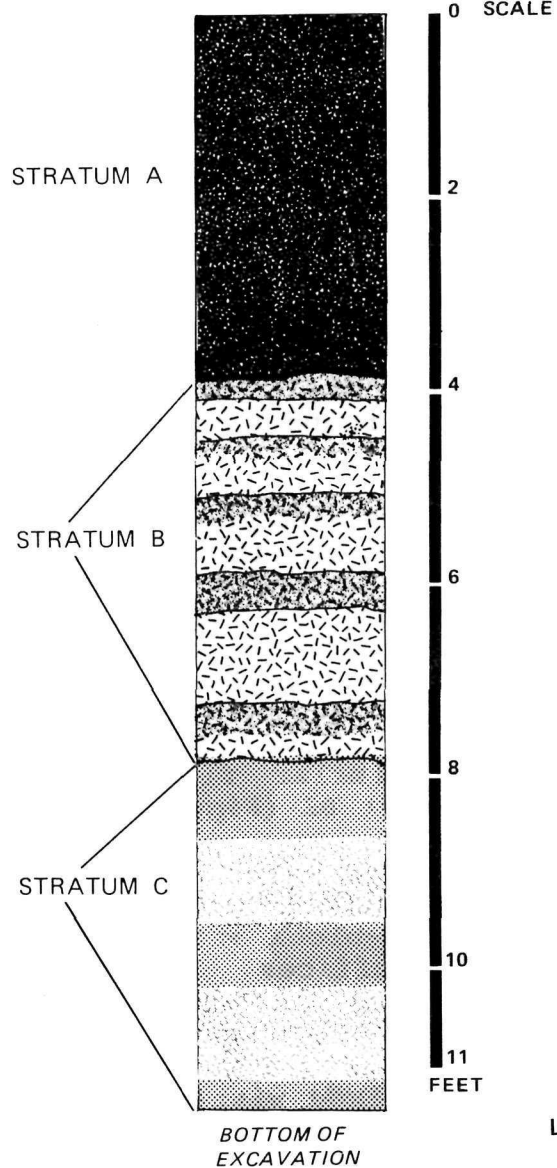
The two trenches in Area 1A were placed perpendicular to the bluff edge, extending 204 feet to 250 feet south of the Storage and Office Building (see Figure 3). Trench 1, which was located 16 feet from the bluff edge, revealed three strata of fill that extended to the base of excavations, 11.4 feet below ground surface (BS). These strata consisted predominantly of ash, cinders, and slag, with lesser amounts of broken firebrick and anthracite coal fragments (Figure 4). A collection of firebricks with makers' marks from Trench 1 date this filling episode to the second quarter of the twentieth century. Two bricks stamped "Salamander Works" were manufactured by the Westmoreland Brick Company in Pennsylvania between 1927 and 1942 (Gurcke 1987:290-291). Another brick stamped "Woodbridge # 1," was manufactured by the Woodbridge Refractories Company in New Jersey around 1927-1930 (Gurcke 1987:316-317). Excavation of Trench 2, placed 65 feet from the bluff edge, resulted in comparable data, with three similar fill strata extending to the base of excavation at 9.8 feet BS (Figure 4).

The two trenches in Area 1B were also excavated perpendicular to the bluff edge (see Figure 3). These trenches were located 88 feet and 132 feet south of the circa 1945 concrete-block shed that is adjacent to the Laminations Incorporated offices. Trench 1, beginning at a point 20 feet from the bluff edge, was excavated to 9.8 feet below ground surface. The repeated layers of fill that were exposed are similar to the results obtained from Area 1A. Alternating layers of ash, slag, and cinder mixed with pieces of coal and fragmented firebrick were noted (Figure 5). A column profile of the east wall indicated a talus slope angle, as opposed to the column profiles in Area 1A which demonstrated a relatively flat stratigraphy.

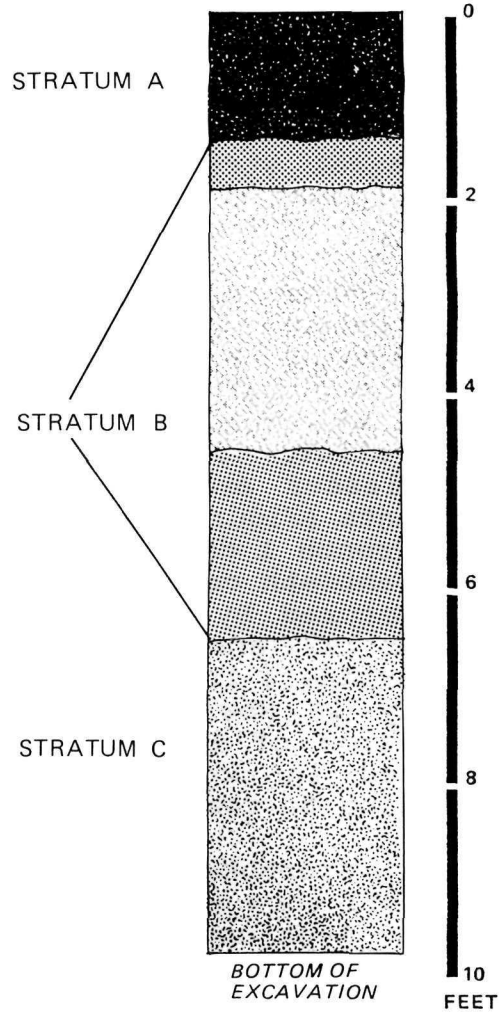
Excavation of Trench 2 in Area 1B also demonstrated a talus slope. Excavated to a depth of 12.4 feet, stratigraphy comparable to the other trenches excavated in Areas 1A and 1B was documented, with alternating layers of ash, slag, and cinders. A discrete concentration of ceramic and tumbler glass fragments was collected from a series of white (7.5 YR 8/0), light gray (10 YR 7/1), and very pale brown (10 YR 7/4) ash layers. Diagnostic ceramic artifacts within this assemblage included two makers' marks, both



AREA 1A  
TRENCH 1  
EAST PROFILE



AREA 1A  
TRENCH 2  
WEST PROFILE



LEGEND







-  10YR 2/1 BLACK LOAM WITH HIGH CARBON CONTENT
-  10YR 3/2 VERY DARK GRAYISH BROWN ASH AND CINDERS
-  7.5YR 8/1 WHITE ASH AND CINDERS
-  5YR 5/6 YELLOW RED ASH AND CINDERS
-  2.5YR 4/6 RED ASH AND CINDERS
-  10YR 2/1 BLACK WITH AREAS OF 10YR 8/2 WHITE CINDERS AND SLAG

FIGURE 4: Survey Area 1A Trench Profiles

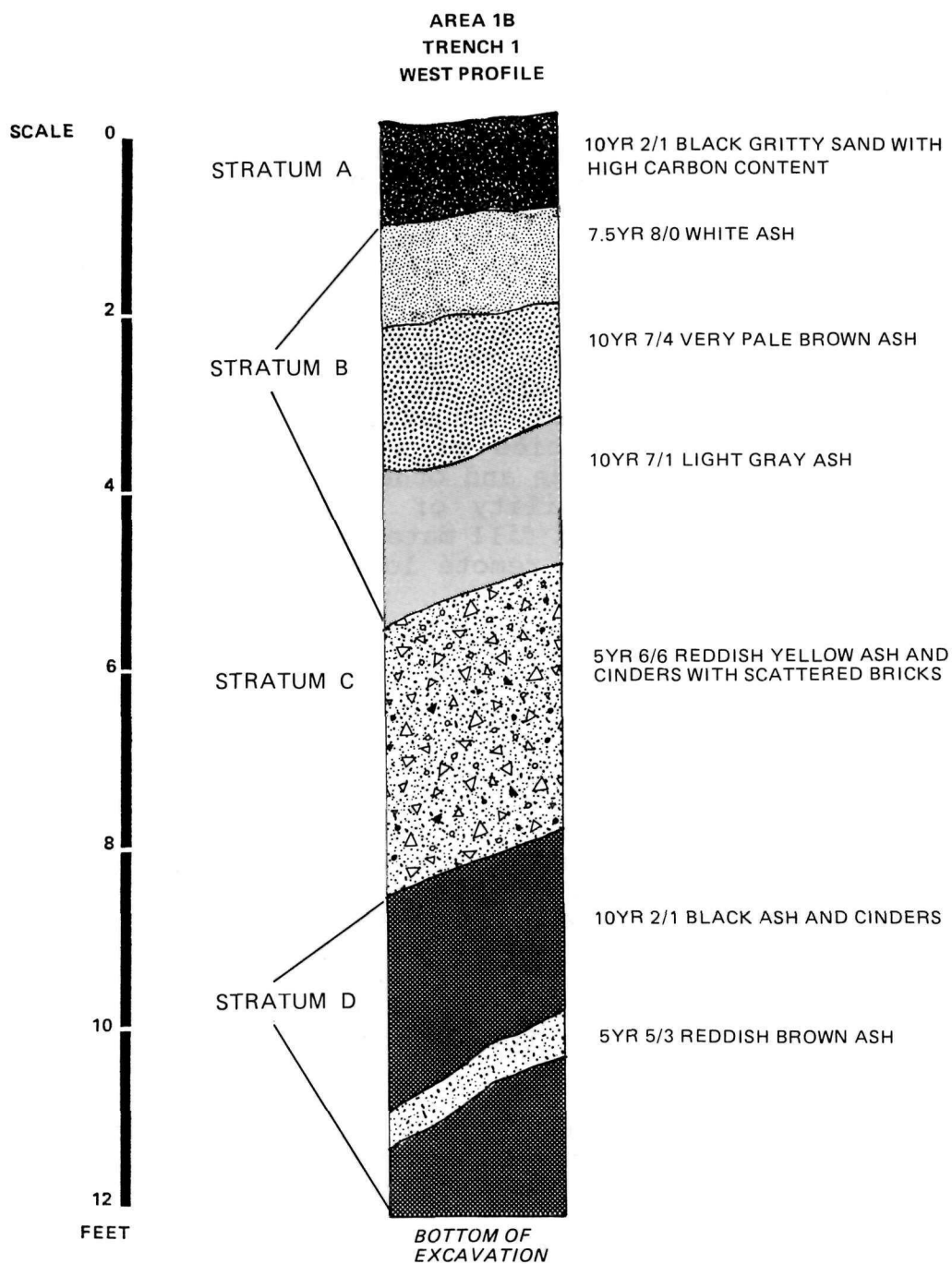


FIGURE 5: Survey Area 1B, Trench 1 Profile



on hotel-type ironstone. The marks, "Maddock's American China" and "Ridgways Vitrified, England" date to 1900-1923 and 1912-1920, respectively (Barber 1904:49; Godden 1965: 539; Lehner 1988:100).

With respect to locating the presence of undisturbed, natural soils, excavations in Areas 1A and 1B produced negative results. Test excavations in both of these survey areas exposed deep fill deposits that were primarily composed of industrial by-products and refuse. An examination the 1884 Sanborn maps provides an insight as to the possible source of the fill materials; a minimum of 3 curing ovens, 7 furnaces, 9 stationary boilers, and 49 forges were in operation in the DL & W railyard and adjacent Dickson site at this time. In combination with the waste produced by locomotive operations, these coal-fired industrial activities would have produced significant quantities of ash, cinders, and slag that could be used as fill in these and other areas of the railyard. In addition, the ready availability of rail transport at the site suggests the possibility that fill material could have been brought to the site from an unknown, remote location.

#### B. SURVEY AREA 2

Three backhoe trenches were excavated in Area 2, located adjacent to the concrete Gas House constructed in 1909 (Figure 6). The objective of these excavations was to determine the presence or absence of deposits related to domestic occupations within the block bounded by River Street to the south, South Washington Avenue to the east, and Kelleman Court to the west. Cartographic research, in particular the 1854 Amsden map of Scranton and an 1898 fire insurance map revised in 1912 (Sanborn-Perris 1912), indicated that the area was possibly occupied as early as 1854, and that these domestic occupations had been displaced by the 1909 construction episode. The 1912 Sanborn map depicts the 1909 Gas House superimposed on structures within Lots 9 and 10 that were owned by A. Dunn, Sr.

Trenches 1 and 2, each about 20 feet long, were placed perpendicular to the low retaining wall south of the Gas House, 109 feet and 91 feet west of South Washington Avenue, respectively. Both of these excavations exposed sections of a circular concrete foundation approximately 35 feet in diameter and that ranged in depth from 1.2 feet to 1.4 feet BS. This large concrete feature has been identified as a foundation to the easternmost of two gas storage tanks located approximately 5 feet southwest of the Gas House. This tank is clearly depicted in historic photographs of the Gas House under construction in 1909 (Clemensen 1988:83).

Trench 3, which was 15 feet long, was located 61 feet west of South Washington Avenue at an angle of approximately 75 degrees to the low retaining wall. This offset from grid was required to accommodate the length of the backhoe. After clearing 0.6 foot of

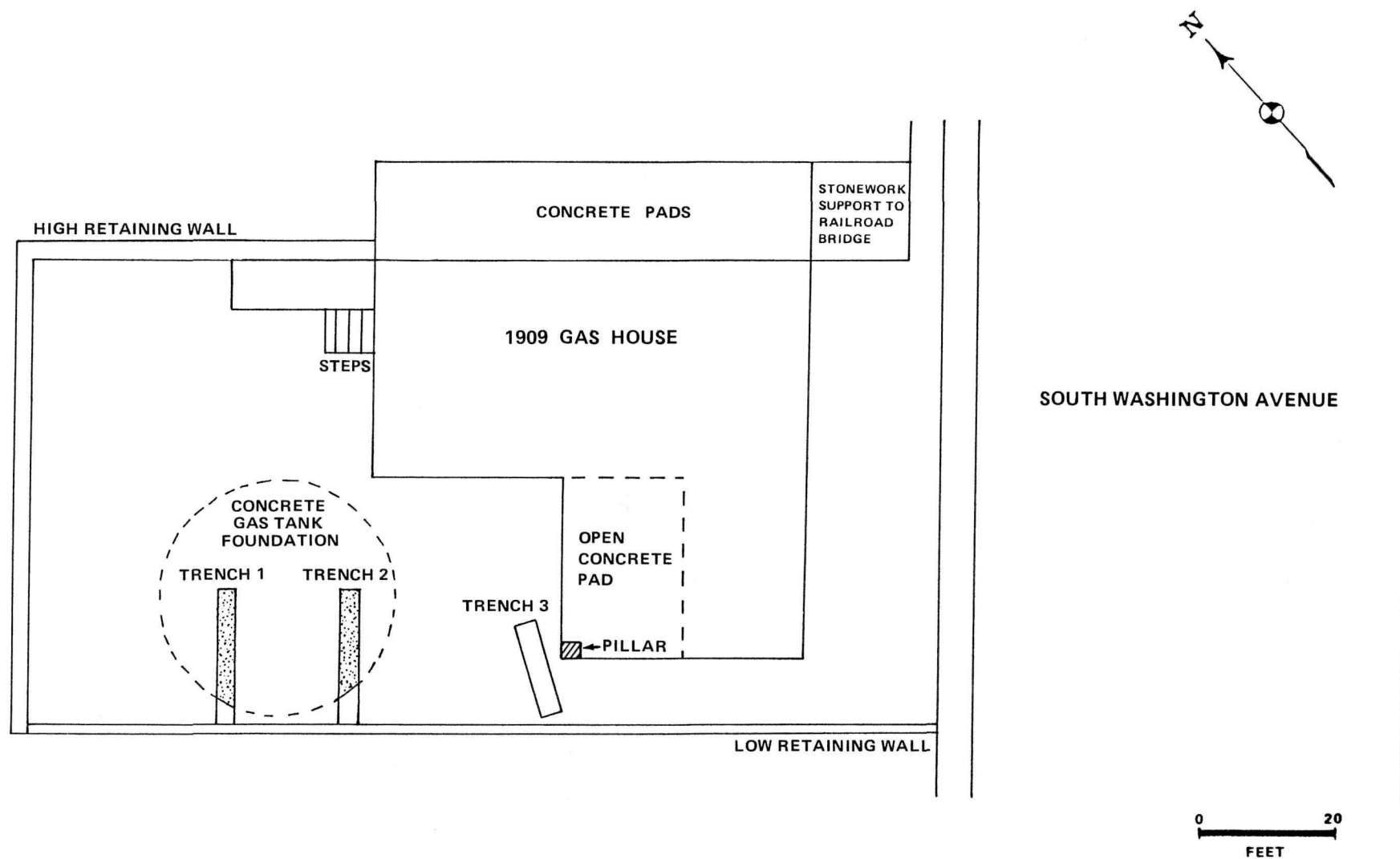


FIGURE 6: Survey Area 2 Trench Locations

gravel and a buried concrete slab, a fill deposit was encountered to a depth of 4.4 feet BS. This dark brown (10 YR 4/3) sand and rubble fill was related to the construction of the Gas House. Domestic cultural materials were recovered below this fill zone to the base of excavation at 10.4 feet BS. The upper levels of the domestic deposits contained lesser amounts of artifacts in a very dark gray (2.5 Y 3/0) gravel and sand matrix. Lower levels, from 8.4 feet BS to the base of excavation, yielded the greatest number of cultural materials in a dark brown (10 YR 4/3) sand matrix. The artifacts recovered from Trench 3 clearly have a domestic origin. Ceramics form the predominant artifact group, followed by glass, architectural materials, dietary remains, and clothing-related artifacts (see Appendix 1).

