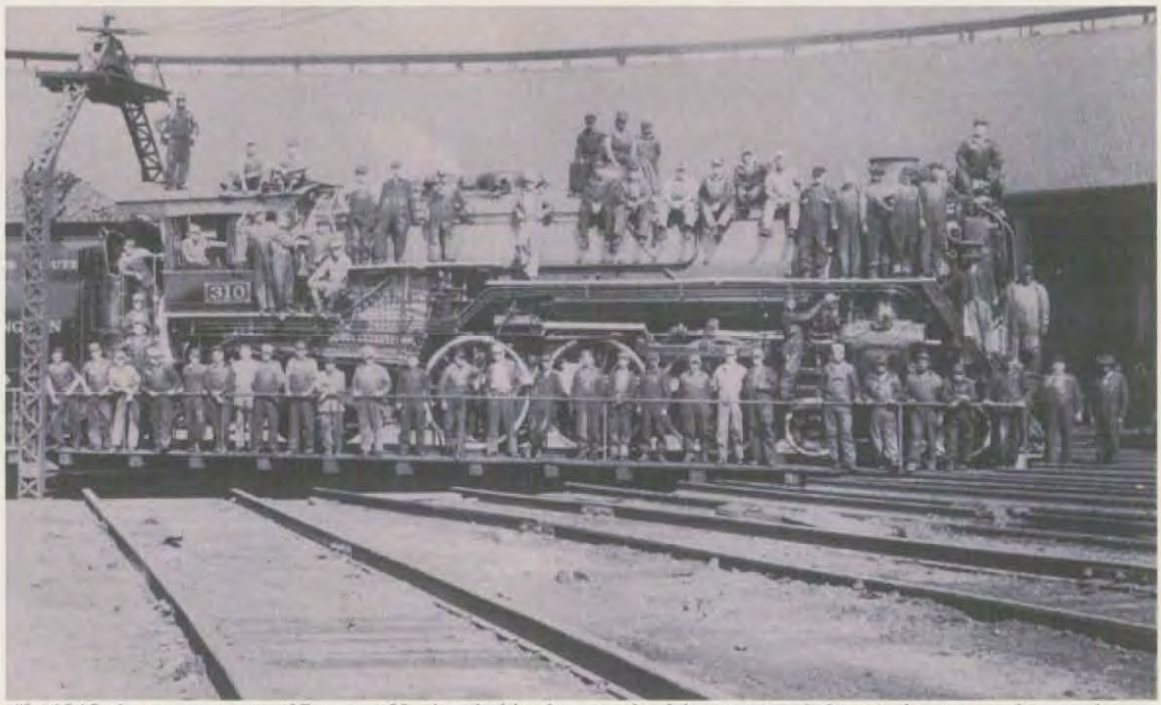
Thunderbird
Archeology

ARCHEOLOGICAL RESOURCE MANAGEMENT PLAN FOR THE POTOMAC YARD PROPERTY, LANDBAYS E, G, H, I, J, K, L, AND M, CITY OF ALEXANDRIA, VIRGINIA



"In 1945, the management of Potomac Yard took this photograph of the crew needed to service a steam locomotive to illustrate the savings in labor costs that would accompany the switch to diesel.
Image Source: James Foley Potomac Yard Collection.

By
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March 2007 (*Revised November 2007*)
WSSI Project #21486.01

Prepared for:
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ABSTRACT

A Resource Management Plan for the Potomac Yard property in Alexandria, Virginia, was prepared by Thunderbird Archeology, a division of Wetland Studies and Solutions Inc. of Gainesville, Virginia for Potomac Yard Development, L.L.C., of Alexandria, Virginia. A Documentary Study of the project area was used to provide a broad contextual background for the resource management plan. Using the information provided by the documentary research as well as additional sources, the purpose of the resource management plan was to evaluate the potential for significant archeological resources within the project area. The project area included plans for South Main Street, Main Street, Potomac Avenue and East/West Roads, the temporary connection to Route 1, the onsite Pump Station, the Fire Station, as well as Landbays E, G, H, I, J, K, L, and M.

The Four Corners Management Plan and addendum written in October and November of 2006 and are presented as Appendix I. This current Resource Management Plan supersedes recommendations and analysis from that plan.

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INTRODUCTION

This report represents the resource management plan for the Potomac Yard property in Alexandria, Virginia (Exhibit 1). The report was prepared by Thunderbird Archeology, a division of Wetland Studies and Solutions Inc. of Gainesville, Virginia for Potomac Yard Development, L.L.C., of Alexandria, Virginia. The study was initiated in anticipation of the planned development of the project area and the concern that significant archeological resources may be impacted by this construction. This study is in compliance with the City of Alexandria Archeological Protection Code and followed a Scope of Work provided by Alexandria Archeology (Appendix II).

A Documentary Study has been completed for the project area. The research and evaluation are usually conducted well in advance of planned construction; however, this study was conducted after construction had been initiated. Land-use research indicated that well over half of the project area had been completely disturbed and the potential for intact archeological resources was minimal to non-existent in these disturbed areas. Therefore, the Documentary Study focused on providing a contextual background for the undisturbed portions of the project area and minimal research was conducted on those portions which had been disturbed. The historic context provided from the documentary study is summarized in the historic overview below. Using the information provided by the documentary research as well as additional sources, the purpose of the resource management plan was to evaluate the potential for significant archeological resources within the project area.

Christine Jirikowic, Ph.D., served as Principal Investigator on this project. History Matters L.L.C. conducted the historical research on the project area from the period of European settlement to the present day and authored much of the documentary study. Sarah Townsend prepared the exhibits and John P. Mullen, M.A. edited the report. Photographs are used with permission by James Foley, a historian with the Richmond, Fredericksburg and Potomac Historical Society.

