Aspire Alexandria

(1112 First Street)

City of Alexandria, Virginia

WSSI #22265.03

Documentary Study & Archaeological Evaluation

Final Report

Prepared for:
Bonaventure Realty Group
2700 South Quincy St. Suite 500
Arlington, VA 22206

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Prepared by:
Kathleen Jockel Schneider, M.A.A./M.H.P, RPA,
John P. Mullen, M.A., RPA, and David Carroll M.A., RPA

Thunderbird Archeology
A Division of Wetland Studies and Solutions, Inc.®

5300 Wellington Branch Drive, Suite 100
Gainesville, Virginia 20155
Tel: 703-679-5600 Email: contactus@wetlandstudies.com
www.wetlandstudies.com

ABSTRACT

An *Archaeological Evaluation* was conducted on the Aspire Alexandria site at 1112 First Street in Alexandria, Virginia resulted in the identification of Site 44AX0249, which contained the remains of the Alexandria Glass Works that operated between 1905 and 1917. This archeological investigation was required under Section 11-411 (Archeology Protection Code) of the Zoning Ordinance of the City of Alexandria, Virginia and followed approved Scope(s) of Work. The initial (Phase I) trenching resulted in the identification of a buried ground surface (Apb) in a small area of the site, which was investigated and determined to be not significant to the site. The trenching also identified a 10YR 2/1 destruction fill which increased in depth in the southern portion of the site.

The subsequent archeological work consisted of a 90 by 90-foot square block excavation that revealed numerous features related to the Alexandria Glass Works factory at approximately 4 feet below ground surface but did not reach below the historic fills to sterile subsoil. In consultation with Alexandria Archaeology, construction monitoring was conducted during the excavations for the subsurface garage on the property. The monitoring identified more features related to the factory; after the features were recorded and surveyed, excavations continued to be monitored until subsoil was reached.

Archeological investigations identified numerous features associated with the Alexandria Glass Works factory prior to its destruction in 1917. Remnants of the factory building included the furnace and several gas producers dating from the early 20th century. The site may be considered significant to the City of Alexandria and potentially eligible the NRHP; however, the research potential is limited beyond direct comparison with the other two glass factories that have been excavated within the city. No further work is recommended.

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1112 First Street (Aspire Alexandria)
City of Alexandria, Virginia

A DOCUMENTARY STUDY AND ARCHEOLOGICAL EVALUATION

Report Summary by John Mullen

INTRODUCTION

Documentary research and archeological investigations of the former location of Tony's Auto (1112 First Street) were required under the Archeology Protection Code (Section 11-411) of the City of Alexandria Zoning Ordinance. Thunderbird Archeology, a division of Wetland Studies and Solutions, Inc., of Gainesville, Virginia, conducted these studies for the Bonaventure Realty Group of Arlington, Virginia.

The *Documentary Study* for the property was completed in 2019 (Mullen and Carroll 2019). The *Archaeological Evaluation* was conducted between January and July of 2022 and resulted in the identification of one new archeological site. One new archeological site (44AX0249) was recorded with the Virginia Department of Historic Resources as a result of the archeological work. The designation as 44AX0249 represents this site as the 249th archeological site (249) recorded in the City of Alexandria (AX) in the Commonwealth of Virginia (44).

The purpose of the *Documentary Study* research was to identify the potential locations of archeological resources, develop a historical context for their interpretation, and ultimately determine if archeological investigations were needed on the property prior to development. The purpose of the *Archaeological Evaluation* was to locate any cultural resources within the impact area and to provide a preliminary assessment of their potential significance to the City of Alexandria.

EARLY PROPERTY HISTORY

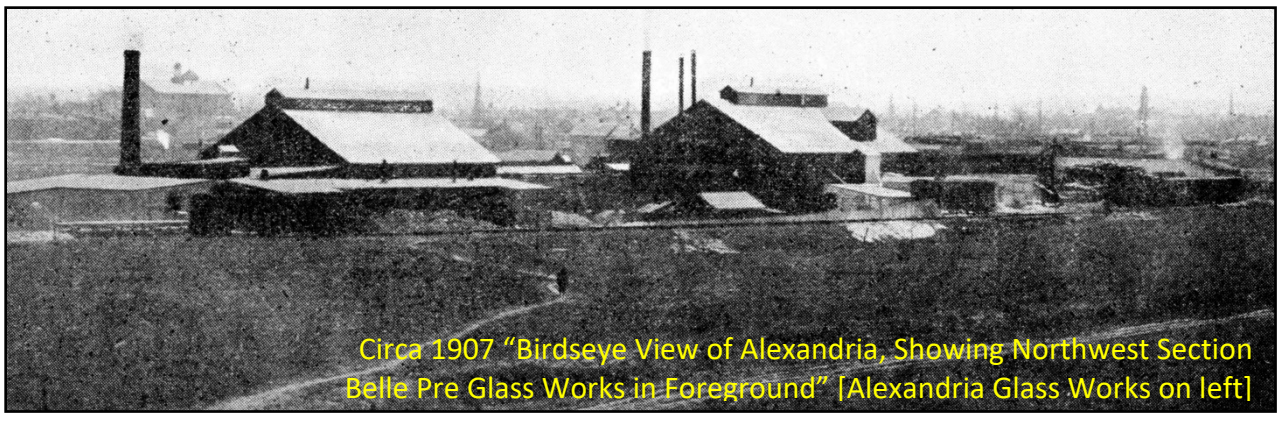
In the late 18th century, the land containing the Alexandria Glass Works was owned by Captain Richard Conway, one of several wealthy land holders who owned various tracts of land on the outskirts of Alexandria. Conway was both an army captain during the Revolution and the captain of a merchant vessel,

the “Friendship.” He served as mayor of Alexandria in 1783. Upon his death around the turn of the 19th century, Captain Richard Conway’s estate was surveyed, and his executors later sold off several parcels of land to interested parties.

A 28-acre parcel, which included a large portion of the study area, was sold to John Gadsby, who was already established as the reputable proprietor of Gadsby’s Tavern between 1796 and 1808. Gadsby purchased the 28 acres of land on the west end of Alexandria from Captain Richard Conway’s executors around the time he relocated to Baltimore in 1808. Most likely, the purchase of the land was speculative, as he subdivided and sold the property to others within one month of acquiring the land. No leases in deed books to or from Gadsby have been located at this time.

The 28-acre purchase was subdivided into four separate parcels by Gadsby when he sold all his holdings in Alexandria. Two of these parcels were eventually merged into one 11-acre parcel of land that contained what would become the study property at 1112 First Street. The land changed hands between various real estate speculators throughout the 19th century. Finally, in June of 1902, the heirs of both Charles C. Smoot and John B. Smoot (who served as mayor of Alexandria from 1885 until 1887) conveyed the entire city block (including the project area) to the Belle Pre Bottle Company of Washington, D. C., a corporation organized under the laws of the State of Delaware.

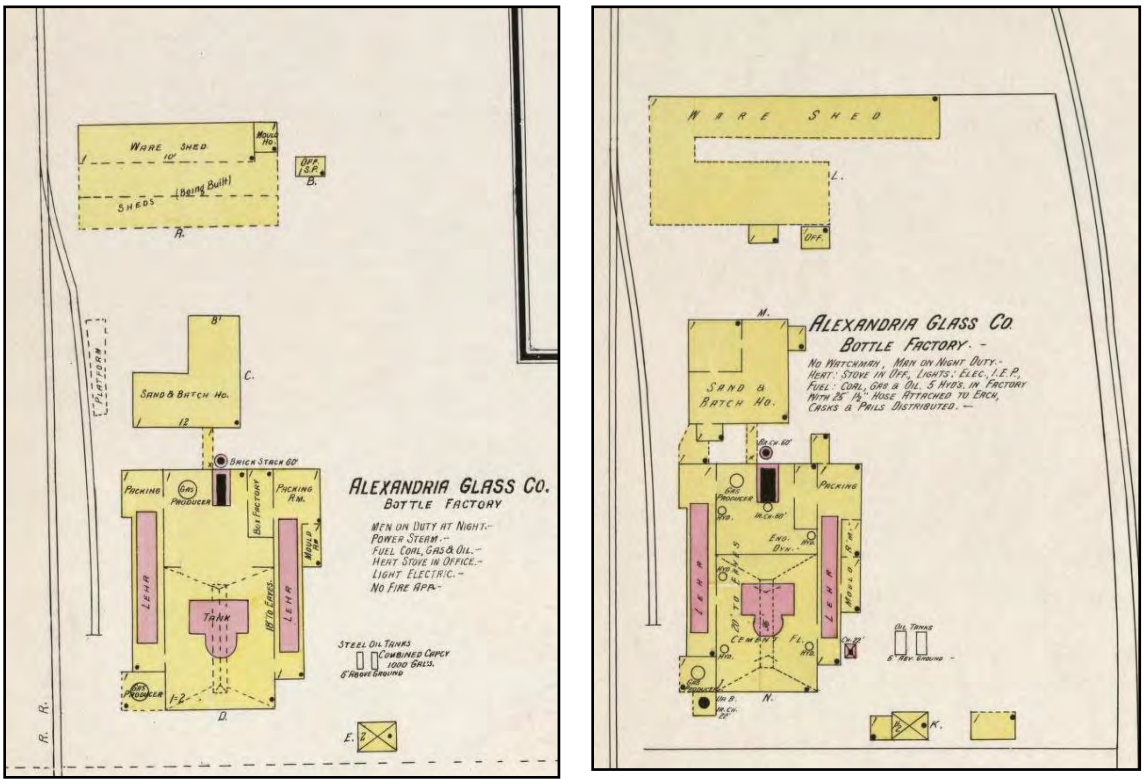
The Belle Pre Bottle Company, which was in operation between 1902 and 1921, was located on the city blocks and bordered by N. Fayette and N. Henry Streets to the north of Madison Street. In October 1905, the Belle Pre Bottle Company sold the northern square of their property (north of Montgomery Street and up to First Street) to the newly formed Alexandria Glass Works Company.



Circa 1907 “Birdseye View of Alexandria, Showing Northwest Section Belle Pre Glass Works in Foreground” [Alexandria Glass Works on left]

ALEXANDRIA GLASS WORKS

The Alexandria Glass Works, the fourth glassworks in the city, was founded in 1905 and was in operation until 1917. A 1907 book celebrating the tercentennial of Alexandria show a lone figure walking up a dirt path toward the Alexandria Glass Works (on left) and the Belle Pre Bottle Company (on right), with the city skyline in the distance, including the Mt. Vernon Cotton Mill building, located on Washington and Pendleton Streets, behind the Alexandria Glass Works main smokestack. (Wedderburn 1907).



1907 Sanborn© Map & 1912 Sanborn© Map
Showing the Alexandria Glass Company

The Sanborn© Map Company Insurance Maps provide details of the spatial layout of the glass factory. The November 1907 Sanborn© Map of Alexandria, Virginia, shows the Alexandria Glass Works factory and various ancillary buildings located between Henry Street and the Southern Railroad to the east and Fayette Street and the Pennsylvania Railroad to the west. Details of the interior of the main factory building include the central continuous tank flanked by two lehr ovens, with the plant's packing room and box factory appropriately located at one end of the lehrs. One gas producer, the horizontal boiler and the 60-foot-high smoke stack were situated the northern end of the factory. The large sand and batch house lay off the northern end, connected by a causeway. The roof or the furnace was 15 feet in height.

The Sanborn Insurance map for 1912 shows several changes from the 1907 map. A 60-foot iron chimney stack was added to the south of the horizontal boiler, a 22-foot iron chimney was shown to the southwest corner by the southern gas producer, and a 22-foot brick chimney was located near the southeast corner of the factory building. Although most of the factory was one-story in height, the 1912 map now indicates that the roof soared 20 feet over the main tank, and the main factory building has a cement floor. Five hydrants, three on the west side and two on the east, were also depicted on the map.

According to glass factory directories, the factory produced a "general line of green beverage bottles, food packers, etc." through 1908, but beginning in 1909, produced both green and flint (clear) glass milk, beer, prescription, and soda bottles; flasks; and packers, (Glass Factory Directories 1908). In 1914, the factory was under new management and produced flint (clear) glass only, in prescription, beer, soda, and flask forms.

FIRES AND CLOSURES

On October 17, 1912, a minor fire, apparently ignited from sparks from a passing locomotive, destroyed the warehouse where old newspapers for packing glass products were stored and spread to two stock sheds that contained finished products awaited packing and shipment (WP 1912b). Another small fire in February 1914 did $200 damage to the packing paper shed (WP 1914). By the end of that year, the Alexandria Glass Company plant shut down ostensibly for two weeks for unspecified repairs on December 14th (WH 1914), and remained inactive for all of 1915, while the company defaulted on loans and sold the factory to the Old Dominion Glass in June 1916. The factory reopened in December of 1917.

On February 7, 1917, only two months after the factory's re-opening, a fire in the main building burned the plant to the ground in less than two hours. The factory had been standing idle for several days due to difficulty in acquiring materials and was apparently not in full production prior to the fire as it was noted that approximately 75 men and boys lost their jobs when the factory burned, less than half of the 200 employees hoped for at the factory's reopening. The damages were estimated at $75,000, and comparatively little insurance was owned on the facility (WP 1917). The factory did not reopen.

Prohibition and a series of fires may have contributed to the demise of this factory; however, the decline of glass bottle manufacturing in the City of Alexandria can be attributed to costs associated with rebuilding after fires, the lack of readily available natural resources, and other economic pressures (Pfanstiehl et. al 1999:10-2).

Between the burning of the glassworks and the sale of the property, the Stoner Chemical Company built and operated for an unknown but apparently brief period an alum factory on the site of the Alexandria Glass Company factory. The Stoner factory appears on the 1921 Sanborn map, noted as "not in

operation.” company mined alunite ore in Piute County, Utah and shipped it to the Alexandria factory for processing, but this arrangement clearly did not last beyond 1921 (Salt Lake Telegram 1919).

In October of 1922, the study parcel was sold by the trustee of the Old Dominion Glass Company to the Rose Brothers Company (Alexandria Virginia Deed Book 74:116). The Rose Brothers Company were contractors who specialized in roofing; the First Street property employed Italian craftsmen and workers to make roofing tiles, paint, and tar for use in their business, presumably adapting the Stoner Chemical works to this purpose. Rose Brothers sold the First Street property in September 1941 and after various owners and uses, Antonio Damiani opened a three-bay automotive repair shop in 1967 on Commonwealth Avenue (Tony's Auto Service 2013). In 1978, he purchased 1112 First Street from Jerome Murray (Alexandria, Virginia Deed Book 880:683) and opened the 30-bay Tony’s Auto Service, which continues in operation on the property, in 1979.

ARCHEOLOGICAL INVESTIGATIONS

At least 47 architectural features from the Alexandria Glass Company factory were documented during the archeological work and subsequent construction activities at site 44AX0249. Architectural features included foundation walls and floors in the vicinity of the main furnace and lehr ovens, structural piers, remnants of the ventilation system, the foundation for two gas producers, and the foundations for two chimney stacks.

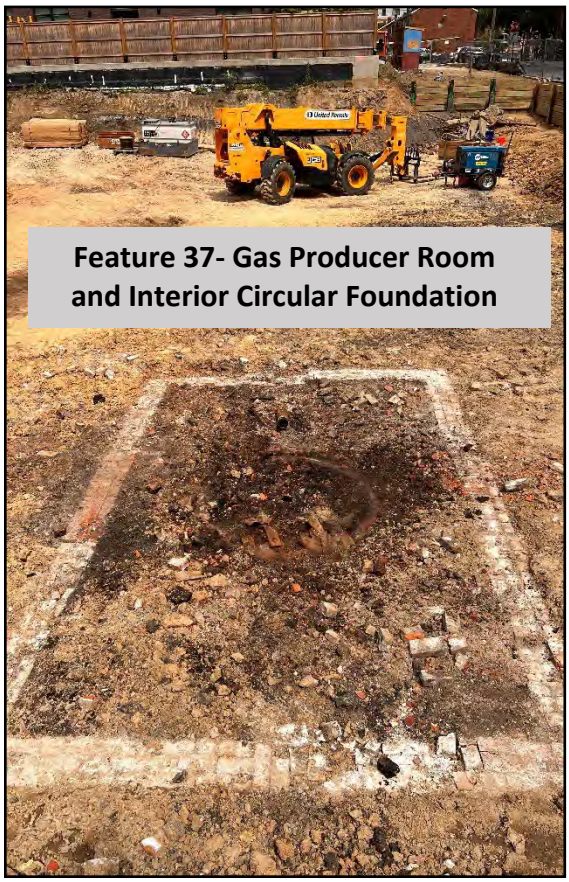

Feature 44: Three-Bay Brick Foundation of Main Furnace

The Alexandria Glass Works was recorded as having a continuous tank, which is a glass furnace in which the level of glass remains constant because feeding of the batch is continuous, and the tank is always full or nearly full. The tank covers the entire area of the furnace and is divided by one or two partitions into two or three compartments. The batch is charged into the first compartment and the flames enter from one side and exit opposite. This is the melting compartment. Vents are necessary to discharge acid and gas vapors generated during melting.

The melted glass flowed into either another compartment where it was superheated and purified or directly into a gathering compartment. The gathering compartment, or working out end, projected into the shop. It was generally semicircular and contains the rings, openings through which the gather was extracted (United States Department of Commerce 1917).

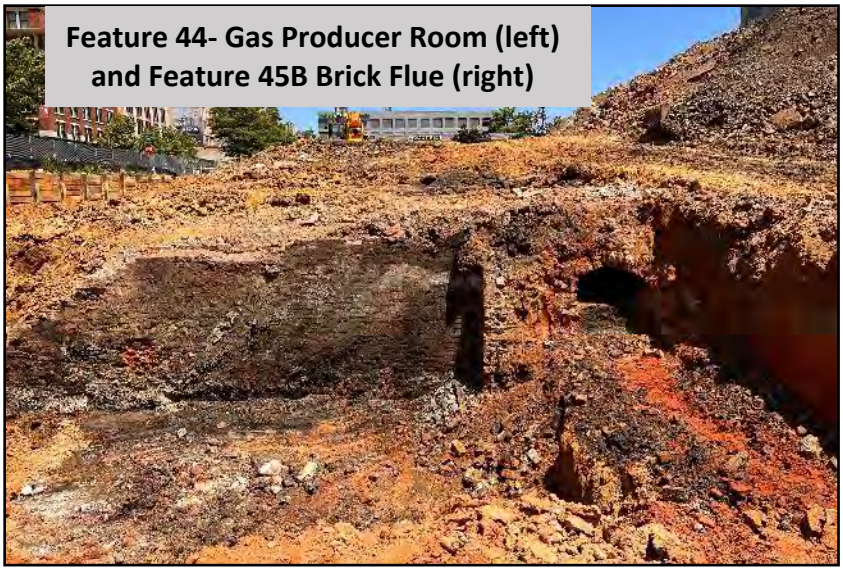

Feature 20: Semi-circular "Working End" of Furnace Tank

The large three-bay brick foundation (Feature 44) of the Alexandria Glass Works tank furnace was located on the lower level of the factory. It measured 36 by 36 feet overall, with the central bay measuring 12 feet wide and flanked by two 9-foot-wide side bays. The "working end" of the furnace was located on the upper level and consisted of the semi-circular concrete and brick foundation (Feature 20) that was much larger than was depicted on the Sanborn maps.


Feature 37- Gas Producer Room and Interior Circular Foundation

The earliest American glass factories depended on timber fuel, but the adoption of coal and natural gas as fuel greatly increased the efficiency and scalability of glass production. By the time the Alexandria Glass Works was in business, the use of gas producers in glass factories was well established. Only one complete foundation of the factory's two gas producers was located. Structurally, gas producers were iron tanks lined with refractory bricks, which were connected to the furnace ventilation system (Pfanstiehl et. al 1999:8-10).

The remains of the metal tank, lined with brick and measuring 7 feet in diameter was in a small room measuring 20 by 13.5 feet (Feature 37). The interior of the tank and rubble filled room were filled with liquid tar substance, a byproduct of production. The location of the second gas producer (Feature 44) was the northwestern end of the factory. Our excavations revealed evidence of the ventilation system: the remains of a flue (Feature 39) that may have carried gas to the lehr oven and Feature 45B, which vented to the main smokestack.



The concrete floor of the factory was discovered during the initial trenching phase of excavation. Ten in-situ section of the concrete floor were exposed during the block excavation. The floor was preserved under a thick layer of molten glass, which was located at the bottom of the destruction layer, making the concrete flooring an intact historic layer. The glass layer unevenly covered a roughly 35 by 45-foot patch of the floor in the southeastern corner of the factory. The resolidified molten glass layer is likely from the 1917 fire which shut down the factory.

Artifacts

Due to the nature of the excavations and the presence of contaminated fills overlying the remains of the glass factory, diagnostic artifacts were collected when observed but no soils were screened. The Alexandria Glass Works produced milk, beer, prescription, and soda bottles, flasks; and packers in both green and flint (clear) glass. According to our research, the factory did not have automatic machine until at least 1909 (WP 1909a), although they may have added the machines when the factory was rebuilt in 1912.

Harpers Headache Medicine Bottle
Chilled Iron Mold (1880-1830)

The destruction fills above Features 39 and 44 to the south of the main smokestack contained diagnostic artifacts that were likely produced in the factory, including several chilled iron mold glass stoppers and paneled bottle sherds (1880-1930) and an olive-green cylindrical bottle with a crown lip finish (post 1890). One chilled iron mold paneled bottle sherd was embossed "HARPER'S/ HEADACHE MEDICINE/ WASHINGTON D.C." and a second bottle embossed, "...ALBY'S/ CARMINATIVE".

SUMMARY AND CONCLUSIONS

The *Archaeological Evaluation* conducted on the Aspire Alexandria site at 1112 First Street in Alexandria, Virginia resulted in the identification of Site 44AX0249, which contained the remains of the Alexandria Glass Works that operated between 1905 and 1917. Several research questions were posited prior to the onset of the archeological fieldwork and were addressed

1. *The factory originally (ca. 1908) produced a "general line of green beverage bottles, food packers, etc." but switched to producing clear glass only in 1914, and in 1915, greatly expanded production to include patents, liquors, packers, and preservers in additional to the beer and soda bottles. Will this be reflected in the materials recovered at the site?*

The artifact assemblage included freeblown, chilled-iron mold, and automatic machine-made bottles that were both olive-green and clear glass. None of the

recovered diagnostic glass artifacts could be specifically attributed to a specific year of production at the factory based on their context. However, the clear square/rectangular bottle sherds that were paneled including the "HARPER'S/ HEADACHE MEDICINE/ WASHINGTON D.C.", and the post 1910 automatic bottle machine bottle embossed “RE... /BALTI...D./AUGUST FENKER, show that the production line had expanded.

2. *A devastating fire in 1917 burnt the entire glass factory to the ground. Did subsequent use of the property by the Stone Chemical Company and the Rose Brothers remove/clean out the destruction or bury it? Will evidence of the fire be found in the archeological record?*

A black destruction soil layer that was ubiquitous across the site is interpreted as evidence of the 1917 fire, which closed the Alexandria Glass Works factory for good. Resolidified glass was also found across portions of the concrete floor of the factory, which may also be related to the fire, but very few burned glass bottles or other artifacts were recovered.

3. *The glass factory was under new management in 1917. Were any changes made to the interior configuration of the main building that is shown on the 1912 Sanborn? What other features will be located that were not mapped (several brick flues were located at the adjacent Belle Pre factory during construction of the Madison).*

The Sanborn fire insurance maps from 1907 and 1912 show the layout of the factory including the location of the gas producers, furnace, lehr ovens, and several chimney stacks. Our archeological work has shown that the size and scale of several of the interior features depicted on the Sanborn maps were approximate, but the location was fairly accurate. The lower level of the factory is not shown on the maps, and like the Belle Pre factory, we located several brick ventilation flues, and other brick foundations/features that were not shown on the map.

4. *Did the Stoner Chemical Company reuse the original stack and boiler site from the glassworks, as they appear to be located in approximately the same place on the property? Did the remaining tanks, and the mixing and grinding room have subsurface features?*

No features recorded during fieldwork were clearly associated with the later occupation of the property by the Stoner Chemical Company. It is likely that the construction of the Autobody shop building disturbed any below ground remains, or the remains of the chemical factory were cleared away altogether prior to the mid-20th century development.

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INTRODUCTION

This report presents the results of a *Documentary Study* and *Archaeological Evaluation* of the ± 0.95-acre Aspire Alexandria (1112 First Street) property in Alexandria, Virginia (Figure 1). Thunderbird Archeology, a division of Wetland Studies and Solutions, Inc., of Gainesville, Virginia, conducted the studies described in this report for the Bonaventure Realty Group of Arlington, Virginia.

John P. Mullen, M.A., R.P.A. served as Principal Investigator on this project. David Carroll M.A., RPA and Mr. Mullen conducted the archival documentary research and using background material prepared by Boyd Sipe, M.A., RPA. Kathleen Jockel Schneider, M.A.A./M.H.P. RPA, along with Senior Archaeologists Alison Hodges, M.A. and Justin Browning, M.A., supervised the fieldwork, with the assistance of Archeologists Jonathan Fleming, Lesley Jennings, Kendal Keech, Scotty McElroy, and WSSI interns Shawn Cerny, Amanda Niebur, and Madison Norman. Elizabeth Waters Johnson, M.A. served as Laboratory Supervisor and conducted the artifact analysis with Amber Nubgaard, M.A., RPA.

All work was required under the City of Alexandria Archaeological Protection Code prior to development and followed approved Scopes of Work (SOW). In general, the archeological fieldwork and report contents followed the 2021 *City of Alexandria Archaeological Standards*, the 2017 *Guidelines for Conducting Historic Resources Survey in Virginia* (DHR 2017), and the *Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation* (DOI 1983).

The purpose of the *Documentary Study* research was to identify the potential locations of archeological resources, develop a historical context for their interpretation, and ultimately determine if archeological investigations were needed on the property prior to development. The purpose of the *Archaeological Evaluation*, which was carried out from January to July of 2022, was to locate any cultural resources within the impact area and to provide a preliminary assessment of their potential significance to the City of Alexandria. If a resource was felt to possess significance, then additional work would be completed to document and mitigate such resources. One significant archeological site, 44AX0249, was recorded that spans the entirely of the property (see Figure 1).

The report is organized in the following format: title page, public summary and abstract; the results of the documentary and archival research[1]; the research design and methodology, and the expected results based on the background research; the results of the fieldwork, as well as a discussion of the cultural remains recovered; interpretation of the archaeological and documentary research, and conclusions. The report concludes with a bibliography and appropriate appendices.

[1] Thunderbird completed a *Documentary Study* report (Mullen and Carroll 2019) that included a complete historic and cultural contextual study of the project area. As such, the background chapters of this report will be limited to the history relevant to the fieldwork results.

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Figure 1: Vicinity Map

All artifacts, research data, and field data resulting from this project are currently on repository at the Thunderbird offices in Gainesville, Virginia; the final repository will be with the City of Alexandria.