In addition to domestic refuse, the architectural remains of a masonry wall were excavated by machine in Trench 3. These remains appeared to relate to an east-west wall of an ell foundation extending west from the A. Dunn, Sr., residence. A close examination of these architectural and domestic deposits could not be safely made, however, because of the instability of the overlying fill.

#### C. SURVEY AREAS 3 AND 4

Investigation of the 1851 Machine Shop (Area 3) and the 1855 Roundhouse (Area 4) was limited to cartographic research and field plotting, because these two areas encompass an operating parking lot administered by the City of Scranton Parking Authority. The Parking Authority expressed concern that archeological work in the lot would cause disruption, and requested that excavations not be conducted in this area.

The objective of the investigation in Survey Areas 3 and 4 was to document the relationship of the original roundhouse and machine shop to the existing site features, including the parking facility. This was accomplished by surveying and plotting the parking lot on the Steamtown National Historic Site base map at a scale of 1 inch to 200 feet. The locations of the historic structures were determined by overlaying this data on a copy of the 1857 Amsden map of the city. As predicted, these resources are located within Steamtown National Historic Site, beneath the filled area to the south of the "China Wall" and under the city parking facility (Figure 7).

#### D. SURVEY AREA 5

Five backhoe trenches were excavated in Survey Area 5 to locate and assess the integrity of a foundry constructed between 1854 and 1857 at the northwest corner of the intersection of South Washington Avenue and Mechanic Street. Post-1857 modifications to

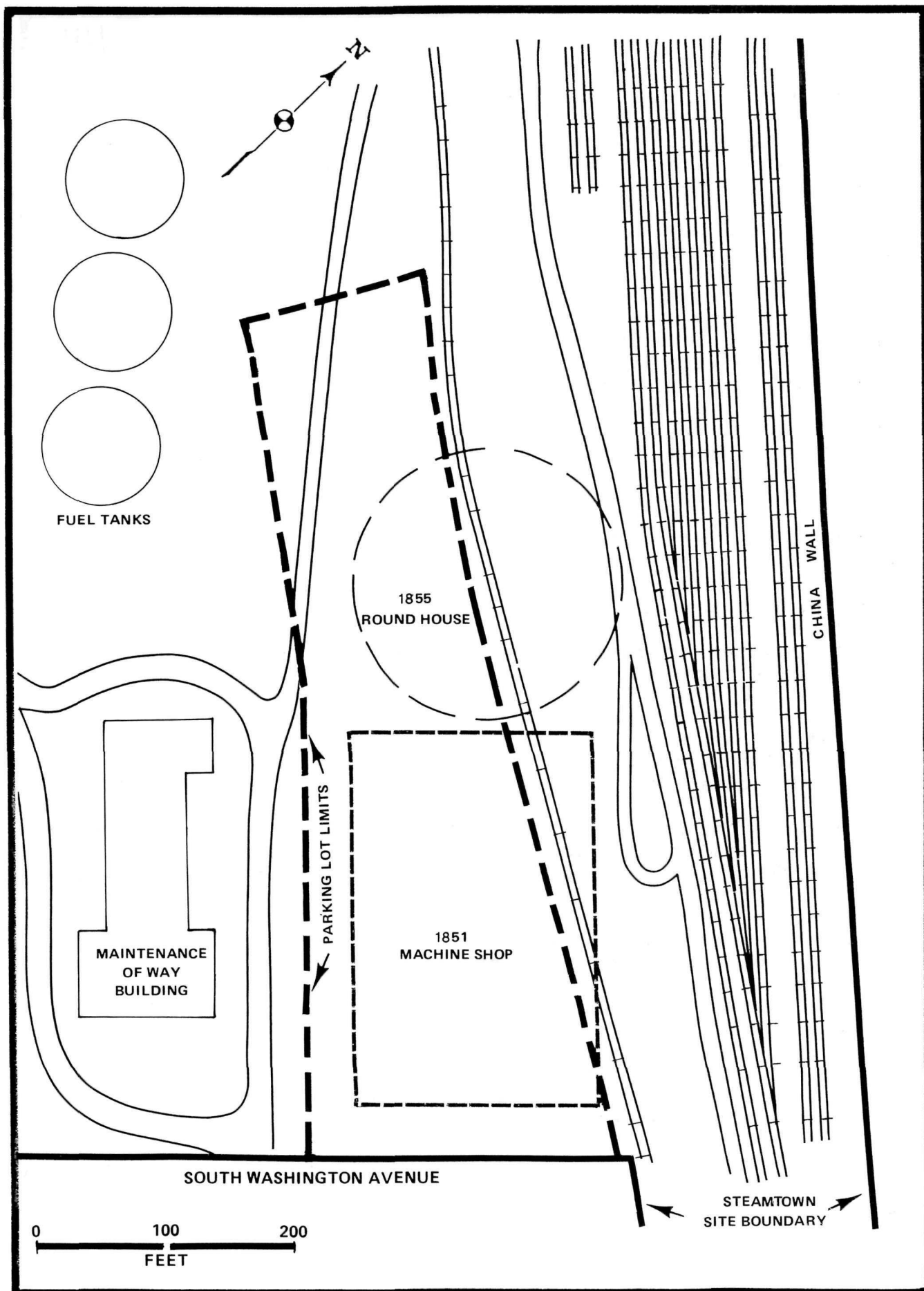


FIGURE 7: Location of 1851 Machine Shop and 1855 Roundhouse in Relation to Present City Parking Lot

the foundry included a significant expansion by 1873, with smaller additions by 1877. It is not clear from the cartographic record whether the smaller circa 1857 foundry was razed, or if it was incorporated into the later construction. From 1877 to 1898, the foundry structure remained essentially unchanged. The foundry does not appear on the 1918 Volk and Kuehls atlas. The facility was probably demolished between 1902 and 1912 when the DL & W railyard was modernized (Clemensen 1988:65).

A secondary objective of the testing in Area 5 was to document the extent of twentieth-century construction-related disturbances to archeological deposits. In addition to the known active utility lines in the vicinity, a concrete tunnel traverses the center of the survey area. This tunnel was constructed to connect the Office and Storage Building to steam-era maintenance structures (currently United States Army ammunition production facilities) located on the east side of South Washington Avenue. The relationship between the tunnel, the predicted foundry location, and the trenches excavated by LBA is shown in Figure 8.

Trench 1 was situated to intersect the west edge of the tunnel. According to cartographic data, it was expected that Trench 1 would provide an interior cross section of the foundry, while at the same time providing data on the extent of disturbance related to construction of the tunnel. Following the excavation of gravel layers related to road and parking area grades, six modern and historic features were exposed (Figure 9). A 3.8-foot section of the concrete tunnel (Feature 1) was located at the eastern end of the trench, 2.6 feet BS. An electric utility line encased in concrete (Feature 2) was identified adjacent and parallel to the tunnel at a depth of 2.3 feet. Together these modern features extended a total of 8.2 feet from the east wall of the trench.

Two large stone pedestals (Features 3 and 4) were located west of the modern utility (Figure 9). Feature 3 extended from 11.7 feet to 14.2 feet from the east wall of the trench and Feature 4 from 15.5 feet to 18.3 feet. The tops of these two pedestals were 2.1 feet BS and 1.8 feet BS, respectively. Both features consisted of large granitic blocks measuring approximately 2.1 feet in width and a minimum of 2.3 to 2.7 feet in length and 2.4 feet in depth. Each block had been notched on the eastern edges, providing support insets. Feature 3, the nearest feature to the modern utilities, appears to have been displaced slightly during construction of the tunnel. The loosely packed soils excavated between Features 3 and 4 may also relate to construction disturbance. West of Feature 4, soils became more highly compacted in proximity to the remaining historic features within the trench.

Feature 5 consisted of a 3.3-foot-diameter iron tube located 25.1 feet from the east wall of the trench. The depths of this feature ranged from 1.5 feet to 4.6 feet (minimum) below ground surface.

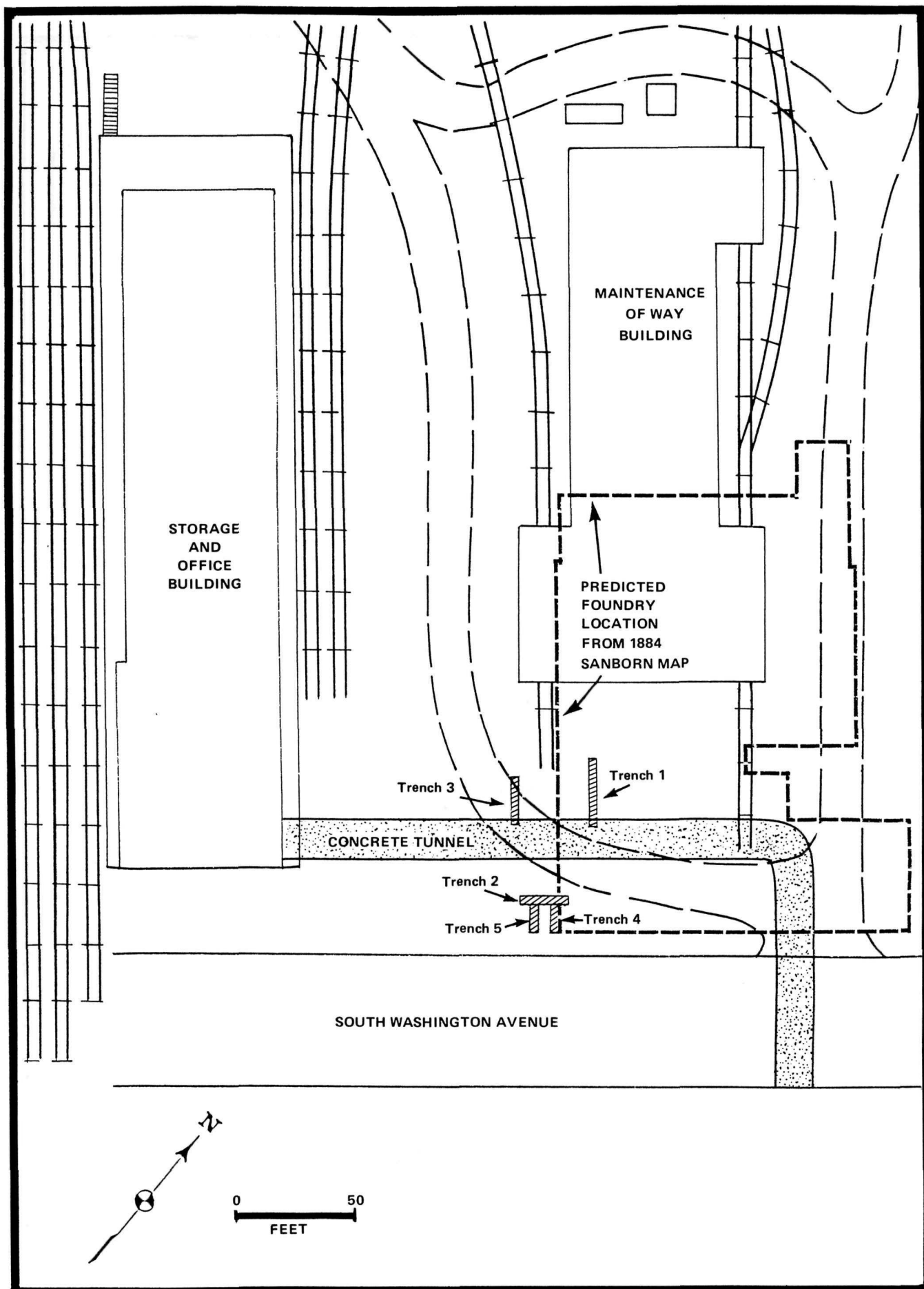


FIGURE 8: Survey Area 5 Trench Locations



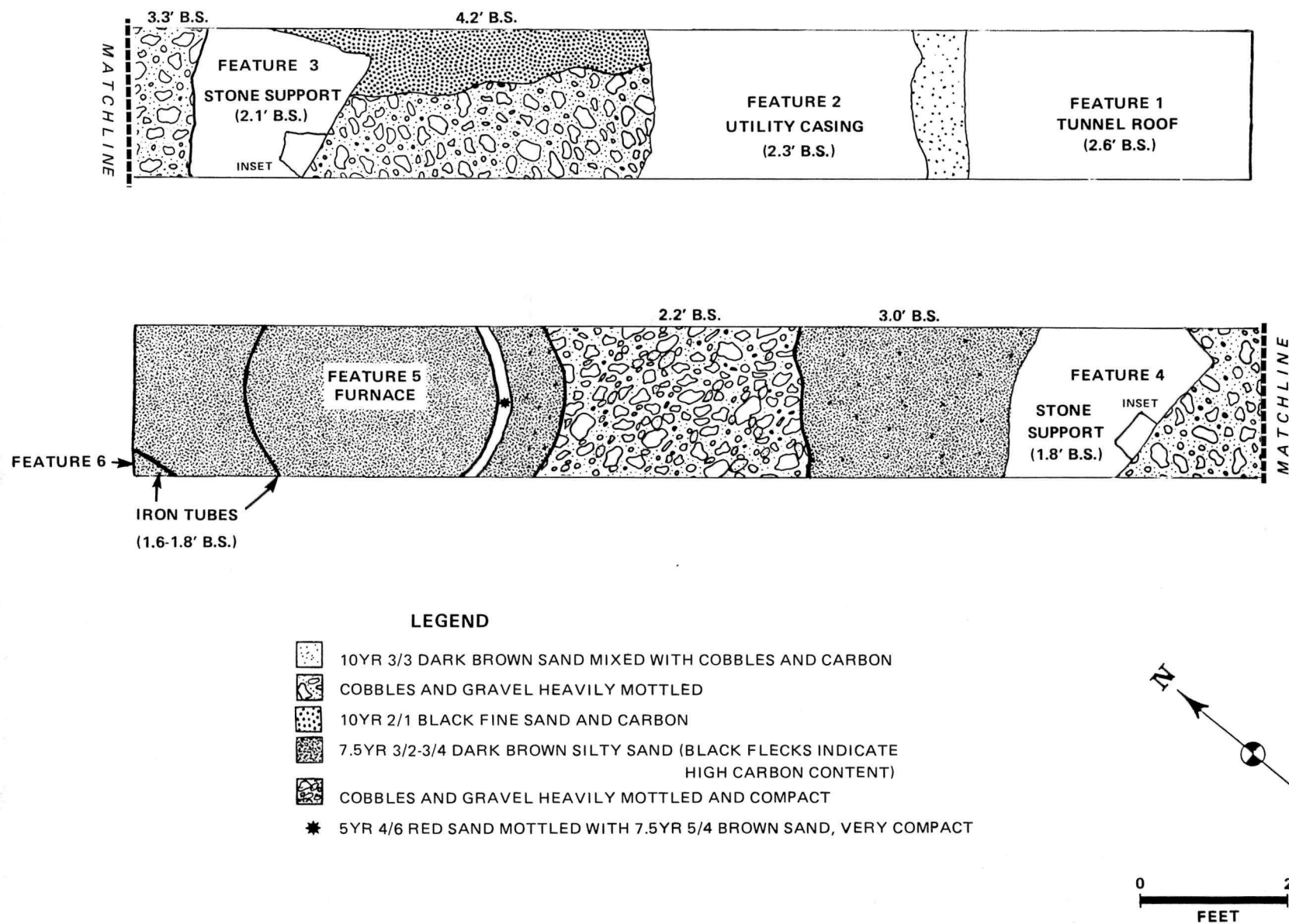


FIGURE 9: Plan View of Trench 1, Survey Area 5

Feature 6, apparently similar to Feature 5, was only partially exposed in the southwest corner of Trench 1. The distance between these iron tubes is 1.1 feet. The soil adjacent to these features was compact and heavily oxidized, evidently due to the high heat generated by these features. These heat-altered soils, which ranged in color from a 7.5 YR 5/4 (brown) to a 5 YR 4/6 (red), extended to a maximum distance of 3.1 feet from the edge of Feature 5 (Plate 1).

The function of Features 3, 4, 5, and 6 is most likely related to the operation of four cupola furnaces depicted on an 1884 Sanborn fire insurance map of the foundry. Cupolas were a cylindrical shaft type of blast furnace used primarily for remelting iron before casting.

Trench 1 indicated that modern construction-related disturbances extended 11.7 feet from the west edge of the tunnel. Nevertheless, some historic features within the disturbed section, such as the stone pedestals in Trench 1, remain essentially intact.