ENVIRONMENTAL SETTING

The project area lies 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 circa 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 study area is situated along low terraces overlooking the Potomac River to the east (Exhibit 2). Four Mile Run empties into the Potomac River along the northern boundary of the project area, although the course and flow of this tributary has been altered by development. Over the years, much of the original topography in the vicinity of the project

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Vicinity Map
Potomac Yard
WSSI #21486.01
Scale: 1'' = 2000'

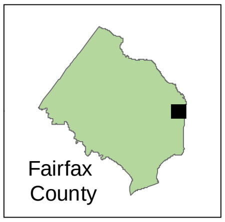

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Exhibit 1

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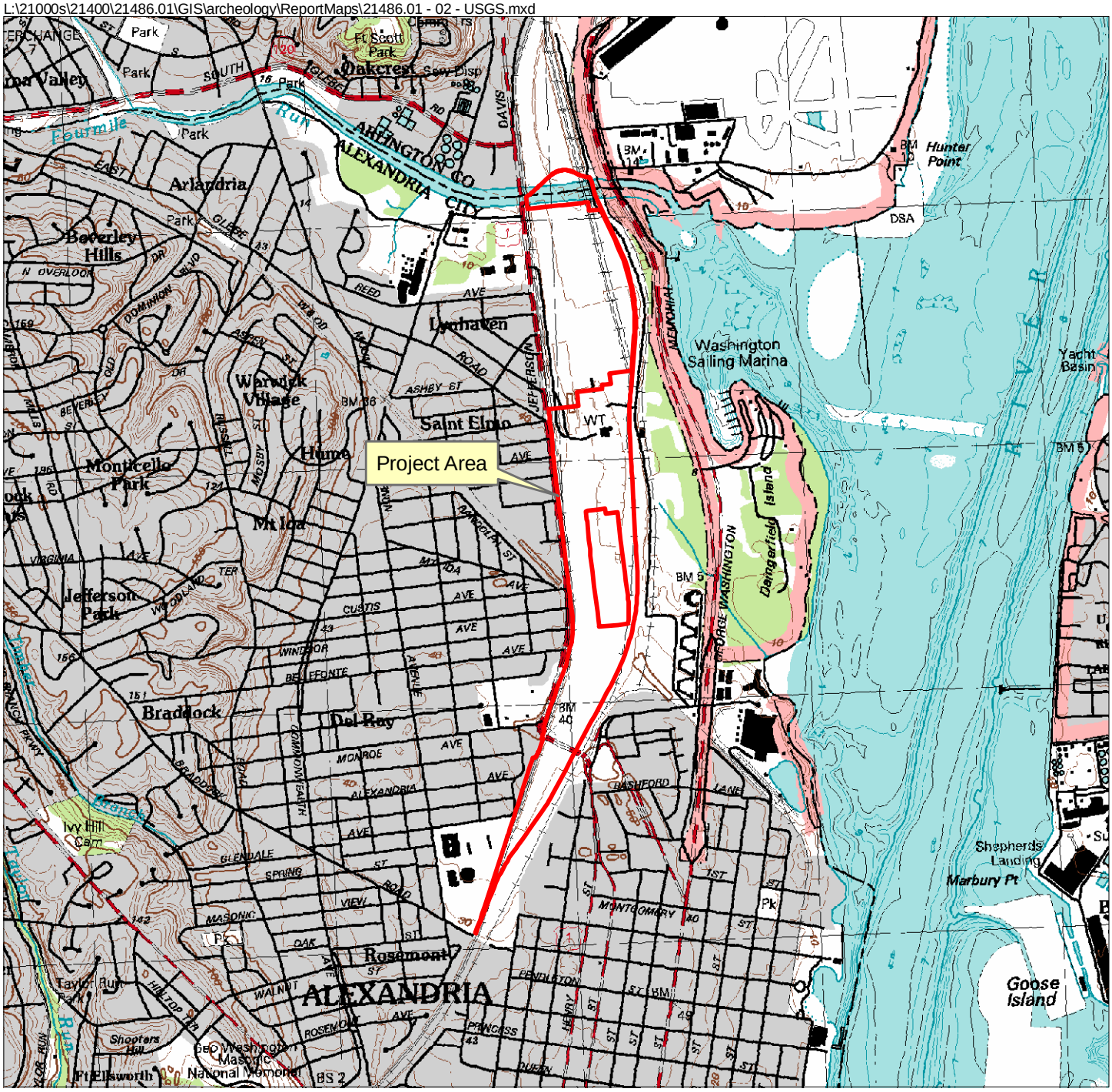

USGS Quad Map
Alexandria, VA-DC-MD 1994
Potomac Yard
WSSI #21486.01
Scale: 1" = 2000'

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Latitude: 38°49'38" N
Longitude: 77°02'58" W
Hydrologic Unit Code (HUC): 02070010
Stream Class: III & II
Name of Watershed: Four Mile Run and Potomac River

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Exhibit 2

area has been modified – cut and/or filled – by the development of the Potomac Yard. Based on his interviews and research into the history of Potomac Yard, Jim Foley (personal communication) described how the establishment of the rail yard changed the pre-1906 landscape. The high ground directly east of Hume Avenue (where the Southbound Hump and Roundhouse were constructed) was excavated to create the Northbound Hump. The Northbound Classification Yard was similarly filled from the high ground "that extended east of Reed Ave all the way over to the river ending in a high (45 ft ASL) bluff known as Susan's Hill where the old Calvert Cemetery was located".