ENVIRONMENTAL SETTING

Alexandria is located within the Coastal Plain, which is underlain by sediments that have been carried from the eroding Appalachian Mountains to the west, and includes layers of Jurassic and Cretaceous clays, sands and gravels. These are overlain by fossiliferous marine deposits, and above these, sands, silts and clays continue to be deposited. The Coastal Plain is the youngest of Virginia's physiographic provinces and elevations range from 0 to 200/250 feet above sea level (a.s.l.). It is characterized by very low relief broken by several low terraces. The province runs west to the Fall Line, a low escarpment at ± 200 feet a.s.l., which formed where the softer sedimentary rocks of the Coastal Plain abut the more resistant rocks of the Piedmont. Where rivers cross this juncture, rapids or falls have developed.

The 1112 First Street property is located near the northwestern corner of the 19th century boundary of the City of Alexandria; historically, the nearest water source is a tributary to Hooffs Run which was located approximately 1,000 feet to the southwest. Hooff's Run drains into Cameron Run which in turn empties in the Potomac River near Jones Point. The historic topography of the project area is unknown but was likely relatively level and well-drained terrain that has, along with the surrounding area, been subject to modification due to development during the 20th century (Figure 2). At the time of the *Documentary Study* research, the property was the location of Tony's Auto Service, which had operated at the site since 1979 (Figure 3). The auto repair business was located within a single-story brick building those dates to the 1940s; asphalt pavement parking areas occupy the remainder of the parcel.

PROPERTY HISTORY

Early Ownership of the Study Area

The earliest verifiable owner of the study area at this time is Richard Conway (Appendix I- Chain of Title). Prior to his ownership, the study property was likely previously owned by Philip or Robert Alexander. Due to a re-parceling of Conway's property following his death which did not record the prior owners of the property as it was distributed to the various purchasers and other recipients.

Captain Richard Conway was one of several wealthy land holders who owned various tracts of land on the outskirts of Alexandria in the late 18th century. Conway was both an army captain during the Revolution and the captain of a merchant vessel, the "Friendship." His marriage to Mary West, daughter of Major John West and Margaret Pearson, cemented his position among the moneyed elite of Virginia. In 1783, Conway was elected Mayor of Alexandria and at that time was also a stockholder in local banks, the Marine Insurance

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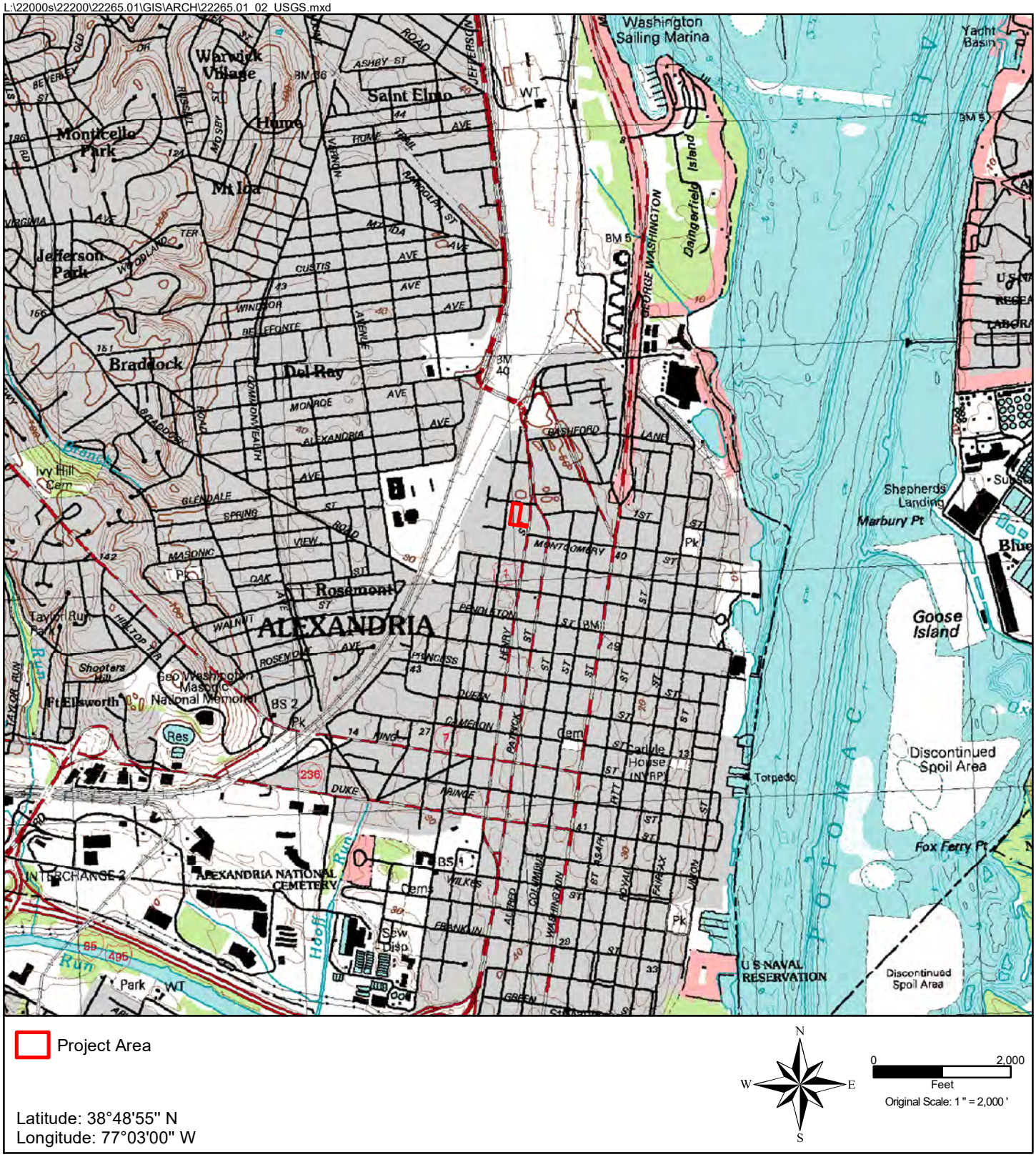

Figure 2: USGS Quad Map Alexandria, VA-DC-MD 1994

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Figure 3: February 2012 Natural Color Imagery

Company, and the Alexandria Theatre. As a member of the upper class, Conway was one of 11 Town Trustees who formed a small oligarchic group controlling the commercial affairs of Alexandria. Conway's interest in commerce led to his advocacy of Alexandria as a port of entry on the Potomac River. As a wealthy investor, Conway was afforded opportunities to mingle with compatriot George Washington at the beginning of his term as the first President of the United States.

During the latter part of the 18th century, it was customary for most "gentlemen" to reside on larger estates outside the center of town and away from the busy merchant shops and wharves in Alexandria. Although Conway owned Spring Park, a large estate outside of town, his chief residence was located in town near the corner of Oronoco and Union Streets a considerable distance to the southeast of the study area. In addition to the main dwelling house on this property, there were ancillary buildings including a smokehouse, lumber house, stone cellar, and a brick stable. It is also likely he had servants and slaves living somewhere on the property; in an Alexandria Gazette advertisement, Conway once offered a $10 reward for a runaway slave (Miller 1991:78).

Upon his death around the turn of the 19th century, Captain Richard Conway's estate was surveyed, and his executors later sold off several parcels of land to interested parties. A 28-acre parcel which included the study area was sold to an Englishman named John Gadsby (Alexandria, Virginia Deed Book X:240).

Shortly following the Continental Congress's Compromise of 1790 that established Washington, D.C., as the nation's capital, John Gadsby left England with his first wife, Miss Smelt, and their two daughters, Anna Sophia and Margaret Sarah. Soon after their move across the Atlantic, Gadsby and his wife had a son named John, who was born in Virginia according to genealogical records (Kate W. Barrett Alexandria, Virginia Library Special Collections vertical file for John Gadsby typed family history and letters; Bulova oral interview).

Upon his arrival in Alexandria, John Gadsby established himself as the reputable proprietor of Gadsby's Tavern, located on Royal and Cameron Streets. Notables including George Washington, Thomas Jefferson, and John Adams patronized Gadsby's Tavern. Gadsby leased the tavern from 1796 until 1808 from John Wise, a local businessman. At the turn of the 19th century, taverns like Gadsby's were popular with local townsfolk as a place to meet, to conduct business and entertain themselves, as well as being a place for travelers to stop for the night. It is entirely possible Gadsby and his family lived at the tavern or inn, although he had not yet purchased the parcel of land subject to this study (Miller 1991:151-154).

Though John Gadsby prospered in Alexandria, he left the town for Baltimore, Maryland, in 1808. Around this time Gadsby's first wife died. Before purchasing the property under study, Gadsby appears in the 1810 census and is enumerated as living in Baltimore with 22 free white males ranging in ages from under 10 years old to some over 45 years old, as well as with three free white females. Gadsby's second wife, Margaret, may have been the eldest free white woman included on the 1810 census; however, she died sometime around

1812. According to the 1810 census, there were also 45 slaves living with Gadsby; these slaves were undoubtedly servants in the hotels and taverns he managed. There are also several Alexandria Gazette articles that suggest slaves were bought and sold at his establishments, although his specific involvement in the slave trade is unknown at this time. In later censuses, Gadsby is enumerated with a considerably large number of slaves and, in his will, he bequeathed almost 20 slaves to his heirs, including his third wife, Providence, who lived with Gadsby in Baltimore, Maryland (Miller 1991: 151-154; Interments in the Historic Congressional Cemetery Obituary).

Around the time John Gadsby moved to Baltimore he purchased 28 acres of land on the west end of Alexandria from Captain Richard Conway's executors. This purchase included the current project area. Some of Conway's nearby parcels sold by his heirs were described as "fine meadow and pasture lots some well inclosed [sic] with post & rail fences" (Miller 1988:7). Most likely, Gadsby's purchase of the land was speculative, as he subdivided and sold the property to others within one month of acquiring the land. No leases in deed books to or from Gadsby have been located at this time.
The land John Gadsby purchased from Captain Richard Conway's executors was originally surveyed in 1791 by Fairfax County surveyor William Payne and re-surveyed soon after by George Gilpin. A plat map was sketched as part of the latter survey and shows the boundaries of the 28-acre parcel of land conveyed to Gadsby that is also described as follows (Figure 4):

> All that Lot of parcel of ground situate lying and being in the County of Alexandria in the District of Columbia and bounded as follows to wit: Beginning at a stone standing on the West side of the road leading from Alexandria to Georgetown in the line of the said Conways land and running thence West, seventy two poles, to a Stone, thence South five degrees East Sixty three poles to a stone thence East seventy poles to another stone on the side of the road, thence north five degrees, West seventy poles two with the said road to the beginning containing twenty eight 56/160 acres with all and singular appurtenances… (Alexandria, Virginia Deed Book X:240; Y:39).

Following this conveyance, John Gadsby subdivided the property. The 28 and 56/160 acres conveyed from Conway's executors to Gadsby were divided into four separate parcels when he sold all of his holdings in Alexandria. Two of these parcels were eventually conjoined into one 11-acre parcel of land which contained what would become the study property at 1112 First Street.

It should be noted that Alexandria city land tax records for the early part of the 19th century are often vague and confusing. For this time period, Alexandria was a part of the District of Columbia; however, land tax records for those years have been lost; only the Alexandria City land tax records are available for this time period, and these may or may not include part or all of the parcels of land discussed.

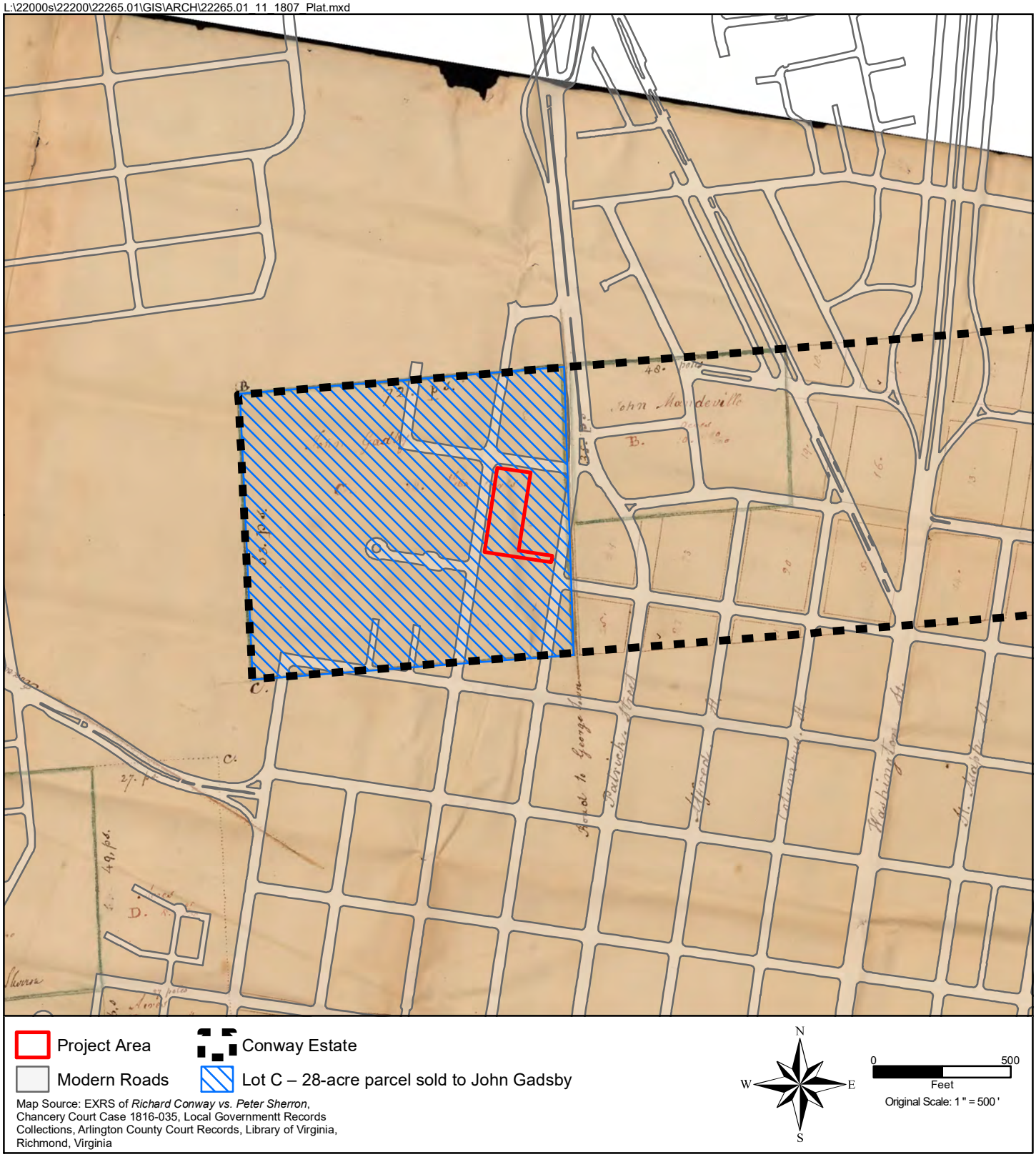

Figure 4: 1807 Plat Map Showing Subdivision of Richard Conway's Estate

On December 31, 1813, John Gadsby and his third wife, Providence, of Baltimore conveyed the following land to Hugh Smith:

> Beginning the lot hereby intended to be conveyed on the West side of the old George Town road twenty one poles to Northwardly from a stone the South East corner of the said larger lot, thence on the said George Town road Northwardly and with the line of the larger lot twenty one poles thence Westwardly parallel to the South line of the larger lot seventy two poles, to the west line of said larger lot thence Southwardly with the said West line twenty one poles thence Eastwardly to the Beginning seventy two poles containing nine acres and seventy two poles… (Alexandria, Virginia Deed Book X: 344).

Like John Gadsby, Hugh Smith was a well-known business man in Alexandria at the turn of the 19th century. He was the owner of a bottling cellar and an investor in local banks, the Alexandria Turnpike Company, and the Alexandria Academy. Smith also invested in the Wilkes Street Pottery, which produced salt glazed earthenware that Smith sold in his glass and china shop.

It is unknown how Hugh Smith may have used the property that he acquired from John Gadsby. Historical records do not suggest that he owned any shops or factories in the western part of town (Miller 1991 and Alexandria deed books). There is also no evidence Smith resided on this property, and available tax records suggest there were probably few, if any, buildings on this property at the western edge of Alexandria.

In 1820, Smith paid taxes for 5.25 acres described as being situated on "Georgetown road, Hoffman's division and Conway." The land was assessed at $750 that year. Also in that year, Smith was enumerated in the population census in Alexandria as living with seven free white males and females and four slaves.

Hugh Smith and his wife, Elizabeth, owned the property until 1832 when they conveyed it to William Veitch. The property also includes 2 acres 58 poles Smith acquired in 1819 from Thomas and Charlotte Vowell. This additional acreage was attached to the above described nine acres and 72 poles of land (Alexandria, Virginia Deed Book H2:466). The deed from Smith to William Veitch is described as follows:

> beginning for the first on the west side of the old Georgetown road, twenty one poles northwardly from a stone the southeast corner of a lot designated by red C in the plat of the lots of Richard Conway, deceased, made for his executors by Col. George Gilpin –thence on the said road northwardly with the line of the said lot designated by red C, twenty- one poles-thence westwardly, parallel to the south line of the said lot, (red c) seventy-two poles, to the west line of the said lot thence southwardly with the said west line twenty-one poles thence eastwardly seventy-two poles to the beginning containing nine acres & seventy-two poles -beginning for the second on the west side of the said stone –thence northwardly on the said road five & one

> quarter poles, to the south line of the first described lot (hereby conveyed;) thence westwardly with that line seventy-two poles, to the west line of the said lot (red C) –then south with the said west line five & a quarter poles- then eastwardly seventy-two poles to the beginning –containing two acres & fifty-eight poles… (Alexandria, Virginia Deed Book U2:58).

According to deeds, William Veitch owned the property for the next 26 years. It is unclear what exactly he did with the property while it was in his possession or whether there were any buildings or improvements made to the property. However, as early as 1832, Veitch had a tenant named John Blisk or Blish, identified in tax records as a resident at "Henry & Fayette" Streets. Tax records suggest he was leasing one half lot with a house on it, which were together assessed at $700. It is possible that this person was residing on the property subject to this study, though no other records confirm this, and the location of the dwelling is not known.

William Veitch's tenant was living near another tenant named Philip Dogan, who was also renting one-half lot and a house on an adjoining block, owned, and leased by Charles Scott and assessed at $750. There is no other information available on these individuals, however, the presence of these tenants suggests this neighborhood in the vicinity of the project area was being settled and becoming somewhat residential.

By 1834, another tenant, George Soloman, was renting from William Veitch; Soloman also appears to have rented a house on one-half lot at "Henry to Fayette," assessed at $750. The land tax records for that year included some personal property tax items as well, and George Soloman apparently owned a horse and cart and drays. In 1836, George Soloman was still listed in the land tax records as a tenant of William Veitch who paid taxes on "1 square and House Henry to Fayette" that was assessed at $700 for that year. In this year the assessor noted a "c" next to George Soloman's name, probably indicating he was of African descent. Another tenant on this same tax sheet also had a "c" by his name, suggesting that the neighborhood was being established and occupied by free African Americans. George Soloman is listed in the *Alexandria County, Virginia: free negro registers 1747-1841* in 1831 and again in 1847 (Provine 1990:48, 174). The description for 1831 is as follows:

> George Soloman is about 48 years old, 5 feet 7 ¾ inches talk, of a dark complexion, with a small scar on the right side of his upper lip. He was emancipated by Chr[istopher] Frye, as appears by deed recorded in Liber J, No. 2, folio 447 (Provine 1990:48).

In 1847, the description of Soloman changes only in the account of his age, being at this time 57 years old (Provine 1990: 174). According to land tax records, George Soloman was apparently still residing at the same property at least until 1838. However, it is unclear if Soloman's residence was within the project area.

On January 27, 1858, William Veitch conveyed the 11-acre property that had been acquired from Hugh and Elizabeth Smith in 1832 to Andrew Ellicott. The property is described as follows:

> Beginning for the first, on the West side of the old Georgetown Road twenty one poles northwardly from a stone, the south east corner of a lot designated by Red C in the plat of the lots of Richard Conway, deceased, made for his Executors by Colonel George Gilpin; thence on the said road northerly with the line of said lot designated by red C, twenty one poles; thence Westerly parallel to the South line of said lot [red C] seventy two poles, to the West line of the said lot; then Southerly with the said West line twenty one poles; then Easterly seventy two poles to the beginning containing nine acres & seventy two poles … ; Beginning for the second, on the West side of the said Road fifteen poles & three quarters Northwardly from the said stone; thence Northerly on the said Road five and one quarter poles, to the South line of the first described lot hereby conveyed; thence Westerly with that line seventy two poles, to the west line of said lot red C; then South with the said West line five & a quarter poles; thence Easterly seventy two poles to the Beginning, containing two acres & fifty eight poles …(being the same lots of ground which were conveyed to the said William Veitch by Hugh Smith & wife by deed of the 18th of October 1832, Liber U No 2, page 58 …(Alexandria, Virginia Deed Book O3:274).

On March 28, 1881, Henry William Ellicott and Elizabeth his wife and others of Baltimore conveyed the same 11 acres and 130 poles to Charles C. Smoot and his brother John B. Smoot, both of Alexandria. The property conveyed was formerly owned by Andrew Ellicott and is described as one lot, not two, in this conveyance.

The property is described as follows:

> Beginning on the West side of the old Georgetown Road fifteen and three quarter poles Northwardly from the South East corner of a lot designated by red C in the plat of the lot of Richard Conway, deceased, …. West line of said lot, thence Southwardly with the said West line of said lot twenty six and one quarter poles, and thence Eastwardly seventy two poles to the beginning, containing eleven acres and one hundred and thirty poles, and being the lots or parcels of land described in and conveyed by a deed from Wm. Veitch and wife to Andrew Ellicott which is recorded in Liber O No. 3, page 274…" (Alexandria, Virginia Deed Book 10:9).

Charles C. and John B. Smoot were brothers and part owners of a family business, C. C. Smoot and Sons, Co., a tannery established in 1820 by their father, Charles Smoot. In June of 1902, the heirs of both Charles C. Smoot and John B. Smoot (who served as Mayor of Alexandria from 1885 until 1887) conveyed the entire city block including the study area as well as the block to the south to The Belle Pre Bottle Company of Washington, D.C., a corporation organized under the laws of the State of Delaware. The portion of the property encompassing the study area is described as follows:

> Beginning at a point where the north side of Montgomery Street intersects with the west side of Henry Street, and running thence north and binding on Henry Street, three hundred and fifty three feet, two inches [353'2] to First Street; thence west, and binding on First Street, two hundred and forty six feet, ten inches [246'10] to Fayette Street, thence south, binding on Fayette Street, three hundred and fifty three feet two inches [353'2] to Montgomery Street thence east binding on Montgomery Street, two hundred and forty six feet ten inches [246'10] to the point of beginning (Alexandria, Virginia Deed Book 48:421).

The Belle Pre Bottle Company, Alexandria's third glassworks, was founded in 1902 and chartered under the laws of the State of Delaware with a capital stock of $100,000; the factory was built immediately to the south of the study property. William H.H. Cissel was appointed president.

Joseph H. Ramsey and Edward S. Reeve (formerly employed by the Virginia Glass Company) were hired to run the plant (Alexandria Gazette [AG] 1902). The plant opened on October 30, 1902. The people of Alexandria were invited to look over the new factory, and it was printed that John D. Miller, the patentee of the signature Belle Pre milk bottle, would "look after the financial end of the business." The first bottles were to be blown on November 1, 1902 (AG 1902).

Alexandria Glass Works (1905-1917)

In October 1905, the Belle Pre Bottle Company sold the northern square of their property bounded by Fayette, First, Henry and Montgomery Streets to the newly formed Alexandria Glass Works Company. The property conveyed is described as follows:

> Beginning at the intersection of the south side of First Street with the east side of Fayette Street, and running thence south on Fayette Street, three hundred and fourteen feet, two and one half inches [314 ft. 2 ½ in], thence east parallel to First Street, one hundred and fifty nine feet, five inches [159 ft. 5 in.], thence with in a direct line, three hundred and fourteen feet, two and one half inches [314 ft. 2 ½ in] to First Street, and thence west on First Street one hundred and fifty nine feet, five inches [159 ft. 5 in.], to the point of beginning, and all appurtenances (Alexandria, Virginia Deed Book 54:343).

The Alexandria Glass Works was founded in 1905 with a capital stock of $25,000. Henry Schnell served as President, William Wells as Vice President, William Murphy as Secretary, and F.P. Quigley as Treasurer (Washington Post [WP] 1905a). Julian Knight was hired to construct the factory in late May of 1905 (WP 1905b) and production commenced on September 15th of that year; the factory originally employed about 100 men and boys (WP 1905c).

Building permits or plans for the buildings could not be located; however, the factory can be described based on information provided on the Sanborn fire insurance maps and by examining a 1907 photograph (Figure 5). The 1907 Sanborn Fire Insurance map (Figure 6) for the property shows the layout of the glassworks. Details of the interior of the main factory building indicate the locations of the following: the continuous tank in the central portion of the building; two gas producers, one in the north end of the building and one in the southwest corner; a 60' brick stack centrally located on the north end just north of a horizontal steam boiler; two Lehr annealing ovens along the west and east walls; packing rooms in the northeast and northwest corners as well as a box factory room and a mould room in the northeast.

Immediately to the north of the main factory building is the sand and batch house, with the platform for the railroad siding to the west. At the north end of the property is a large ware shed, with an expansion noted as under construction. In the southeastern spur of the study area is an outbuilding, possibly a stable. The small office shed lies outside of the study area to the northeast and two elevated steel oil tanks lay off-property to the east of the main factory building. A side note "Men on Duty at Night" indicates that both day and night shifts ran at the factory; other notes indicate the factory is powered by steam and lit with electricity, and used coal, gas, and oil for fuel.

In 1906, company president Henry Schnell and general manager Joseph Ramsay (formerly of the Belle Pre Bottling Company and the Virginia Glass Company) resigned from the company; Ramsay moved to a position at the Old Dominion Glass Company (WP 1906a), which meant that he had worked for all four of the glass factories in Alexandria. Schnell moved to San Antonio, Texas, to become general manager of a glass factory in that city (WP 1906b). William Wells assumed the presidency of the company until 1912, when W.D. Anderson took over the position; beginning in that year, officers of the company were frequently replaced until the factory ceased to operate in 1917 (Glass Factory Directories 1906-1917).

The Alexandria Glass Works appears first appears in the Glass Manufacturer's Directory for 1907; the entry likely reflects the output of 1906, the first full year of operation for the plant. For 1907 and 1908, the Directory lists the plant as operating one continuous tank and eight working rings (Glass Factory Directories 1907-1908). The presence of a continuous tank for molten glass production indicates that the Alexandria Glass Works ran day and night shifts and operated 24 hours a day to take advantage of the continuous tank furnace's capability. Eight working rings indicate that up to eight teams of glassblowers and their helpers could work at a given time. Through 1908, the Directory indicates that the factory produced a "general line of green beverage bottles, food packers, etc." (Glass Factory Directories 1907-1908).