Trench 2 was placed to locate a section of the south wall of the foundry indicated on the 1898 map of Scranton (Graves and Steinbarger 1898). A section of concrete flooring (Feature 1) and the south wall of the foundry (Feature 2) were exposed immediately beneath a layer of road gravel overburden (Feature 9). Extending 5.0 feet from the north wall, these features were located from 0.5 foot to 0.6 foot BS. The top of the wall exposed in plan view revealed a relatively simple construction technique. The stone wall was mortared with chippings from dressed stone. A single cut stone with traces of red paint was incorporated into the top of the wall, probably as a stoop (Plate 2).

Four additional historic features were identified in Trench 2, exposed from 3.5 feet to 4.2 feet below ground surface. Feature 3 consisted of the remains of a builder's trench related to the construction of the adjacent masonry wall. The trench extended 0.8 foot south of the foundation, intruding into a surface of consolidated slag (Feature 4). Soils within the builder's trench consisted of loosely packed cobbles and coarse-grained sand.

Feature 4, the surface of consolidated slag, was initially interpreted as a possible floor surface due to its relationship to a concentration of architectural rubble (Feature 5) to the south. These features and Feature 6, a section of railroad track, were elucidated by further investigations in this area, described under Trenches 4 and 5.

Trench 3 was located parallel to Trench 1 in an area 25.5 feet south of the foundry wall identified in Trench 2. The intent of this trench excavation was to further examine the degree of disturbance caused by tunnel construction and utility placement.





PLATE 1: Remains of Cupola Furnace, Trench 1, Survey Area 5

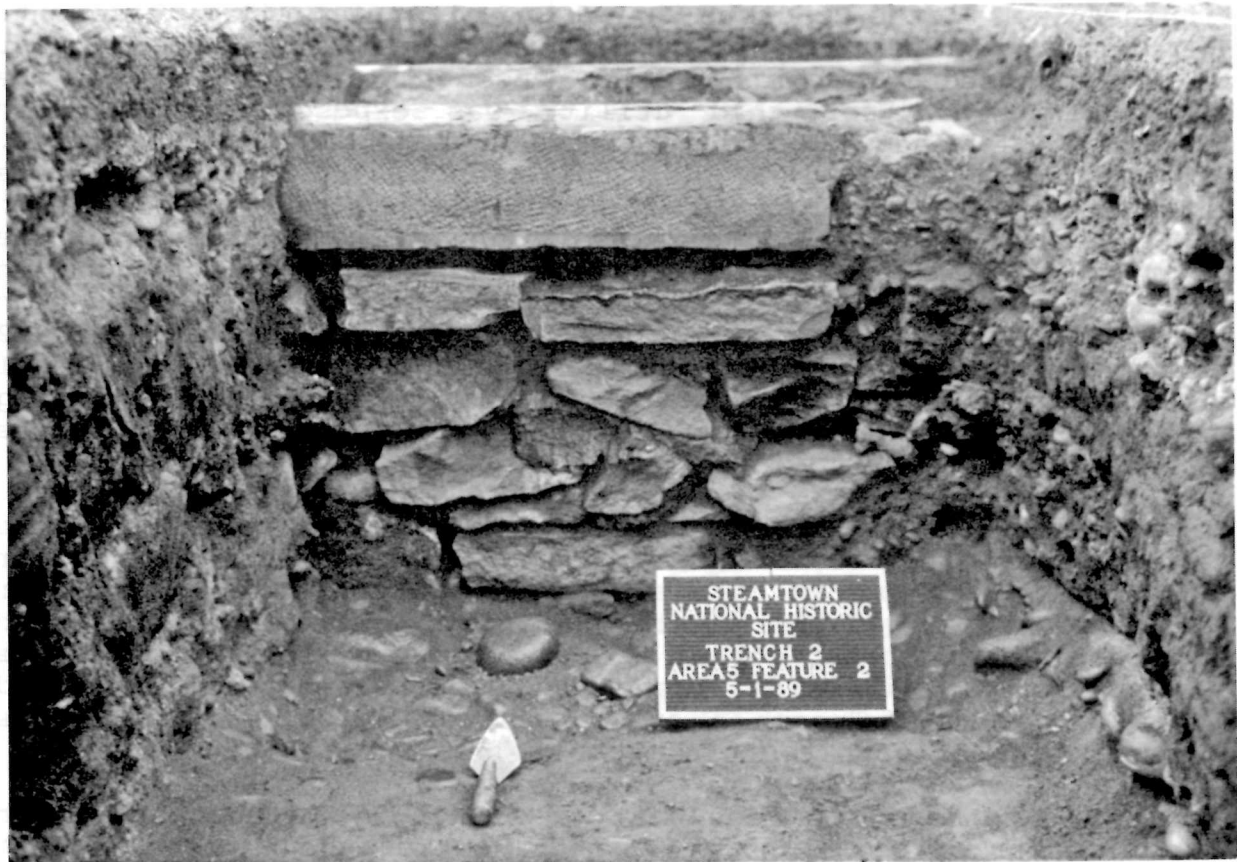


PLATE 2: Foundation and Threshold of Foundry Building, Trench 2, Survey Area 5

Excavation Trench 3 contained the same modern features identified within Trench 1, the concrete tunnel and electric utility casement. The depth of these features ranged from 2.5 to 2.8 feet BS. West of the exposed electric utility casement, a section of the builder's trench for this utility was exposed. This modern disturbance extends 7.5 feet from the western edge of the tunnel. Adjacent to the west edge of the trench, an intact concrete flooring was exposed, covering the remainder of Trench 3 at a depth of 3.7 feet BS. A series of six insets for railroad ties within the flooring indicated that the surface had been poured around an existing section of track (Figure 10). The ties and track had been displaced, probably at a date concurrent with the circa 1902-1912 razing of the foundry. As previously discussed, an episode of destruction, filling and subsequent construction occurred during this period, providing a probable date for the sealing of these deposits.

Two additional trenches were excavated in Area 5 to further examine historic features identified in Trench 2. Another reason for concentrating effort in this area was that there were plans for placing a natural gas line in this vicinity. Trench 4 was excavated to locate the southeast corner of the foundry by following Feature 2 in an easterly direction. Trench 5 was excavated parallel to and 5.5 feet south of Trench 4 at a location where Feature 5, the concentration of architectural rubble, could be examined.

Trench 4 extended 11.1 feet east of Trench 1 and encountered an intact corner of the foundry 1.1 feet west of the current asphalt walkway. Modern utility maps indicate that an active water line is beneath this walkway. (It was recommended to the NPS that the proposed gas line should be routed through this previously disturbed area.) When exposed in profile, the exterior face of the foundry wall exhibited relatively simple construction with roughly dressed, mortared stones stacked in relatively uneven courses. Several sections of this wall were loosely packed with mortar (Figure 11).

Trench 5 indicated that Feature 5, the concentration of stones, was not a collapsed wall as had been suggested, but demolition rubble that was found to be resting on an intact section of track. A total of four track sections and an associated switch part were identified in Trench 5. This track represents the spur line that served the foundry and DL & W industrial holdings east of South Washington Avenue. The former location of ties were indicated by dark soil stains. Therefore, Feature 4, the slag deposit, appears to be an exterior surface located between the foundry and the railroad spur (Figure 12).

The elevation and alignments of the tracks in Trench 5 are consistent with the track-related flooring recovered at the bottom of Trench 3. Depths to the top of the track sections ranged from 3.7 to 3.8 feet BS, whereas the top of the concrete flooring in

**FEATURE 4**  
CONCRETE  
PLATFORM  
(3.7' B.S.)

INSETS FOR  
RAILROAD TIES  
(3.8-4.0' B.S.)

METAL  
FRAGMENTS

WOODEN  
RAILROAD TIE

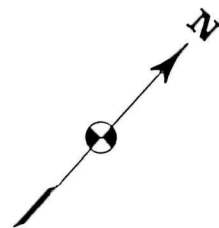
**FEATURE 3**  
(BUILDER'S  
TRENCH  
(3.5' B.S.)

10YR 3/3  
Dark Brown  
Sand

STONE  
3.0' B.S.

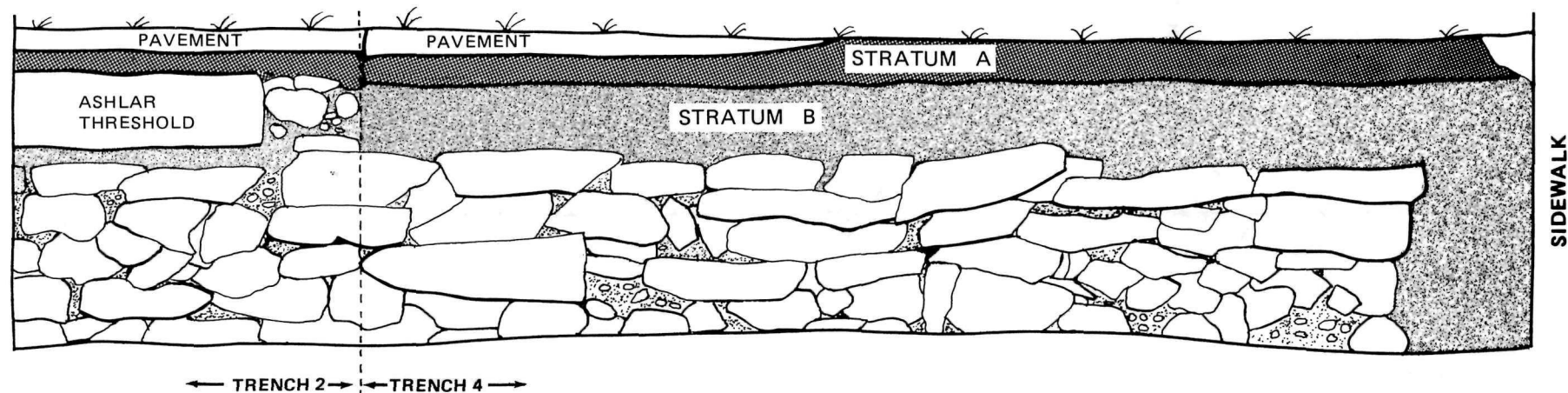
**FEATURE 2**  
CONCRETE  
UTILITY  
CASING

**FEATURE 1**  
TUNNEL ROOF  
(2.6' B.S.)



0 2  
FEET

FIGURE 10: Plan View of Trench 3, Survey Area 5



### LEGEND

STRATUM A  
10YR 2/1 BLACK SANDY SILT  
WITH GRAVEL

STRATUM B  
10YR 3/2 VERY DARK BROWN  
SANDY FILL WITH GRAVEL

MORTAR

0 2  
FEET

FIGURE 11: North Profile of Trenches 2 and 4, Survey Area 5 Showing Foundry Wall

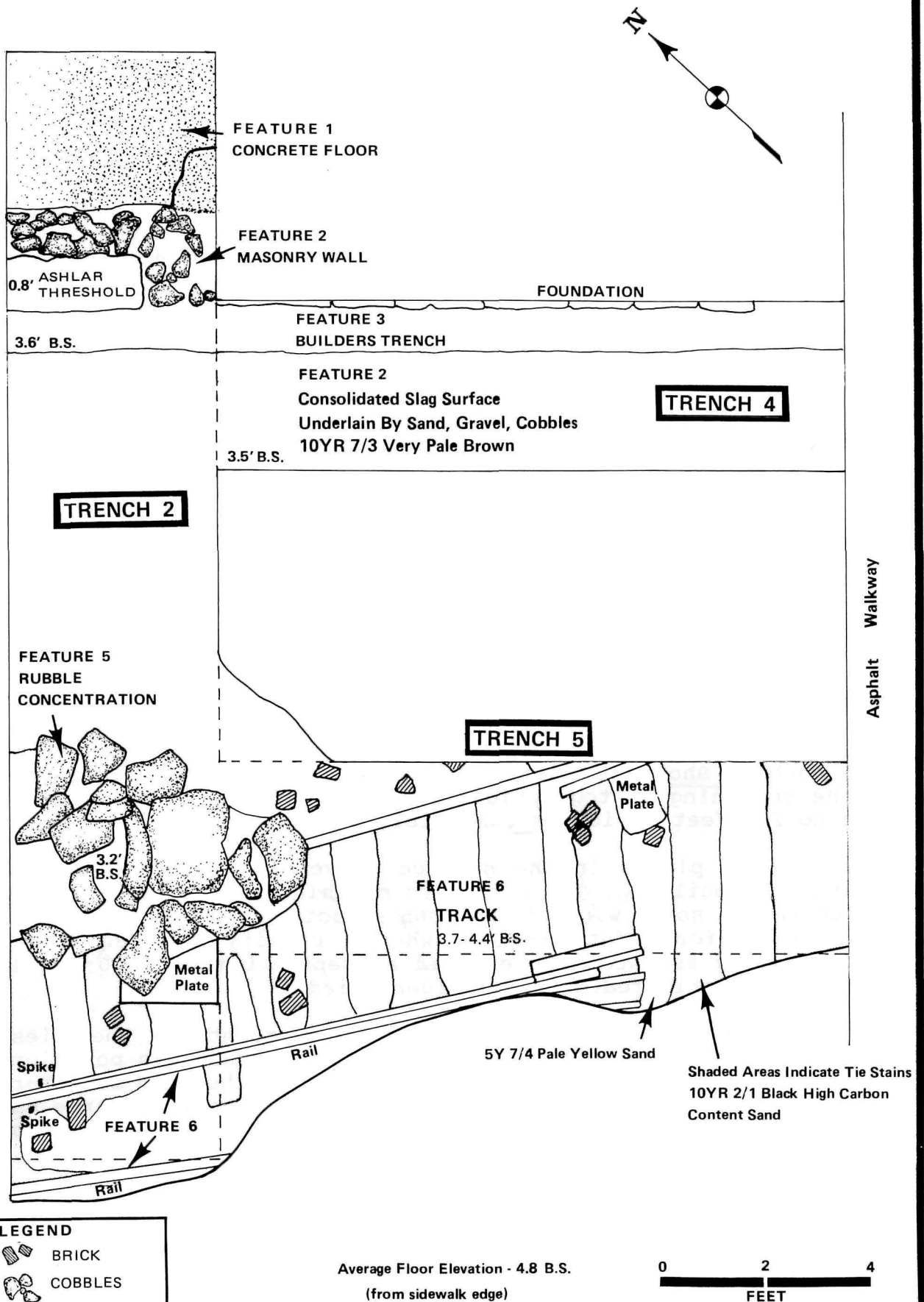


FIGURE 12: Plan View of Trenches 2, 4, and 5, Survey Area 5



Trench 3 ranged from 3.6 to 3.8 feet BS. The section of the uncovered track which includes the switching hardware dates to between 1888 to 1898. Cartographic evidence indicates that it was during this period that a spur was added to the main track, which was in place by 1877. This spur diverged from the main line at a point adjacent to the southeast corner of the foundry and was routed to a blacksmith shed east of the project area. Given the late nineteenth-century context of these track sections, they can probably be sized to 56-75 pounds per yard, which are the track sizes that were used by the DL & W between 1875 and 1902 (Clemensen 1988:133).

#### E. SURVEY AREA 6

Five backhoe trenches were excavated in the vicinity of the 1865 Machine Shop (Figure 13). The intent of these excavations was to locate sections of this structure that were not incorporated into the present Steamtown Maintenance Shop and office building. Cartographic records indicate that two wings to the 1865 structure were demolished during a reconstruction of the machine shop that occurred sometime between 1898 and 1918 (Graves and Steinbarger 1898; Volk and Kuehls 1918). Clemensen (1988:120) provides a date of 1902 for the building alterations. A portion of the central section appears to have been incorporated in the circa 1902 repair shop.

Initial excavations in Area 6 were placed according to data scaled from the Graves and Steinbarger (1898) atlas. When this map proved to contain significant errors with respect to the placement of the 1865 Machine Shop, subsequent trenches were located with respect to the remaining cartographic series projected at a scale of one inch to 200 feet, which is compatible with modern maps.

Trench 1 was placed in the service driveway to the east of the extant shop building. The objective of this excavation trench was to locate the south wing of the 1865 structure. Excavation in this area ceased for safety reasons when a utility line encased in deteriorating asbestos was exposed at depths between 1.0 and 1.5 feet. No historic features were identified.

Trench 2 was placed in an open area adjacent to the diesel pumphouse and storage tank facilities. This trench was positioned to intersect the projected north foundation of the 1865 structure. A rubble deposit, consisting of brick and cobbles in a coarse sand matrix, was recorded at a depth of 1.7 to 2.3 feet below ground surface. This deposit is most likely related to the demolition of the 1865 structure. No intact features were uncovered.