The 1861 Boschke map of the District of Columbia shows a drainage beginning near the intersection of the AL&H RR and the Alexandria Canal that flows northeast and empties into the marshy area behind Dangerfield Island (Exhibit 3). According to Foley (personal communication 2006), this "sloping land mass down to the back washes and tidal marshes of Dangerfield's Island" was filled during the construction of the rail yard. A channel, known as the "Middle Yard Ditch", was created to drain the center of the Yard into a 42" pipe that emptied into the marshes.

Christopher Consultants Ltd. extrapolated 5-foot contours between the 20-foot contour intervals shown on a historic (1865) map and compared it with a 2004 topographic map of Potomac Yard. Next, they created a map that showed which areas had been cut and filled during the construction of the railroad at Potomac Yard (Exhibit 4). Alexandria Archaeology wanted to treat the historic topographic data cautiously and agreed to a five-foot error margin. Thus, the "cut areas" of Potomac Yard included land that was graded five feet or more below the historic ground surface. Conversely, the "filled areas" were five feet below the historic surface and up to and above the historic surface.

Upon closer examination of the 2004 topographic map, several large spoil piles along Swann Avenue were noted that may have skewed the topographic comparison, making it appear that a larger portion of Landbay H had been "filled". The elevations shown on the 1973 topographic map of Alexandria in vicinity of the canal turning basin indicate that this portion of the Yard was indeed cut much deeper than the original historic surface (Exhibit 5). Thus, the "filled area" boundary extended much farther to the east.

Limited construction within the study area had begun during the analysis and preparation of this report; construction for the new Route 1 Bridge and other infrastructure construction is underway. Also, it was estimated that 20-30 foot high piles of construction fill from nearby development had been stockpiled within portions of the project area. The construction was monitored in October and November of 2006; the management report summarizing the construction monitoring is included as Appendix III.

HISTORIC OVERVIEW

In the late 17th and 18th centuries, the project area consisted of tenant farms and plantations owned by the Alexander family. The establishment of Alexandria in 1749 led to increased settlement in the area, subdivision of this land into smaller parcels, and the development of several roads. By 1860, with the construction of the Alexandria Turnpike (1809), the

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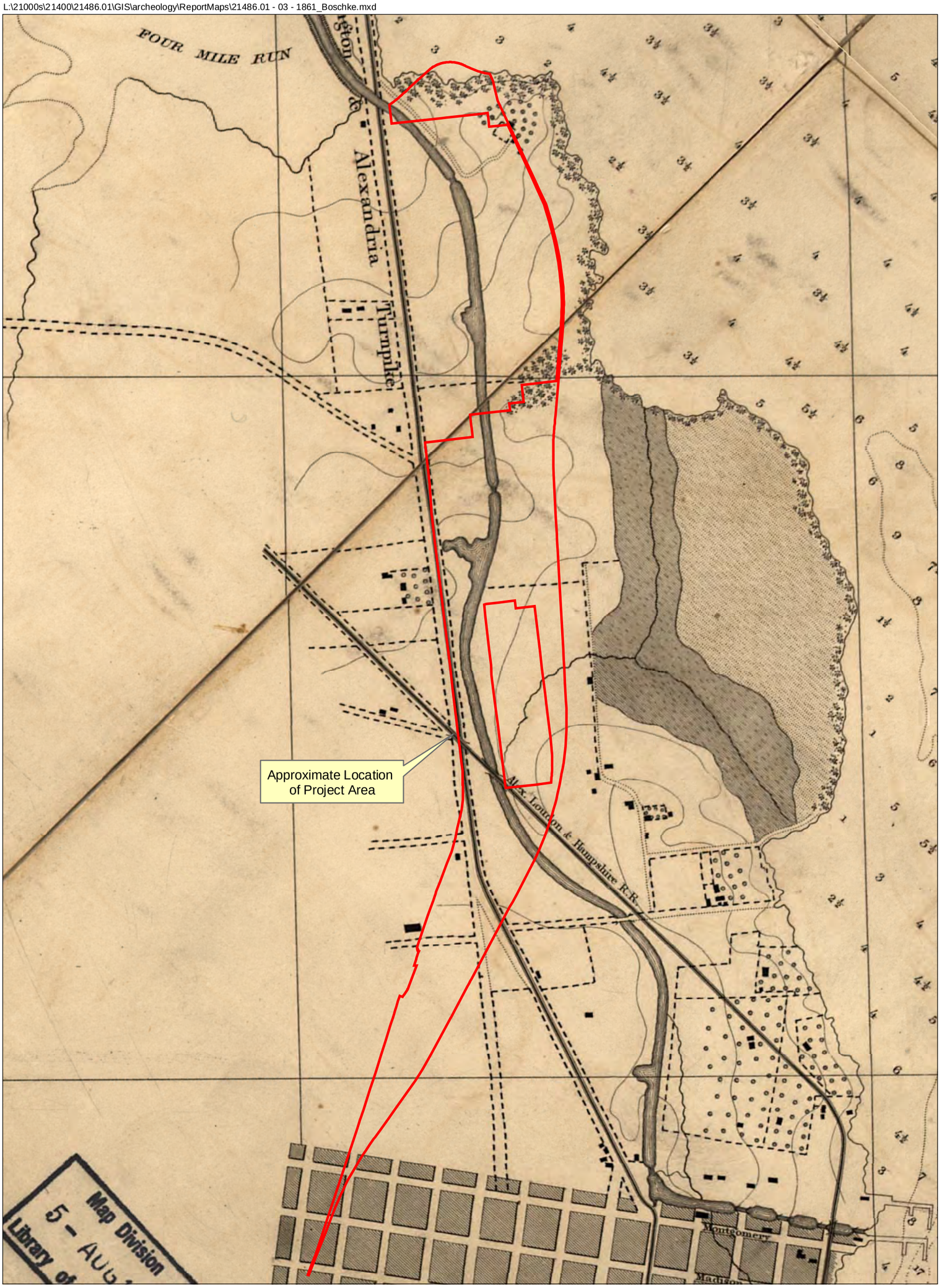