Additional capacity and products were added in ensuing years; beginning in 1909, a ninth working ring was added, and the factory produced milk, beer, prescription, and soda bottles; flasks; and packers, all of both green and flint (clear) glass (Glass Factory Directories 1908).

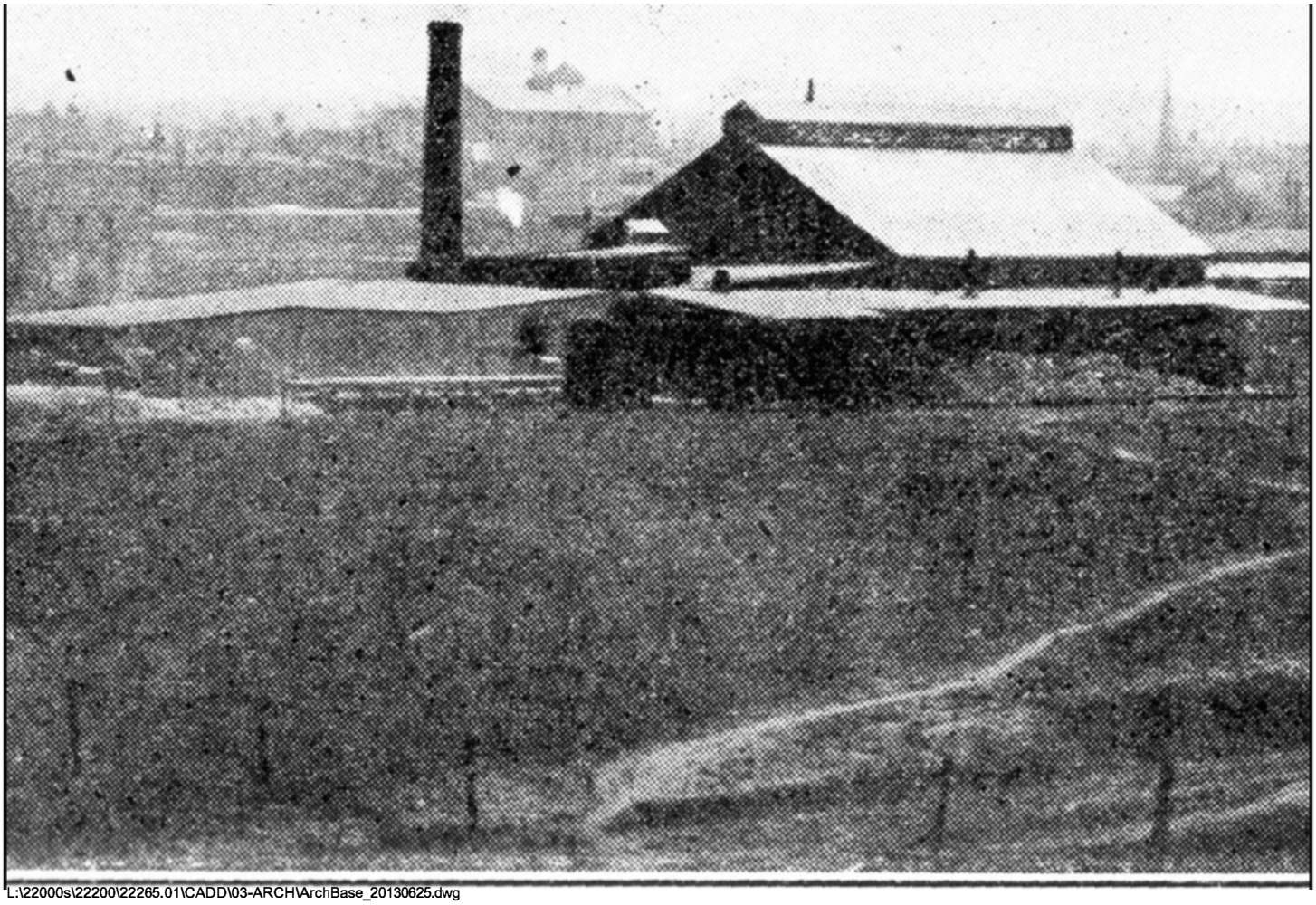

Image Source: Wedderburn, Alex John 1907
"Souvenir Virginia Tercentennial of Historic Alexandria, Va., Past and Present, Illustrated." Sprouse Room Rare Book Collection, Kate Waller Barrett Branch Library, Alexandria Virginia

Figure 5: Circa 1907 Photograph of the Alexandria Glass Works, Facing Southeast

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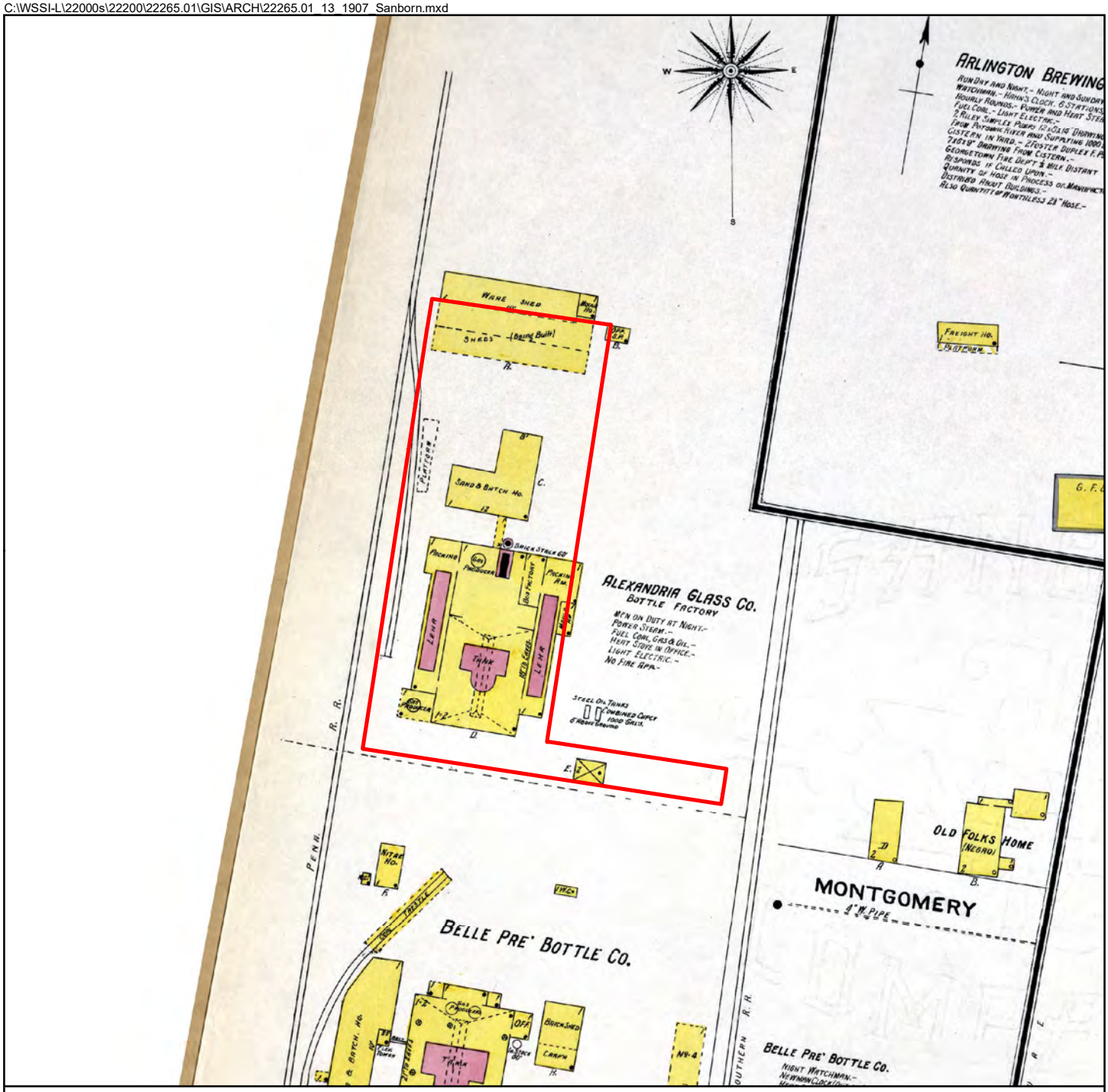

Figure 6: 1907 Sanborn Map of Alexandria, VA

Although relations between labor and management of the Alexandria Glass Works appear to have been generally amicable, several instances of unrest were recorded in the local newspapers. In 1909, all four glass factories in Alexandria reduced glassblower pay by 20% rather than replace them with automatic bottle machines (WP 1909a); in response, the Green Bottle Blowers Association (the primary glassblowers' union in Alexandria) staged a walk-off in protest (WP 1909b). The plant was closed again due to a labor walkout on March 11, 1912, for unknown issues that were resolved the following day (WP 1912a). In November of the same year, approximately half of the glassworks workers walked off the job due to the offering of stock options to new hires, a policy that the existing employees disagreed with; this disagreement also was quickly resolved (Washington Herald [WH] 1912).

Several mishaps occurred during the first six years of the plant's operation. On November 14, 1906, the tank furnace collapsed, spilling molten glass onto the factory floor, and creating danger to life, limb, and the factory complex.

> The alarm was sounded on the steam whistle at the plant, and was taken up by locomotives on the railway tracks near-by. The Alexandria fire department responded, and water was played on the mass of glass until all danger had passed.
>
> The loss will amount to only a few hundred dollars. Officials of the company said yesterday that the damage will be repaired promptly and the plant will resume operations in a few days. [WP 1906c]

On October 17, 1912, a fire destroyed two stock sheds and the packing paper storehouse. The blaze apparently began from sparks from a passing locomotive igniting the warehouse where old newspapers for packing glass products was stored and spread to the sheds where finished products awaited packing and shipment. Damages were assessed at about $4000 and were covered by insurance (WP 1912b).

The Sanborn Insurance map for 1912 indicates several changes from the 1907 map (Figure 7). A 60-foot iron stack has been added to the south of the horizontal boiler, and a 22-foot iron chimney has been added to the southwest corner by the southern gas producer. A 22-foot brick chimney has also been added near the southeast corner of the factory building. Notations now indicate that the main factory building has a cement floor, that the roof is 20 feet high at the eaves, and the northern portion of the main factory building is labeled as the engine and dynamo room. Five hydrants, three on the west side and two on the east, were now shown within the factory building.

An addition has been constructed on the west side of the unidentified outbuilding in the southeast spur, and another structure, possibly three-sided and open to the north, is located to the outbuilding's east.

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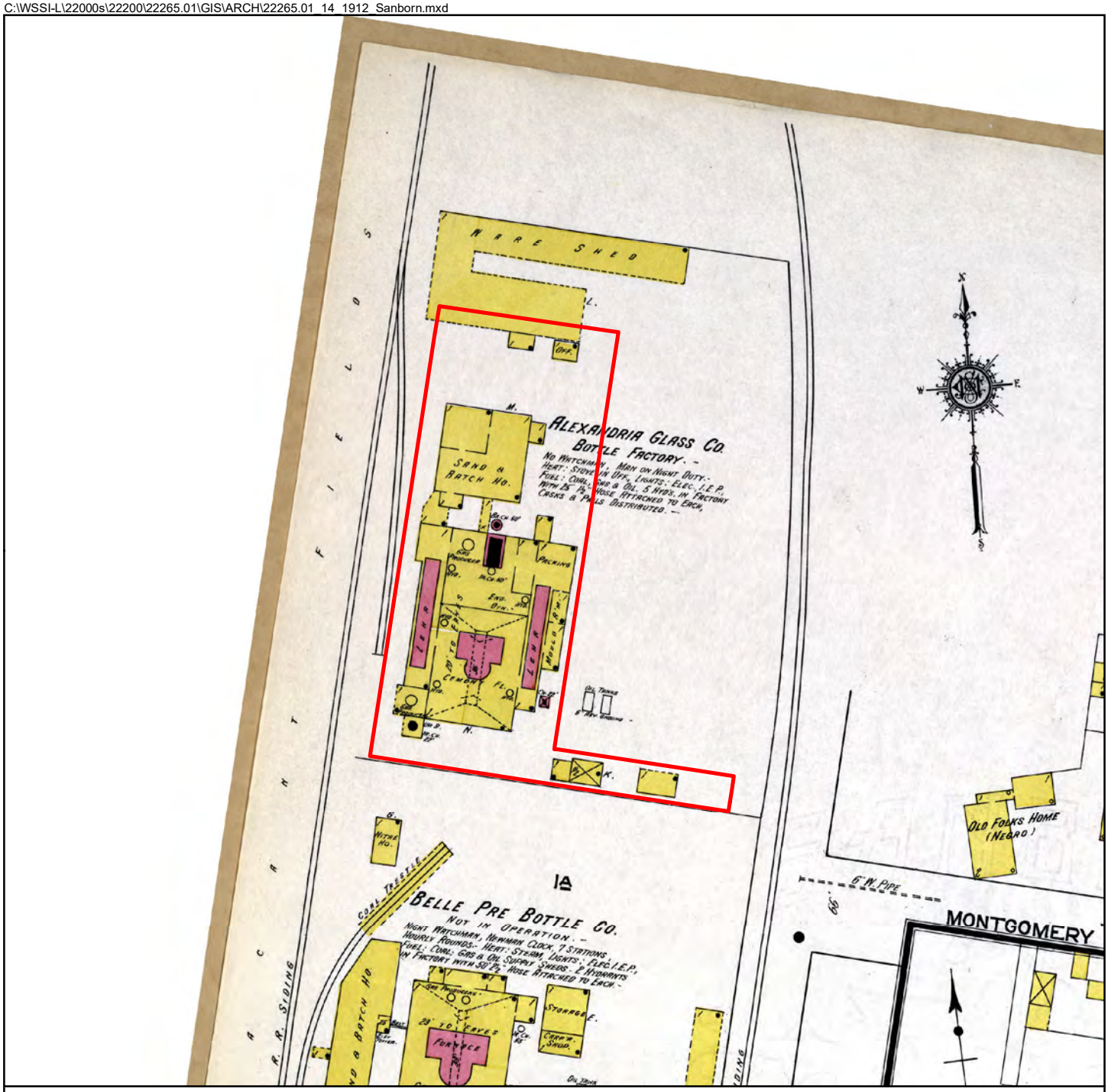

Figure 7: 1912 Sanborn Map of Alexandria, VA

The 1912 Sanborn map was made approximately one month after the previously described fire that destroyed several outbuildings at the factory, including the stock shed. Apparently, a new warehouse shed had been built by the time the Sanborn map was made; the shed depicted on the map to the north of the main factory building is clearly not the same shed depicted as under construction in 1907. A small office is attached to the warehouse shed.

In 1913, the Alexandria Glass Works defaulted on payment on a 1909 Deed of Trust to Gardner L. Boothe (Alexandria Deed Book 58:260); Boothe sold the property and factory to the newly organized Alexandria Glass Company on July 30, which in turn re-sold it to him in another deed of trust (Alexandria Deed Book 63:60; 63:63). The newspaper reported the reorganization of the company, noting that it would open under new management on September 1 (WH 1913). J.W. Monroe would now serve as president of the company, with H.N. Garner as secretary and J.P. Warwick as treasurer and manager (Glass Directories 1914).

After the change in management, the factory produced flint (clear) glass only, in prescription, beer, soda and flask forms. The following year, the works had greatly expanded the types of products; patents, liquors, packers, and preservers were added to the production (Glass Directories 1914-1915).

Another small fire in February 1914 did $200 damage to the packing paper shed (WP 1914). In September of 1914, neither the Virginia Glass Company nor the Belle Pre plants were in operation because of a pending vote on prohibition (AG 9/7/14). The Alexandria Glass Company factory was not scheduled to close, however, as it made a specialty of prescription bottles, the sale of which would be unaffected by Prohibition (AG 9/7/14).

It is possible an unknown incident late in 1914 led to the closure of the plant for an extended period; the Alexandria Glass Company plant shut down ostensibly for two weeks for unspecified repairs on December 14 (WH 1914). The plant remained inactive for all of 1915, during which year trustee Gardner Boothe sold the property, plant and machinery to John H. Trimyer; again, due to default of the deed of trust (Alexandria Deed Book 64:566). The Old Dominion Glass Company purchased the property and facilities from Trimyer in June 1916 (Alexandria Deed Book 65:328). The newspaper announced the purchase and Old Dominion's plans to re-open the factory in the fall (WP 1916a); the factory re-opened December 4, 1916, with hopes of employing 50 glassblowers and 150 helpers after nearly two years of inactivity (WP 1916b).

However, such hopes were short-lived. On February 7, 1917, only two months after the factory's re-opening, a fire in the main building burned the plant to the ground in less than two hours. The factory had been standing idle for several days due to difficulty in acquiring materials and was apparently not in full production prior to the fire as it was noted that approximately 75 men and boys lost their jobs when the factory burned, less than half of the 200 employees hoped for at the factory's reopening. The damages were estimated at $75,000, and comparatively little insurance was owned on the facility (WP 1917). The factory did not reopen.

The property remained in the hands of George Schwarzmann, general manager and trustee of the Old Dominion Glass Company, until 1922. George H. Schwarzmann was a founder of the Virginia Glass Company and served on the board of several other Alexandria glass companies. In the 1920 census, Schwarzmann is listed as the proprietor of a glass factory (likely the Belle Pre) and the head of his household. Living with him were his wife, Matilida, who was born in New Jersey, his son Ervin, who also worked in the glassworks, and one daughter named Pearl, who worked as a government clerk. A boarder named William F. Smith, a government inspector, also resided in the household. Listed on the census form living near George Schwarzmann and his family were several men from New Jersey and Pennsylvania listed as glass blowers and who undoubtedly worked for or with Schwarzmann at one of the three glass factories operating around this time.

Between the burning of the glassworks and the sale of the property, the Stoner Chemical Company built and operated for an unknown but apparently brief period an alum factory on the site of the Alexandria Glass Company factory. The Stoner factory appears on the 1921 Sanborn map, noted as “not in operation” (Figure 8).

The Sanborn map indicates several buildings, significantly smaller than the main factory of the Alexandria Glass Works, within the study area. The two buildings in the southeastern spur of the property appear to be survivals from the glassworks. A 45-foot brick chimney and a small earth-floored boiler house with a horizontal boiler may be the partially re-used original stack and boiler site from the glassworks, as they appear to be located in approximately the same place on the property. West of the boiler house is an iron acid tank, and to the north of the tank is a second building containing two horizontal boilers; this building is labeled as the mixing and grinding house. North of the mixing and grinding house, a larger composite building straddles the northern boundary of the property. The largest portion is off-property and is labeled “Crystal Tank Rm.” A smaller room extends southward from this building, which contains a hydrant with a 50-foot hose, and evaporating trays. A small office building east of the evaporating trays might also be a survival from the glassworks period.

Little information is available concerning the Stoner Chemical Company. It was a Utah company, incorporated on September 16, 1919, with $200,000 in capital for the production of alunite. J.H. Stoner of Wyoming was president and John A. Cullen of Washington, D.C. was secretary (Ogden Examiner 1919). John A. Cullen held a patent for an alunite ore refinement process and was likely the reason for the location of the factory in Alexandria. The company mined alunite ore in Piute County, Utah and shipped it to the Alexandria factory for processing, but this arrangement clearly did not last beyond 1921 (Salt Lake Telegram 1919).

In October of 1922, the study parcel was sold by George Schwarzmann, trustee of the Old Dominion Glass Company, to the Rose Brothers Company (Alexandria Virginia Deed Book 74:116). The Rose Brothers Company were contractors who specialized in roofing; the First Street property employed Italian craftsmen and workers to make roofing tiles, paint and tar for use in their business, presumably adapting the Stoner Chemical works to this purpose.

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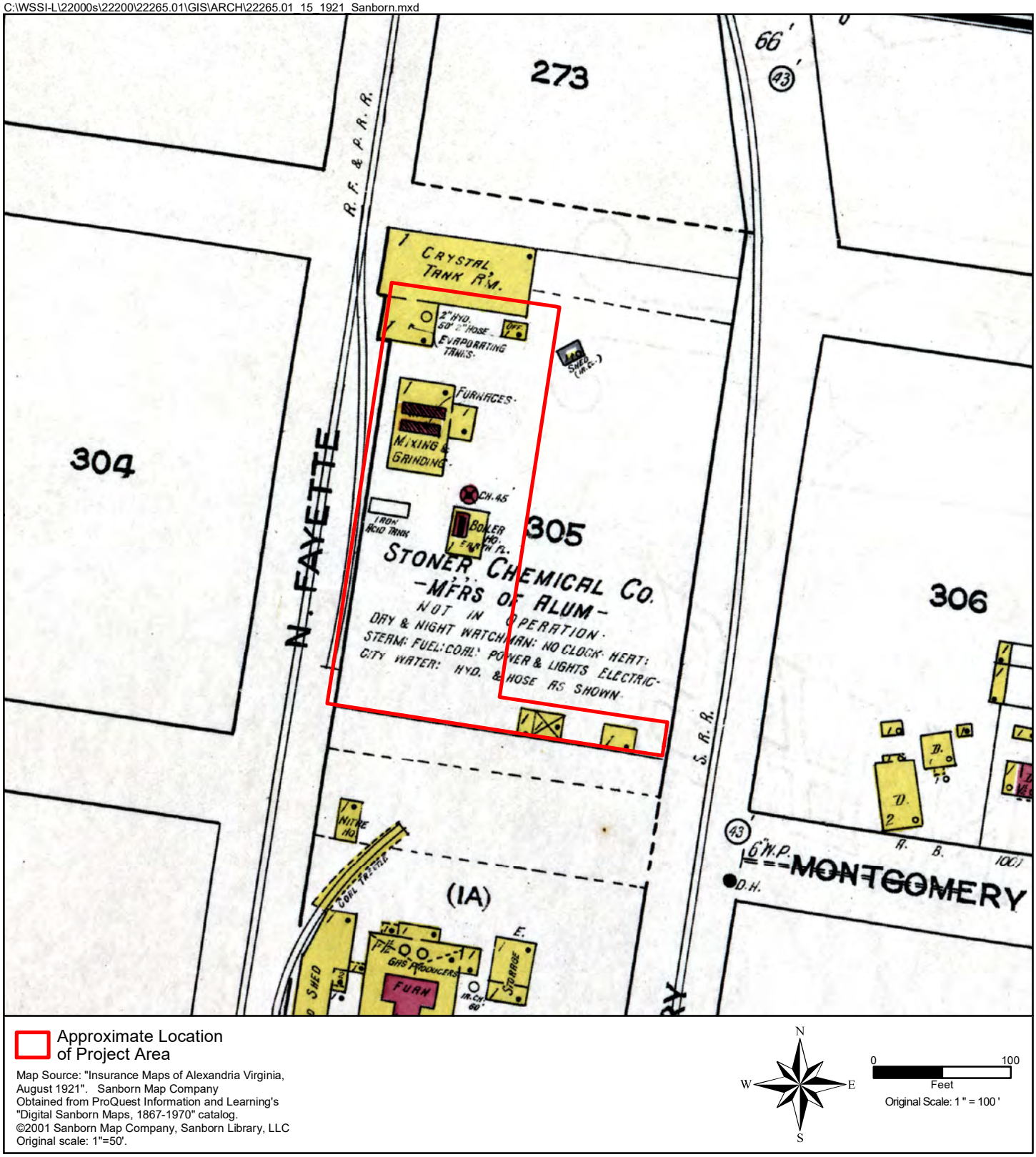

Approximate Location of Project Area

Map Source: "Insurance Maps of Alexandria Virginia, August 1921". Sanborn Map Company
Obtained from ProQuest Information and Learning's "Digital Sanborn Maps, 1867-1970" catalog.
©2001 Sanborn Map Company, Sanborn Library, LLC
Original scale: 1"=50'.

N
W E
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Feet
Original Scale: 1 " = 100 '

Figure 8: 1921 Sanborn Map of Alexandria, VA

No record of the company's works could be located; however, the 1929 USGS quadrangle (see Figure 9) depicts buildings that do not seem to resemble the site plan shown for the Stoner Chemical Company factory on the 1921 Sanborn map (see Figure 15), and it is likely that significant repurposing or replacement of the Stoner works took place during the Rose Brothers ownership of the property.

It is likely the company headquarters remained on Georgia Avenue in the District of Columbia at this time (Bill and Charles Rose, personal communication 2013). The Rose Brothers Company, now Rose Roofing, continues to operate in Haymarket, Virginia headed by Bill Rose, great-grandson of William Robert Rose Sr. who founded the company circa 1892 in Washington, D.C.

Rose Brothers sold the First Street property in September 1941 to James J. Taylor of Arlington who owned a hauling contractor business (Alexandria Virginia, Deed Book 179:289). Three months later, in December 1941, Taylor sold the property to Holmes & Son Inc., a Washington, D.C. based industrial bakery (Alexandria, Virginia Deed Book 189:422); the First Street property likely served as an expansion into the Alexandria/ Northern Virginia area. Holmes & Son maintained the property for about 15 years, and likely constructed the currently extant brick industrial building on the parcel; it was in place by 1949, as evidenced by an aerial photograph taken in that year (Figure 9).

Jerome Murray, proprietor of a Washington, D.C. real estate company, purchased the study area parcel from Holmes & Son Inc. in June 1955 (Alexandria, Virginia Deed Book 434:244). The Alexandria City Directory for the years 1956 through 1959 indicate that Murray leased the property at 1112 First Street to the USA Reserve Training Center No. 4, apparently an Army Reserve facility; records indicating the occupant of the property between 1959 and 1978 could not be located.

Antonio Damiani opened a three-bay automotive repair shop in 1967 on Commonwealth Avenue (Tony's Auto Service 2013). In 1978, he purchased 1112 First Street from Jerome Murray (Alexandria, Virginia Deed Book 880:683) and opened the 30-bay Tony's Auto Service, which continues in operation on the property, in 1979.

ARCHEOLOGICAL RESOURCE ASSESSMENT

Archeological research within the northern end of the City of Alexandria has demonstrated the presence of significant archeological resources that have contributed to the understanding of the development of this end of town. The results of the documentary research were used to access the potential for locating archeological resources within the property and is presented below.