Trench 3 was placed in a small grassy area adjacent to the north wall of the extant Maintenance Shop. The objective of this excavation was to locate the west section of the 1865 foundation

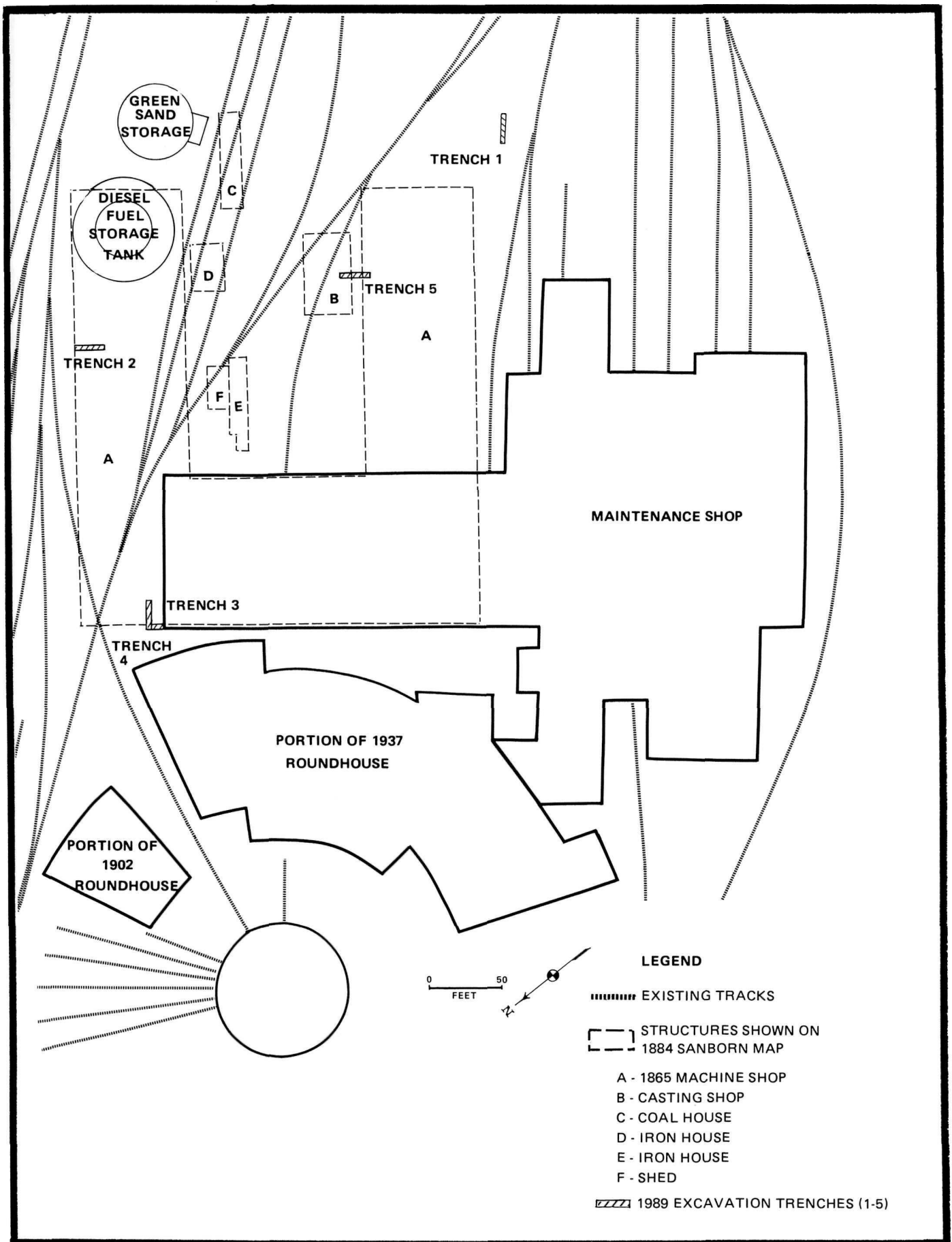


FIGURE 13: Survey Area 6 Trench Locations

which extended north into an area currently occupied by track. The interpretation of the historic maps made by LBA was that the two machine shops shared a common west wall, but that the north wall foundations were significantly offset during rebuilding in 1902 or later. The Steamtown Archeological Base Map (Zitzler 1987), however, depicts the 1865 Machine Shop as having a common north foundation with the standing Maintenance Shop. A goal of the excavations in this area was to resolve this matter and provide information for the Historic Structure Report on the Maintenance Shop.

Following the excavation of a shallow overburden, a foundation section (Feature 1) of the 1865 structure was identified. The foundation, which extends from 0.6 foot to 2.5 feet BS, was constructed of cobbles and large, cut granite blocks with pins and pin insets, probably to fasten sills. The lower courses of stone were dry-laid in a matrix of coarse sand and cobbles. The two uppermost courses of stone were mortared. Within the remainder of Trench 3, four utility lines related to the extant Maintenance Shop were exposed.

The 1865 foundation was further exposed in Trench 4, which was excavated perpendicular to Trench 3. This excavation clearly indicates that a portion of the 1902 repair shop configuration is on the same foundation as the 1865 building and may have incorporated the western wall of the central section during the 1902 alteration (Figure 14). The northwest corner of this foundation could not be uncovered because it is overlain by tracks. Within Trench 4, an additional five utility lines were exposed. During the placement of one of these lines a small section of the foundation had been dismantled (Plates 3 and 4).

After the discrepancy in the 1898 atlas was identified, it was determined that Trench 1 was not centered on a wall of the 1865 Machine Shop, as planned. Using the 1884 Sanborn map as a guide, and the confirmed location of the foundation wall of the 1865 Machine Shop in Trenches 3 and 4, another attempt was made to locate the building's south wing.

Trench 5 was located in the driveway and machine parts storage yard of the Maintenance Shop. In addition to trying to locate the 1865 Machine Shop, this trench was placed to cross the south wall of a casting shop as shown on the Sanborn insurance maps (Sanborn 1884; Sanborn-Perris 1898). No intact historic foundations were exposed in Trench 5; however, Stratum C was identified as a possible builder's trench (Figure 15). Large cobbles within this stratum are comparable in size to cobbles that make up the foundation located in Trench 3. The cobble debris in Trench 5 may be the remains of the 1865 Machine Shop foundation that was dismantled when this portion of the building was razed.

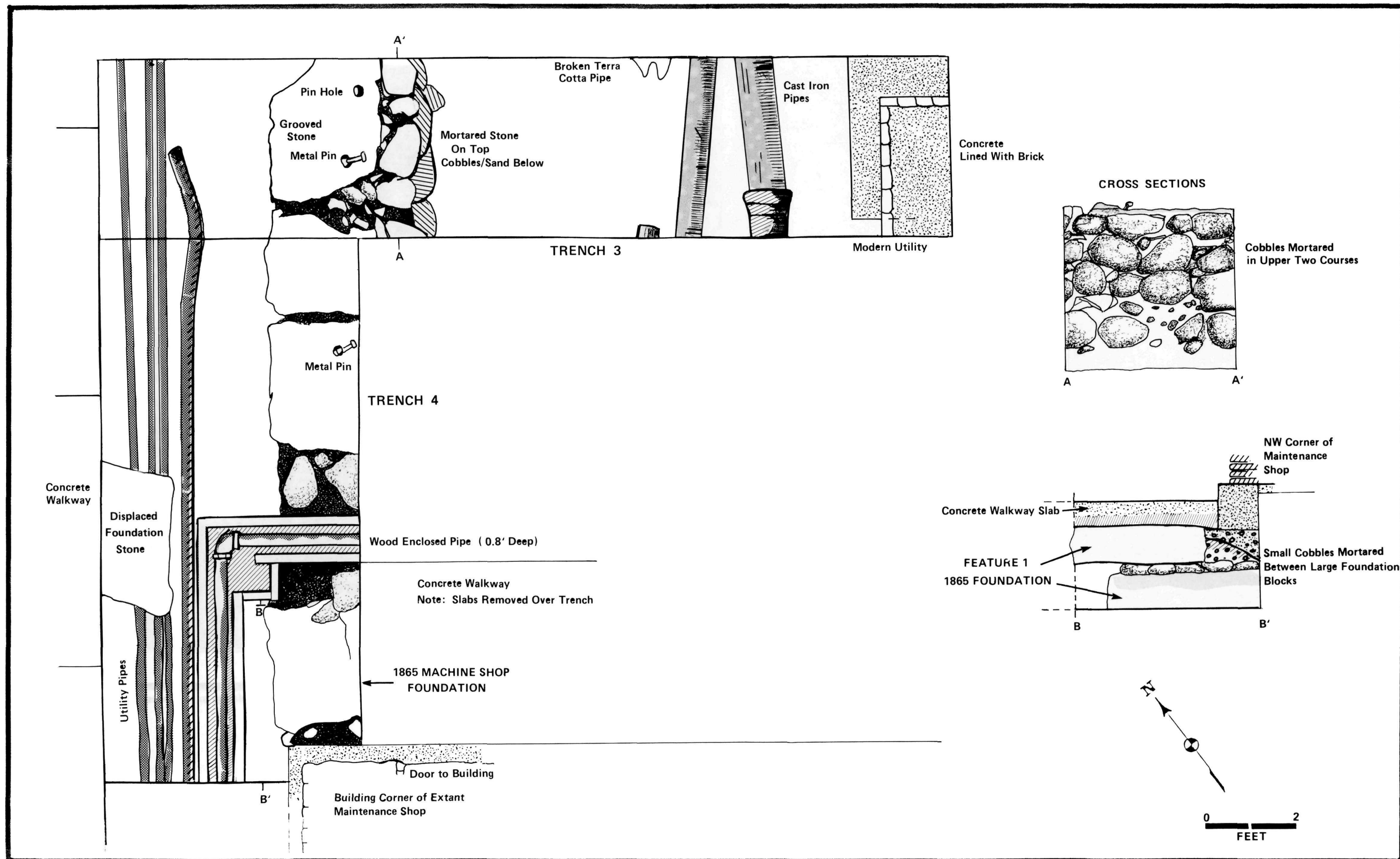


FIGURE 14: Plan View and Cross Sections of Trenches 3 and 4, Survey Area 6



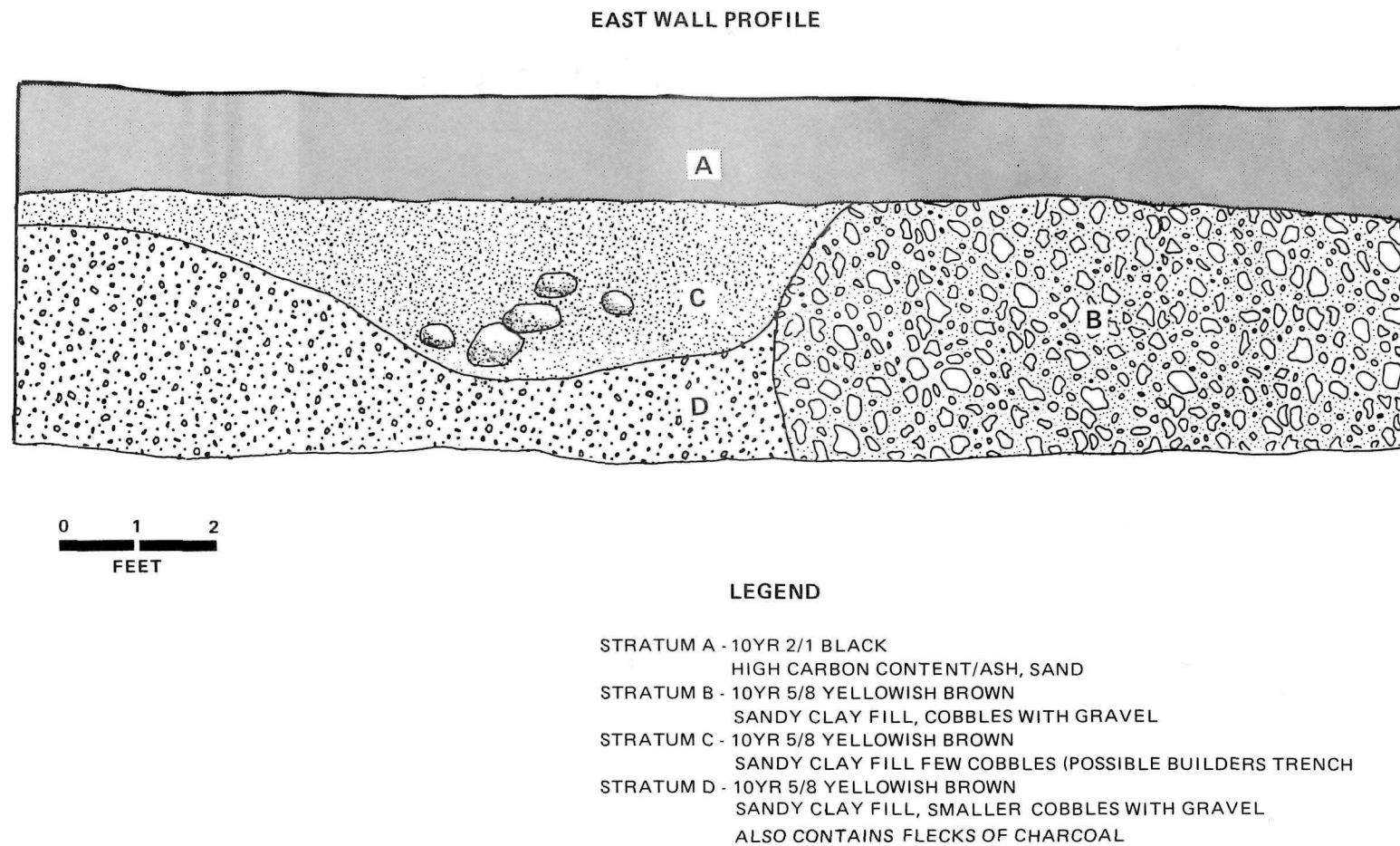
PLATE 3: Foundation of 1865 Machine Shop Shown in Relation to Northwest Corner of Present Shop Building





PLATE 4: Profile of 1865 Machine Shop Foundation Illustrating Construction Technique





**FIGURE 15: East Wall Profile of Trench 5, Survey Area 6**

Excavations in Area 6 resulted in confirming the location of the 1865 building and its structural relationship along the western wall to the extant Maintenance Shop. Part of the northern extension of the 1865 structure was recovered, indicating a need to refine the Archeological Base Map. Excavations also showed that portions of the former building located in the yard have been heavily impacted by cycles of demolition and subsequent construction.

#### F. SURVEY AREAS 7A AND 7B

Excavations within Areas 7A and 7B were focused on locating and determining the integrity of historic ash pits in two areas of the railyard. By assessing the integrity of these features, the National Park Service will be better able to determine whether or not the historic ash pits can be restored to service. In the event that these features are not serviceable, archeological data could be useful for planning the construction of a new ashing facility.

The ash pits investigated in Area 7A are shown on the 1877 Hopkins atlas and the 1888 Hunter and Howell atlas. Located approximately 95 feet north of the Dickson locomotive works, this pit and related coal chutes represent the earliest known locomotive refuse facility in the DL & W railyard.

The predicted location of the pit was plotted in the field using the Dickson locomotive works main building (currently a Laminations Incorporated storehouse) as a baseline and the northwest corner of this extant structure as a point of origin. The proximity of the predicted feature to active Conrail track and switch-related utility lines made it necessary to work around the train schedule to avoid potential conflicts. To minimize disturbance, testing commenced with a hand-excavated trench, Trench 1, adjacent to the Conrail track (Figure 16).

The top of the ash pit was exposed beneath 2.9 feet of fill (track underlayment). Continued excavation within the interior of the pit along the north wall uncovered the pit floor at a depth of 6.9 feet BS (Figure 17). The walls and floor of the ash pit were constructed entirely of poured concrete, which became a preferred construction method during the early twentieth century (AREMWA 1908:166). This suggests that the early pit was replaced or renovated, an interpretation that is supported by cartographic data which indicate that the overall length of the pit increased from 80 to 160 feet between 1877 and 1898. The walls of the pit are vertical. This contrasts with the later, twentieth-century ash facility (Area 7B), which had walls that sloped at an angle of approximately 45 degrees.