1861 A. Boschke Map
Washington, District of Columbia
Potomac Yard
WSSI #21486.01
Scale: 1" = 800'

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Map Source: "Topographical map of the District of Columbia. Surveyed in the years 1856 '57 '58 & '59 by A. Boschke". 1861. Library of Congress Geography and Map Division Washington, D.C. Original Scale: 1:15,840

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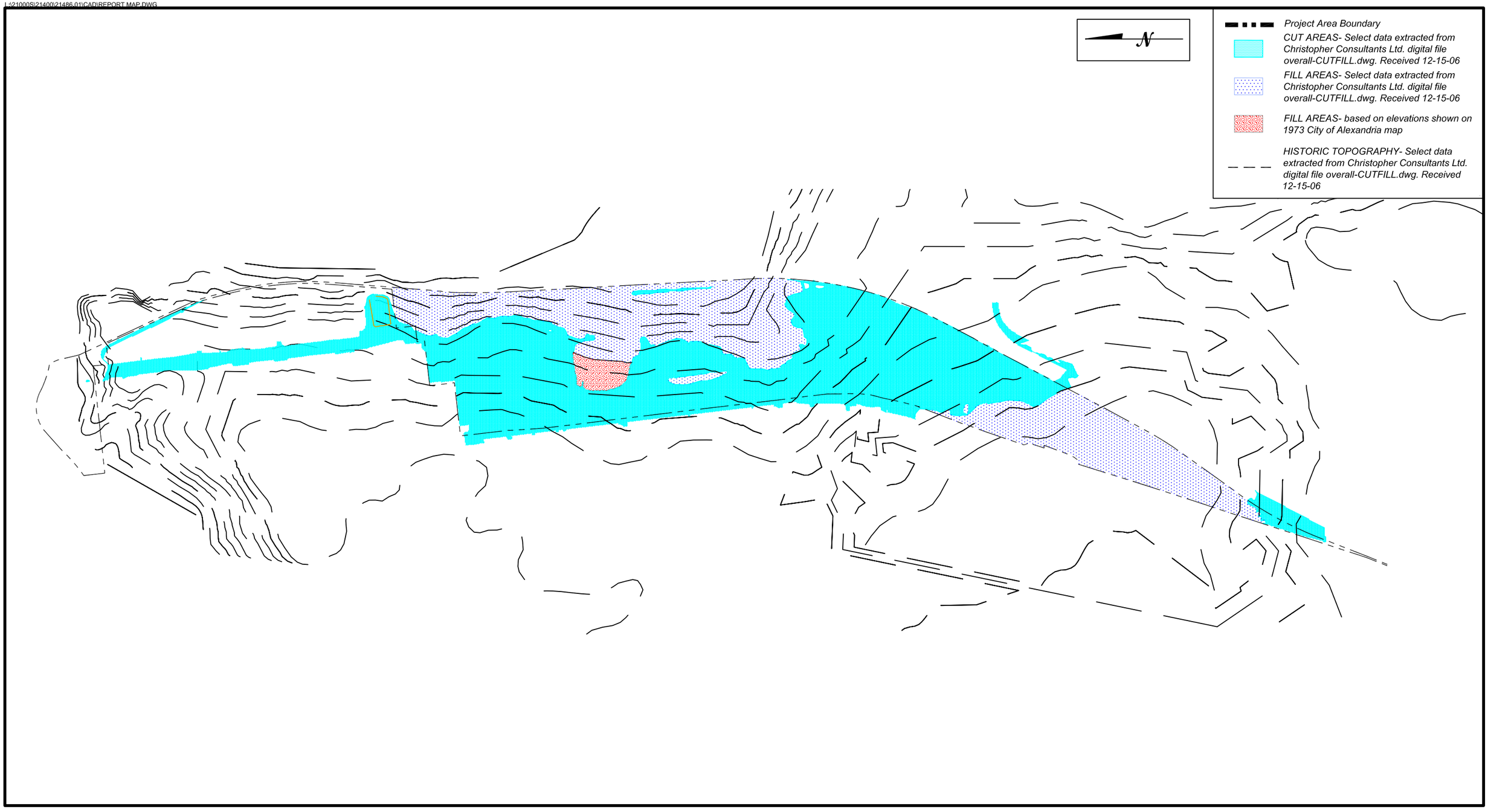

Project Map Showing Cut and Filled Areas
Potomac Yard - WSSI #21486.01
Scale: 1" = 700'