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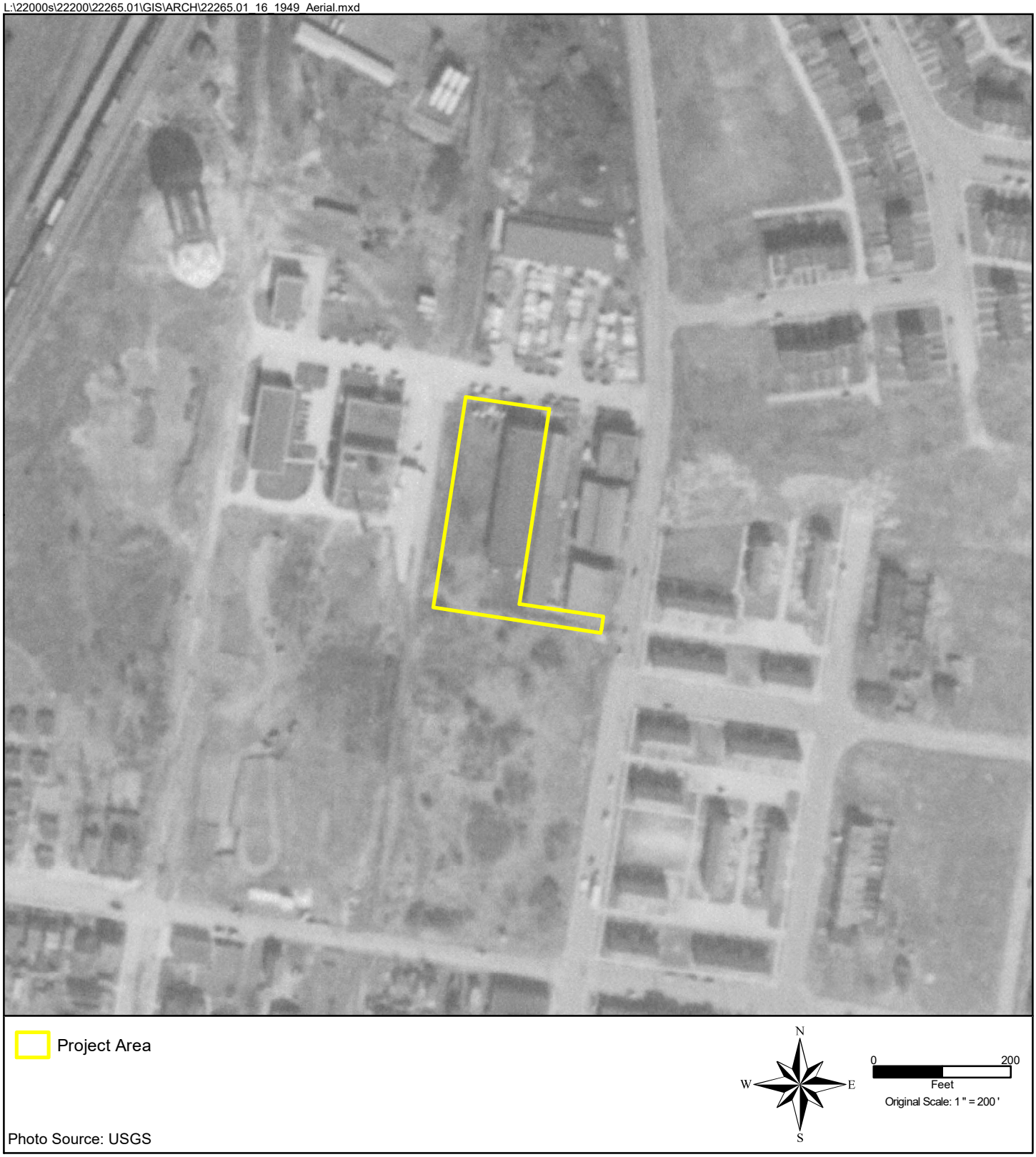

Figure 9: March 1949 Black and White Imagery

Existing Conditions

The property is the former location of Tony's Auto Service, which operated at the site since 1979. According to the Braddock Metro Neighborhood Plan, automobile- related industries have been the prominent businesses in this neighborhood since the turn of the 21st century (City of Alexandria Department of Planning & Zoning 2008:19). Tony's Auto was located within a single-story brick building that dated to the 1940s (Figure 10); asphalt pavement parking areas and an alley occupied the remainder of the parcel (Figures 11 and 12). At the time of documentary research study, the adjacent Carpenter Shelter property to the east was actively under redevelopment (Figure 13). Tony's Auto Service was demolished prior to the onset of the archeological investigations (Figure 14).

Figure 10: 1112 First Street Entrance
(View to South)

Known Disturbances

A Limited Phase II Subsurface Investigation conducted on the property in 2019 identified the location of a 4000-gallon gasoline underground storage tank (UST) that was removed from the southern portion of the property in 1990. However, petroleum contamination may still be present despite the case being closed in 1994 by the Department of Environmental Quality, and in AEI's opinion, the "former on-site UST represents a REC" (AEI 2019: 3).

Figure 11: West Parking Lot
View to South

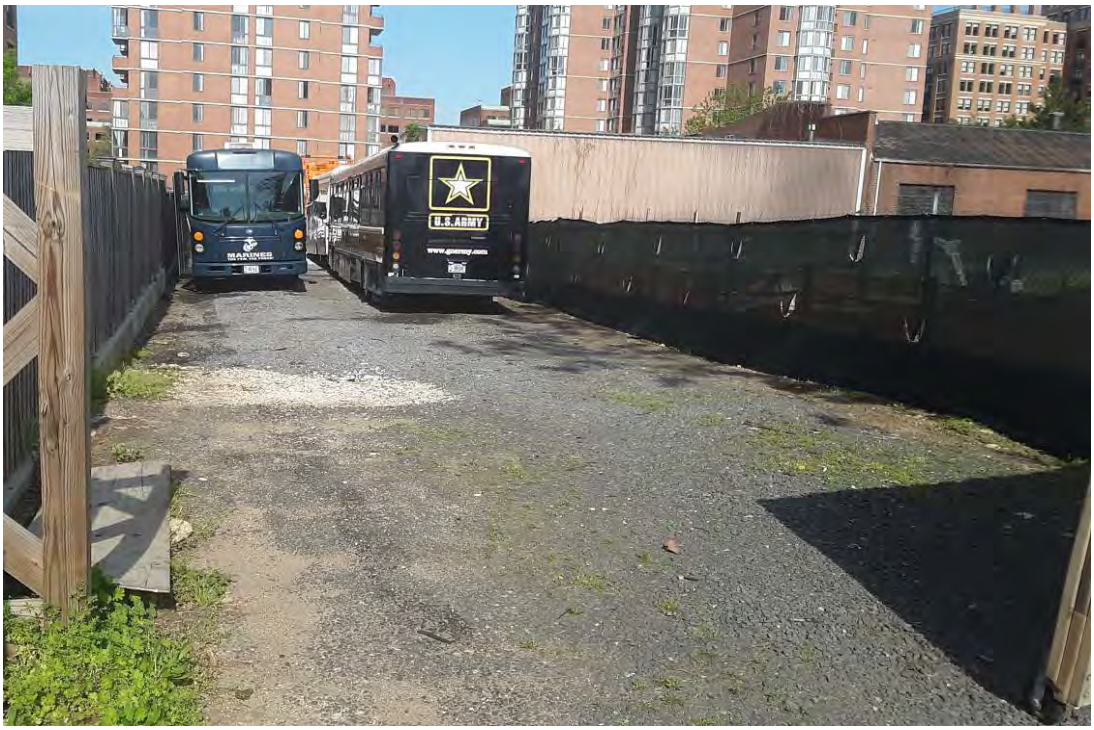

Figure 12: Alley in South Study Area
View to West

**Figure 13: Construction on Adjacent Property (930 N. Henry St.)
1112 First Street in Middle Ground, View to Northwest**

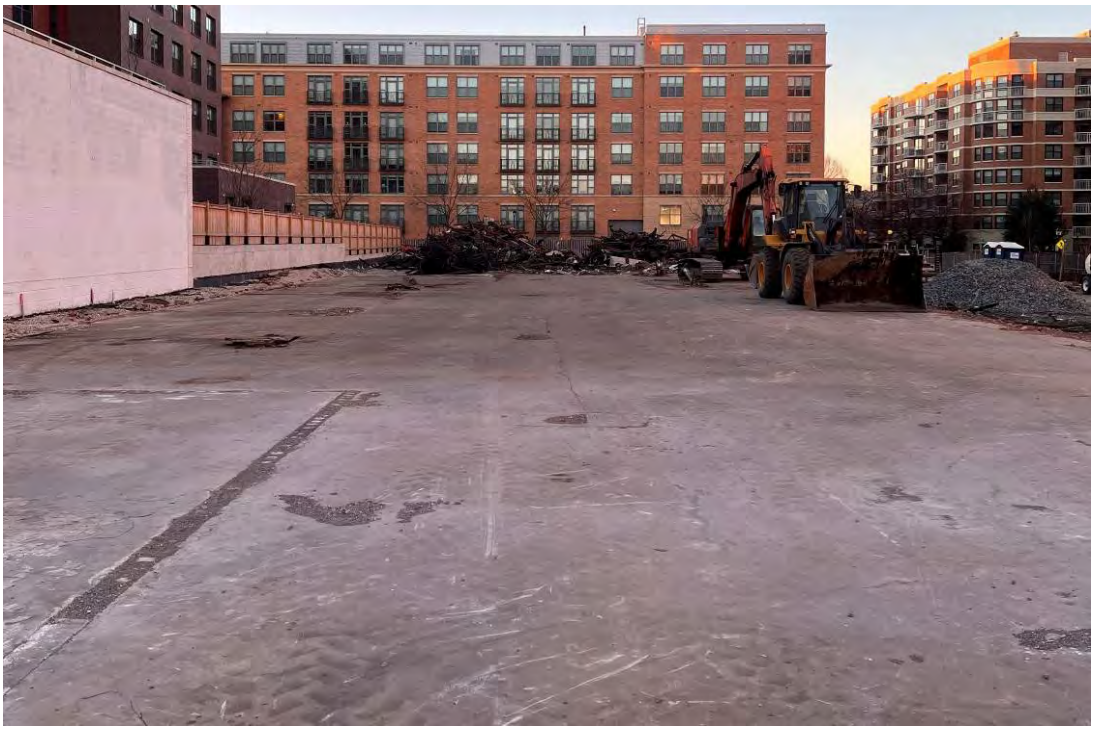

Figure 14: Project Area Following Demolition of Buildings at 1112 First Street (February 2022) View to South

Other disturbances from the existing automobile repair shop include the footers and foundations of the building, associated utilities, and the seven subsurface hydraulic lifts. The amount of subsurface disturbance for each lift will depend on the type of lift (single or dual post, open pit fore & aft set), whether these are original or replacements, and the location of associated oil tanks. The automobile repair operation is also considered a REC because of the hydraulic fluid associated with the use of the lifts, along with "floor drains in the automotive garage, two on-site oil/water separators, and the housekeeping concerns…associated with on-site motor oil, waste oil, and antifreeze storage" (AEI 2019:4).

Eleven soil bores were drilled across the property (Figure 15). Most of the soil profiles showed a shallow, two-foot-deep fill deposit overlying a "gray-brown clay" stratum that ranged in depth from 10 to 18 feet in depth. The uppermost fill soils in Bores SB-9, SB-10 and SB-11 were more substantial and ranged from 5-10 feet in depth; glass, ash, cinder, and slag were also noted in these fills. Finally, SB-07 may have been excavated through a brick feature, as the boring terminated (reached refusal) at 9 feet below surface. The profile exhibited four fills; the lowermost was a 3.5-foot-thick brick and ashy fill soil.

Based on the present and former industrial uses of the property, it is not surprising that petroleum and other contaminants have been identified in the soils on the property, according to preliminary testing (AEC 2019). Asbestos Containing Materials (ACMs) were identified across much of the adjacent Madison property in association with the remains of the Belle Pre Bottle Company (Mullen 2012). Fibrous material (ACMs) is also likely to be found in and around the locations of boilers, furnaces, and flues associated with the Alexandria Glass Works and subsequent industrial activities at the site.

Proposed Construction

The current development plan for the property includes a six-story residential building containing approximately 148 units and one-story underground parking (Figures 16-18). The total area for the property is 41,768 square feet, and the building footprint including -underground parking totals approximately 13,880 square feet.

Potential for Archaeological Resources

The probability for locating prehistoric sites generally depends on the variables of topography, proximity to water, and internal drainage. Sites are more likely on well-drained landforms of low relief in close proximity to water. Although details of the prehistoric terrain in the study area vicinity are difficult to discern after years of development and alteration, it does not appear that a major source of water was located in the immediate vicinity of the study area. Historic maps show two tributary streams of the Potomac River (including Hooff's Run) within 2000 feet of the project area, but it is unclear if any immediate sources of water were present during the prehistoric period. The Potomac River is located 4000 feet west of the project area.

Figure 15: Location of Test Bores (AEI 2019)

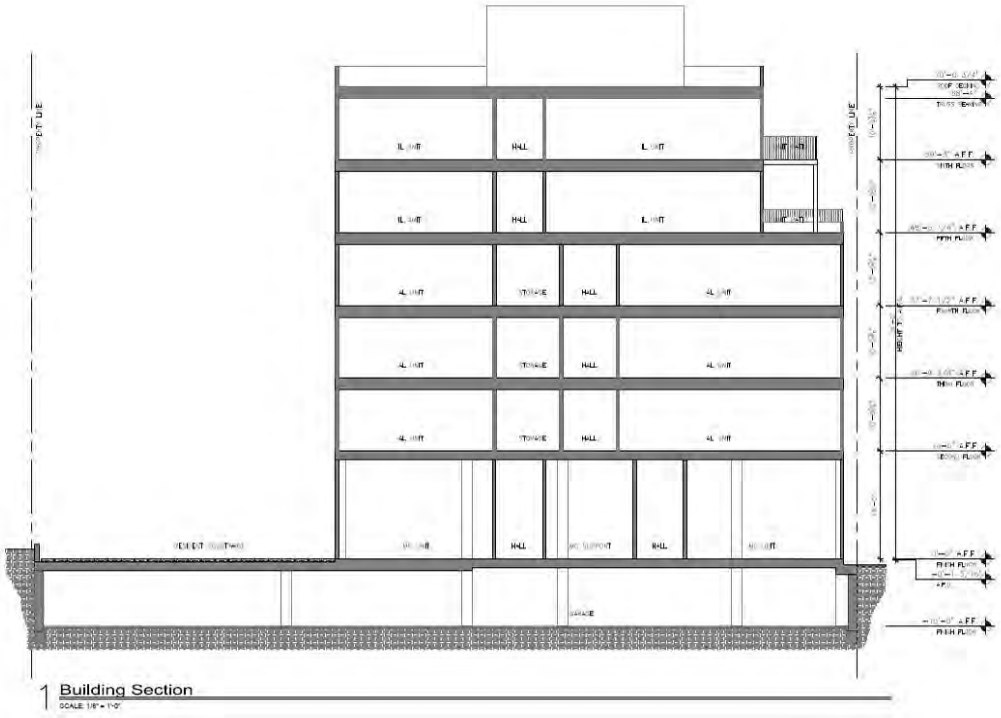

Figure 16: Section Profile and North Elevation of Proposed Building

Figure 17: Northeast Corner Perspective

Figure 18: Northwest Corner Perspective

Based on geographic data the study area is considered to have a low to moderate probability for the containing prehistoric cultural resources; however, the potential to locate significant Native American archeological resources within the study area will be limited significantly by its industrial and commercial use.

The documentary evidence presented above provided information about the land use and, therefore, the potential archeological signature for historic resources in the project area. The project area was located on the edge of the city limits and away from intense development until the late 19th/early 20th century. There is a moderate probability of a locating a 19th century buried ground surface containing archeological resources associated with a 19th century dwelling, or buildings and features related to a mid-19th century market garden known to be within the vicinity of the property. Again, the repeated industrial use and redevelopment of the property during the 20th century has reduced the likelihood of intact 19th century ground surfaces and features.

At least three 20th century industrial complexes were constructed on the property: the ca. 1905 Alexandria Glass Works, the ca. 1919 Stoner Chemical Company, and the current commercial/industrial building standing on the property, which was constructed around 1941. Of the three building complexes, the Alexandria Glass Works is the most likely to have below ground features. The archeological work conducted on the adjacent Madison property revealed partially intact foundations from subsurface furnaces, flues, gas producers, and other Belle Pre Glass factory elements; the construction of the circa 1950 warehouse on that property appeared to have had minimal impact on the glass factory remains (Mullen 2012). Similar features were located at the opposite end of town during the archeological excavation of the Virginia Glass Works. Therefore, the 1112 First Street project area has a high probability of containing archeological remains from the Alexandria Glass Works and other industrial features; the extant brick building overlays the footprints of the Alexandria Glass Works and Stoner Chemical Company buildings recorded on the 1912 and 1921 Sanborn Insurance maps, respectively (see Figures 7 and 8).

Notwithstanding the construction of the brick building (Tony's Auto) that stood within the 1112 First Street property, the study area has the possibility of containing subsurface archeological features within the footprint and vicinity of the 1905 Alexandria Glass Works building (including foundations and bases associated with the boilers, furnaces, gas producers and stacks as well as subterranean brick flues and ventilation systems), the 1919 Stoner Chemical facility, and the 1920s Rose Brothers facility that could potentially provide additional information about the early 20th century industrial development of Alexandria. It is also possible that features related to 18th and 19th century use, or occupation, of the property are present.

RESEARCH DESIGN

Based on the high probability that the property contained the archeological remains of the Alexandria Glass Works, archeological work was required by the City of Alexandria. Thunderbird Archeology prepared a Scope of Work for the initial exploration to determine if significant archeological resources were present within the study area. A second Scope

of Work was prepared for to further evaluate potentially significant resources located during the initial investigations. As a result of the fieldwork, one archeological site was registered with the Virginia Department of Historic Resources and copies of the site form registration were sent to Alexandria Archaeology. Finally, construction monitoring was conducted during the garage excavation to document any remaining features.

All aspects of this investigation adhered to OSHA regulations and complied with the 2021 *City of Alexandria Archeological Standards* and the *Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation* (*DOI 1983).*

Research Objectives

The investigations addressed various research questions associated with industrial activity on the property in the early and mid-20th century, specifically on the potential archeological remains of the Alexandria Glass Factory.

- The factory originally (ca. 1908) produced a "general line of green beverage bottles, food packers, etc." but switched to producing clear glass only in 1914, and in 1915, greatly expanded production to include patents, liquors, packers, and preservers in additional to the beer and soda bottles. Will this be reflected in the materials recovered at the site?
- The glass factory was under new management in 1917. Were any changes made to the interior configuration of the main building that is shown on the 1912 Sanborn? What other features will be located that were not mapped (several brick flues were located at the adjacent Belle Pre factory during construction of the Madison).
- A devastating fire in 1917 burnt the entire glass factory to the ground. Did subsequent use of the property by the Stone Chemical Company and the Rose Brothers remove/clean out the destruction or bury it? Will evidence of the fire be found in the archeological record?
- Did the Stoner Chemical Company reuse the original stack and boiler site from the glassworks, as they appear to be located in approximately the same place on the property? Did the remaining tanks, and the mixing and grinding room have subsurface features?

Field and Laboratory Methodology

Machine Trenching and Block Excavation

Five exploratory trenches of varying lengths were excavated across the study area, using a backhoe outfitted with a 4-foot-wide toothed bucket that had a welded steel plate attached. At least one soil strata column profile was drawn for every trench and photographs were taken. Trenches were backfilled after recordation of the soil profiles if features/buried surfaces were not located. In trenches where features occurred, they were either evaluated if possible, or if they exceeded the confines of the trench in size or depth, they were

recorded to the greatest extent possible and revisited during the block excavation. Decisions regarding the significance of features and the need for additional testing were made in consultation with Alexandria Archaeology.

Block excavation consisted of the machine stripping of a roughly 90 by 90 feet block to expose the features associated with the circa 1906 main building of the former Alexandria Glass Works that were identified between Trench 3 and Trench 5 during the initial trench investigations. Approximately 4 feet of overburden fill was removed to expose the horizontal extent of the features, which were mapped, drawn, photographed and survey located. Artifacts were collected as needed but no soils were screened. Collected artifacts were bagged and labeled by unit number and by soil horizon. The work was documented with field notes, sketch plans, and photographs.

Test Units

Test units measured 3 by 3 feet square. All excavated soils were screened through 1/4-inch mesh hardware cloth screens and were classified and recorded according to standard pedological designations (A, Ap, B, C, etc.); excepting the terms Fill and Fill horizon, which are used to describe culturally modified, disturbed, or transported sediments and soils. The use of these terms is consistent with use in standard geomorphological studies and recordation of geo-boring profiles in environmental studies. Soil colors were described using Munsell Soil Color Chart designations and soil textures were described using the United States Department of Agriculture soil texture triangle. Artifacts recovered during testing were bagged and labeled by unit number and soil horizon. The location of each test unit was mapped; unless otherwise noted, the graphic representation of the test pits and other features depicted in this report are not to scale and their field location is approximate.

Archeological Monitoring

An archeologist was on site to monitor all ground-disturbing activities within the property including the removal of building foundations, and activities associated with underground utilities installation or removal. When features were encountered, those features were documented and mapped within the safety parameters governing the types of trenches. Alexandria Archaeology was consulted when potentially significant features or artifacts were encountered during monitoring.

Laboratory Methodology

Artifacts recovered from significant soil layers within the project area were retained, cleaned, cataloged, labeled, and packaged in accordance with the guidelines set forth in the 2021 *City of Alexandria Archaeological Standards*. Historic artifacts were separated into four basic categories: glass, metal, ceramics, and miscellaneous. The ceramics were identified as to ware type, method of decoration, and separated into established types, following South (1977), Miller (1992) and Magid (1990). All glass was examined for color, method of manufacture, function, etc., and dated primarily on the basis of method of manufacture when the method could be determined (Hurst 1990). Metal and miscellaneous

artifacts were generally described; the determination of a beginning date is sometimes possible, as in the case of nails. Unless otherwise noted, a representative sample of recovered brick and oyster shell was retained for curation; the remainder was discarded after being counted and weighed.

Any recovered prehistoric artifacts were classified by cultural historical and functional types and lithic material. In addition, the debitage was studied for the presence of striking platforms and cortex, wholeness, quantity of flaking scars, signs of thermal alteration, size, and presence or absence of use. Chunks are fragments of lithic debitage which, although they appear to be culturally modified, do not exhibit clear flake or core morphology.

Recovered artifacts were entered into a Structured Query Language (SQL) Server database in order to record all aspects of an artifact description. For each artifact, up to 48 different attributes are measured and recorded in the database. Several pre-existing report templates are available, or users can create custom queries and reports for complex and unique analyses. The use of a relational database system to store artifact data permits a huge variety of options when storing and analyzing data.

Archeological collections recovered because of the Alexandria Archaeology Resource Protection Code must be curated at a facility which meets Federal standards for archeological curation and collections management as described by 36CFR Part 79. The Alexandria Archaeology Storage Facility meets these standards, and the property owner was encouraged to donate the artifact collection to the City for curation. At the conclusion of the project, all images, field notes and forms and other field records will be submitted to Alexandria Archaeology in digital format. The full inventory of recovered artifacts is listed in Appendix II.

RESULTS OF ARCHAEOLOGICAL EVALUATION: PHASE I

The *Archaeological Evaluation* was conducted between January and July of 2022 and resulted in the identification of one new archeological site, 44AX0249, which is discussed below. The fieldwork included a combination of hand and machine excavation beginning with initial exploratory machine trenching and followed with block excavation and monitoring of construction excavation.

Trench Excavation

Five exploratory trenches of varying lengths were excavated across the study area (Figure 19). The trenches were deliberately placed over historic building locations and designed to identify the footprints of these buildings and any other cultural resources. The soils in all five trenches consisted of mixed urban fills; however, Trench 1 and Trench 2 also contained a buried ground surface (Apb) and subsoil (B horizon). Archeological features were identified in the trenches are discussed below.

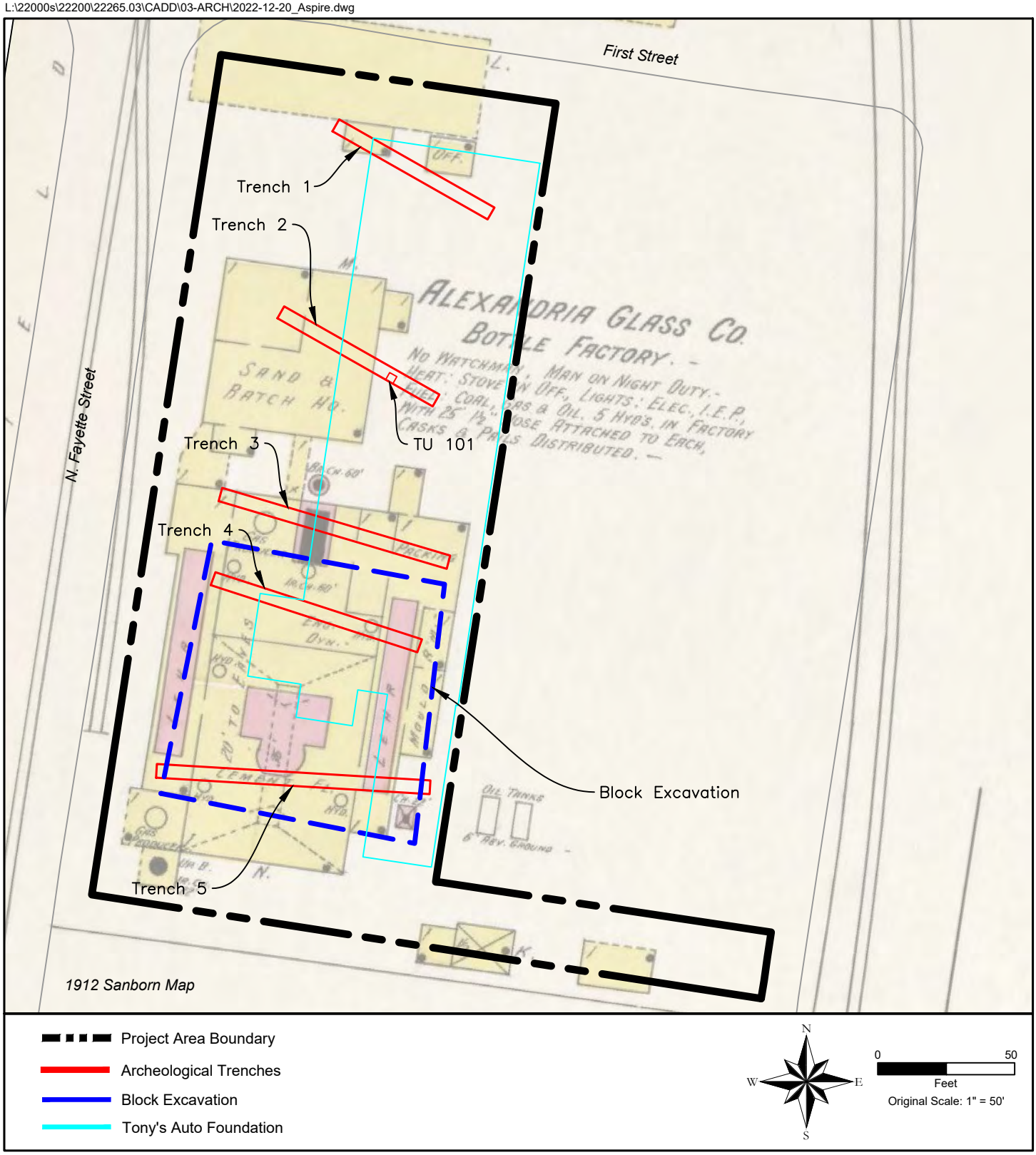

Figure 19
Location of Exploratory Trenches
and Block Excavation with 1912 Sanborn Overlay

Trench 1

Trench 1 measured approximately 65 feet in length by 4 feet in width and was excavated diagonally across the northern extent of the study area to a maximum depth of 3.5 feet (see Figure 19). The trench was positioned over the map projected location of the office and warehouses of the Alexandria Glass Works; this location was later the Tank Room for the Stoner Chemical Company.