A displaced rail section was identified from 2.8 feet to 3.3 feet BS, at a level comparable to the top of the pit (Figure 17). While the 1898 Graves and Steinbarger map shows a set of rails over the

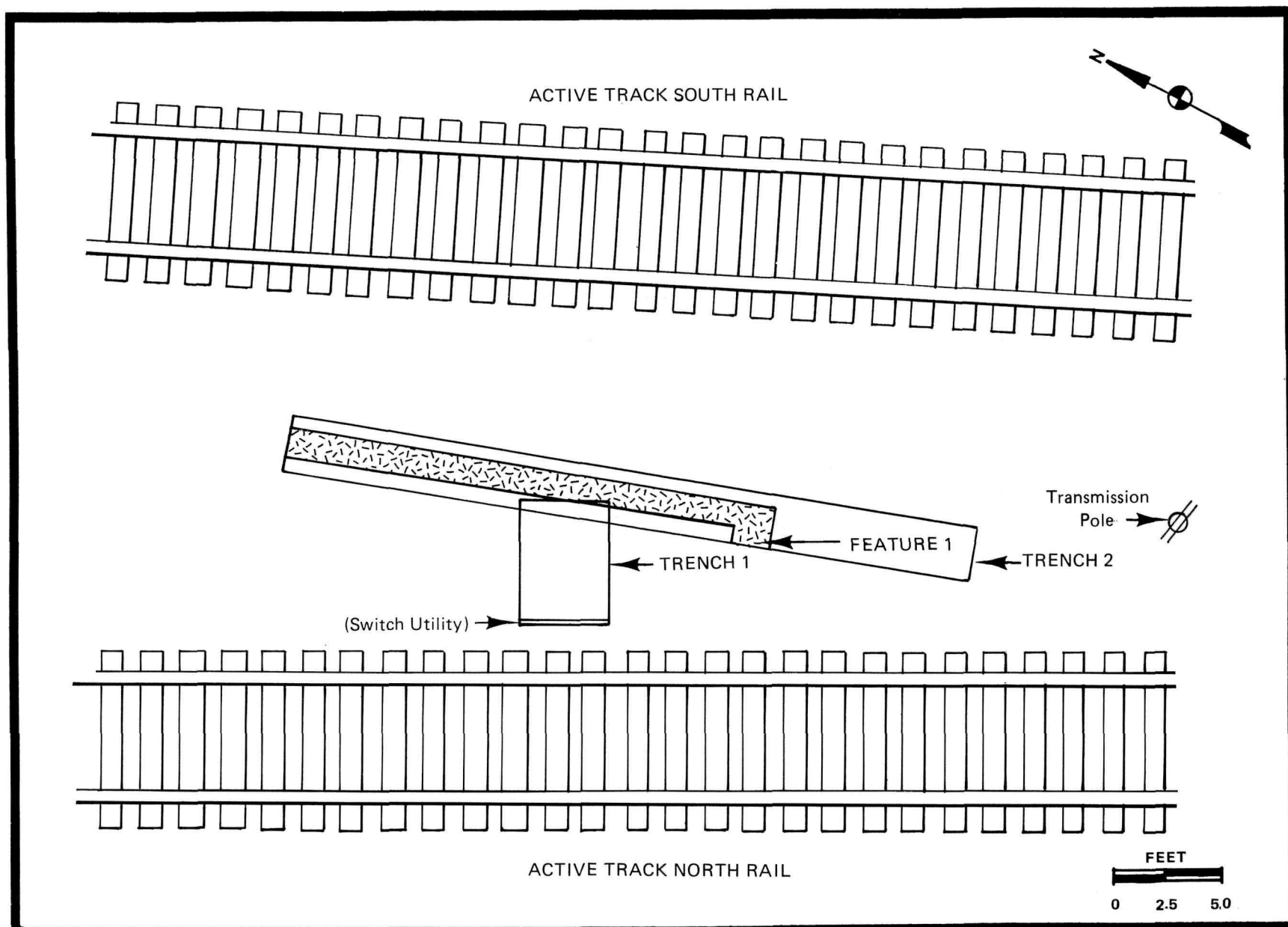


FIGURE 16: Survey Area 7A Trench Location

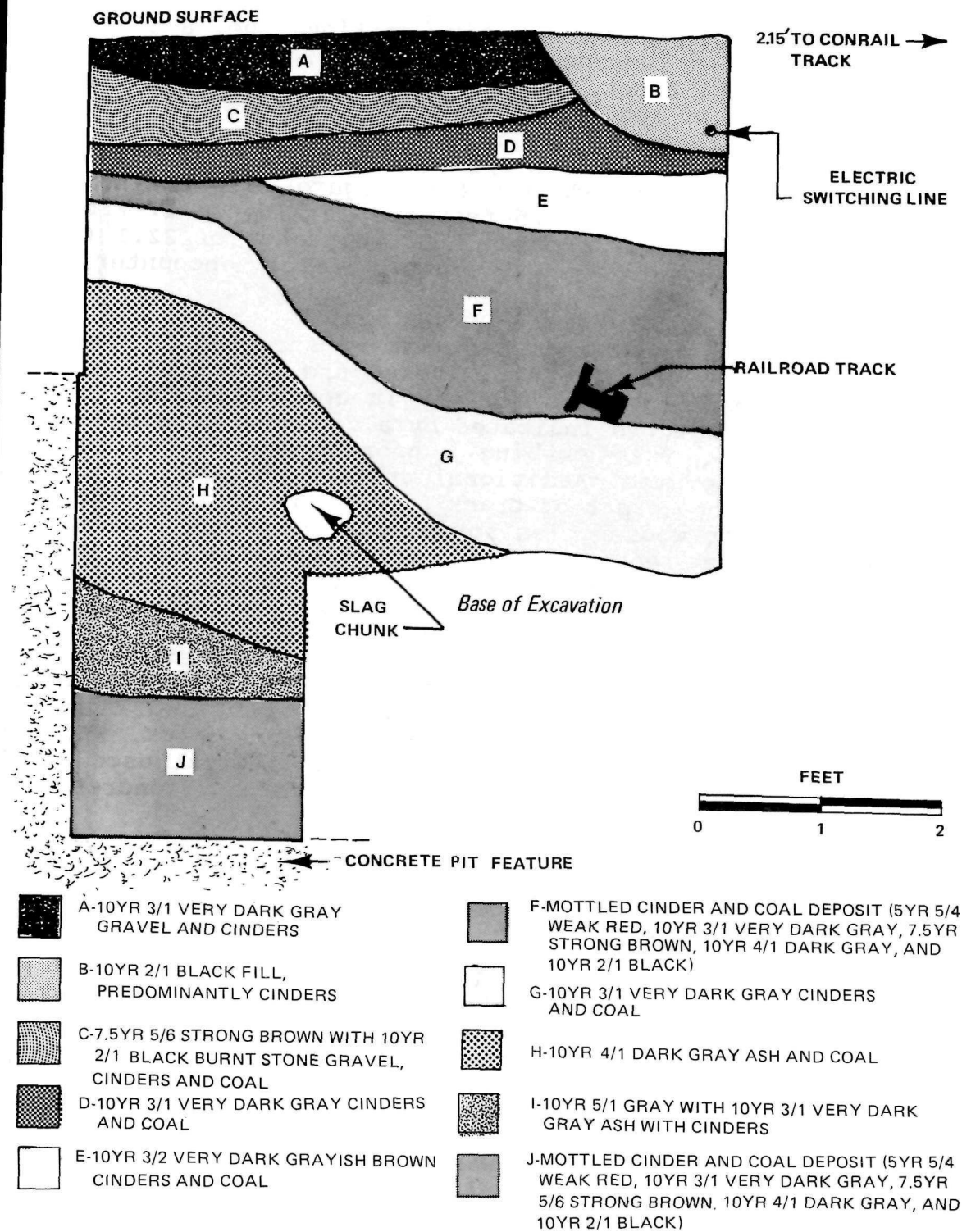


FIGURE 17: Survey Area 7 Trench 1 East Profile

pits, the earlier historic maps depict only a rail spur leading up to the facility. The change in track configuration evident from the maps may coincide with the upgrading and expansion of the facility mentioned above. The new system for unloading ash from an elevated track appears to be similar to the one used in the later ash pit (Area 7B), which has been documented in historic photographs.

Trench 1 located only a single active utility line, a steel-cased electric switch line running east-west 0.7 foot BS and 2.3 feet north of the Conrail track. Because the area was determined to be sufficiently clear of active utilities, it was decided to further examine the ashing features with a machine-excavated trench. Trench 2 was excavated along the north wall of the pit in order to locate a fixed corner of the foundation (see Figure 16). The northeast corner was found at a point 7.5 feet east of Trench 1. From this corner the foundation was exposed for a distance of 22.1 feet at which point excavation was terminated after encountering an inactive steam line encased in asbestos (Plate 5).

Around 1907, new ashing facilities were constructed to the north of the roundhouse (Area 7B). There are numerous historic photographs documenting this facility in operation. The location of the ashing facility is indicated by a concrete curbing exposed at ground surface. This curbing supported a rail on which a traveling crane operated. Additional surface evidence of the ash pit location includes a set of track supported by underlying steel beams as opposed to wooden ties for support, and the proximity of this track to the remains of a contemporaneous coal tipple. According to the photographic documentation of the ash pit, the steel-supported tracks were elevated on columns over sloping walls. Locomotives could dump their ashes directly into the pit from these tracks. The ash and cinder waste would fall against the sloped walls and be directed to one of two troughs on either side of the pit. The ashes were then collected by the traveling crane and loaded into cars that operated along a central track. With the exception of the elevated steel tracks, the material used in the construction of the facility appears to be entirely concrete.

Two backhoe trenches were excavated to examine these cinder pits. The location of the excavations was outside the limits of Area 7B as defined in the scope of services. Trench 1 was placed south of and parallel to the northernmost of the steel-supported tracks. Shortly after excavation commenced, two metal support columns were exposed measuring approximately 1.1 feet in diameter by 3.7 feet in height. Each column was situated directly beneath rail joints, providing maximum support for the overhead track configuration. Rectilinear concrete footings, measuring about 4.0 feet across the exposed front, were identified beneath the columns (Plate 6). Excavation of Trench 1 was terminated at this point for safety considerations; there were quantities of diesel fuel residue in the soil. Although no flooring was reached in the excavation, it is assumed that the fuel accumulation resulted partly from the presence of an impermeable concrete surface.





PLATE 5: 1877 Ash Pit, View to East, Trench 2, Survey Area 7A





PLATE 6: 1907 Ash Pit Detail, Trench 1, Survey Area 7B

Trench 2, located 168 feet west of Trench 1, was specifically designed to test whether or not this contamination was present in different areas of the ash pit. The extent of Trench 2 was limited by the surrounding tracks, which were occupied by locomotives and rolling stock. Although not as severe as in Trench 1, diesel fuel contamination was noted beginning at a point 5.3 feet BS. This contamination continued to the base of excavation, 8.2 feet BS. No historic features were identified within Trench 2.

#### G. SURVEY AREA 8

The excavation of three trenches in Area 8 was designed to locate and determine the extent of several structures related to the industrial development of an area currently owned by Laminations Incorporated (Figure 18). An examination of the cartographic record indicates that industrial development of this area commenced between 1854 and 1857 with the establishment of a machine shop north of Mechanic Street and a planing mill south of Mechanic Street.

By 1864, these properties had been purchased by the Dickson Manufacturing Company, which constructed stationary steam engines and steam locomotives on the site until 1902. Locomotives continued to be manufactured on the site until 1910 by the American Locomotive Company, which, like the Dickson Company, made alterations to the structures on the property. Following this 52-year period of locomotive production, a succession of industries occupied the site, none of which engaged in activities directly related to the DL & W railroad or to the railroad industry in general (Clemensen 1988:100-113).

Trench 1 was excavated in the southeast section of the Dickson site, 150 feet east of the Williams Company boiler room/incinerator foundation remains. The objective of testing in this area was to examine the predicted remains of a building constructed by the American Locomotive Company between 1905 and 1906. Trench 1 was placed perpendicular to the location of the south wall of this structure, as predicted on the basis of cartographic sources. Following the excavation of three over-burden strata related to road construction and the demolition of the former structure, a concrete floor (Feature 1) with an inset for a wooden beam (Feature 2) was exposed, ranging in depth from 1.4 to 1.6 feet BS. A thin layer of ash and melted asphalt shingles excavated from immediately above the floor indicated that fire may have destroyed the structure. Adjacent to the south edge of Feature 2, the surface of a masonry wall was exposed extending 12.1 feet from the north wall of the trench. Continued excavation south of the wall revealed a well-laid stone foundation to a depth of 5.8 feet BS with a concrete footing that extended an additional 1.6 feet (Figure 19). These early twentieth-century foundation remains provide a striking contrast to the nineteenth-century foundations excavated in Survey Areas 5 and 6.

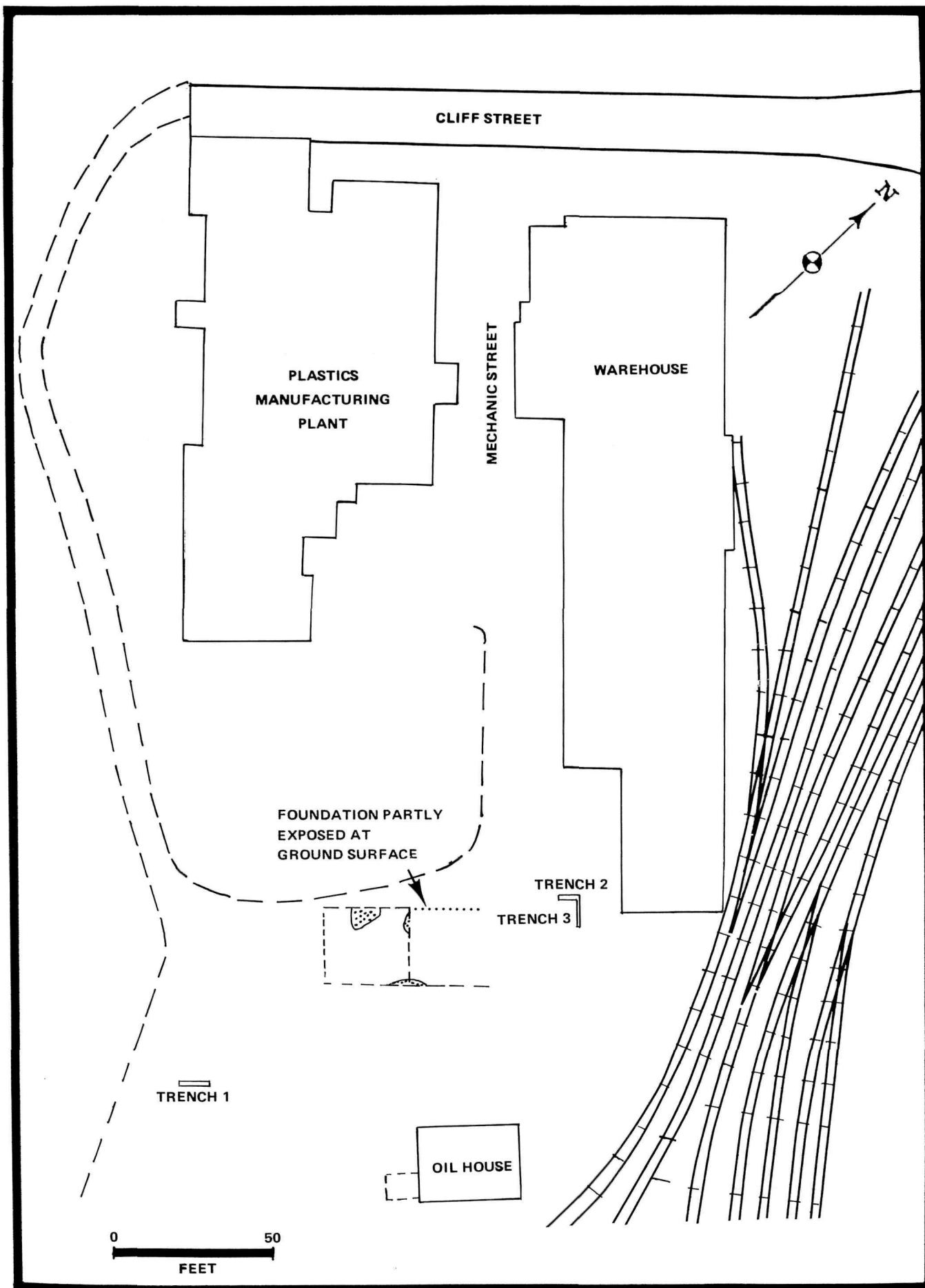
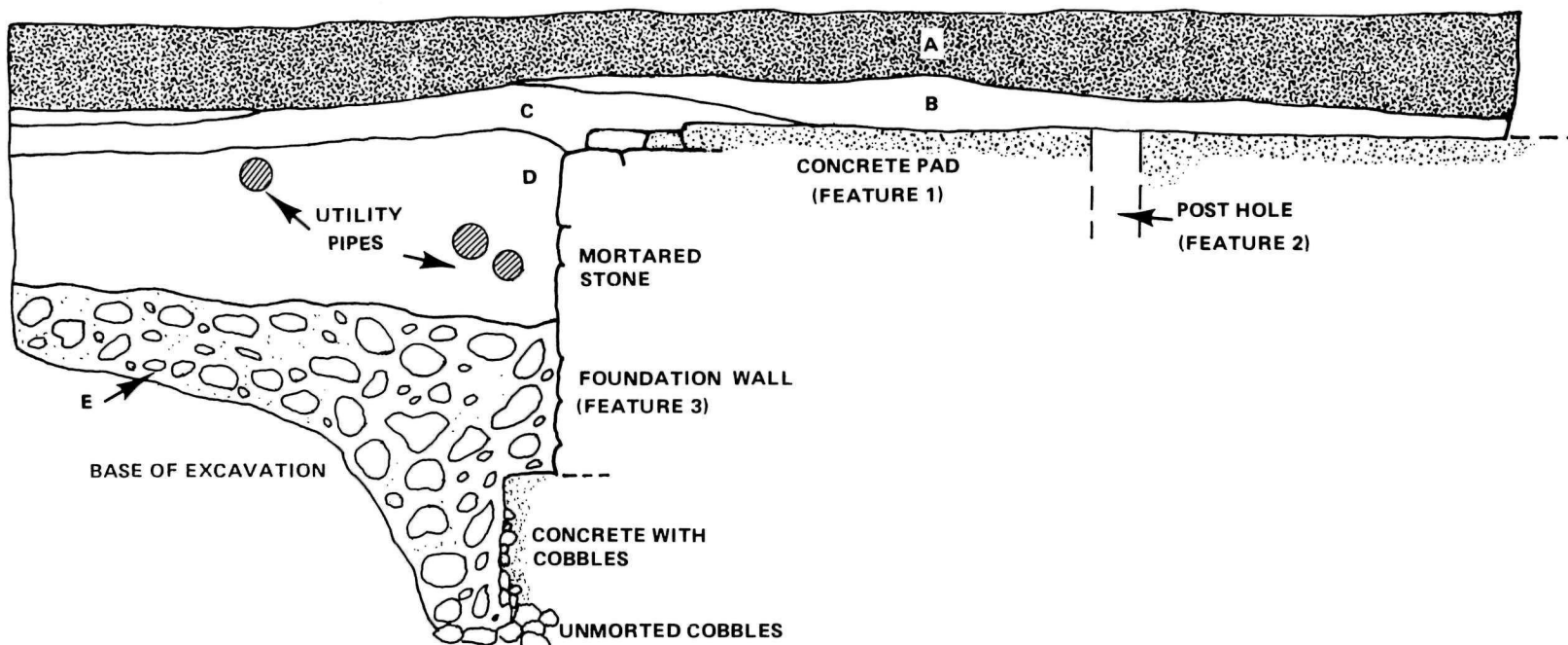