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Exhibit 4

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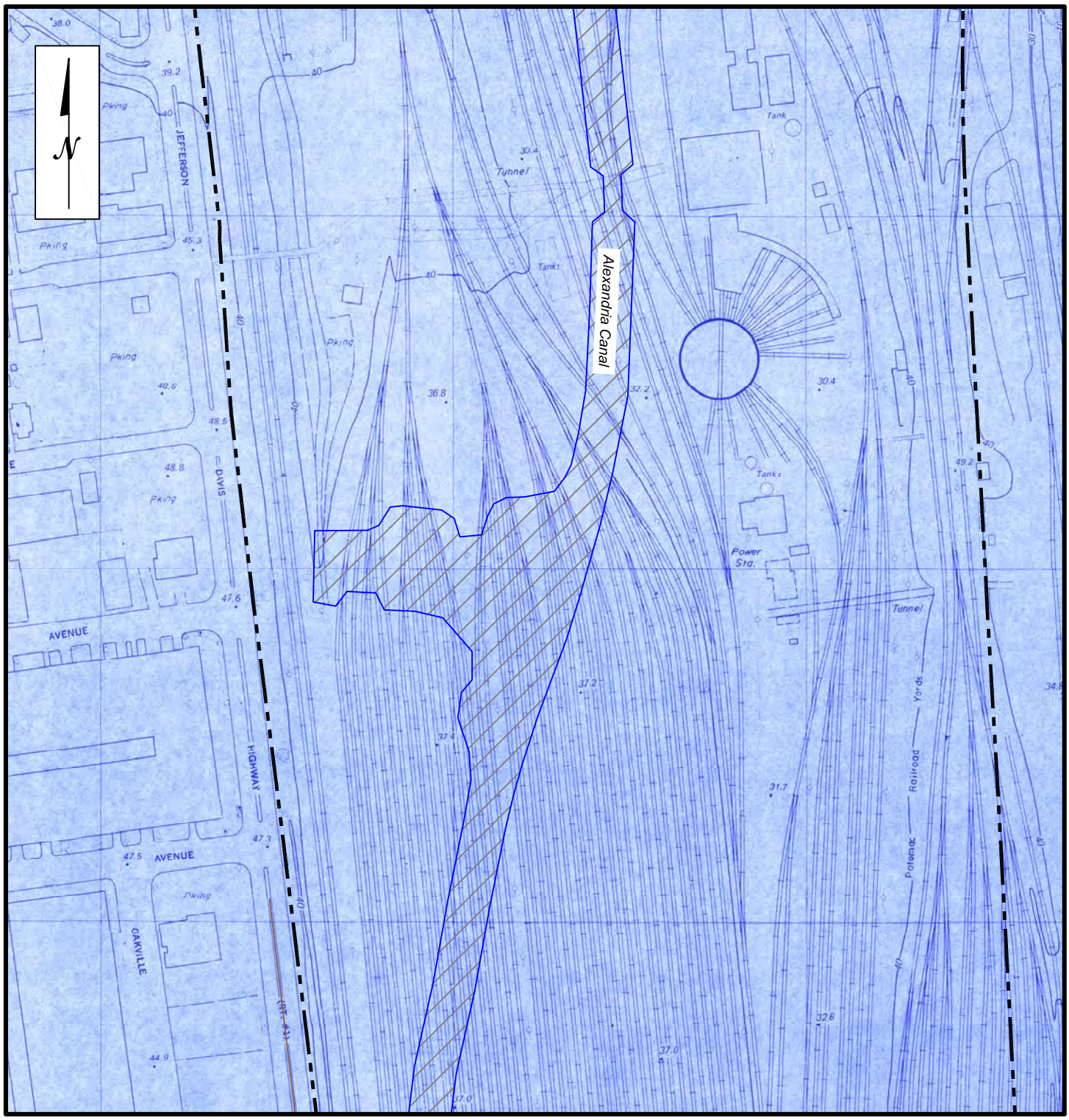

Portion of 1973 Map Showing Elevations Near Alexandria Canal Basin
Potomac Yard - WSSI #21486.01
Scale: 1" = 200'

Alexandria Canal (1843), the Alexandria and Washington Railroad (1857), and the Alexandria, Loudoun & Hampshire Railroad (1860), the project area had become a major transportation corridor. Despite these transportation improvements, the area between Alexandria and Four Mile Run remained primarily agricultural.

Between the end of the American Civil War (1861-1865) and the turn of the 20th century, the railroads that traversed the area between Alexandria and Four Mile Run were integrated into regional rail networks. While these transportation routes underwent dramatic changes, the surrounding landscape continued to be mostly farmland until the 1890s, with a few residential lots located on the west side of the Alexandria Turnpike. In 1894, two planned residential subdivisions were established west of the Alexandria turnpike, inaugurating the area's transition to a suburban landscape.

Completed in 1906, Potomac Yard transformed the landscape of the project area, turning farmland into railroad tracks, changing existing transportation routes, and spurring residential development and population growth in the surrounding area. One of the largest rail classification yards in the nation, Potomac Yard played a key role in shipping goods between northern and southern rail networks. It also fueled residential development in nearby communities and led to significant changes in local transportation routes.

From the 1920s through the 1960s, the number, type, and configuration of buildings and structures at Potomac Yard changed in response to technological developments. During World War II (1941-1945), the demands of wartime shipping led to rapid growth in rail traffic at Potomac Yard. The wartime growth of the yard contributed to an increase in the local population, leading to further residential and commercial development in the surrounding area. In the 1970s and 1980s, demand for rail classification services at Potomac Yard declined. In 1992, Potomac Yard ceased operations.

PREVIOUS ARCHEOLOGICAL RESEARCH

Several cultural resource investigations have been associated with the Potomac Yard property; an inventory of the existing and potential cultural resources in the Potomac Yard was compiled in 1989 by Engineering Science (Walker and Harper 1989) and archeological testing and monitoring has been conducted within some portions of the former Potomac Yard property (Adams 1996a, 1996b and 1996c) and its vicinity (Cheek et. al 1996). The results of these investigations are summarized below as an introduction to the current research.

The 1989 cultural resources inventory briefly evaluated whether the resources had potential archeological or architectural significance. The potential archeological resources are present in Table 1. The researchers also identified 14 buildings on the property that they recommended for further architectural evaluation to determine their age and significance. All of the buildings were associated with the operation of Potomac Yard and were constructed sometime in the 20th century. None of these buildings are currently standing.