The soils consisted of two fill horizons overlying subsoil (Figure 20). A remnant buried ground surface (Apb) was identified in the eastern end of the trench directly beneath the modern fill layers, but the buried ground surface was not present in the western portion of the trench. A utility line and the concrete footer from one of the hydraulic lifts from Tony's Auto disrupted an otherwise uniform trench profile.

Fill 1: 0- 1.0 feet below surface – [10YR 2/1] black coarse sand with 50% asphalt fragments
Fill 2: 1.0- 1.45 feet below surface - [10YR 4/2] dark grayish brown silty clay loam with 10% gravel inclusions
B1 horizon: 1.45- 2.4 feet below surface – 10YR 5/6] yellowish brown sandy clay
B2 horizon: 2.4- 3.25 feet below surface – [10YR 6/4] light yellowish brown sandy clay with 5% [7.5YR 5/8] strong brown clay mottles

No historic features relating to the Alexandria Glass factory, or the chemical manufacturing firm were identified within the trench.

Trench 2

Trench 2 measured approximately 65 feet in length by 6 feet in width and was excavated to a maximum depth of 5 feet (see Figure 19). The trench was positioned over the Sand Batch House of the Alexandria Glass Works, which was later replaced by the Mixing and Grinding Room of the Stoner Chemical Company. The soils within Trench 2 consisted of 2-3 feet of fill overlying a well-defined buried ground surface and subsoil (Figure 21).

Fill 1: 0- 0.5 feet below surface – [10YR 5/2] grayish brown sandy loam
Fill 2: 0.5- 1.3 feet below surface – [10YR 2/1] black coarse sand with 20% destruction rubble
Abp horizon: 1.3- 1.9 feet below surface – [2.5Y 4/1] dark gray sandy loam
B horizon: 1.9- 2.1 feet below surface – [2.5Y 5/4] light olive brown sandy clay

Portions of the trench contained large concentrations of brick rubble, and a black loamy lens (10YR 2/1) black loam with significant quantities of brick, gravel, and glass rubble, (some burned) was also visible in the south wall of the trench above the buried surface (Apb horizon). A small portion of the trench was not completed excavated through the Apb so that it could be sampled with a 3 by 3-foot test unit. No features were identified within the trench.

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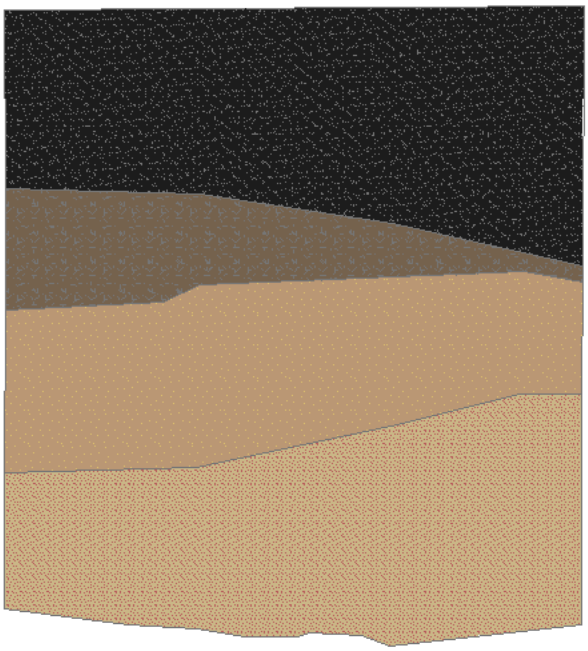
Trench 1 North Profile



Fill 1: 10YR 2/1 black coarse sand with 50% asphalt fragments

Fill 2: 10YR 4/2 dark grayish brown silty clay loam with 10% gravel inclusions

B1 horizon: 10YR 5/6 yellowish brown sandy clay

B2 horizon: 10YR 6/4 light yellowish brown sandy clay with 5 % 7.5YR 5/8 strong brown clay mottles

0 1
Feet
Original Scale: 1" = 1'

Figure 20
Trench 1 North Profile

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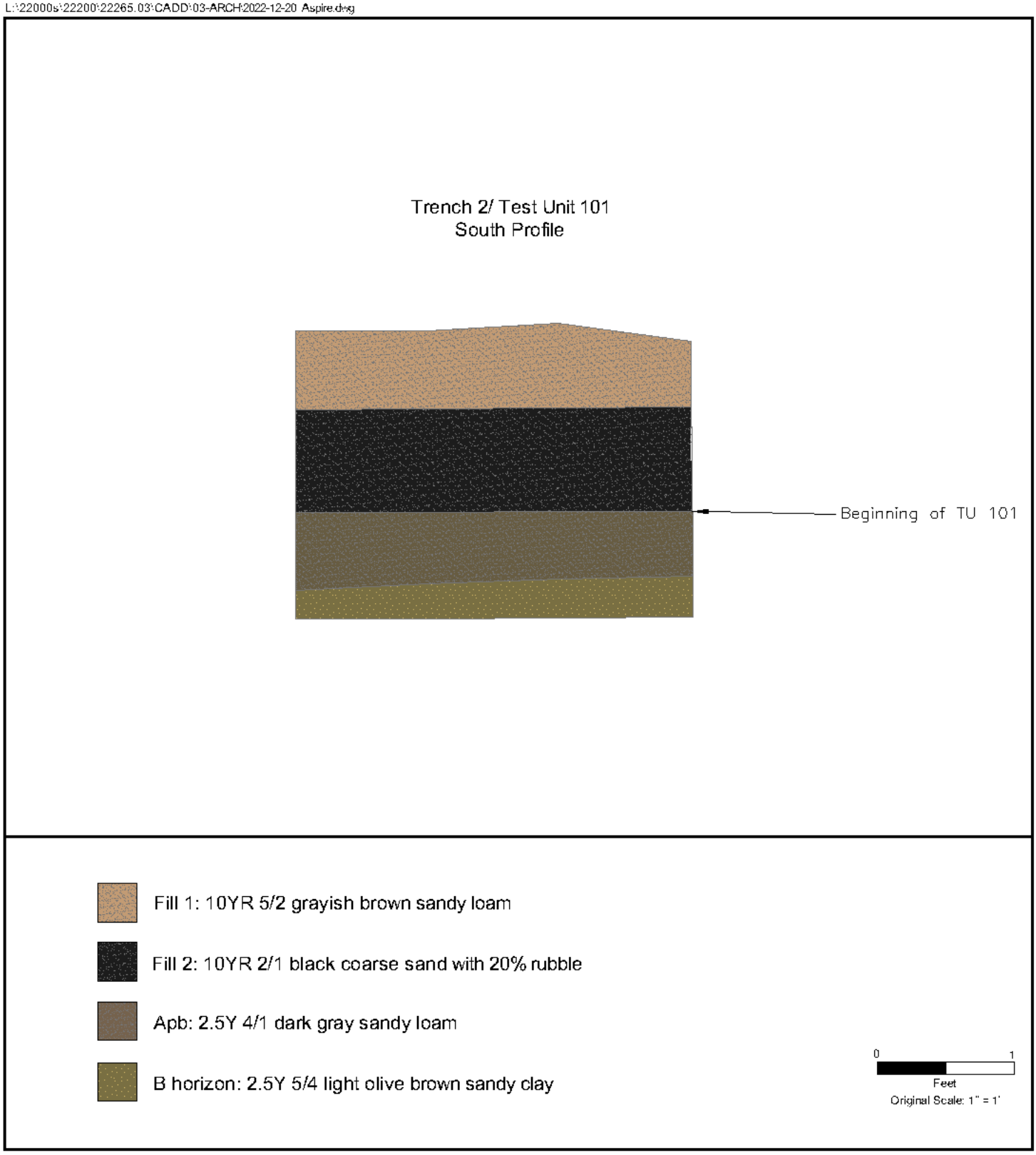


Figure 21
Trench 2/ TU 101 South Profile

Test Unit 101

TU 101 was placed within the Apb horizon in the eastern portion of Trench 2. The stratigraphic profile for TU 101 consisted of two modern fills measuring approximately 1.3 feet in depth from the existing ground surface, which had already been disturbed during the demolition phase of the project (see Figure 21-Trench 2 Profile). The buried ground surface was a dark gray sandy loam that measured approximately 0.6 inches in thickness.

The Apb horizon yielded a large quantity of artifacts consisting primarily of glass sherds, all dating to late 19th to 20th century, and a smaller quantity of whiteware, and other historic debris, including brick and coal fragments (Table 1).

No features were identified within the buried ground surface within the test unit or Trench 2. While the test unit yield many artifacts, no significant artifacts in relation to the potential use of the historic ground surface were recovered and the assemblage generally reflected what was being recovered from other fill soils across the site. It does not appear to be an intact context for any specific activity on the site. The Apb appears to represent the historic ground surface that was present prior to a major destruction event on the property, possibly the 1917 fire which burned down the Alexandria Glass Works factory.

Table 1:Artifacts Recovered from Test Unit 101

Artifact Type	Abp
Ceramics	
hard paste porcelain	2
whiteware (1820-1900+)	17
refined white earthenware	11
redware	3
Glass	
bottle	3
bottle, bottle/jar, clear manganese (1880-1915)	7
bottle, bottle/jar (ABM)* (1910-present)	148
Metal	
nail, cut (post-1790)	1
nail, unidentified	3
screw cap (post-1965)	4
Miscellaneous	
bone	1
brick**	11
coal**	32
Total Test Unit 101	**243**

*automatic bottle machine
**discarded

Trench 3

Trench 3 measured approximately 90 feet by 6 feet in width and was excavated to a depth ranging from 6 feet to approximately 10 feet (see Figure 19). The trench was designed to locate the northeastern corner of the main building of the Alexandria Glass Works, the chimney stack, which persisted after the fire according to the Sanborn maps, and the Sand House along N. Fayette Street.

Subsoil was identified in the eastern portion of the trench under a thin remnant buried ground surface (Apb) but was not reached in the western portion of the trench due to the depth of the disturbance of the brick rubble and surrounding fill (Figure 22).

Fill 1: 0- 1.8 feet below surface – [10YR 5/8] yellowish brown compact clay with 5% construction rubble
Fill 2: 1.8- 3.1feet below surface – [10YR 3/2] very dark grayish brown sandy clay loam with 20% brick ad rubble inclusion
Fill 3: 3.1- 3.75 feet below surface – [10YR 5/8] yellowish brown compact clay]
Fill 4: 3.75- 4.5 feet below surface – [2.5Y 3/1] very dark gray clay with charcoal and brick flecking
B horizon: 4.5- 5.0 feet below surface – [10YR 4/2] dark grayish brown clay

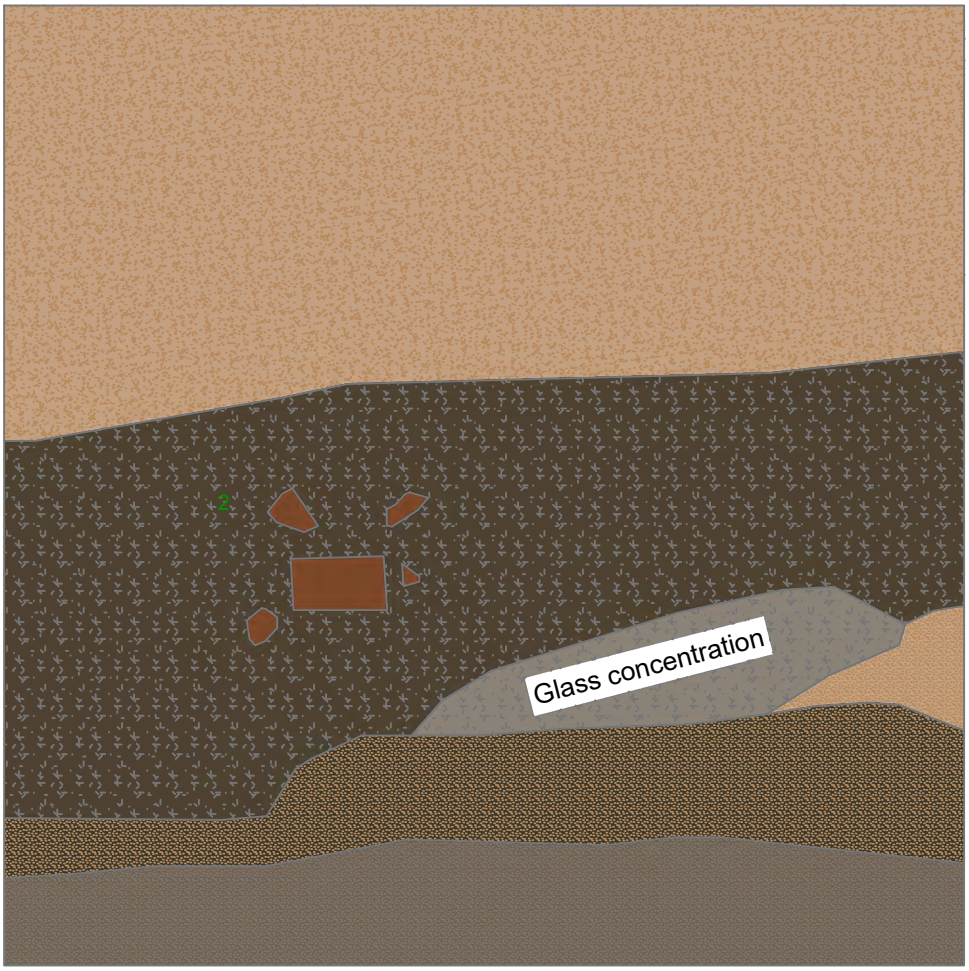
Three architectural features were identified, as well as a significant quantity of brick rubble. One architecture feature was clearly modern and therefore not assigned a feature number; a brick foundation wall for the recently demolished autobody shop ran north-south across the property and was exposed in the middle of trench. The other two features, designated Features 1 and 2, are discussed below under the *Trenching Features* section of the report.

Trench 4

Trench 4 was excavated over the map projected location of the Boiler Room within the glass factory's main building and measured approximately 65 feet in length by 6 feet in width (see Figure 19). The trench was excavated to a maximum depth of 10 feet, but subsoil was not reached. The soils consisted of multiple fills including destruction layers with significant quantities of rubble that covered several archeological features, designated Features 3-5. The destruction fill was present across the entire extent of the trench, averaging 1.5 feet in thickness, but reaching upward of 4 feet over Feature 5 (Figure 23). The features are described in the *Trenching Features* section of the report.

Fill 1: 0- 1.3 feet below surface – [10YR 3/2] very dark grayish brown sandy clay loam with 20% construction rubble
Fill 2: 1.3- 1.6 feet below surface – [10YR 2/1] black coarse sand with 20% rubble
Fill 3: 1.6- 3.45 feet below surface – [10YR 5/8] yellowish brown compact clay
Fill 4: 3.45- 4.0 feet below surface – [10YR 5/4] yellowish brown silty clay loam
Fill 5: 4.0- 4.6 feet below surface – [10YR 5/6] yellowish brown clay loam

Trench 3 South Profile



Fill 1: 10YR 5/8 yellowish brown compact clay with 5% construction rubble

Fill 2: 10YR 3/2 very dark grayish brown sandy clay loam with 20% brick and rubble inclusion

Fill 3: 10YR 5/8 yellowish brown compact clay

Fill 4: 2.5Y 3/1 very dark gray clay with charcoal and brick flecking

B horizon: 10YR 4/2 dark grayish brown clay

0 1
Feet
Original Scale: 1" = 1'

Figure 22
Trench 3 South Profile

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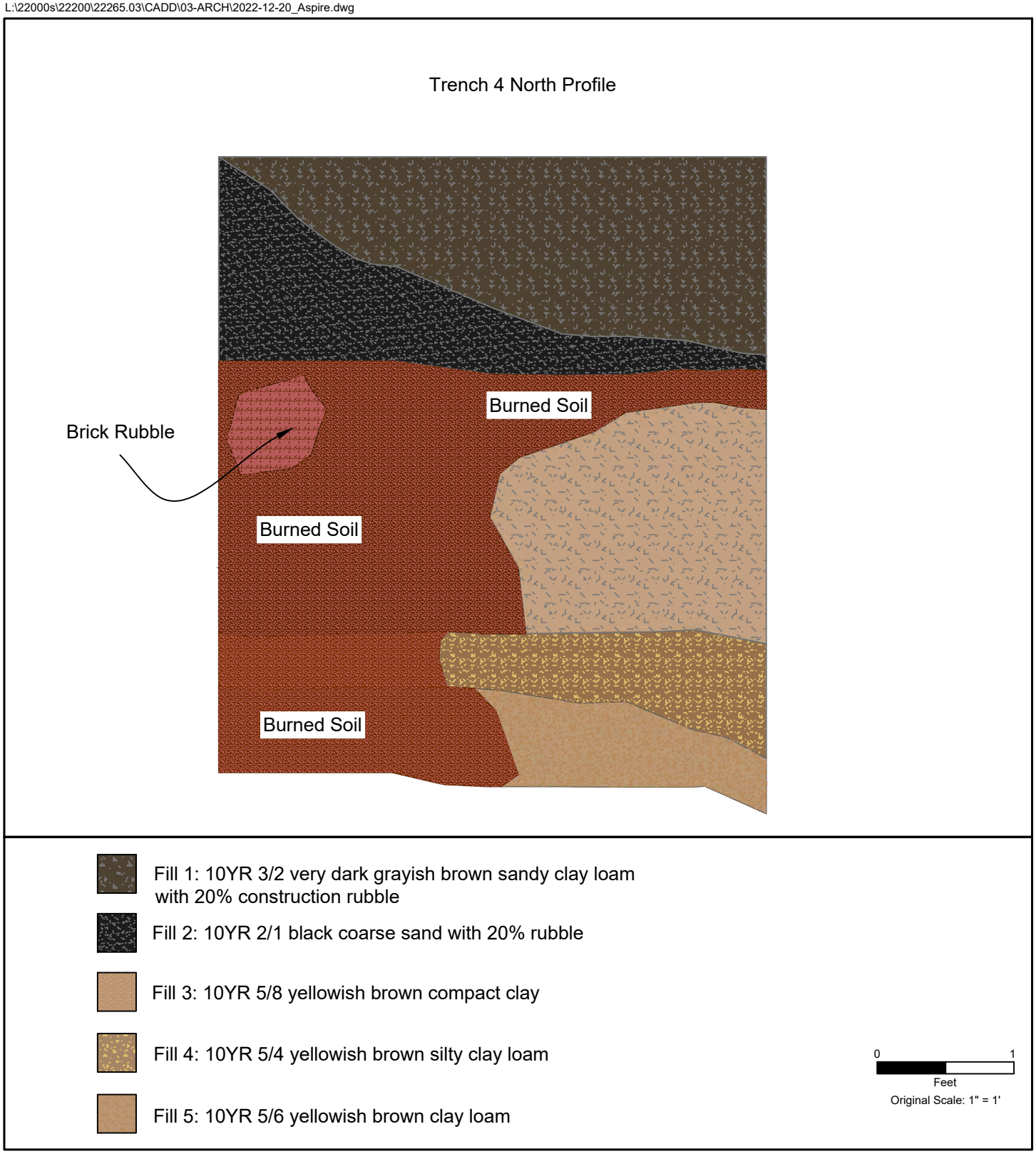

Figure 23
Trench 4 North Profile

Trench 5

Trench 5 measured approximately 90 feet by 6 feet and was excavated to a maximum depth of 8 feet (see Figure 19). Trench 5 was positioned across the furnace and lehr ovens of the glass factory's main building. The soils were similar to those in Trench 4, consisting of multiple fills overlying several features likely associated with the glass factory. Subsoil was not reached in this sub due to the depth of disturbances and features (Figure 24).

Fill 1: 0- 0.4 feet below surface – [10YR 3/2] very dark grayish brown sandy clay loam
Fill 2: 0.4- 1.0 feet below surface – [2.5Y 5/3] light olive brown silty clay loam
Fill 3: 1.0- 1.9 feet below surface – [10YR 5/8] yellowish brown compact clay
Fill 4: 1.9- 3.4 feet below surface – [10YR 5/4] yellowish brown silty clay loam
Fill 5: 3.4- 4.2 feet below surface – [10YR 4/1] dark gray sand mottled with [7.5YR 5/3] brown sand and [7.5YR 4/4] brown sandy clay
Unexcavated Rubble: 4.2 feet below surface

The central portion of the trench contained approximately 4 feet of fill containing significant quantities of rubble. Destruction fill was present across the entire extent of the trench, averaging between 1 and 2 feet in depth. As with Trench 4, the trench walls were not stable, despite stepping them back, due to the nature of the loose rubble fills beneath a cap of clay fill and could not be safely inspected. The presence of the concrete floor in Trench 5 suggested a high probability of more intact historic surfaces in between Trench 4 and 5, in the southeast-central portion of the site.

Trench Features

Feature 1

Feature 1 (Figure 25) was a brick foundation and brick rubble located to the west of the autobody shop foundation, which was exposed within Trench 3 approximately 4 feet below ground. The soils over the feature in this location consisted of a roughly 1-foot-thick black destruction layer overlying a high quantity of brick rubble. Once the feature was fully exposed, the bricks and mortar appeared to be likely mid-20th century.

No further work was conducted on the foundation, although the feature was exposed again and removed during the subsequent block excavation.

Feature 2

Feature 2 was located within Trench 3, approximately 5 feet to the east of the autobody shop foundation and consisted of a concrete pier and a brick foundation that appeared to have been burned or at least covered by the destruction fill (Figure 26). The brick pad was only one course deep. The feature was recorded and photographed; the density of the surrounding destruction fill prevented further excavation.

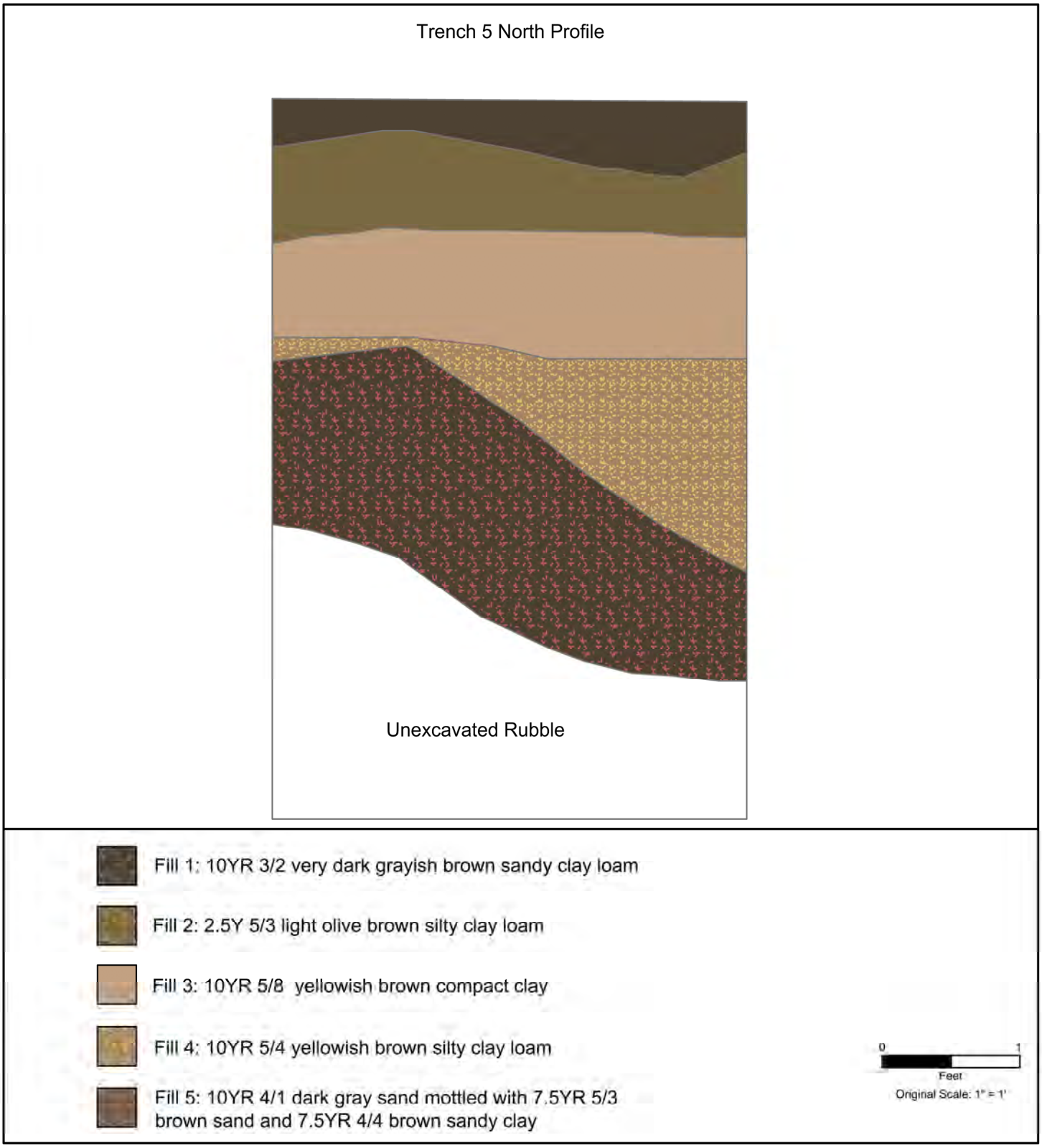

Figure 24
Trench 5 North Profile

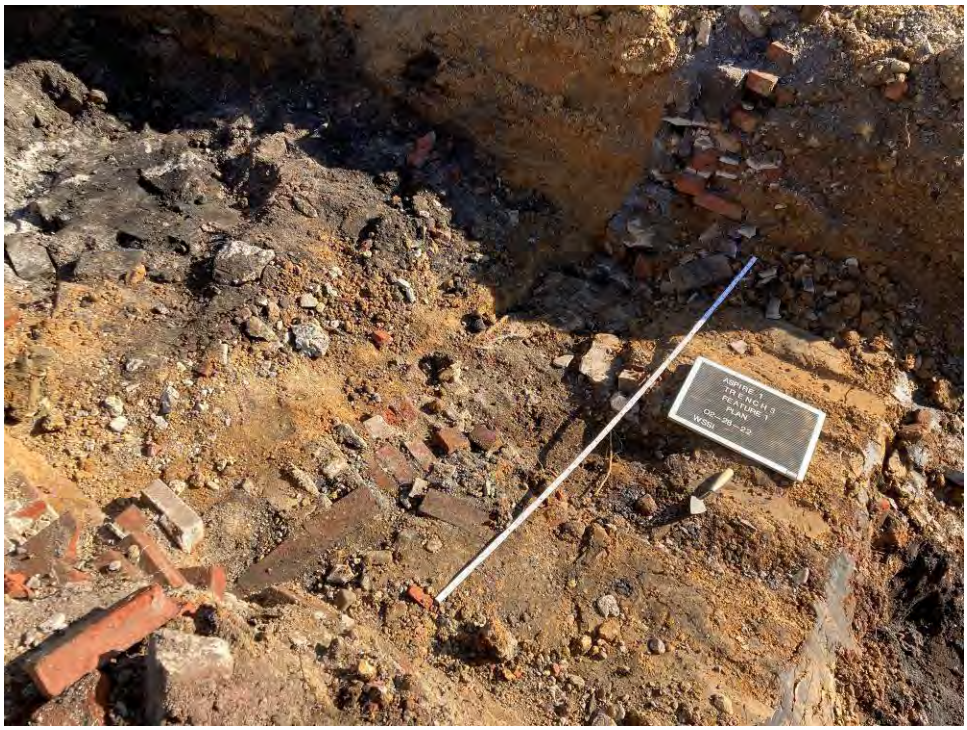

Figure 25: Trench 3, Feature 1, Plan View

Figure 26: Trench 3, Feature 2, Plan View

Feature 3 and Feature 4

A concrete block structure located in the center of Trench 4 was designated Feature 3 (Figure 27). The north-south aligned foundation wall was laid two course wide and was at least six courses deep and extended at least to the depth of Feature 5, discussed below. The feature abutted a brick course in the north wall of the trench. The feature was surrounded by two separate destruction layers. The feature was recorded and photographed; given the modern nature of the foundation, no further work was conducted. This cinderblock foundation was encountered again in both the block excavation and the construction monitoring phases of work on the site.