FIGURE 18: Survey Area 8 Trench and Mapping Locations



### LEGEND

- STRATUM A – 10YR3/1 VERY DARK GRAY WITH HIGH CARBON CONTENT
- STRATUM B – 7.5YR8/2 PINKISH WHITE ASH WITH ASPHALT
- STRATUM C – 10YR4/1 DARK GRAY GRITTY SAND WITH HIGH CARBON CONTENT
- STRATUM D – 10YR3/1 VERY DARK GRAY GRITTY SAND WITH HIGH CARBON CONTENT
- STRATUM E – 2.5YR5/8-4/8 RED SILTY SAND WITH COBBLES/GRAVEL

0 2  
FEET

FIGURE 19: West Wall Profile of Trench 1, Survey Area 8

Trench 2 was excavated 26 feet south of the east end of the main Dickson building. This location north of Mechanic Street was occupied by the William Cook Machine Shop during the 1854-1857 period. Shortly after the Dickson brothers purchased the site, the William Cook Machine Shop was incorporated into a larger structure, which extended west to Cliff Street. Recent documentation of the internal construction of the east end of the structure indicates that most of the Cook Machine Shop is still standing. This determination was based on a comparison of trusses between the east end and the remainder of the structure (Clemensen 1988:137). The excavation of Trench 2 was specifically designed to determine whether or not below-ground remains of the William Cook Machine Shop were present.

A concrete floor was exposed beneath 0.7 foot of road related gravels and fill. This flooring covered the entire length of the trench from 26.5 feet to 40.5 feet south of the Dickson building. A seam between different concrete pourings was noted at a point 36 feet south of the building, which is the predicted location of the machine shop wall. The extension of the concrete flooring beyond this point was not predicted from the cartographic record. Due to the presence of immovable stored equipment, the full extent of the concrete surface south of the seam was not examined.

Trench 3 was excavated perpendicular to the north end of Trench 2 in an easterly direction. The intent of the Trench 3 excavation was to expose an east foundation related to the northern concrete surface exposed in Trench 2. This foundation was recovered 7.5 feet east of Trench 2, in alignment with the east foundation of the extant Dickson building. The exposed section of the sub-surface foundation was constructed of poured concrete. An overhanging concrete section on top of the foundation had been fitted with a terra cotta pipe on the north side of the exposed section. The top of this foundation was recovered 1.0 foot BS, which is 0.3 foot lower than the exposed flooring within the remaining 9.5-foot easterly section of the trench.

The poured concrete construction technique associated with the foundation is attributable to twentieth-century building modifications. Following the end of locomotive production in 1910, the building was used primarily as a truck terminal and warehouse by a variety of owners (Clemensen 1988). A more detailed examination of the area, which would entail the removal of the concrete surfaces discussed above, might provide additional information concerning the mid-nineteenth-century utilization of this area.

In addition to trench excavations within Area 8, the mapping of a foundation partly exposed at ground surface was completed (see Figure 18). This foundation was located approximately 40 feet west of the Williams Bakery boiler room/incinerator foundation remains, and 130 feet south of the Dickson building that serves as a

Laminations Incorporated warehouse. The first use of this particular location is depicted on an 1884 Sanborn detail, by which time a blacksmith's shop had been constructed. The erection of the blacksmith's shop appears to be related to a construction episode following the destruction of the Dickson buildings by fire in 1875. The structure is not, however, depicted on the 1877 Hopkins atlas. The 1884 Sanborn map depicts the structure as equipped with four forges, a triphammer, and a boiler.

Between 1888 and 1898, this structure was modified with the addition of an ell foundation to the east. By 1906, a second, smaller ell foundation was added to the west. The structure investigated in Trench 1 was built at this time, forming a single contiguous building with the blacksmith's shop. Both of these structures were razed in 1925, at which time the current owners, the Williams Company, expanded operations (Clemensen 1988:103-113).

The exposed sections of this structure were constructed of poured concrete, and were primarily related to the flooring within the structure. The dimensions of the exposed surfaces indicated a structure measuring 47.5 feet by 58.3 feet. Subsurface probing of the east foundation location indicated a minimum length of 104 feet. According to the 1884 Sanborn map, the structure measured 50 feet by 107 feet.

#### H. SOIL REMOVAL MONITORING

The excavation of contaminated soils within the Steamtown National Historic Site was accompanied by archeological monitoring in three of the four areas scheduled for soil removal. These areas were designated A through D (see Figure 3). The area that was not monitored, Area B, contains a series of electrical transformers and surrounding soils. This area is on a high point of the bluff on the south perimeter of the project that is considered to have a low sensitivity for both prehistoric and historic remains, based on the results of archeological testing in Areas 1A and 1B.

Work in Area A included the excavation and removal of a modern gas pump and related subsurface storage tanks located adjacent to the south wall of the Maintenance of Way Building. This is the vicinity of the circa 1865 foundry to the north and east, and a circa 1918 turntable/locomotive storage facility to the north and west. It was predicted prior to excavation, however, that the excavation related to the placement of these facilities would have destroyed archeological deposits associated with these structures. Monitoring of the excavation to the top of the storage tanks revealed that in fact, prior disturbance to this locale was severe. Small amounts of architectural materials were noted in a disturbed context which included a cut stone block, brick fragments, and flat glass.



Areas C and D were located adjacent to the 1902 Roundhouse and 1912 Oil Pump House. A high potential for intact historic deposits was predicted in both of these areas based on previous archeological work that located intact subsurface architectural remains dating to both the 1902 and 1865 roundhouses (Zitzler 1988). The majority of these architectural features were recovered within 1.5 feet of present grade. As 3.0 feet of contaminated soil was scheduled for removal, it was considered probable that intact remains would be encountered during monitoring (Figure 20).

Soil removal excavations in Area D involved an approximately 3400 square-foot area adjacent to the 1912 Oil Pump House. This area is bounded by extant track to the north, east, and west, by the limits of the contaminated soils slated for removal and a foundation dating to the circa 1912-1916 roundhouse modifications to the south. Six historic features were exposed during soil removal excavations (Figure 21).

Feature 1, a section of a massive circular concrete platform approximately 26 feet in diameter, was partially overlain by the foundation wall dating to the 1912-1916 roundhouse modifications (Plate 7). The circular platform is comparable in dimensions to the circular gas tank foundation exposed in Survey Area 2. A circa 1910 photograph taken prior to these modifications shows a "Santa Fe" type water tank adjacent to the northwest side of the roundhouse (Clemensen 1988:68). This tank was apparently removed when the roundhouse was enlarged and 24 engine stalls were lengthened. Features 2 through 5, also constructed of poured concrete, formed a series of large piers ranging in size from about 5 by 5 feet to 5 by 10 feet. These piers appear to have been supports, and are tentatively identified as the foundation of a second water storage facility which remained in use up until the DL & W railyard was converted to diesel operations beginning in 1944 (Chris Ahrens, personal communication 1989). This water tank most likely served as a replacement for the dismantled "Santa Fe" tank (Feature 1).

Feature 6, constructed of poured concrete and steel, was located adjacent to and in alignment with the extant 1912 Oil Pump House. The subsurface feature consisted of a two-station pumping platform measuring 8.6 by 5.7 feet. Two steel tanks partly superimposed by the platform measured 2.6 by a minimum of 3.5 feet. Basin-shaped-receptacles fitted with steel lids functioned as loading points for the tanks beneath the platform (Plate 8). The proximity of Feature 6 to the oil station and accumulated residue on the surface of the platform indicate that the facility acted as a repository for locomotive lubricating oil.

Monitoring in Area C, which included sections adjacent to and within the roundhouse-turntable complex, exposed two features between the 1912 turntable pit and the concrete annular drain (Zitzler 1988). Salvage excavations by LBA were confined to the