Table 1: Potentially Significant Archeological Resources

Name	Period (circa)	Recommendations
The Bluffs	Prehistoric	Disturbance Assessment
Preston Plantation	18th- 19th century	Archeological testing
Preston Graveyard	18th- 20th century	Archeological testing
Alexandria Canal	19th century	Archeological testing
Alexandria & Washington Railroad	1854- 1906	No recommendations made
Washington & Ohio Junction Station	1877- 1950	Archeological testing
Coal Tipple	1932- 1956	No recommendations made
Less Than Carload Freight Shed	1906-1934	No recommendations made
Washington & Alexandria Turnpike	19th- 20th century	No recommendations made
Daingerfield Estate	19th century	Archeological testing
St. Asaph's Junction Neighborhood	19th century	Disturbance Assessment
St. Asaph's Junction Station	1890- 1957	Disturbance Assessment
Alexandria, Loudoun and Hampshire Railroad	1858-1968	Further research
Mutual Ice Company and Icing Platforms	1906-1967	Archeological testing
Fendall Farm and Cemetery	18th- 19th century	Further research

In 1996, International Archaeological Consultants (IAC) conducted archeological investigations in the former location of the Preston Plantation and along a portion of the Alexandria Canal prior to the construction of the Potomac Yard Shopping Center (Adams 1996a). Six backhoe trenches were mechanically excavated; extensive disturbance was documented and no cultural features were located.

The test trenches (Trenches 3 and 4) in the location of the plantation showed that 13-23 feet of original soil had been removed from this area. Adams believed that any features on the much higher topographic relief were gone. The test trench profiles near the reported location of the Preston cemetery (Trenches 2, 5-6) showed fills consisting of gravel and cinder ballast overlying clay horizons. No evidence of buried historic ground surfaces (pre-1906) or cultural features were found. Trench 1 was excavated in the location of the Alexandria Turning Basin; the soil profile was heavily disturbed from buried utility lines (sewer, water, electrical etc.) and no evidence of "artifacts or sediments, tow paths, or spoil associated with its [Alexandria Canal] construction" was found.

International Archaeological Consultants (IAC) also excavated two backhoe trenches near the location of the GSA warehouse, designed to locate the remains of the Alexandria Canal (Adams 1996b). The trench profiles showed cinder deposits overlying clay subsoil. Again, no evidence of the canal was located.

Finally, IAC conducted archeological investigations associated with the proposed Metro track relocation project (Adams 1996c). Three trenches were mechanically excavated to depths well below the proposed impacts of the track relocation. The trench profiles revealed fill horizons covering intact subsoil; no buried historic ground surfaces or cultural features were found.

At the conclusions of three archeological investigations within Potomac Yard that involved the excavation of nine trenches, Adams concluded that most, if not the entire original historic and prehistoric surface had been removed from the Yard.

Archeological testing was also conducted in 1996 by John Milner Associates at the proposed Townes at Slater Village development (Cheek, et. al. 1996). Thirty-one test trenches measuring five by five feet were mechanically excavated across the project area. The results of the archeological testing confirmed what was evident in a 1937 aerial photograph: the project area had been graded and disturbed. The study concluded that most of the original ground surface, and possibly much of the B horizon, was removed from the majority of the study area. No further work was recommended.

Finally, in September 2006, Thunderbird Archeology archeologically monitored the construction of bridge piers and abutment walls for the new Monroe Avenue Bridge, located within the southern end of the property. Several sediment ponds that had been previously excavated were examined for cultural resources; no historic resources were located during the archeological monitoring. The results of the monitoring are presented in Appendix I: Four Corners Management Plan; however, this Resource Management Plan supersedes the analysis and recommendations from that earlier management plan.

RESEARCH EXPECTATIONS

The City of Alexandria's Archeological Resource Area 2, the Potomac Resource Area, encompasses the north end of Old Town, Daingerfield Island and the Potomac Yard property. The resource area is considered significant for the "relatively undisturbed land that may contain American Indian sites", for the presence of an early plantation, and as a transportation corridor that included the Alexandria Canal.

The potential to locate archeological resources within the study area, however, will be limited significantly by the disturbance that occurred when Potomac Yard was developed. The higher ground was apparently graded and leveled, and the cut soils were used to fill in the lower ground to the east. This land disturbing activity has created the possibility of finding undisturbed buried ground surfaces in the "filled areas" along the eastern edge of the project area.

The probability that an area might yield a prehistoric archeological site is dependent on variables such as topography, aspect, proximity to water, and the availability of knappable lithic raw material. The Potomac Yard property was situated along relatively level terraces that drained into the Potomac River or its tributaries. One stream that emptied into the marshes behind Daingerfield Island appears to have originated in the south central portion of Potomac Yard (see Exhibit 3). The level, well drained landforms near this stream would have a high probability for containing prehistoric sites. Some of the other highest probability areas - the high ground along the western side of the project area and the land adjacent to Four Mile Run- were disturbed during the establishment of the yard, greatly reducing the change of locating intact archeological resources in these areas. However, any undisturbed remnants of these landforms along the eastern side of the project area would have a moderate

to high probability for prehistoric resources.

The probability for locating historic resources within the project area is based on known historic resources in the area and from the examination of historic maps and archival research. Again, the potential to locate these resources is limited by the disturbance on the property. Historic resources potentially located within "filled areas" of the property have a much greater probability.