Feature 4 was a concrete floor which was exposed in the southeast corner of the Trench 4, approximately 4 feet below ground surface (Figure 28). The floor remnant was covered by what appears to be molten glass that resolidified, which was approximately 0.5 feet thick. While it seems surprising that the molten glass would have been left in place, the trench yielded a large quantity of solid glass that formed a hardened layer that could not be broken through by hand. Our documentary research revealed a newspaper article that reported that the tank furnace of the factory collapsed on November 14, 1906, spilling molten glass onto the factory floor (Mullen and Carroll 2019). A similar occurrence likely happened when the factory burned down in 1917. It is probable that this feature represents a surviving corner of the factory floor.

Figure 27: Trench 4, Feature 3
View to South

Figure 28: Trench 4, Feature 4
View to Southeast

The feature was cleaned, photographed, and left intact so that it could be fully exposed during the block excavation to better understand the nature and extent of the feature. Additional sections of the factory floor were exposed during the subsequent block excavation (discussed below), which were re-designated Feature 1.

Feature 5

Feature 5 was identified at the base of Trench 4, approximately 10 feet down below ground surface (Figure 29). Due to the depth of the feature and the instability of the trench walls, it could not be fully investigated during trench excavation. It was determined that the brick feature was possibly the remains of a foundation; a large quantity of brick rubble extends across the trench floor east of the brick feature. The brick rubble appears to be truncated by Feature 3 to the west, indicating that Feature 3 was of newer construction. It is likely that the Feature 5 identified during trench excavations was likely Feature 2 identified during block excavation, which was the upper part of the furnace foundation.

Feature 6

Located in Trench 5, Feature 6 appears to be more of the glass factory concrete floor, covered by a glass layer. The feature is roughly south of the concrete floor remnant (Feature 4) that was exposed in Trench 4. A concrete pier, brick pier, and a charred wooden beam were uncovered to the west of the floor (Figure 30); the extent of the trench excavation did not provide enough context to appropriately interpret the components of this feature at the time. Multiple piers were recorded in the vicinity of Trench 5, which could potentially be the pier in this feature. However, the concrete pier was not relocated during block excavation.

Figure 29: Trench 4 Feature 5
View to South

Figure 30: Trench 5 Feature 6
View to North

Feature 7

Located in Trench 5, Feature 7 (Figure 31) was located approximately 4 feet to the east of Feature 6, near the northeast corner of the trench. The feature consists of a brick foundation, two courses wide, with a ferrous metal tool or lever apparently affixed to the feature the foundation is at a slightly higher elevation than the concrete floor (Feature 6). The feature was photographed, recorded, and covered in order that it could be further exposed during block excavation.

Figure 31: Trench 5 Feature 7
View to North

Summary and Recommendations

The exploratory trenching across the project area revealed very few features in the northern half of the project area. Although a buried surface was found within Trench 3, it was sampled and held little research potential, in our opinion. No further archeological work was recommended for the buried surface or for the northern half of the project area.

However, the floor and several foundations associated with the Alexandria Glass Works factory main building were located during the initial trenching in the southern half of the property. Most of the intact floor appears to have been preserved in the eastern half of the property beneath the former autobody shop. Our initial testing also corroborated the historic record that the glass works was destroyed by fire, as evidenced by a blackened destruction fill covering the site. Large amounts of brick rubble and glass fragments (some melted) were found in the fills. Based on our initial trenching, the brick foundations also appear to have been affected by the heat and were extremely fragile/difficult to expose.

Therefore, before proceeding with the full garage excavation, a block excavation between Trenches 3 and 5 was opened in order to document, map and photograph the floor and other features of the factory.

RESULTS OF ARCHAEOLOGICAL EVALUATION: PHASE II

Block Excavation and Archeological Monitoring

The Block Excavation phase consisted of a 90 by 90-foot area in the southern portion of the study area which contained the deepest deposits of historic fill. Approximately 4 feet of fill was removed to expose features associated with the Alexandria Glass Works factory. The features exposed during this excavation are discussed in detail below. Subsoil was not reached as the block excavation was designed to expose the floor level of the factory.

Construction monitoring subsequently took place during the excavation for the underground garage on the property. Excavations went down between 10 and 12 feet below ground surface. When an archeological feature was identified, the extant of the feature was cleared and documented in accordance with the SOW approved by Alexandria Archaeology. Subsoil was reached in all parts of the study area at the conclusion of monitoring. Only potentially diagnostic artifacts which were directly associated with a feature were collected during this phase.

The archeological block excavation and monitoring work resulted in the of identification of 47 features (Figure 32). These features comprise predominately of architectural features, many of which can be attributed to the Alexandria Glass Works factory.

Features

Brick Piers (Various Feature Numbers)

The brick piers were primarily located around the perimeter of the study area (see Figure 32). During this excavation, a brick pier was considered any *in situ*, level arrangement of bricks that measured less than 2’ in length and was not attached to any other material or feature. As such, the piers ranged from being one course deep to several feet intact.

The piers measured between 1.1 foot and 1.8-foot square, although several had been disturbed, which made them appear larger (Figures 33-34). All piers recorded during the block excavation were identified roughly 4 feet below the modern ground surface. The ground level at which the piers were recorded were not necessarily accurate; piers could have been disturbed by later development on the site.

The brick piers were all located beneath the 10YR 2/1 black destruction layer found across most of the study area and are therefore likely associated with the Alexandria Glass Works factory. It is likely more modern construction and previous testing (archeological and geo-boring) disturbed these types of smaller features and there were originally more brick piers on the site. A complete list of brick piers can be found in Table 2.

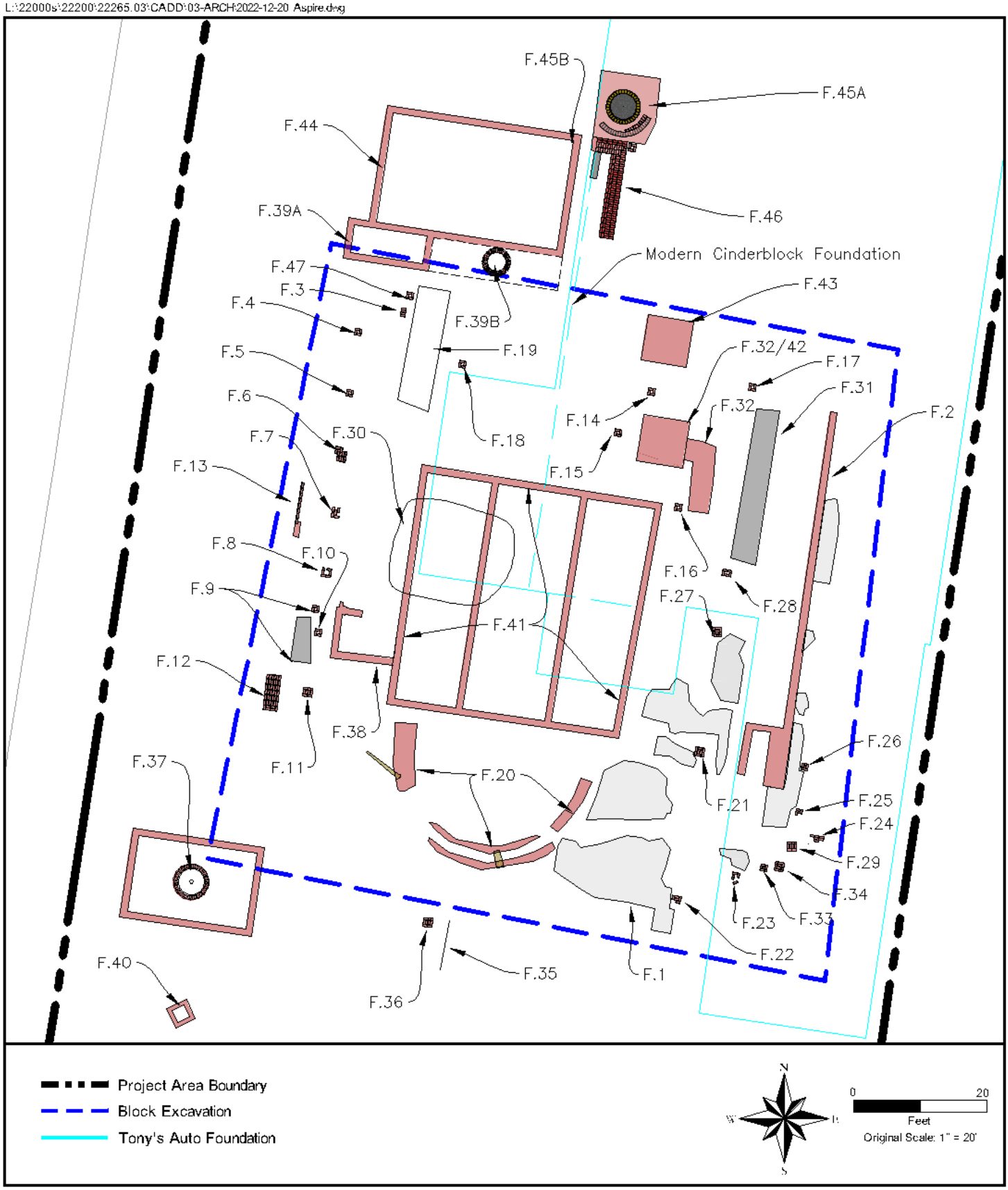

Figure 32
Phase II Overview

Table 2: Brick Pier Features

Feature Number	Dimension		Feature Number	Dimension
3	1.6’ x 0.7’		21	1.4’ x 1.5’
4	1.1’ x 1.1’		22	1.4’ x 1.1’
5	1.1’ x 1.1’		23	1.2’ x 1.1’
6	1.4’ x 1.5’		25	1.1’ x 1.1’
7	1.4’ x 1.7’		26	1.1’ x 1.1’
8	1.5’ x 1.5’		27	1.6’ x 1.6’
9	1.1’ x 1.1’		28	1.4’ x 1.1’
10	1.8’ x 1.5’		29	1.3’ x 1.4’
11	1.5’ x 1.5’		33	1.5’ x 1.2’
14	1.1’ x 1.1’		34	1.5’ x 1.2’
15	1.1’ x 1.5’		36	1.2’ x 1.5’
16	1.4’ x 1.1’		46	1.1’ x 1.1’
17	1.1’ x 1.1’		47	1.1’ x 1.1’
18	1.1’ x 1.1’			

Figure 33: Feature 26, Representative Brick Pier, Intact
View to East

Figure 34: Feature 23, Representative Brick Pier, Disturbed View to East

Feature 1, Concrete Floor

The concrete floor of the glass factory was initially discovered in Trenches 4 and 5 (recorded as Feature 4 and 6) during the trenching phase of excavation. Ten *in situ* patches of the concrete floor were exposed during the block excavation and were redesignated as Feature 1 (Figures 35-37). The floor was preserved under a thick layer of molten glass, which was located at the bottom of the destruction layer, making the concrete flooring an intact historic layer.

The glass layer unevenly covered a roughly 35 by 45-foot patch of the factory floor in the southeastern corner of the factory, to the east of the working part of the furnace (Feature 20). The concrete was found in patches underneath the glass layer and above the deeper foundation walls. The floor was uneven and broken in places by the weight of the glass and fills overtop of it. The floor of the factory was approximately 42.5 feet in elevation.

Based on historic research, the resolidified molten glass layer is either from the 1907 factory fire in which the furnace caught fire, or the 1917 fire which shut down the factory. As the 1912 Sanborn map specifically denotes a concrete floor in the main building, it is more likely that the molten glass was a result of the latter. This means that destruction layer, located immediately above the molten glass layer, likely dates to 1917 as well. No artifacts directly associated with the feature were collected. No further work was conducted on this feature.

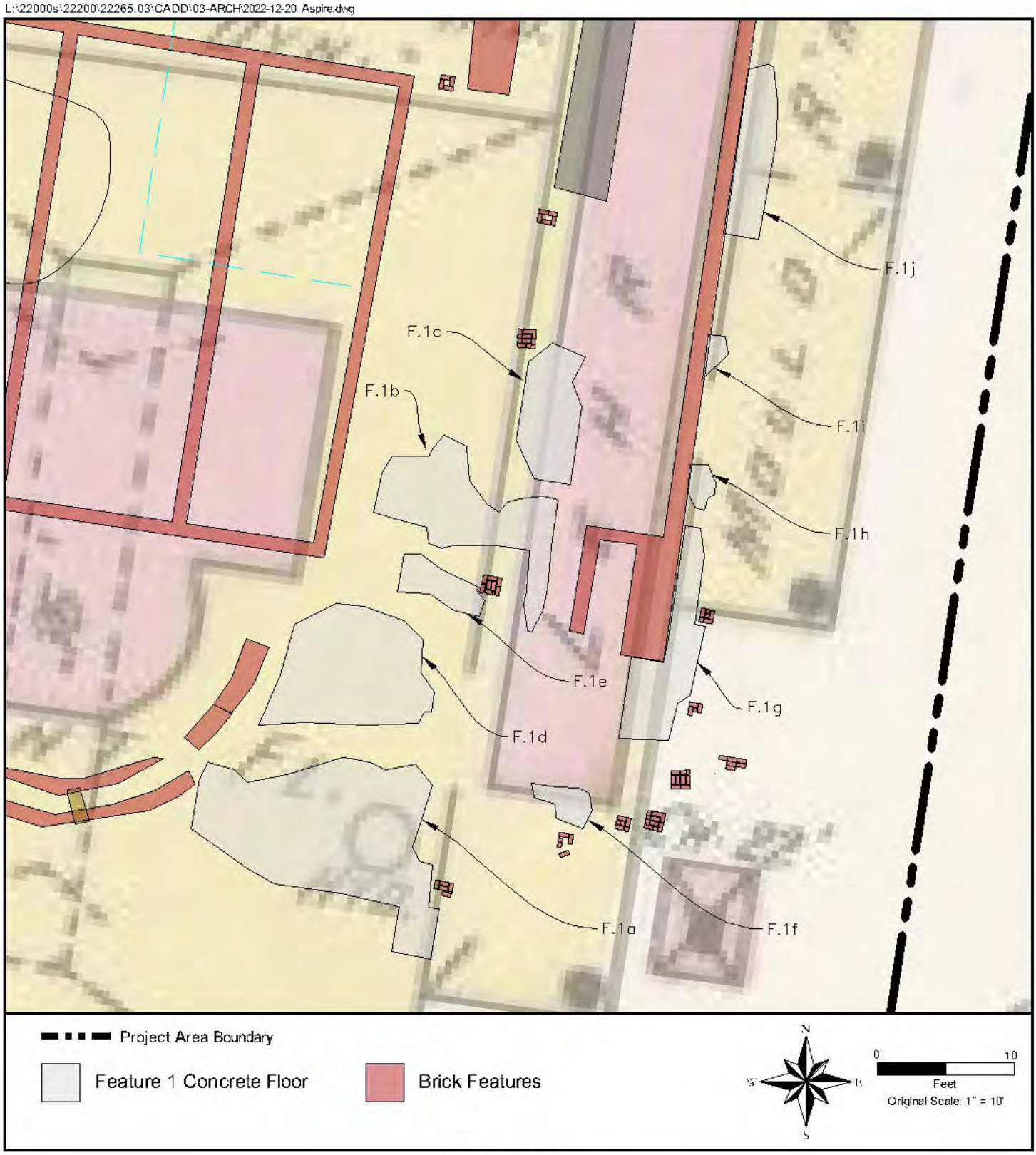

Figure 35
Feature 1 Plan View

Figure 36: Feature 1 - Portion of Concrete Floor
View to North

Figure 37: Portion of Concrete Floor (Feature 1)
Facing East

Feature 2, Brick Foundation

Feature 2 is a brick foundation connected to a larger brick pad along eastern boundary of the site measuring 57 feet in length (see Figure 32; Figure 38 and Figure 39). The brickwork on the foundation wall went at least 13 courses deep but only three courses wide. The pad was significantly wider. Since there are brick piers and the remains of the concrete floor to the east of the feature, it can be surmised that this foundation was on the interior of the glass factory. Based on the features location when referenced to the 1907 and 1912 Sanborn maps, it is likely that this foundation is related to the eastern lehr oven.

The remains of the concrete floor of Feature 1 on the east side of Feature 2 have a clean line along the feature, indicating that the concrete floor did not cover the foundation and part of the feature may be a floor. The southern portion of Feature 2 expands into an H-shaped brick foundation measuring 7 feet in width, possibly the mouth of the furnace (Figure 40).

The fill surrounding the feature was dense with rubble and destruction fill; a test pit was dug along the western wall of the feature to explore the depth, but no artifacts were recovered. The feature was survey located and recorded. No further work was conducted on this feature.

Figure 38: Feature 2
View to North

Figure 39: Feature 2
View to Southeast

Figure 40: Feature 2
View to East

Feature 9, Concrete Floor Remnant

Feature 9 was a concrete pad at western edge of site at an elevation of 42.2 feet (see Figure 32). The section measures approximately 3 feet wide by 7 feet long, running north to south. The concrete feature is different in appearance than Feature 1, possibly the result of the difference in the overlying fills as no glass layer was present along the western side of the site. As the feature is roughly at the same elevation level as the Feature 1 and is located with the footprint of the Alexandria Glass Works building, it is interpreted as more of the original factory floor (Figure 41).

An adjacent brick pier was also recorded with the feature was also which was recorded. The fill surrounding the feature was dense with rubble and destruction debris; no artifacts were recovered. The feature was survey located and recorded. No further work was conducted.

Figure 41: Feature 29 and 10
View to Northeast

Feature 12, Brick Floor

Feature 12 is a brick floor or platform that was located in the southwest corner of the site during the block excavation (Figure 42; see Figure 32). The extant portion of the feature measures 2.5 by 5.5 feet and may be part of a larger feature that was disturbed by later use of the site. The surrounding matrix was compact destruction fill, and no artifacts were observed or recovered. The feature was survey located and recorded but was not relocated during construction monitoring.

Figure 42: Feature 12
View to North

Feature 13, Brick Foundation

Feature 13 is a narrow brick wall recorded at the western edge of the block excavation boundary (see Figure 32). The feature measured 8 feet in length, running north along the boundary of excavation, and approximately 0.8 feet at the southern end, where burnt rubble remains suggest that there used to be more courses of brick present (Figure 43).

The visible brick courses are roughly in the correct location for the western lehr oven, according to the 1912 Sanborn (see Figure 32). The bricks are also parallel with Feature 2 on the eastern side of the factory building. However, this brickwork was not nearly so well preserved as Feature 2; the remains of the feature provided no clear indication of its use. The fill surrounding the feature was dense with rubble and destruction fill; no artifacts were recovered. The feature was survey located and recorded. No further work was conducted on this feature.

Figure 43: Feature 13
Looking East

Feature 19, Trench Feature

Feature 19 is a trench measuring 4.8 feet in width by at least 18 feet in length that was exposed during the block excavation in what was the northwestern portion of the factory building (see Figure 32). The trench at the surface was filled with a compact, dense concentration of broken glass bottles and brick rubble, which may be associated with the destruction layer across the site. The feature was bisected mechanically using a backhoe and the southern half was excavated to subsoil.

The profile (Figure 44) revealed approximately 3 feet of feature fill and a cut in the surrounding clay along with degraded bricks, suggesting that the trench was originally lined with brick. Feature 19 is interpreted as the remains of an old flue associated with the gas producer that was located directly to the north according to the 1912 Sanborn map.

The feature was survey located and documented. No further work was conducted on this feature as was not relocated during construction monitoring; therefore, its exact relation to Features 39 and 44 at deeper elevations, cannot be confirmed. It is not known if the trench was likely infilled after it collapsed; whether the collapse was caused by a fire or abandonment is unknown.

Figure 44: Feature 19 South Bisection Profile
Facing North and East

Feature 20, Main Furnace

Centrally located at the southern end of the factory, Feature 20 is a curved concrete and brick foundation that corresponds to the curved wall of the working end of the furnace. This is visible on the 1912 Sanborn map (see Figure 32). The feature measures 25 feet across from the interior western and eastern edges and is generally 3 to 3.5 feet wide (Figure 45 and Figure 46). This end of the furnace appears to be constructed of brick with a layer of concrete on the inside and outside of the structure. Both terracotta and metal pipes of various sizes ran through the walls to allow for ventilation of the furnace (Figure 47).

Figure 45: Feature 20 Overview, View to North

Figure 46: Feature 20 Overview, View to North

Figure 47: Feature 20, West Wall of Furnace with Terracotta Pipe / Molten Glass View to Northwest and to Southeast

The scale of Feature 20 and Feature 41 to the north, both of which represents the rest of the furnace foundation, is not accurately depicted on the Sanborn maps; however, their location is accurate. There is little doubt that this is the furnace used by the Alexandria Glass Works factory; the feature was located under the massive layer of destruction rubble, which consisted of densely packed broken glass and metal debris. Solidified molten glass was found in the pipe connected to the feature (see Figure 47). The feature was survey located and documented during the block excavation, but no further work was conducted. The feature was relocated during construction monitoring and was observed to extend several more feet beyond initial exposed grade. However, the northern end of the furnace foundation (Feature 41) was found to extend much deeper than the working end of the furnace.

Feature 24, Brick Foundation/Wall

Feature 24 is a row of bricks running east and into the eastern wall of the study area (Figure 48). According to the 1912 Sanborn map, the feature is located in the approximate location of a chimney base on the southeast corner of the property. However, the feature was not situated below a clear destruction layer as were many of the other factory features. It is possible that since this feature was located at the eastern terminus of the property it was not impacted as much by the destruction. However, not enough of the feature was exposed to confirm its purpose. The surrounding soil comprised of fills contained debris and construction rubble.

The feature was identified during the block excavation and was not relocated during construction monitoring. The feature was survey located and recorded. No further work was conducted on this feature.

Figure 48: Feature 24 Plan View
View to East

Feature 31, Concrete Footer

Feature 31 is a concrete foundation on eastern side of the site that is parallel to Feature 2 and measures 23 by feet (see Figure 32). Based on the pattern of disturbance on the east and west side of the feature, it is likely that Feature 31 continued south another 20 feet under, with section of heavy disturbance in middle. The concrete foundation may have been underneath Feature 1, the floor of the factory (Figure 49).

Because Feature 31 was found under the destruction layer and at the same elevation as Features 1 and 2, it is likely associated with the Alexandria Glass Works factory. Based on the 1921 Sanborn map, the feature could be associated with the eastern lehr oven or an interior foundation wall of the factory. Feature 31 is also roughly parallel with Feature 9, a poorly preserved, smaller block of concrete on the western side of the site.

The feature was identified during the block excavation and removed during construction monitoring. The feature was survey located and recorded. No further work was conducted on this feature.

Figure 49: Feature 31
View to South

Feature 32, Brick Flue

Feature 32 is one of the better-preserved factory-related structures on the site. This intact arched brick tunnel, measuring 10.5 feet (length) by 3 feet (width) by 2 feet (depth), was exposed 5 feet west of and paralleling Feature 31 (see Figure 32; Figures 50-53). The flue curved to the west into a brick lined feature measuring 7 by 7 feet square, with a large 2 by 2-foot concrete block situated in the northwest corner (see Figure 51). This portion of the feature contained brick rubble fill but was not further hand-excavated due to safety concerns. However, the vicinity of feature was mechanically excavated during the garage site leveling, and a large brick block foundation (designated Feature 42) was found directly beneath Feature 32 and is discussed in further below.

Several of the arched bricks at the southern end of the tunnel were removed revealing the interior of the tunnel was free of debris and had a clay floor (see Figure 52). The inside of the tunnel shows a high degree of burning but no built-up residue, which indicates that the feature was well insulated against thermal heat loss (Pfanstiehl et al 1999: 5-26). A buried terracotta pipe was also revealed (see Figure 53), which continued southward toward and presumably beneath the exposed sections of the concrete floor, and likely led to Feature 41, the furnace of the factory. Feature 32 is interpreted as a conveyance tunnel which connected the engine and boiler room to the furnace. The feature was survey located and recorded during block excavation and removed during construction monitoring in order to investigate the deeper layers of historic fill. No further work was conducted on this feature.

Figure 50: Feature 32, View to North

Figure 51: Feature 32, Looking South

Figure 52: Feature 32, Interior of Flue Looking North

Figure 53: Feature 32 Detail,
View to West

Feature 35, Brick Flue

Feature 35 was the remains of a brick arch that was exposed in the excavation wall during construction monitoring (Figure 54). The northern portion was cut and infilled with the destruction layer. The feature was documented with photographs in anticipation of exposing a more significant and intact portion of the feature as construction excavation monitoring proceeded. However, directly west of the remains of Feature 35 was a series of modern significant disturbances and no further work was possible for this feature.

Figure 54: Feature 35 West Profile

Feature 37, Gas Producer

Feature 37 was exposed in the southwest corner of the site, outside of the block excavation area (see Figure 32; Figure 55 and Figure 56). The brick foundation measured 20 by 13.5 feet and was two courses in width. The gas producer was located in the center of this room: a large brick lined circle within the remnants of the metal tank, which appeared to have been constructed of riveted sheet metal, possibly compatible to the Duff Gas Producer (Figure 57). In the center of the metal ring was a lead pipe which was filled with an oily liquid. The fill on the interior of the foundation contained a significant amount of tar, especially inside the tank. No evidence of the water pan was observed beneath the foundation; however, a considerable amount of a liquid tar substance was removed.