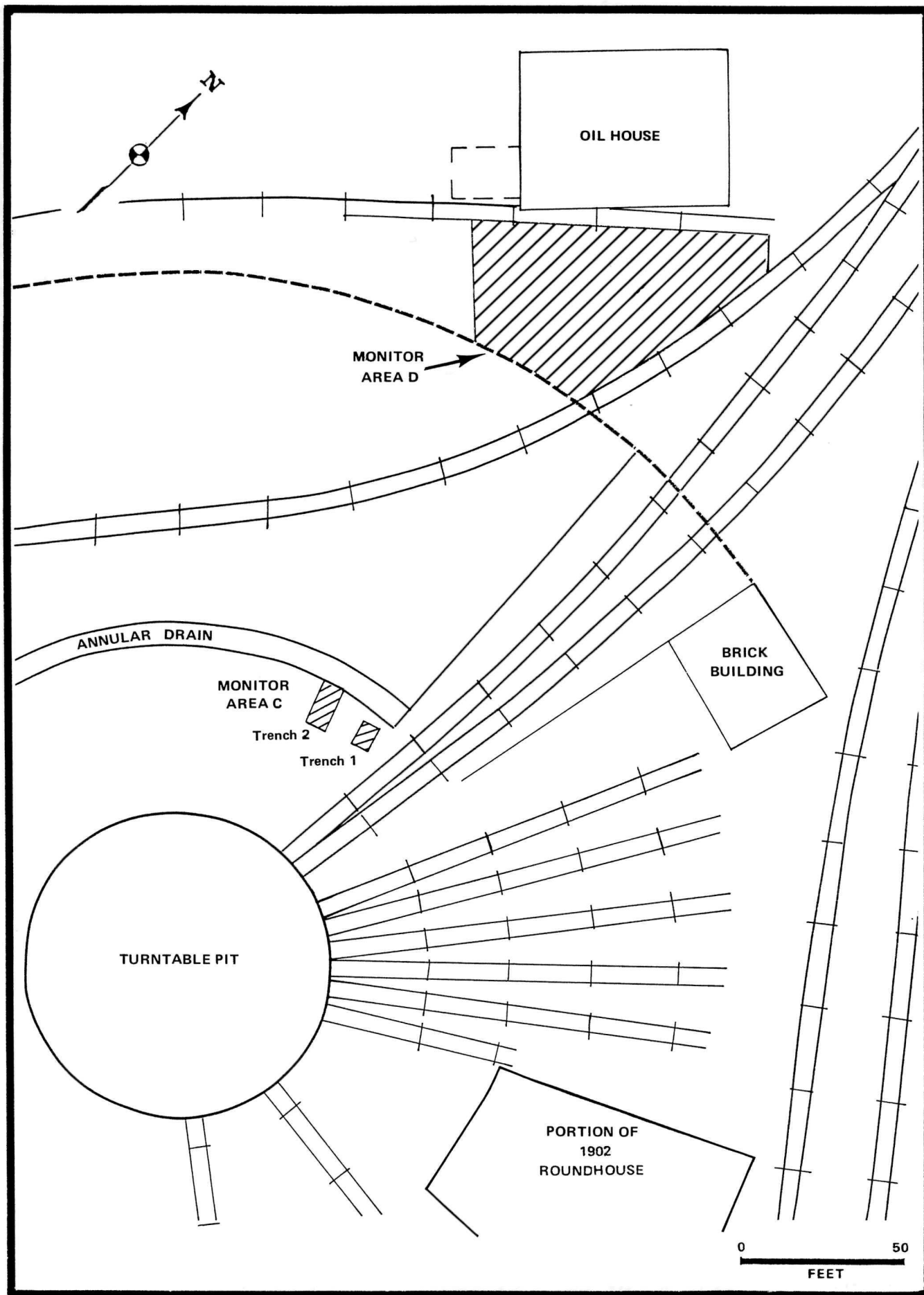


FIGURE 20: Location of Monitor Areas C and D

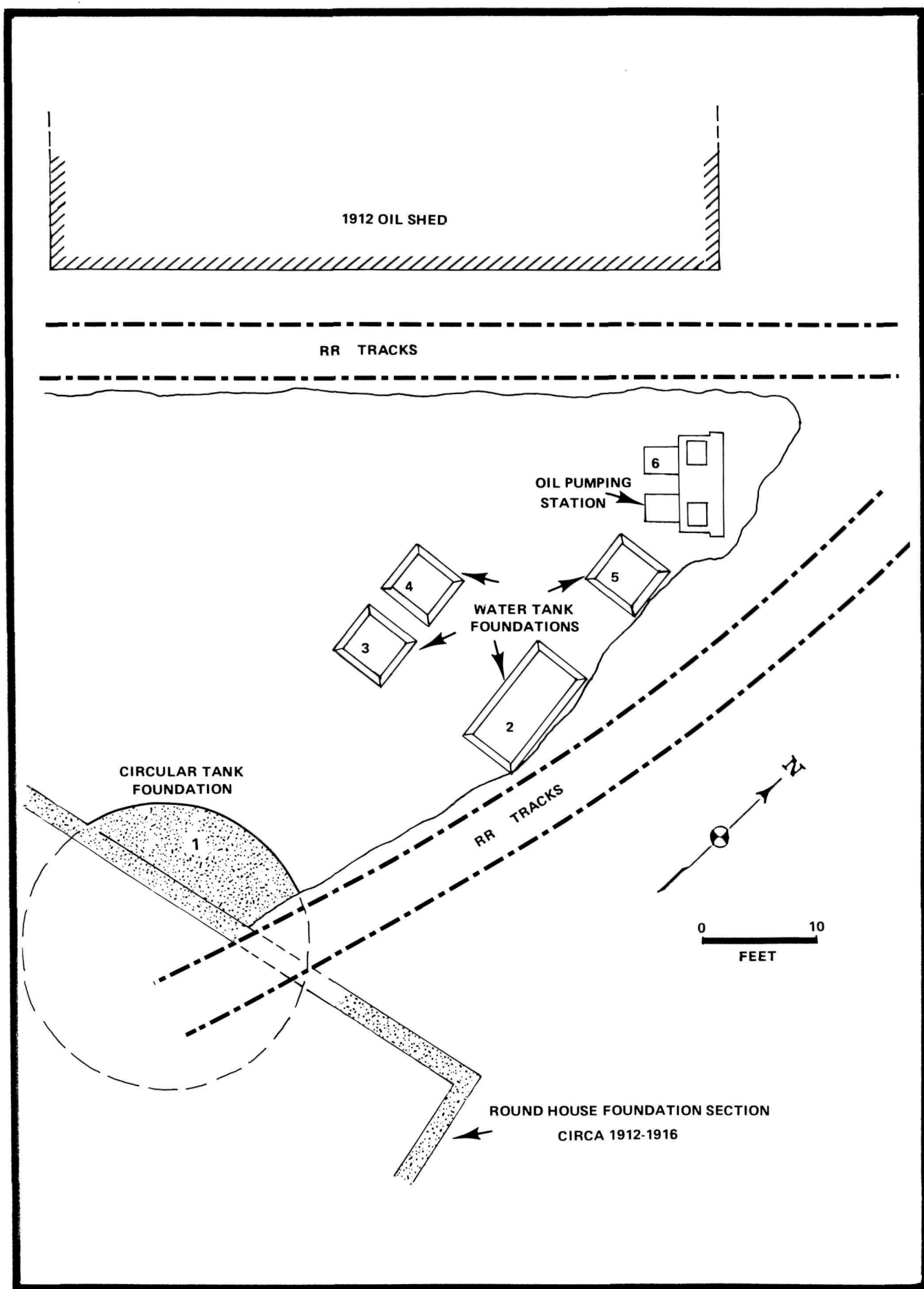


FIGURE 21: Monitor Area D, Feature 1-6

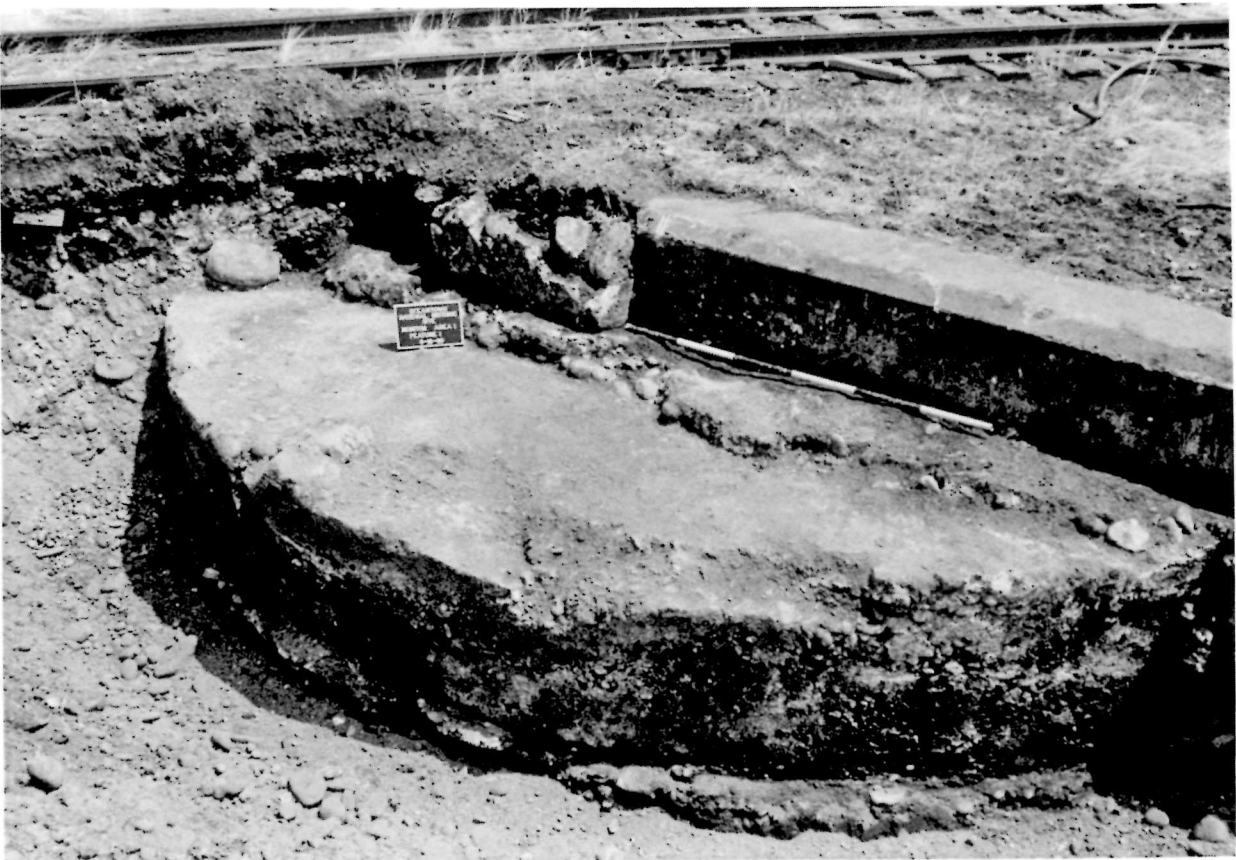


PLATE 7: Feature 1, Monitor Area D



PLATE 8: Feature 6, Monitor Area D

dimensions of the soil removal cuts which initially exposed the two features. Continued excavation within these apertures revealed two shallow brick pits. Complete excavation of the southern feature revealed four courses of flat-laid brick that formed walls which measured 2.1 feet in width on the north wall and 1.5 feet on the east wall. The south wall was not fully exposed in plan view and the west wall was not evident. The floor of the pit feature, which was 3.0 feet wide and 1.0 feet deep, was constructed of 15 rows of brick laid edgewise. This brick floor was gently sloped to the east where the iron drainage grate is situated. The section of this feature that has not been impacted by later construction is 9.2 feet long (Figure 22 and Plate 9).

The width and general location of the pit, as well as the incorporation of a drain, suggest that this feature may have been an inspection pit. The depth of inspection pits would have been at least 2.5 to 3.0 feet. If this feature was an inspection pit, its relatively shallow depth, 1.0 foot, may be the result of truncation during one of the subsequent building phases of the roundhouse.

Zitzler (1988) identified several brick features about 44 feet from the edge of the turntable pit. These features were dated to the 1865 roundhouse construction based on their dismantled nature and relationship with later concrete features dating to the 1902 construction. Comparable data were recorded by LBA, where the brick pit features were located 42.5 feet from the interior wall of the turntable pit. Excavation within the southern soil removal area by LBA also produced evidence that these features had been disturbed by the placement of the concrete annular drain dated to the early twentieth century.

Artifacts collected and noted during excavation of the pit feature in Area C included a rail section, tie spikes, plate glass, a crankpin nut from a steam locomotive, and a funnel-shaped copper drain. An accumulation of roofing slate was evident resting on the brick floor of the southernmost pit. In addition, a large quantity of disarticulated brick and mortar was evident in the feature fill, probably from the dismantled feature sections adjacent to the concrete annular drain.



PLAN VIEW

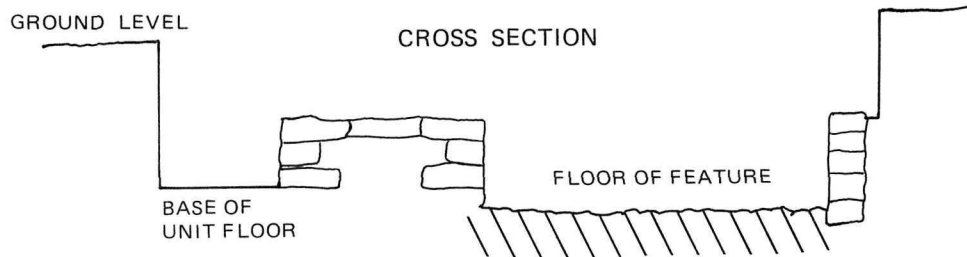
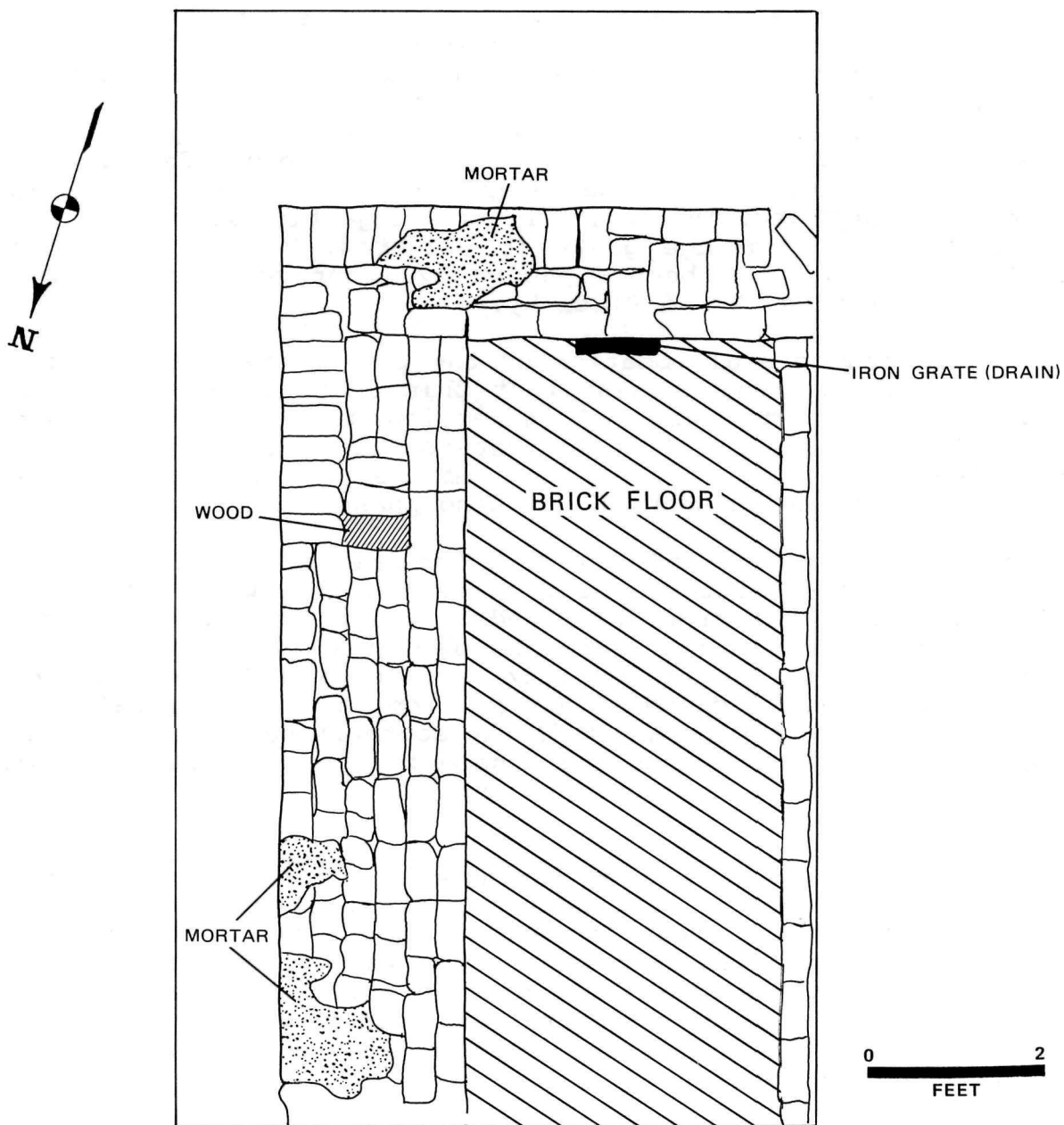


FIGURE 22: Plan View and Cross Section of Possible Inspection Pit, Area C, Trench 2



PLATE 9: Remains of 1865 Roundhouse, Monitor Area C

## VII. CONCLUSIONS AND RECOMMENDATIONS

The archeological survey of selected areas within Steamtown National Historic Site provided information on the preservation of buried resources within potential development areas of the park. Where intact or potential archeological deposits cannot be avoided, further testing and data recovery should be conducted. Following is a summary of the survey results by area.

Testing in Areas 1A and 1B was conducted to examine the potential for prehistoric remains along the bluff, which is the southern boundary of the park. The soil profiles that were exposed in these two survey areas exhibited deep stratified deposits of ash that represent numerous episodes of historic and modern fill. Undisturbed natural soils that would have the potential to contain archeological remains of aboriginal occupation were not encountered. No further work is recommended in these areas.

Area 2 was the location of domestic occupation prior to the construction of the 1909 Gas House. A deposit of nineteenth and early twentieth-century remains was located in one of the three test trenches excavated in this area. The archeological remains, which consisted of ceramics, glass, architectural fragments, and faunal refuse, were concentrated in soils between 8.4 and 10.4 feet BS. A masonry wall was located that may represent an extension of the A. Dunn, Sr. residence shown on late nineteenth-century maps. Neither the architectural remains or the historic refuse could be safely excavated because of the depth and instability of the overlying fill.

Areas 3 and 4 were inaccessible for testing because they are currently within a parking lot owned by the City of Scranton. The extent of the parking lot was surveyed in order to determine its relationship to the location of the original roundhouse and machine shop within the DL & W railyard. This portion of the project area is considered very sensitive for archeological resources because the relatively minor amount of later construction in the area may have left remains of the early roundhouse and machine shop largely undisturbed. This area would have constituted the heart of the railyard in its earliest configuration.

Testing within Area 5 located architectural remains of a mid-to-late nineteenth-century foundry. Preserved features include foundation walls, furnaces, machinery stands, and a railroad spur. Historic disturbances created by the construction of a railroad tunnel and various utilities is localized and has not compromised the archeological integrity of a large portion of this industrial site. Further testing and data recovery should be conducted prior to any scheduled development within the area of the foundry.

Area 6 represents the location of the 1865 Machine Shop. Archeological excavations provided information on the relationship of the present Maintenance Shop to the former structure. Archeological testing indicated that demolition of the earlier machine shop and subsequent developments in the railyard have destroyed the archeological integrity of much of this area. However, portions of the foundation of the 1865 building were found to be intact; it is possible the remains of some of the outbuildings associated with this structure may also be preserved. Therefore, a combination of archeological monitoring and testing is recommended if ground disturbing activities are undertaken in this area.

The location of the earliest mapped ash pit facility was confirmed through archeological testing. It is apparent that the circa 1877 pit was enlarged and modernized prior to the construction of new pit facilities around 1907. It is possible that additional archeological excavations would provide data on the sequence of modifications of this facility.

Excavations in the later ashing facility encountered oil-drenched soils that are a health hazard. This prevented thorough archeological examination of this area. These pit features appear to be relatively intact. It is recommended that, if this ashing facility will be subject to disturbance or renovated for service, an archeological monitor be present. Appropriate safety precautions will have to be taken in this area.

Site mapping and trench excavations in the area of the former Dickson Locomotive Works, Area 8, indicated the preservation of subsurface building remains that date to the late nineteenth and early twentieth century. These resources could not be examined in detail because the area is currently owned and utilized by Laminations, Inc. It is recommended that additional archeological testing should be conducted prior to any construction in this area by the National Park Service.

As a result of the soils removal monitoring program, LBA was able to recover a portion of the 1865 roundhouse and several water tank and oil pump foundations. The remains of the 1865 roundhouse encountered during soils removal monitoring indicate that additional archeological testing has the potential to recover more information about the sequence of construction and series of alterations to the roundhouse and turntable complex. The area of the former roundhouse is, therefore, considered to be archeologically sensitive. It is recommended that future construction in this area should be preceded by additional archeological testing.

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APPENDIX  
ARTIFACT INVENTORY

APPENDIX  
ARTIFACT INVENTORY

AREA 1A

PROVENIENCE (CAT.#)	DESCRIPTION	DATE
TRENCH 1, STRATUM A (22) Screened	1 body sherd, buff-bodied stoneware with overall Bristol slip (Collard 1967; Greer 1981)	1835-1950
	1 body sherd, buff-bodied stoneware with white Bristol slip interior	1835-1950
	1 base sherd of unidentifiable hollow ware vessel; yellow ware or buff stoneware with overall dark blue glaze; burned	
	1 unidentifiable form, possibly architectural (?); thick porcelain body with Rockingham-style glaze; burned	
	1 cranberry-colored unidentifiable glass, burned body sherd	
	1 aqua straight-sided glass body sherd; embossed "220"; mold blown; burned	
	1 small piece of encrusted metal	
	1 hollow brick	
	1 large bolt head	
	4 bolts	
	1 screw	
	1 square-cut spike	
	1 wire spike	
	16 cut nails (Nelson 1968)	B.D. 1830
	50 wire nails (Nelson 1968)	c. 1850
	1 barbed wire fragment (Bridgwater and Kurtz 1967)	B.D. 1873
	1 brick fragment	
	5 washers	
	1 nut	
	1 slag fragment	
	1 can	
	8 hardware fragments	
	3 lightbulb fragments	
	3 glass insulator fragments	
	7 burned window glass	
	2 sanitary porcelain fragments	
	1 coal fragment	
	1 burned glass refrigerator fragment	
TRENCH 1, STRATUM B (1) Screened	1 aqua unidentified glass body sherd; possibly straight-sided bottle; mold blown	
	1 glass insulator	
	9 broad glass (Guttery 1956; Pepper 1971)	1820-1926
	2 screws	
	6 wire nails	B.D. c.1850
	1 cut nail	B.D. 1830
	3 unidentifiable nails	
TRENCH 1, STRATUM C (2) Screened	1 clear unidentifiable glass body sherd; possible ribbed motif; pressed; possibly tumbler or bottle	
	2 unidentifiable metal	

NOTE: B.D. = beginning date



AREA 1A - Continued

PROVENIENCE (CAT.#)	DESCRIPTION	DATE
TRENCH 1, STRATA A-Z (36) Judgmental	1 brick; "W. H. B." 2 bricks; "Salamander Works"; Westmoreland Brick Co., PA (Gurke 1987:290-291)	1927-1942
	1 brick; "Woodbridge No 1"; Woodbridge Refractories Co., NJ (Gurke 1987:316-317)	1927-1930
TRENCH 2, STRATUM B (3) Screened	1 aqua beverage bottle body sherd; mold blown; embossed "[THIS] BOTTLE/ NOT TO/ BE S[OLD]" 1 wire 1 drawer pull 1 spike 1 cut nail 2 unidentifiable nails	B.D. 1830