METHODOLOGY

Early oblique aerial and ground-level photographs of Potomac Yard (from the 1920s and 1930s) showed that the railroad tracks located within the “cut areas” were cut to an estimated depth of 12-15 feet below the pre-1906 ground surface (Plates 1 and 2) . The photographs do show areas adjacent to the rails where the ground surface had presumably been left at, or close to, its original elevation. The possibility of locating archeological resources would obviously be greater in areas where natural topography was not significantly altered.

The hand-drawn 1953 plat map of Potomac Yard was also evaluated (Exhibit 6). The map shows a number of areas that are free of railroad tracks that were generally long and relatively narrow strips sandwiched between sets of adjacent tracks. If the strips of land were extremely narrow (i.e. less than 50 feet wide), they probably have been cut to the same levels as the adjacent tracks. The map also shows larger "open areas", or areas free of tracks and with few buildings. The changes to these “open areas” from the 1953 plat map were examined throughout time, using aerial photography from 1964, 1975, 1980 and 1988 as well as the 1973 topographic map.

Based on the examination of the aerial photography, the results of the previous archeological research within Potomac Yard, and on the current monitoring of construction within one of the largest “open areas”, we conclude that the pre-1906 topography has been completely removed within the “cut areas” defined by the Christopher Consultants map.

Therefore, only “filled areas” will be examined for their potential to contain archeological resources. The proposed construction plans for Potomac Yard were examined in order to determine possible impacts to the potentially buried historic surface.

Most of the planned construction for the Potomac Yard infrastructure involves adding additional fill across the property. The majority of the roads will be created from the additional fill; however, the utilities will be excavated into this fill. The utility profiles and road plan view and profiles were examined. An Excel spreadsheet was created showing the amount of fill to the centerline of each proposed road and the depth of each proposed utility. The spreadsheet also showed the depth of the planned construction into the potentially buried historic surface.

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Armour Storage Yard Looking North
Potomac Yard - WSSI #21486.01

Image Source: James Foley Potomac Yard Collection.

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Vicinity of Slater's Lane Looking North
Potomac Yard - WSSI #21486.01

Image Source: James Foley Potomac Yard Collection.

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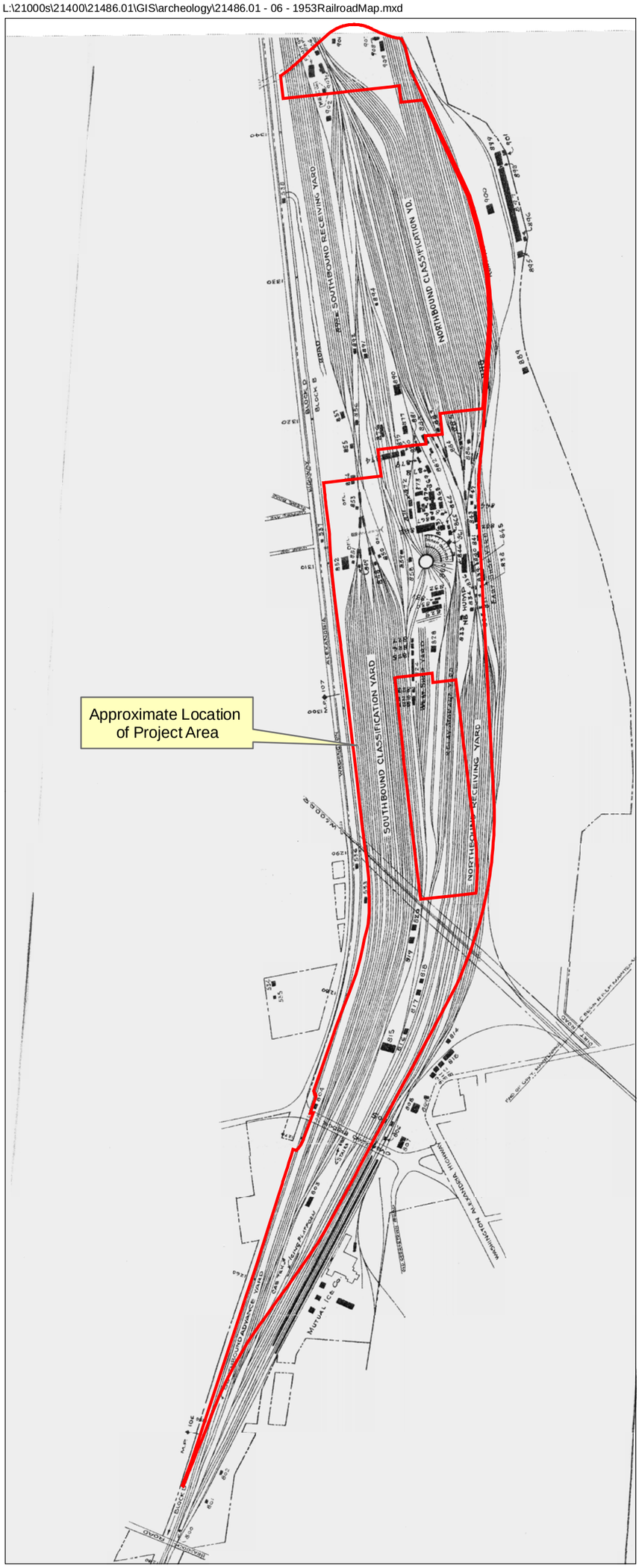

1953 Richmond, Fredericksburg & Potomac Railroad Co. Map
Potomac Yard
WSSI #21486.01
Scale: 1" = 800'

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Map Source: "Richmond, Fredericksburg & Potomac Railroad Co. Potomac Yard, VA. Location of Buildings". Original Scale: 1" = 400'. Revised to April 20, 1953. Obtained from History Matters, LLC. 1502 21st Street, NW Washington, DC 20036

The majority of the Landbay site plans have not been submitted; however, the general plan for Potomac Yard is to construct retail and offices along the Route 1 corridor and townhouses along the eastern half of the property. Only the retail and offices will have underground parking facilities and these buildings are located within “cut areas”, where the pre-1906 ground surface has been eliminated. The plans for the Landbays along the eastern half of the property should be examined as they become available to determine the depth of possible impacts to the historic surface.