This feature is one of the two gas producers for the Alexandria Glass Works factory. Tar residue within the fill of the feature is most likely the result of gas production and supports this conclusion. The producer would have been connected to the furnace through conveyance tunnels, which were not located during excavation.

Figure 55: Feature 37, Detail of Gas Producer
View to South

The feature was uncovered during construction monitoring at which time it was recorded and surveyed. No further work was conducted on the feature.

Feature 38, Brick Foundation

Feature 38 is a partial brick foundation measuring 10 by 7.5 feet (Figure 58). The feature abuts the western wall of the furnace, Feature 41, which is discussed below (Figure 59), The Sanborn maps of the property do not depict this feature, but it was likely part of the furnace (see Figure 32).

It is possible that the feature represents a regenerator, which was a chamber on the side of a continuous furnace used to capture the excess heat from the furnace (Pfanstiehl et al. 1999; 5-21). However, these systems require a regenerator on each side of the furnace; no such matching foundation was found on the east side of the furnace during this excavation.

Figure 56: Feature 37, Gas Producer Room
View to Southeast

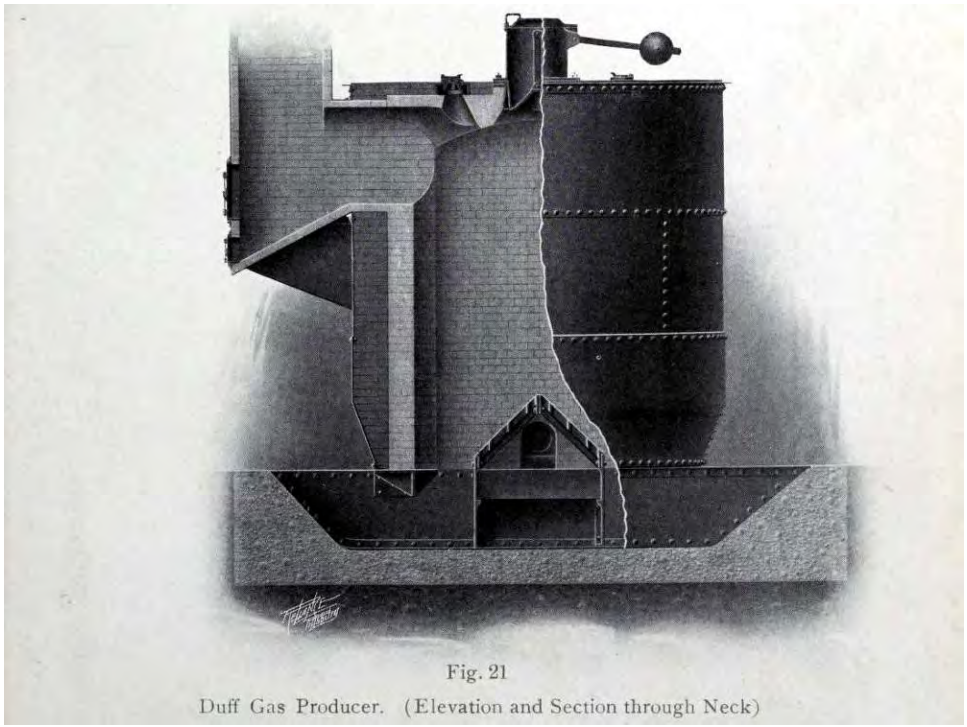

Figure 57: Duff Gas Producer
Source: Everything for the Glasshouse by H.L. Dixon Company, 1908, Page 31 Figure 21.

The feature was uncovered during construction monitoring and was found more than 9 feet below ground level and at the same level as Feature 41. The fill within the feature was comprised of dense rubble. The feature was survey located and recorded. No further work was done on the feature.

Figure 58: Feature 38, View to West

Figure 59: Feature 38 (shown in green) Adjacent to Feature 41 View to South

Feature 40, Chimney Stack

Feature 40 is the remains of a chimney stack in the far southwest corner of the site and is aligned at a roughly 45-degree angle to the rest of the features on the south (see Figure 32). The stack measures 3.15 by 3.25 feet and is roughly 5 feet in height (Figure 60). The exterior of the stack is constructed of large, interlocked cement bricks topped with two course of smaller red bricks that have three perforated holes. The interior was lined with cement, as evidenced by exposed pebbles (Figure 61).

The feature was located in in vicinity of the southwest chimney stack of the Alexandria Glass Works factory, as shown on the 1912 Sanborn map. The chimney appears to have been added between 1907 and 1912 and is identified as a 22-foot iron chimney stack. Feature 40 is interpreted as the remains of the interior base of the chimney, after the stack was removed.

The feature was exposed during utility work at a relatively high elevation. After the feature was recorded it was removed so that work could continue. No additional features were located in this area during construction monitoring.

Figure 60: Feature 40
View to Northwest

Feature 41, Furnace (and Feature 30)

A large three-bay brick foundation was exposed to the northeast of Feature 37, within the vicinity of the main furnace tank as depicted on the Sanborn maps (see Figure 32). Feature 41 also contained a significant amount of tar and was therefore excavated by machine.

Figure 61: Feature 40 Interior Facing East

The foundation overall measured 36 by 36 feet, but was divided into three bays, with the central bay measuring 12 feet wide and the two side bays measuring 9 feet in width (Figures 62-64). A large section of melted glass was attached to the eastern interior wall. An additional brick foundation extended to the north end of the feature; however, it was damaged during excavation and was not relocated.

This exposed section of the foundation was located at approximately 37 feet in elevation, roughly five feet below the working level of the furnace (Feature 2) and the factory floor (Feature 1), which sat at approximately 42.5 feet in elevation. The fills at the base of the block excavation consisted of primarily brick rubble; however, a large area of disturbance measuring approximately 15 by 15 feet was identified in the northwest portion of the excavation area, and overlying Feature 41. This area was designated Feature 30 but was not investigated due to the visible presence of potentially hazardous materials within the soils. The feature was survey located and recorded, but no further work was conducted.

Feature 41 fits the description of a continuous tank, which historic research indicates the Alexandria Glass Works factory used. The feature was survey located and recorded; no additional work was conducted.

Figure 62: Overview of Feature 41 from Feature 37
View to Northeast

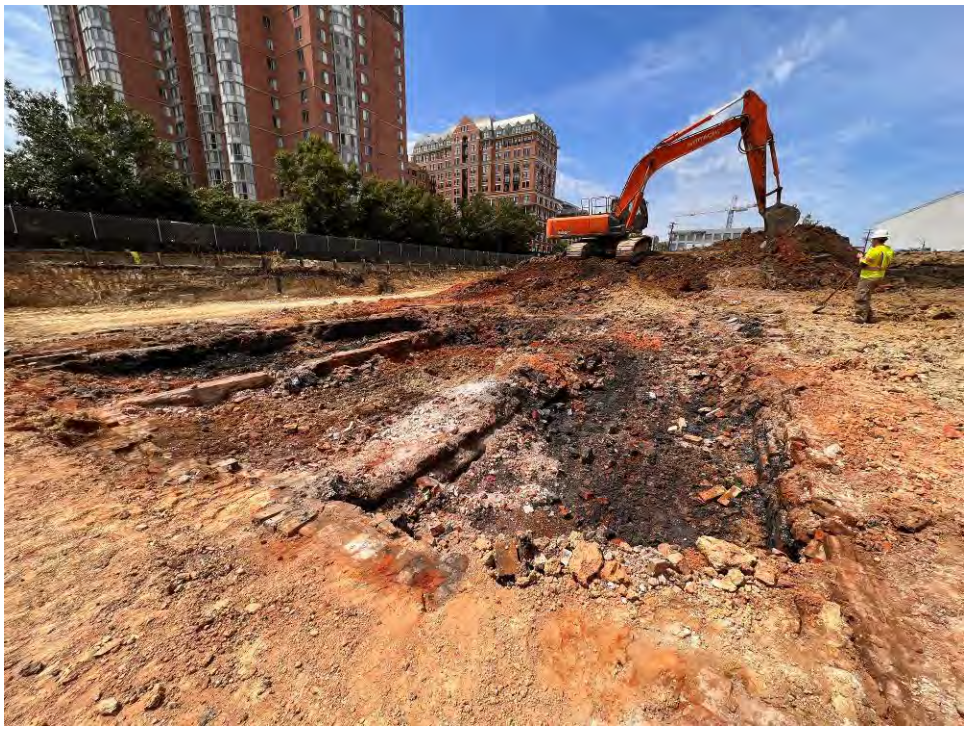

Figure 63: Feature 41
View to Northwest

Figure 64: Feature 41 Interior Brick Wall Lined with Tar
View to Southeast

Feature 42 & 43, Brick Platform Foundations

Two large brick square block foundations, designated Features 42 and 43, were found 5.75 feet off the northeast corner of Feature 41, the furnace foundation (Figure 65 and Figure 66). Each feature measured 7 by 7 feet by approximately 3.3 feet in height. The top of Feature 42 was in better condition than Feature 43 and consisted of smooth concrete surface (see Figure 65). The features are approximately 8 feet apart.

The 1912 Sanborn map shows the two features were in the vicinity of the engine and dynamo room of the glass factory. Given their large size, Feature 42 and Feature 43 could be platforms for heavy machinery, and some metal (bolts?) or other fasteners were observed. Additionally, Feature 42 is situated directly below the brick lined square portion of Feature 32, and presumable was the "floor" or based of the feature (see Figure 32). The two block foundation features were survey located and documented.

Features 39 and 44, Ventilation Flues and Gas Producer

Feature 39A consists of the remains of a brick vaulted flue that was located adjacent to the room containing the factory's second gas producer, Feature 44 (Figure 67). The arched brick ceiling of the flue had collapsed and was only partially visible in the fills over the foundation during the initial machine excavation (Figure 68 and Figure 69). It is not clear if the flue extended the entire length of the 30-foot foundation, as a circular opening (Feature 39B) measuring approximately 4.2 feet in diameter was exposed in the floor at the eastern end of the feature (Figure 70 and Figure 71).

Figure 65: Feature 42
View to South

Figure 66: Feature 43
View to East

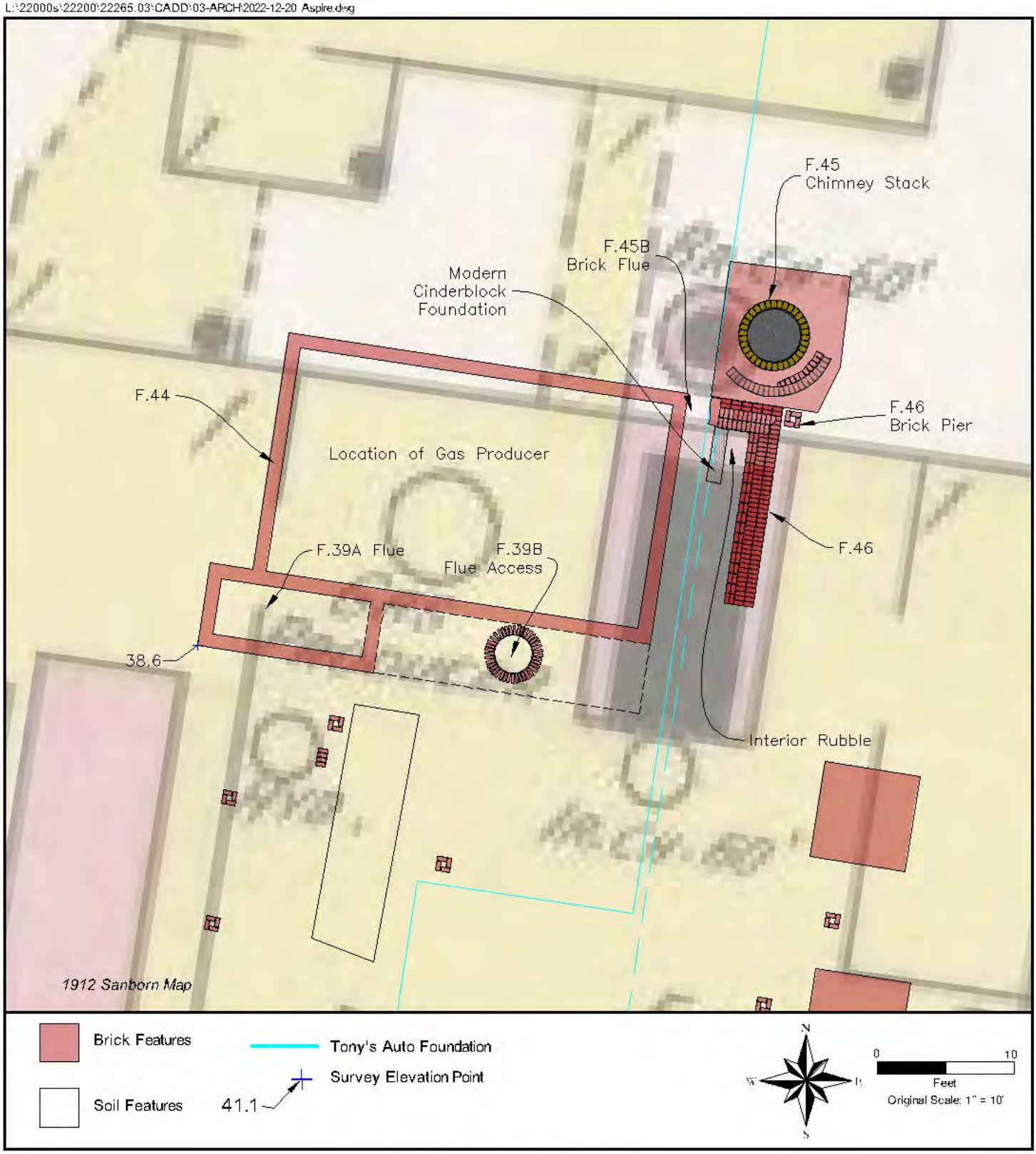

Figure 67
Feature 39, 44, 45, and 46 Plan View

Figure 68: Feature 39A, Southwest Corner of Flue
View to Northeast

Figure 69: Feature 39A Showing Collapsed Arch in Profile
View to East

Figure 70: Overview of Feature 39A and 39B,
View to West

Figure 71: Feature 39B, Possible Gas Flue Access
View to West

This circular feature is similar to the "gas flue access" documented at the Virginia Glass Company excavations which was used for maintenance access to the flue (Pfanstiehl et al 1999: 8-11; 8-13). Two of the bricks in the floor on the east side of the access opening were stamped "POWHATAN" (Figure 72) Another brick was stamped "… EECH CREEK" (Figure 73) and was likely produced at the Beech Creek factory in Pennsylvania (1900-1944), which produced refractory brick for various industries, including glass factories (Albertveron 2007).

Figure 72: POWHATAN Bricks, Feature 39B

Figure 73: BEECH CREEK Brick

Figure 74: Working Shot Feature 39B

Feature 44 was a brick foundation adjacent to Feature 39 that measured approximately 17.5 by 30 feet (Figure 75). The floor of the room was exposed at 7.6 feet below the top of the foundation (Figure 76). According to the 1912 Sanborn map, this was the location of the second gas producer in the factory. A circular brick foundation was partially exposed in the center of the floor, surrounded by a sandy matrix and it is not clear if the entire floor had been paved. The excavation was too deep to allow for safe visual inspection of the floor. The northern wall of Feature 44 was also the northern end of the main factory building.

No soils were screened; however, a sample of artifacts were recovered from the destruction fill within and associated with Feature 39 and Feature 44. The assemblage recovered from Feature 39 included a bottle sherd from a medicine bottle for Harper's Headache medicine, a product of Washington D.C. The Feature 44 fills yielded two partial chilled iron mold bottles, including a bottle labeled "[D]ALBY'S/CARMINATIVE".

Figure 75: Feature 44 Overview
View to West

Figure 76: Features 44 and 45 North Elevation Profile

Feature 45, Main Chimney Stack and Flue

The foundation of the main brick smokestack, designated Feature 45A, was located during the garage excavation monitoring. The feature was covered with brick and glass destruction rubble (Figure 77 and Figure 78). The foundation measured approximately 10 by 9.6 feet and the circular opening in the floor of the foundation was 4 feet in diameter. The remnants of a second circular ring were documented along the south side of the feature, which was 5 brick courses high, and possibly extended entirely around the smaller interior opening. A brick vaulted air flue (Feature 45B) was located beneath the smokestack and was exposed in profile during the excavation of Feature 44 (Figure 79).

These features are found in the same approximate location as the 60-foot brick chimney stack at the northern end of the factor, as shown on the 1907 and 1912 Sanborn maps (see Figure 67). No further work was conducted on the features after the documentation.

Figure 77: Features 45 and 46 Overview, View to South

Feature 46, Brick Foundation

Feature 46 is a brick foundation wall that abuts Feature 45 and extends southward from the east central portion of the smokestack foundation (Figure 80; see Figure 67). The section of the wall that was exposed measured about 15 feet in length and 2.1 feet in width. A brick pier, measuring 1.1 by 1.1 foot was located off the northeastern corner of this foundation. A second brick foundation wall ran parallel to Feature 46, separated by a one-foot gap that was filled with destruction rubble. A four-foot section of this second wall abutting the western side of the smokestack foundation was constructed of cinderblock, which was the construction material for Tony's Auto foundation – and which is shown in this location on our base map (Figure 81). It is possible that portions of the earlier brick foundations were reused during construction of the later 20th century building and infilled with cinderblock.

**Figure 78: Feature 45 Chimney Stack Detail,
View to North**

**Figure 79: Feature 45 Flue Underneath Chimney Stack,
View to North**

Figure 80: Feature 46
View to West

Figure 81: Feature 46 and Modern Cinderblock Foundation
View to Northeast

Feature 46 matches the location of the horizontal steam boilers in the northern part of the factory building. The 1907 and 1912 Sanborn maps show the boilers resting on a brick floor or enclosed by brick walls, which is similar to the other 3 glass factories in Alexandria.

SITE 44AX0249 DISCUSSION

Site 44AX0249 was recorded based on the presence of early 20th century foundations and other features associated with the ca. 1905 Alexandria Glass Works factory. A remnant buried ground surface was found in the northeastern end of the site, but no features were identified that originated from the ground surface. No features appeared to predate the construction of the factory and no features could be conclusively associated with the subsequent use of the property by the Stone Chemical Company or the Rose Brothers Company. However, the cinderblock and brick foundations, concrete hydraulic lift foundations and several buried storage tanks that were documented during the initial trenching, block excavation, and garage site leveling monitoring were associated with Tony's Auto Service, which operated at the site beginning in 1979.

Archeological Features and Components of a Glass Factory

The Sanborn fire insurance maps from 1907 and 1912 show the layout of the factory including the location of the gas producers, furnace, lehr ovens, and several chimney stacks (Figure 82). Our archeological work has shown that the size and scale of several of the interior features depicted on the Sanborn maps were approximate, but the location was fairly accurate.

The earliest American glass factories depended on timber fuel, but the adoption of coal and natural gas as fuel greatly increased the efficiency and scalability of glass production. By the time the Alexandria Glass Works was in business, the use of gas producers in glass factories was well established.

The 1907 Sanborn map depicts two gas producers in the factory (see Figure 82). The first gas producer, Feature 37, was uncovered in the southwestern corner of the site. The remains of the metal tank, lined with brick and measuring 7 feet in diameter was in a small room measuring 20 by 13.5 feet. The interior of the tank and rubble filled room were filled with liquid tar substance, a byproduct of production. The location of the second gas producer (Feature 44) was the northwestern end of the factory. Our excavations revealed evidence of the ventilation system: the remains of a flue (Feature 39) that may have carried gas to the lehr oven and Feature 45B, which vented to the main smokestack. Feature 20 (Trench Feature) may also have been a flue that led to the main furnace tank from this area of the factory.

With the introduction of coal and later gas fuels, natural gas and producer gas, radical changes occurred in the design of furnaces. The round form of the furnace was retained as was the three-compartment plan; however, the upper level became a domed roof with a chimney at its center, the second compartment, called the siege, was the working oven with arched windows and a rectangular grate in the center on which the fire was built, and a basement vault where cinders collected.

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Figure 82
Archeological Features on 1921 Sanborn Overlay

Later multiple chambers were added to the subterranean vault. This design provided a better draft than the bee-hive type (McKearin and McKearin 1948: 14). Flues were built into the walls of the siege chamber and the gas and smoke entered the flues through linnet holes and was thus vented into the upper chamber and chimney. These furnaces were generally conical and vented to the outside through a stone or brick chimney in the house, sometimes multiple furnaces vented by one central chimney (McKearin and McKearin 1948: 14).

Prior to the late 19th century, glass was heated in large clay pots which could handle the intense heating required to make the glass (McKearin and McKearin 1948). These had to be regularly replaced and required a great deal of manpower to work. By the end of the 19th century, a new type of furnace was introduced into American glass manufacturing in which increased the scale of production. Tank furnaces were lined with the same clay used to make the pots; but instead of removable pots, the glass would be placed inside the furnace itself (McKearin and McKearin 1948).

The Alexandria Glass Works was recorded as having a continuous tank, which is a glass furnace in which the level of glass remains constant because feeding of the batch is continuous, and the tank is always full or nearly full. The tank covers the entire area of the furnace and is divided by one or two partitions into two or three compartments. The batch is charged into the first compartment and the flames enter from one side and exit opposite. This is the melting compartment. Vents are necessary to discharge acid and gas vapors generated during melting. The melted glass flowed into either another compartment where it was superheated and purified or directly into a gathering compartment. The gathering compartment, or *working out end*, projected into the shop. It was generally semicircular and contains the rings, openings through which the gather was extracted (United States Department of Commerce 1917).

The large three-bay brick foundation (Feature 41) of the Alexandria Glass Works tank furnace was located on the lower level of the factory during our archeological investigation (see Figure 82). It measured 36 by 36 feet overall, with the central bay measuring 12 feet wide and flanked by two 9-foot-wide side bays. The “working end” of the furnace was located on the upper level and consisted of the semi-circular concrete and brick foundation (Feature 20) that was much larger than was depicted on the Sanborn maps.

In the late 18th century, the side *lehr* or leer was introduced. The lehr, a special type of oven or kiln used specifically for *annealing* glass, in its earliest form was built about six feet above the floor of the glass house and was connected to the furnace. Annealing is the process of heating, and slowly cooling glass to increase ductility and durability by relieving stresses within the glass. Around 1780, a low tunnel shaped lehr was introduced. This design, often constructed of brick, was separate from the working furnace and was heated, entirely or partially by its own fireplace (McKearin and McKearin 1948). Lehrs of this sort were commonly used into the 20th century and the Sanborn maps indicate that the Alexandria Glass Works had two lehrs (see Figure 82). Several brick foundations (Feature 2 and Feature 13) were located that are interpreted as the remains of the two side lehrs.

Artifacts

Due to the nature of the excavations and the presence of contaminated fills overlying the remains of the glass factory, diagnostic artifacts were collected when observed but no soils were screened. The only exception was the excavation of the buried ground surface (Abp horizon) in TU 101. Only potentially diagnostic artifacts, which consisted primarily of whole or partially intact glass bottles, were recovered from the excavations. The assemblage from site 44AX0249, included those collected from TU 101, are summarized in the table below (Table 3). See Appendix II for a full inventory.

The Alexandria Glass Works produced milk, beer, prescription, and soda bottles, flasks; and packers in both green and flint (clear) glass (Glass Factory Directories 1908) and as the table shows, there is a significant quantity of bottles which fit the date range of the factory (1905-1917). According to our research, the factory did not have automatic machine until at least 1909 (WP 1909a), although they may have added the machines when the factory was rebuilt in 1912. It should be noted again that only bottles considered potentially related to glass factory or a specific feature were collected during fieldwork. The destruction layer on the site contained a huge quantity of glass sherds which were not collected. Similarly, the modern fills also contained many sherds and bottles that were not collected due to their modern appearance or lack of context.

Several bottles recovered during the initial trenching could be traced to glass manufacturers outside of Virginia, such as the American Bottle Company, the Illinois Glass Company of Alton, Illinois, and the Obear-Nester Glass Company of East St. Louis, Illinois; however, one bottle from the Abner-Drury Company (1898- 1938), a bottle embossed “R.T. MAZINGER” and two milk bottles made for the J.W. Gregg Dairy (1875- 1920s) – all located in Washington D.C. – may have been manufactured at the Alexandria Glass Company (Figures 83-85).

The general collection assemblage also included numerous clear manganese bottle stoppers (Figure 86) and glass container sherds (1880-1915), and post 1907/post 1910 automatic bottle machine fragments that may have been produced at the factory. Only two recovered bottles were produced after the Alexandria Glass Works closed. The first was embossed "TRY-ME/TRY ME BEVERAGE CO, WASHINGTON DC/PATENT APR 1924” and the second was from the “EMBASSY DAIRY, INC./WASHINGTON D.C.", which was dated between 1932-1998.

The destruction fills above Features 39 and 44 to the south of the main smokestack contained diagnostic artifacts that were likely produced in the factory, including several chilled iron mold glass stoppers and paneled bottle sherds (1880-1930) and an olive-green cylindrical bottle with a crown lip finish (post 1890). One chilled iron mold paneled bottle sherd was embossed "HARPER'S/ HEADACHE MEDICINE/ WASHINGTON D.C." (Figure 87), and a second bottle embossed, “...ALBY'S/ CARMINATIVE". Finally, one post 1910 automatic bottle machine bottle embossed “RE... /BALTI...D./AUGUST FENKER was recovered from above Feature 39.

Table 3: Artifacts Recovered from Site 44AX0249

Artifact Description	Trenches	Test Unit 101	Feature		
	Surface Collection	Ab	4	39	44
Ceramics					
hard paste porcelain		2			
whiteware (1820-1900+)		17			
refined white earthenware		11			1
redware		3			
stoneware	1				
Glass					
bottle, bottle/jar	11	3			1
cane					1
medicinal bottle	2				
soda bottle	1				
bottle, freeblown (pre-1860)					2
bottle, bottle/jar, clear manganese (1880-1915)	5	7			
milk bottle, clear manganese (1889-1915)	1				
soda bottle, clear manganese (1890-1915)				1	
spout, clear manganese (1880-1915)	4				
stopper, clear manganese (1880-1915)	2				1
bottle, chilled iron mold (1880-1930)	1				4
medicinal bottle, chilled iron mold (1880-1930)				1	1
bottle, bottle/jar, (ABM)* (post-1907)	4	148		1	1
milk bottle, (ABM)* (1907-1950's)	3				
unidentified glass	6		13		
Metal					
nail, cut (post-1790)		1			
nail, wire (post-1890)	2				
nail, unidentified		3			
screw cap (post-1965)		4			
unidentified brass	1				
unidentified ferrous metal	1				
Miscellaneous					
bone		1			
brick**		11		2	
coal**		32			
Total Site 44AX0249	**45**	**243**	**13**	**5**	**12**

*automatic bottle machine
**discarded

Figure 83: R.T. Mazinger Bottle
Crown Lip, Automatic Bottle Machine (1907-1930s)

Figure 84: Two J.W. Gregg (1910-1950s) Dairy Bottles (Left)
and One Embassy (1932-1950s) Dairy Bottle (Right)

Figure 85: Abner-Drury Bottle
Crown Lip, Automatic Bottle Machine (1907-1930s)

Figure 86: Clear Manganese Bottle Stoppers (1880-1915)

Figure 87: Harpers Headache Medicine Bottle
Chilled Iron Mold (1880-1830)

The fill soils above Features 39 and 44 also produced an aqua cylindrical bottle with a blob lip finish that was manufactured by the Pluto Corporation of French Lick, Indiana (1913-1971) (see Figure 88 on preceding page), and one Coca-Cola bottle (1880-1930) with the base embossed with PROPERTY OF COCA COLA BOTTLING CO./FLORENCE, S.C." which may have been produced at another location.