AREA 1B

PROVENIENCE (CAT.#)	DESCRIPTION	DATE
TRENCH 1, STRATUM B (23) Judgmental	1 quartz-tempered brick; "B. GLASS"	
TRENCH 1, STRATUM C (24) Judgmental	1 brick; "... PROOF"	
TRENCH 2, STRATUM B (25) Judgmental	2 decal overglazed whiteware; mends; 8-inch plate; only ghost of the decal left (Denker and Denker 1985; Ketchum 1983)	1885-Present
	1 plain ironstone base; probably a plate (Denker and Denker 1985; Ketchum 1983; Wetherbee 1980)	1840-Present
	1 decal overglazed ironstone; 3 1/2-inch plate; Ridgways maker's mark; motif/pattern is ornate green rim decoration (Godden 1965:539)	c.1912+
	1 decal overglazed semiporcelain; 5-inch saucer; maker's mark = "Maddock's American China"; motif/pattern is identical to one on the Ridgway 3 1/2-inch plate; decal is not as fine and distinct as the Ridgway (Barber 1968:49; Lehner 1988:100)	1893-1923
	1 decal overglazed semiporcelain; 3 1/2-inch plate; decal is the same as the Ridgway with the same fuzziness as the Maddock's piece; probably made by Maddock	1893-1923
	2 decal overglazed semiporcelain; 8-inch oval dish; motif/ pattern = vined floral on rim	
	1 decal overglazed semiporcelain; saucer with well; motif/pattern = vined floral on rim same as the 8-inch oval dish	
	2 gray body salt-glazed stoneware with Albany slip interior; probably a crock	
	1 buff body stoneware with Bristol and Albany slip	
	1 clear tumbler base sherd	
	1 clear plain tumbler rim sherd	
TRENCH 2, STRATUM C (26) Judgmental	1 brick marked "SCRANTON A.11"	

AREA 2

PROVENIENCE (CAT.#)	DESCRIPTION	DATE
TRENCH 3, STRATUM B (4) Screened	17 plain whiteware body sherds (Godden 1964; South 1977)	1820-Present
	2 plain whiteware base sherds; possibly tableware	1820-Present
	1 plain whiteware base with maker's mark = "...Warran.." [ted]	1820-Present
	3 9 1/2-inch whiteware plate sherds; mends; with maker's mark = "Ironstone China"	1820-Present
	1 plain whiteware rim sherd; probably plate	1820-Present
	1 embossed rim whiteware with unidentifiable mold pattern	1820-Present
	1 decal overglazed whiteware rim; floral motif; probably plate	1885-Present
	1 plain ironstone body sherd	1840-Present
	2 buff body salt-glazed stoneware; mends	
	1 buff body salt-glazed stoneware	
	1 light gray body salt-glazed stoneware	
	1 buff body salt-glazed stoneware with Albany slip interior (Greer 1981; Ketchum 1983)	1800-1940
	1 buff body salt-glazed stoneware with handpainted blue decoration exterior and Albany slip interior	1800-1940
	5 buff body stoneware with brown slip; maker's mark = Or...har...; probably a small jar; 2 pieces mend	
	3 yellowware with Rockingham-type glaze	1812-1920
	1 aqua pharmaceutical bottle body sherd; oval shaped; embossed "...LLOWS & CO/ CHEMISTS/ ST. JOHN N.B."; probably "FELLOWS & CO"; unidentifiable manufacturing technique (Fike 1977:46; Baldwin 1973:175)	late 19th to early 20th c.
	1 aqua straight-sided bottle body sherd; mold blown; embossed "...CURT.../ ...HCOMP..."	
	2 aqua bottle body sherds; unidentifiable embossments; mold blown	
	2 aqua beverage bottle body sherds; embossed "...ORS...UL..."; mold blown	
	1 aqua soda/mineral water bottle base; mold blown; "C.G.W." on body near base; possibly Campbell Glass Works; if so, dated 1884-1885 (Toulouse 1971:129)	
	1 aqua unidentifiable bottle finish; beaded; possibly food or pharmaceutical	
	3 aqua unidentifiable bottle body sherds; mold blown	
	1 aqua unidentifiable straight-sided bottle sherd; mold blown	
	5 aqua unidentifiable bottle body sherds	
	1 dark olive green bottle base sherd; mold blown; unidentifiable embossment on base	
	1 opaque green glass sherd	
	1 brown/amber bottle base; possibly 3-piece mold with dip molded body; ring mold; snap-cased base (McKearin and Wilson 1978:14)	Post 1857
	1 brown/amber bottle body sherd; shows dip mold seam at body/neck juncture; possibly part of base of above vessel	
	1 brown/amber bottle body sherd; unidentifiable motif/embossment; mold blown	
	2 brown/amber bottle body sherds; mold blown	
	2 brown/amber straight-sided bottle body sherds; mendable; mold blown	
	2 clear commercial tumbler rim sherds; anchor closure of straight, non-fire-polished rim with slight outer "cap seat"; mold blown	
	2 clear, pressed glass unidentifiable tableware rim sherds; (one scalloped, one straight)	
	1 clear, scalloped "pie crust" lamp globe/chimney rim; machine crimped (Woodhead, et al. 1984:62)	Post 1877
	1 clear milk bottle finish with cap seat; mold blown	
	1 clear unidentifiable bottle base sherd; valve mark (Munsey 1970: 40-41)	1930-1940

## AREA 2 - Continued

[illegible]

NOTE: MNV = minimum number of vessels

AREA 2 - Continued

PROVENIENCE (CAT.#)	DESCRIPTION	DATE
TRENCH 3, STRATUM B (4) Screened (Continued)	5 plate; whiteware 1 plate base; whiteware; unidentified printed mark 1 plate base; whiteware with English Royal Arms mark of unidentified maker (Godden 1964:552) 13 body sherds; whiteware 1 saucer; whiteware 2 large cups (MNV 2); whiteware; one with block handle 1 wide-mouthed jar; ironstone 1 large cup; ironstone 1 plate rim; ironstone 1 plate base; ironstone 3 plate; embossed Gothic-type design; ironstone (Wetherbee 1980)	1820-Present 1820-1900 1840-1900 1820-Present 1820-Present 1820-Present 1840-Present 1840-Present 1840-Present 1840-Present 1830-1870
TRENCH 3, STRATUM B (21) Judgmental	3 matching small plate and saucers; embossed "vine with acorns" motif; ironstone 1 shallow bowl/dish; embossed scallops/ruffles; ironstone 2 large hollow ware (teapot?); embossed semi-porcelain (Gates and Omerod 1982) 3 bowl; semiporcelain with overglaze polychrome transfer (Denker and Denker 1985) 3 plates (MNV 3) with embossed and gilded rims; porcelain (Denker and Denker 1985; Ketchum 1983) 1 shaving mug; overglaze polychrome floral decal; porcelain (Denker and Denker 1985) 1 handle for cup or mug; porcelain 1 tile; unglazed red stoneware 1 partial pipe bowl; shape Demuth #1; heavy wear; bore diameter of 5/64ths (Sudbury and Pfeiffer 1983) 1 opaque white fruit jar liner sherd; embossed "CONSOLIDATED FRUIT JAR COMPANY NEW YORK" (Toulouse 1977:92) 2 brown/amber unidentifiable bottle body sherds 1 intact aqua soda/mineral water bottle; embossed "EAGLE BOTTLING CO./ SCRANTON/ PA./ REGISTERED"; two-piece cup bottom molded; blob-top finish; snap case base; Hutchinson stopper associated (Munsey 1970:104) 1 intact aqua soda/mineral water bottle; embossed "J. CHELLAND & SON/ OLD FORGE/ BARBERTOWN/ PA./ REGISTERED"; two-piece cup bottom molded; blob-top finish; snap cased base; Hutchinson stopper associated (Munsey 1970:104) 1 intact aqua soda/mineral water bottle; embossed "J. E. KEENAN/ VERY/ BEST/ SCRANTON, PA."; two-piece cup bottom molded; blob-top finish; snap cased base; Hutchinson stopper associated (Munsey 1970:104) 1 aqua soda/mineral water bottle base; panelled at bottom; "S" on base; mold blown; snap cased base (McKearin and Wilson 1978:14) 1 aqua unidentifiable bottle base; mold type indeterminate; snap cased base (McKearin and Wilson 1978:14) 1 aqua unidentifiable bottle base sherd; mold blown 1 aqua patent/extract finish; unidentifiable embossment; possibly food or pharmaceutical; mold blown 1 aqua bottle body sherd; unidentifiable embossment; mold blown; "...SCH..." 2 aqua unidentifiable bottle body sherds; mold blown 3 aqua unidentifiable bottle body sherds	1840-1900 1840-Present 1860-Present 1880-1950 1870-Present 1880-1950 1820-1920 Post 1869 Post 1879 Post 1879 Post 1879 Post 1857 Post 1857

AREA 2 - Continued

PROVENIENCE (CAT.#)	DESCRIPTION	DATE
TRENCH 3, STRATUM B (21) Judgemental (Continued)	<p>1 dark brown/amber beverage/liquor bottle base; probably three-piece mold with dip molded body; snap cased base (McKearin and Wilson 1978:14)</p> <p>1 cranberry-flashed unidentifiable glass body sherd; mold blown</p> <p>2 light grass green unidentifiable bottle body sherds; one mold blown</p> <p>1 clear unidentifiable bottle base; embossed "ANTHRA..EER CO./ SCRANTON/ PA."; two-piece cup bottom mold; snap cased base (McKearin and Wilson 1978:14)</p> <p>1 intact clear pocket/personal flask; embossed "WARRANTED FLASK"; double bead finish; strap-sided; two-piece cup bottom mold; snap cased base (McKearin and Wilson 1978:14)</p> <p>4 clear milk bottle finish sherds; two vessels; cap seat rim; mold blown</p> <p>1 clear milk (?) bottle body sherd; embossed "...FARM D..."; mold blown</p> <p>1 clear unidentifiable bottle base; mold blown; snap cased (McKearin and Wilson 1978:14)</p> <p>1 clear unidentifiable bottle body sherd; unidentifiable embossment; mold blown</p> <p>1 clear straight, fine-polished lamp globe/chimney rim; probably free-blown</p> <p>2 clear thin-walled glass body sherds; probably lamp-related</p> <p>5 clear unidentifiable glass body sherds; mold blown</p> <p>1 glass insulator</p> <p>1 agateware door knob</p> <p>6 broad glass</p> <p>1 clear window glass</p> <p>2 electrical-related glass; "P C &amp; W PHILA"</p> <p>2 roofing slate fragments</p> <p>1 unidentifiable nail</p> <p>2 slag</p> <p>2 metal corroded</p> <p>1 plastered mortar</p> <p>1 wire nail</p> <p>1 plastic</p> <p>2 sheep metacarpals unfused distal diaphyses</p> <p>1 sheep femur distal</p> <p>1 sheep scapula, sawed section</p> <p>1 cow distal femur, chopped</p> <p>1 cow acetabulum unfused, sawed</p> <p>1 cow humerus distal section sawed</p> <p>1 cow, pelvis section, sawed</p> <p>12 medium mammal rib fragments</p> <p>2 large mammal vertebra fragments</p> <p>1 chicken tibiotarsus</p>	<p>Post 1857</p> <p>Post 1857</p> <p>Post 1857</p> <p>Post 1857</p> <p>Post 1857</p> <p>Post 1857</p> <p>Post 1857</p> <p>1820-1926</p> <p>B.D. c.1850</p>

AREA 5

PROVENIENCE (CAT.#)	DESCRIPTION	DATE
TRENCH 1, STRATUM A (5) Screened	1 square cut spike 13 unidentifiable metal	
TRENCH 1, STRATUM B (28) Judgmental	7 square cut spikes 1 cut nail 1 miscellaneous metal 1 plain small china button 4 pieces felt	B.D. 1830 B.D. 1850
TRENCH 1, STRATUM B (27) Judgmental	1 large construction wire/cable	
TRENCH 1, STRATUM B (6) Screened	7 square cut spikes 5 cut nails 11 unidentifiable nails 17 unidentifiable metal	B.D. 1830
TRENCH 1, STRATUM C (29) Judgmental	1 plain clay pipestem; 5/64 bore 1 spike	
TRENCH 1, STRATUM C (7) Screened	1 body sherd; whiteware 1 aqua unidentifiable bottle body sherd 54 unidentifiable metal 3 broad glass 2 slag 24 cut nails 5 unidentifiable mammal fragments	1820-Present 1820-1926 B.D. 1830
TRENCH 1, STRATUM D (8) Screened	7 unidentifiable metal	
TRENCH 1, STRATUM E (9) Screened	6 unidentifiable metal	
TRENCH 2, STRATUM B (30) Judgmental	2 angle bar rail joints	
TRENCH 2, STRATUM B (10) Screened	1 brown/amber screw top bottle finish; mold blown bottle glass 1 light green bottle sherd 1 clear window glass 2 brick fragments 16 unidentifiable metal 3 unidentifiable nails 1 coal fragment	
TRENCH 2, STRATUM C (11) Screened	1 dark olive green bottle body sherd; mold blown 3 broad glass 33 clear window glass 9 slag 1 mortar 13 unidentifiable metal	1820-1926



AREA 5 - Continued

PROVENIENCE (CAT.#)	DESCRIPTION	DATE
TRENCH 2, STRATA E-F (12) Screened	1 brown/amber bottle body sherd 1 light green bottle body sherd 2 brick fragments 1 spike 2 cut nails 6 unidentifiable metal 2 broad glass 1 slag 3 clear glass	B.D. 1830 1820-1926
TRENCH 3, STRATUM B (13) Screened	1 aqua bottle body sherd 1 clear unidentifiable glass body sherd 8 leather fragments 4 brick fragments 3 broad glass 3 slag 1 mortar 1 brass wire 1 glass insulator fragment 2 cut nails 7 unidentified metal 1 large bolt 1 metal slag	1820-1926 B.D. 1830
TRENCH 3, STRATUM B (31) Judgmental	1 angle bar rail joint	

AREA 6

PROVENIENCE (CAT.#)	DESCRIPTION	DATE
TRENCH 2, STRATUM A (14) Screened	1 clear unidentifiable glass body sherd; thin-walled; burned 1 pulley, window 1 wire 4 wire nails 2 broad glass 1 cut nail 1 roofing slate fragment 2 slag 2 miscellaneous hardware 3 brick fragments	BD c. 1850 1820-1926 B.D. 1830
TRENCH 2, STRATUM B (15) Screened	2 brick fragments 3 broad glass 4 clear window glass	1820-1926
TRENCH 2, STRATUM C (16) Screened	1 broad glass	1820-1926
TRENCH 2, STRATUM D (17) Screened	2 brick fragments 3 broad glass 1 clear window glass	1820-1926
TRENCH 2, STRATUM D (32) Judgmental	1 brick; "SCRANTON A..." 1 rope 1 broad glass 1 bolt	1820-1926
TRENCH 2, STRATUM E (33) Judgmental	1 large spike 1 washer 1 slag	
TRENCH 3, STRATUM A (18) Screened	1 clear, unidentifiable glass tableware body sherd; pressed unidentifiable motif 2 clear, thin-walled unidentifiable glass body sherds; possibly lamp-related; one shows evidence of burning 1 peach pit 6 clear window glass 1 rubber gasket 1 plastic fragment 1 slag	
TRENCH 3, STRATUM B (19) Screened	1 brown/amber bottle body sherd; possible machine cut-off scar, if so, post 1903 (Jones and Sullivan 1985:38) 1 brass filter 36 refrigerator glass 1 broad glass 1 clear window glass 2 cut nails 3 miscellaneous hardware 1 cloth 1 coal fragment	1820-1926 B.D. 1830

AREA 6 - Continued

PROVENIENCE (CAT.#)	DESCRIPTION	DATE
TRENCH 3, STRATUM C (20) Screened	2 clear, unidentifiable tableware body sherds; pressed; unidentifiable motif 1 pipe collar 1 large spike 1 cut nail 2 unidentifiable metal 1 slag 1 unidentifiable ceramic 11 broad glass	B.D. 1830       1820-1926

AREA 8

PROVENIENCE (CAT.#)	DESCRIPTION	DATE
TRENCH 1, STRATUM C (34) Judgmental	1 plain pipestem; slightly pink with 2 deep grooves along each side; 6/64 bore	

MONITOR AREA C

PROVENIENCE (CAT.#)	DESCRIPTION	DATE
TRENCH 2, STRATUM B (35) Judgmental	1 pipe collar (crank pin nut) 3 large spikes 1 washer 1 miscellaneous hardware	

As the nation's principal conservation agency, the Department of the Interior has basic responsibilities to protect and conserve our land and water, energy and minerals, fish and wildlife, parks and recreation areas, and to ensure the wise use of all these resources. The department also has major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