In comparison with the adjacent Belle Pre Glass factory, only one aqua cane fragment was located, evidence of glass blowing artisans. Finally, two freeblown (pre-1860) olive green cylindrical bottles with a champagne lip finish and dome-shaped push-up bases were found in the fill above Feature 44; it is not clear if they were manufactured in the factory.

Despite similar collection strategies, compared to the artifact collections of the Virginia Glass Company (Pfanstiehl et al 1999) and the Belle Pre (Mullen 2021) a small number of artifacts at 44AX0249 were recovered that maybe related to the Alexandria Glass Works, but none could be conclusively linked to the manufacturing on site despite the context. The Belle Pre contained useful diagnostic artifacts such as decorative glass pieces and milk bottles with capseat finishes which could be directly connected to the activities on site. No evidence of what type of bottle machinery at the Alexandria Glass Works factory was located.

SUMMARY AND CONCLUSIONS

The *Archaeological Evaluation* was conducted on the Aspire Alexandria site at 1112 Frist Street in Alexandria, Virginia resulted in the identification of Site 44AX024, which contained the remains of the Alexandria Glass Works that operated between 1905 and

1917. This archeological investigation was required under Section 11-411 (Archeology Protection Code) of the Zoning Ordinance of the City of Alexandria, Virginia and followed approved Scope(s) of Work. The initial (Phase I) trenching resulted in the identification of a buried ground surface (Apb) in a small area of the site, which was investigated and determined to be not significant to the site. The trenching also identified a 10YR 2/1 destruction fill which increased in depth in the southern portion of the site.

The subsequent archeological work consisted of a 90 by 90-foot square block excavation that revealed numerous features related to the Alexandria Glass Works factory at approximately 4 feet below ground surface but did not reach below the historic fills to sterile subsoil. In consultation with Alexandria Archaeology, construction monitoring was conducted during the excavations for the subsurface garage on the property. The monitoring identified more features related to the factory; after the features were recorded and surveyed, excavations continued to be monitored until subsoil was reached.

Several research questions were posited prior to the onset of the archeological fieldwork and are addressed below.

1. *A devastating fire in 1917 burnt the entire glass factory to the ground. Did subsequent use of the property by the Stone Chemical Company and the Rose Brothers remove/clean out the destruction or bury it? Will evidence of the fire be found in the archeological record?*

A black destruction layer (10YR 2/1) that was ubiquitous across the site is interpreted as evidence of the 1917 fire, which closed the Alexandria Glass Works factory for good. Give the size and depth of the layer, it may contain additional episodes of demolition as well. Trenching showed that the destruction layer varied greatly in depth and composition across the site; in areas near the center of the factory the fill was deep and filled with a great deal of rubble and metal scraps, whereas in the northern portion the fill was much thinner and contained small quantities of rubble.

Resolidified glass was found across portions of the concrete floor of the factory, which may also be related to the fire, but very few burned glass bottles or other artifacts were recovered.

2. *The factory originally (ca. 1908) produced a "general line of green beverage bottles, food packers, etc." but switched to producing clear glass only in 1914, and in 1915, greatly expanded production to include patents, liquors, packers, and preservers in additional to the beer and soda bottles. Will this be reflected in the materials recovered at the site?*

The artifact assemblage included freeblown, chilled-iron mold, and automatic machine-made bottles that were both olive-green and clear glass. None of the recovered diagnostic glass artifacts could be specifically attributed to a specific year of production at the factory based on their context. However, the clear square/rectangular bottle sherds that were paneled including the "HARPER'S/ HEADACHE MEDICINE/ WASHINGTON D.C.", and the post 1910 automatic bottle machine bottle embossed "RE... /BALTI...D./AUGUST

FENKER, show that the production line had expanded.

3. *The glass factory was under new management in 1917. Were any changes made to the interior configuration of the main building that is shown on the 1912 Sanborn? What other features will be located that were not mapped (several brick flues were located at the adjacent Belle Pre factory during construction of the Madison).*

The Sanborn fire insurance maps from 1907 and 1912 show the layout of the factory including the location of the gas producers, furnace, lehr ovens, and several chimney stacks. Our archeological work has shown that the size and scale of several of the interior features depicted on the Sanborn maps were approximate, but the location was fairly accurate. The lower level of the factory is not shown on the maps, and like the Belle Pre factory, we located several brick ventilation flues, and other brick foundations/features that were not shown on the map.

4. *Did the Stoner Chemical Company reuse the original stack and boiler site from the glassworks, as they appear to be located in approximately the same place on the property? Did the remaining tanks, and the mixing and grinding room have subsurface features?*

No features recorded during fieldwork were clearly associated with the later occupation of the property by the Stoner Chemical Company. It is likely that the construction of the Autobody shop building disturbed any below ground remains, or the remains of the chemical factory were cleared away altogether prior to the mid-20th century development.

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Alexandria birth and marriage records
Northern Neck Land Grants
United States Census

Appendix I
Chain of Title

Chain of Title

2007 March 30

Antonio Damiani Donna Damiani	Michael J. Chamowitz, Special Commissioner	2,988 sq ft

The narrow right-of-way connecting the property to Henry Street is officially appended to the property
Deed - Alexandria 070009066

1978 January 5

Antonio Damiani Donna Damiani	Jerome Murray Grace Murray	1 lot 1112 First Street

Deed includes a 24’ 2.5” wide right-of-way connecting the southeast corner of the lot to Henry Street
Deed - Alexandria Deed Book 880:683

1955 June 7

Jerome Murray	Holmes and Son, Inc.	1 lot

Deed includes a 24’ 2.5” wide right-of-way connecting the southeast corner of the lot to Henry Street
Deed - Alexandria Deed Book 434:244

1941 December 10

Holmes and Son, Inc.	James J. Taylor Mabel R. Taylor	1 lot

Deed includes a 24’ 2.5” wide right-of-way connecting the southeast corner of the lot to Henry Street
Deed - Alexandria City Deed Book 182:422

1941 September 22

James J. Taylor	Rose Brothers Co.	1 lot

Deed includes a 24’ 2.5” wide right-of-way connecting the southeast corner of the lot to Henry Street
Deed– Alexandria Deed Book 179:289

1922 February 1

Rose Brothers Co.	George N. Schwarzmann, Trustee	2 lots

The property conveyed included the property at current 1112 First St. and the eastern portion of the block in two lots.
Deed– Alexandria Deed Book 74:116

1921 May 28

George N. Schwarzmann, Trustee	Old Dominion Glass Co.	3 lots

The property conveyed included 2 lots comprising the block of First, Fayette, Montgomery and Henry, and 1 lot comprising the block immediately to the south.
Deed – Alexandria Deed Book 72:336

1916 June 15

Old Dominion Glass Co.	John H. Trimyer	1 lot

"together with all fixtures, machinery, tanks, tools and appliances for the manufacture of glass, glass bottles and other kind of glassware"
Deed – Alexandria Deed Book 65:328

1915 September 29

John H. Trimyer	Gardner L. Boothe, Trustee	1 lot

"and also all fixtures, machinery, tanks, tools and appliances for the manufacture of glass, glass bottles and other kind of glassware"
Property sold due to default of loan.
Deed – Alexandria Deed Book 64:566

1913. July 30

Gardner L. Boothe, Trustee	Alexandria Glass Co., Inc.	1 lot

"fixtures, machinery, tanks, tools and appliances for the manufacture of glass, glass bottles, or other kinds of glass ware"
In trust for a $5000 loan to Alexandria Glass Company Inc.
Deed of Trust – Alexandria Deed Book 63:63

1913. July 30

Alexandria Glass Co., Inc.	Gardner L. Boothe,	1 lot

Property sold due to default of loan
Deed – Alexandria Deed Book 63:60

1909 March 29

Gardner L. Boothe	Alexandria Glass Works Inc.	1 lot

"Also all machinery, materials and stock, both manufactured and in the raw state…"
Deed of Trust – Alexandria County Deed Book 58:260

1905 October 20		
Alexandria Glass Works Inc.	Belle Pre Bottle Company	1 lot
Deed – Alexandria Deed Book 54:343		
1902 June 26		
Belle Pre Bottle Company	William B. Smoot et.al. (heirs of John B. and Charles C. Smoot)	2 squares
Deed – Alexandria Deed Book 48:421		
1881, March 28		
Charles C. Smoot John B. Smoot	Andrew Ellicott's heirs	11 acres 130 poles
Deed – Alexandria Deed Book 10:9		
1858 January 27		
Andrew Ellicott	William Veitch	11 acres 130 poles
Deed – Alexandria Deed Book O3:274		
1832 October 18		
William Veitch	Hugh Smith	11 acres 130 poles
Deed – Alexandria Deed Book U2:58		
1819 May 1		
Hugh Smith	Thomas Vowell Charlotte Vowell	2 acres 58 poles
A smaller parcel is added to the previous parcel *Deed– Alexandria Deed Book H2:466*		
1813 December 31		
Hugh Smith	John Gadsby	9 acres 72 poles
Deed – Alexandria Deed Book X:344		
1813 December 6		
John Gadsby	Capt. Richard Conway	28 acres 56/160 poles
Deed– Alexandria Deed Book X:240		
1787, December 20		
Richard Conway	Baldwin Dade	15 acres
Deed--Fairfax County, Virginia Deed Book R:7		

1787, May 4		
Baldwin Dade	Elisha Cullen Dick Hannah Dick	35 acres

Deed--Fairfax County, Virginia Deed Book Q:435

1786		
Elisha Cullen Dick	Mordica Lewis William West Jonathan Brown (Exors for Jacob Harman)	

see Deed--Fairfax County Virginia Deed Book Q: 320

1779, May 22		
Jacob Harman	William Hartshorne Susanna Hartshorne	

see Deed--Fairfax County Virginia Deed Book Q: 320

1778, April 3		
William Hartshorne	Parthenia Dade Catherine Dade Behethland Dade Elizabeth Dade	400 acres

see Deed--Fairfax County Virginia Deed Book Q: 320

1777, February 21		
Parthenia Dade Catherine Dade Behethland Dade Elizabeth Dade	Townshend Dade Parthenia Dade	400 acres

see Deed--Fairfax County Virginia Deed Book Q: 320

1776, December 17		
Townshend Dade Parthenia Dade	Dade Lee Mafsy [Massey]	400 acre

Release (see Fairfax County Deed Book Q: 320)

1731/2, January 17		
Dade Mafsy [Massey] Jr. Parthenia Mafsy [Massey]	Robert Alexander.	400 acres

see Deed--Fairfax County Virginia Deed Book Q: 320

1693/94, February 19

Robert Alexander	Philip Alexander	2150 acres*

* one-half of the 5300 acres on Little Hunting Creek (less 700 acres)
Prince William County, Virginia Land Causes 1789-1793:221

1690, February 6

Robert Alexander Philip Alexander	John Alexander	2150 acres*

* one-half each of the 5300 acres on Little Hunting Creek (less 700 acres)
Prince William County, Virginia Land Causes 1789-1793:221; Stafford County, Virginia Order Book 1692-1693:193a-194a

November, 1669

John Alexander	Robert Howson	6000 acres

Prince William County, Virginia Land Causes 1789-1793:220

October 21, 1669

Robert Howson	Sir William Berkeley	6000 acres

Virginia Land Patents 6:262

Appendix II
Artifact Inventory

ASPIRE ALEXANDRIA - 1112 FIRST STREET
ARCHEOLOGICAL EVALUATION ARTIFACT INVENTORY

Site 44AX0249

Feature 39, Lot 1

Glass

- 1 clear cylindrical bottle/jar sherd, base fragment, foot embossed "RE.../BALTI...D./AUGUST FENKER", automatic bottle machine (1910-present, Hurst 1996)
- 1 clear manganese bottle, crown lip finish, shoulder embossed "7 OZ./COCA-COLA/TRADE MARK REGISTERED", foot embossed "PROPERTY OF COCA COLA BOTTLING CO./FLORENCE, S.C.", BASE EMBOSSED "COCA-COLA/1", chilled iron mold (1880-1930, Hurst 1996; post-1890, Lindsey 2022)
- 1 clear square/rectangular bottle sherd, paneled, embossed "HARPER'S/HEADACHE MEDICINE/WASHINGTON D.C.", chilled iron mold, stained (1880-1930, Hurst 1996)

Miscellaneous

- 1 brick bat, engraved "...EECH CREEK" - 9 inches x 4.5 inches x 2.5 inches, 3315.0 grams
- 1 brick bat, engraved "POWHATAN" - 9 inches x 4.5 inches x 2.5 inches, 3355.0 grams

Feature 44, Fills Above Foundation, Lot 3

Ceramics

- 1 refined white earthenware sherd, green molded decoration interior and exterior, hollow vessel, stained

Glass

- 1 aqua cane fragment, stained
- 1 aqua cylindrical bottle sherd, side embossed "...ALBY'S/CARMINATIVE", chilled iron mold, stained (1880-1930, Hurst 1996)
- 1 clear manganese glass stopper fragment (1880-1915, Hurst 1996)
- 4 clear square/rectangular bottle sherds (mend), patent lip finish, paneled, chilled iron mold, stained (1880-1930, Hurst 1996)

Feature 44, Lot 2

Glass

- 1 aqua cylindrical bottle, blob lip finish, base embossed with makers mark image of Pluto (the Roman god of the underworld)/"PLUTO", automatic bottle machine, tar stained, manufactured by Pluto Corporation of French Lick, Indiana (1913-1971, Pluto Corporation 2022; 1840s-1920, Lindsey 2022)
- 1 olive green cylindrical bottle, crown lip finish, stained (post-1890, Lindsey 2022)

2 olive green cylindrical bottles, champagne lip finish, dome-shaped push-up base, freeblown, stained (pre-1860)

Test Unit 101, Apb, Lot 4

Ceramics

2 hard paste porcelain sherds (Continental European), undecorated, hollow vessels
1 redware sherd, brown glazed, hollow vessel
2 redware sherds, dark brown glazed, hollow vessels
11 refined white earthenware sherds, undecorated, hollow vessels, burned
1 whiteware sherd, blue shell edge decoration, scalloped rim fragment, hollow vessel, indeterminate rim diameter (1820-1900+, South 1977; 1830-1860+, Miller 1992)
1 whiteware sherd, blue transfer printed decoration interior, hollow vessel (1820-1900+, South 1977; 1830-1865+, Miller 1992)
1 whiteware sherd, polychrome annular decoration exterior, hollow vessel (1820-1900+, South; 1830-1875+, Miller 1992)
1 whiteware sherd, unidentified blue decoration, indeterminate vessel shape (1820-1900+, South 1977; Miller 1992)
2 whiteware sherds (mend), blue shell edge decoration, unscalloped rim fragment, hollow vessel, indeterminate rim diameter (1820-1900+, South 1977; 1830-1860+, Miller 1992)
3 whiteware sherds, blue hand painted decoration interior, hollow vessels, slightly burned (1820-1900+, South 1977; 1830-1860+, Miller 1992)
8 whiteware sherds, undecorated, hollow vessels (1820-1900+, South 1977; Miller 1992)

Glass

3 amber cylindrical bottle sherds, automatic bottle machine (1907-present, Hurst 1996)
16 aqua cylindrical bottle/jar sherds, automatic bottle machine (1907-present, Hurst 1996)
1 clear cylindrical bottle sherd, crown lip finish, automatic bottle machine (1910-present, Hurst 1996; 1850s-1930s, Lindsey 2022)
128 clear cylindrical bottle/jar sherds, automatic bottle machine (1910-present, Hurst 1996)
2 clear manganese cylindrical bottle sherds (mend), crown lip finish (1880-1915, Hurst 1996)
5 clear manganese cylindrical bottle/jar sherds, patinated (1880-1915, Hurst 1996)
3 olive green cylindrical bottle sherds, scratched

Metal

1 cut nail fragment (post-1790)
4 ferrous metal screw cap fragments (likely mend) (post-1965, Miller 2000)
3 unidentified nail fragments

Miscellaneous

1 bone fragment, calcined, 2.3 grams
11 brick fragments (discarded in lab), 88.5 grams
32 coal fragments (discarded in lab), 193.0 grams

Trench 1, Surface Collection, Lot 5

Ceramics

1 buff bodied coarse stoneware sherd, light brown glazed interior and exterior, hollow vessel

Glass

1 amber cylindrical bottle sherd, base fragment, base embossed "A B CO/TRADEMARK", anchor maker's mark, manufactured by American Bottle Company, heavily patinated (1906-1907, Lindsey 2022)
1 amber cylindrical bottle sherd, base fragment, side embossed "ROANOKE, VA./AB CO./COCA-COLA", base embossed "032/1" manufactured by American Bottle Company (1906-1907, Lindsey 2022)
1 amber cylindrical bottle sherd, crown lip finish, automatic bottle machine (1907-present, Hurst 1996;, 1850s-1930s, Lindsey
1 aqua cylindrical bottle/jar sherd, base fragment, side embossed "NOT.../", base embossed "...M", stained, patinated
1 aqua cylindrical bottle/jar sherd, stained, patinated
3 aqua cylindrical bottle/jar sherds, rounded collar lip finished, heavily patinated
1 clear cylindrical bottle sherd, crown lip finish, automatic bottle machine, stained (1910-present, Hurst 1996; 1850s-1930s, Lindsey 2022)
1 clear cylindrical bottle, capseat lip finish, embossed "EMBASSY/REGISTERED/ONE PINT LIQUID/EMBASSY DAIRY, INC./WASHINGTON D.C.", "E" makers mark, automatic bottle machine (1932-1998, Shelsby 1998; 1889-1950s, Lindsey 2022)
1 clear manganese cylindrical bottle sherd, capseat lip finish, patinated (1880-1915, Hurst 1996; 1889-1950s, Lindsey 2022)
1 clear manganese cylindrical bottle/jar sherd, straight brandy lip finish, patinated (1880-1915, Hurst 1996)
2 clear manganese cylindrical bottle/jar sherds, base fragments, patinated (1880-1915, Hurst 1996)
2 clear manganese cylindrical bottle/jar sherds, patinated (1880-1915, Hurst 1996)
4 clear manganese cylindrical tableware sherds, spout fragments (mend) (1880-1915, Hurst 1996)
2 clear manganese glass stoppers (1880-1915, Hurst 1996)
1 light green bottle, crown lip finish, embossed "R.T.MAZINGER/WASHINGTON D.C./359 M ST S.W./THIS BOTTLE NOT TO BE SOLD/REGISTERED", automatic bottle

machine, stained (1907-present, Hurst 1996; 1850s-1930s, Lindsey 2022)
1 light green cylindrical bottle sherd, base fragment, stained
5 unidentified clear sherds, heat melted

Trench 4, Feature 04, Overfill, Lot 7

Glass

13 unidentified aqua sherds, heat melted

Trench 4, Surface Collection, Lot 6

Glass

1 amber cylindrical bottle, crown lip finish, embossed "ABNER-DRURY COMPANY/WASHINGTON D.C REGISTERED/CONTENTS 12 1/2 FL OZ.", automatic bottle machine, heavily stained (1907-present, Hurst 1996, 1850s-1930, Lindsey 2022)
1 clear cylindrical bottle, crown lip finish, side embossed "TRY-ME/TRY ME BEVERAGE CO", base embossed "WASHINGTON DC/PATENT APR 1924", heavily patinated (post-1924, United States Patent Office; 1850s-1930s, Lindsey 2022)
2 clear cylindrical bottles, capseat lip finish, obverse embossed "J.W. GREGG/ REGISTERED DAIRY/612 TO 618 0 ST.N.W", reverse embossed "ONE PINT/J.W. GREGG/DAIRY/612 TO 618 0 ST.N.W", base embossed "JWG", automatic bottle machine, heavily stained (1910-present, Hurst 1996; 1889-1950s, Lindsey 2022)
1 clear square/rectangular bottle sherd, base fragment, "I" in diamond makers mark, manufactured by Illinois Glass Company of Alton, Illinois, patinated (1915-1929, Lindsey 2022)
1 clear square/rectangular bottle, paneled, embossed "CREOMULSION/FOR COUGHS AND COLDS", patent lip finish, "N" in square makers mark, manufactured by Obear-Nester Glass Company of East St. Louis, Illinois, patinated (1915-1978, Lindsey 2022)
2 clear square/rectangular bottles, patent lip finish, paneled, heavily stained (post-1850, Lindsey 2022)

Metal

1 unidentified ferrous metal fragment, one round end, possible latch/hitch

Trench 5, Surface Collection, Lot 8

Glass

1 amber square/rectangular bottle, double ring lip finish, paneled, chamfered corners, obverse embossed "8 1/2 FL OZ/CLOVERS IMPERIAL MANGE MEDICINE" side embossed "H. CLAY CLOVER CO./NEW YORK", "I" in diamond makers mark, manufactured by Illinois Glass Company of Alton, Illinois, heavily stained (1915-1929, Lindsey 2022)

1 clear oval bottle, collared ring lip finish, chilled iron mold, embossed measurements along side, triangle maker's mark, manufactured by Blatz Brewing Company of Milwaukee, Wisconsin, stained (1900-1920, Lindsey 2022)
1 unidentified aqua sherd, heat melted

Metal

1 unidentified brass, possible hitch
2 wire 10d nails (1890-present)

Appendix III
Cultural Resource Form

Snapshot

Date Generated: December 30, 2022

Site Name: Alexandria Glass Works
Site Classification: Terrestrial, open air
Year(s): No Data
Site Type(s): Factory
Other DHR ID: No Data
Temporary Designation: Site 1

Site Evaluation Status

Not Evaluated

Locational Information

USGS Quad: ALEXANDRIA
County/Independent City: Alexandria (Ind. City)
Physiographic Province: Coastal Plain
Elevation: 47
Aspect: Facing East
Drainage: Potomac
Slope: 0 - 2
Acreage: 0.940
Landform: Urban
Ownership Status: Private
Government Entity Name: No Data

Site Components

Component 1

Category: Industry/Processing/Extraction
Site Type: Factory
Cultural Affiliation: Euro-American
Cultural Affiliation Details: No Data
DHR Time Period: Post Cold War, Reconstruction and Growth, The New Dominion, World War I to World War II
Start Year: No Data
End Year: No Data
Comments: The property at 1112 First Street was the location of at least three 20th century industrial complexes: the ca. 1905 Alexandria Glass Works, the ca. 1919 Stoner Chemical Company, and the current commercial/industrial building standing on the property, which was constructed around 1941.
The floor and several foundations associated with the Alexandria Glass Works main factory building were located during the initial trenching in the southern half of the property. Block excavations in this area revealed additional building structural features including the main furnace foundation, brick piers, brick flues and one chimney stack foundation. Our initial testing has corroborated the historic record that the glass works was destroyed by fire, as evidenced by a blackened destruction fill covering the site. Large amounts of brick rubble and glass fragments (some melted) were found directly on top of the concrete floor.

Bibliographic Information

Bibliography:

No Data

Informant Data:

No Data

CRM Events

Event Type: Other

Project Staff/Notes:

John P. Mullen M.A., RPA- Principal Investigator.
Kathleen Jockel Schneider, M.A.A./M.H.P. RPA, Field Director.

Project Review File Number: No Data

Sponsoring Organization: No Data

Organization/Company: Thunderbird Archeology, a division of Wetland Studies and Solutions, Inc.

Investigator: Amber Nubgaard

Survey Date: 6/6/2022

Survey Description:

Archeological investigations to locate and identify features from the ca. 1905 Alexandria Glass Works. The archeological fieldwork will consist of: Demolition Monitoring; Exploratory Machine Trenching (Phase I); Block Excavation and Archeological Feature Documentation (Phase II); and Construction Monitoring of the garage excavation.

Current Land Use	Date of Use	Comments
Parking lot	6/6/2022 12:00:00 AM	Former location of Tony's Auto

Threats to Resource: Development

Site Conditions: 50-74% of Site Destroyed

Survey Strategies: Historic Map Projection, Observation, Subsurface Testing, Surface Testing

Specimens Collected: Yes

Specimens Observed, Not Collected: No

Artifacts Summary and Diagnostics:

Ceramics
17 whiteware (1820-1900+)
11 refined white earthenware
3 redware
2 hard paste porcelain
1 stoneware
Glass
153 bottle, bottle/jar automatic bottle machine (1907-present)
19 bottle, bottle/jar
19 unidentified glass
13 bottle, bottle/jar, clear manganese (1880-1915)
4 spout, clear manganese (1880-1915)
2 stopper, clear manganese (1880-1915)
1 bottle, chilled iron mold (1880-1930)
Metal
4 screw cap
3 nail, unidentified
2 nail, wire (1890-present)
1 nail, cut (post-1790)
1 unidentified brass
1 unidentified ferrous metal
Miscellaneous
32 coal (discarded)
11 brick (discarded)
1 bone

Summary of Specimens Observed, Not Collected:

Numerous secondarily deposited 20th century bottles

Current Curation Repository: Thunderbird Archeology/WSSI Gainesville,VA

Permanent Curation Repository: City of Alexandria Repository

Field Notes: Yes

Field Notes Repository: Thunderbird Archeology/WSSI, Gainesville, Virginia

Photographic Media: Digital

Survey Reports: Yes

Survey Report Information:

Archeological Evaluation of Aspire Alexandria

Prepared by: John P. Mullen, M.A., RPA
Thunderbird Archeology

Survey Report Repository:	Thunderbird Archeology/WSSI
DHR Library Reference Number:	No Data
Significance Statement:	Brick foundations and other features associated with the ca. 1905 Alexandria Glass Works were located on the city block during the investigation. The site may be considered significant to the City of Alexandria and potentially eligible the NRHP; however, the research potential is limited beyond direct comparison with the other two glass factories that have been excavated within the city. This archeological investigation was required under Section 11-411 (Archeology Protection Code) of the Zoning Ordinance of the City of Alexandria, Virginia and followed approved Scope(s) of Work.
Surveyor's Eligibility Recommendations:	Recommended Not Eligible
Surveyor's NR Criteria Recommendations, :	D
Surveyor's NR Criteria Considerations:	No Data