This management plan evaluates the plans for South Main Street, Main Street, Potomac Avenue and East/West Roads, the temporary connection to Route 1, the onsite Pump Station, the Fire Station, as well as Landbays E, G, H, I, J, K, L, and M.

The probability that an area might yield a prehistoric archeological site is dependent on variables such as topography, aspect, proximity to water, and the availability of knappable lithic raw material. High probability areas for prehistoric resources within the Potomac Yard property should be on well-drained, level terrain near a water source. The probability for locating historic resources within the project area is based map projection and archival research. High probability areas within the Potomac Yard property include the map projected located of historic residences.

Only high probability areas for historic or prehistoric cultural resources within "filled areas" that included impacts to the potentially buried historic surface will be recommended for archeological testing. Each site plan that has been submitted to date is examined below followed by the final recommendations for the Potomac Yard property.

SITE PLANS

South Main Street

Location

South Main Street extends from the proposed intersection with Potomac Avenue and Main Street, south to the proposed intersection with Braddock Road (Exhibit 7).

Potential Prehistoric and Historic Archeological Resources

The probability that an area might yield a prehistoric archeological site is dependent on variables such as topography, aspect, proximity to water, and the availability of knappable lithic raw material. South Main Street traverses a level terrace between Stations 50 + 00 and 61 + 00 that may have been attractive to prehistoric populations, although historic maps do not show any nearby streams and this landform is some distance from the marshes above Daingerfield Island. Thus, this portion of the project area had a low to moderate probability for containing prehistoric resources.

Potential historic resources (pre-1906) include the Alexandria Turnpike, Fendall Farm and the Slate residence. Until at least 1845, the Alexandria Turnpike angled to the southeast at the approximate location of present-day Duncan Avenue and continued into Alexandria via what is now Powhatan Street. This was altered to a straighter route by 1862, but with the establishment of Potomac Yard in 1906, this route was re-aligned to curve west around the boundary of the rail yard. South Main Street will cross the former location of the turnpike between Stations 42 + 00 and 43 + 00 (see Exhibit 7).

The proposed road appears to skirt the edge of the late 18th-19th century Fendall Farm, which was identified in the 1989 resources inventory (Walker and Harper 1989). The boundaries of the 31.5-acre Fendall tract are disputed by historians, but a portion of the property did overlap the southern part of Potomac Yard. South Main Street also crosses through the projected location of the 19th century Slate residence, just west of Stations 44 + 00 through 45 + 00 (see Exhibit 7). The Slate residence first appears on the 1878 Hopkins map and possibly on the 1862 McDowell map (although it is unidentified), but does not appear on the 1861 Boschke map.

Potomac Yard Railroad Resources

No railroad buildings depicted on the 1953 plat of the yard appear to be in the path of the proposed road. Between Stations 57 + 50 and 59 + 50, the proposed road traverses the former location of the Fruit Growers Express Company icing platforms; these facilities were demolished in 1967. Also, the map that accompanies the 1989 cultural resources inventory of Potomac Yard shows a non-historic building (Building 39) just outside of the eastern boundary of the project area.

Analysis and Recommendations

Over the years, much of the original topography has been modified – cut and filled – by the development of the Potomac Yard. Exhibit 7 presents a graphic representation of the areas that have been cut and filled in the vicinity of South Main Street. In 1865, the topography from Station 37 + 00 to Station 47 + 00 sloped from approximately a high of 60 feet a.s.l to 45 feet a.s.l.; in 2004, the elevation along this section ranged from 40 feet a.s.l. to 39.5 feet a.s.l., indicating a cut by as much as 20 feet at the beginning of South Main Street.

Conversely, between Stations 47 + 00 and 64 + 00 the ground has been potentially "filled" (see Exhibit 7). The Civil War topography ranges from 45 feet a.s.l. at one end to roughly 47.5 at the other end; however, it is shown as a level 40 feet a.s.l. between Stations 50 + 00 and 62 + 00, and it remained essentially at this grade for the duration of the operation of the yard. The 1973 topographic map shows the majority of this end of Potomac Yard at an elevation of approximately 40 feet a.s.l. In 2004, the elevation along this section of the proposed road ranged from 40.5 to 42.5 feet a.s.l. and had only been covered by a few feet of fill.

Finally, between Stations 64 + 00 and 70 + 50, the proposed roadbed crosses through a "cut" area. The historic topography shows a rise from 50-60 feet a.s.l.; the 2004 topographic data shows this section as 39.5 feet a.s.l. to 44.5 feet a.s.l.

The proposed path has also been disturbed by an existing 30" sewer line that runs underneath much of the proposed road, from approximately Station 38 + 00 to 56 + 00 (see Exhibit 7). The sewer line construction was archeologically monitored in 2002 and no apparent cultural resources were identified.

Although historic resources were identified on maps in the vicinity of the road, they are located within areas that have been cut and graded within the yard. The potential for locating intact prehistoric archeological resources within the proposed alignment of the road has been significantly lowered by the existing sewer line disturbance. The level of disturbance by the construction and removal of buildings and rails in this area of the yard, which was covered by a less than three feet of fill, likely had obliterated any pre-1906 resources.

No archeological testing is recommended for any portion of South Main Street.

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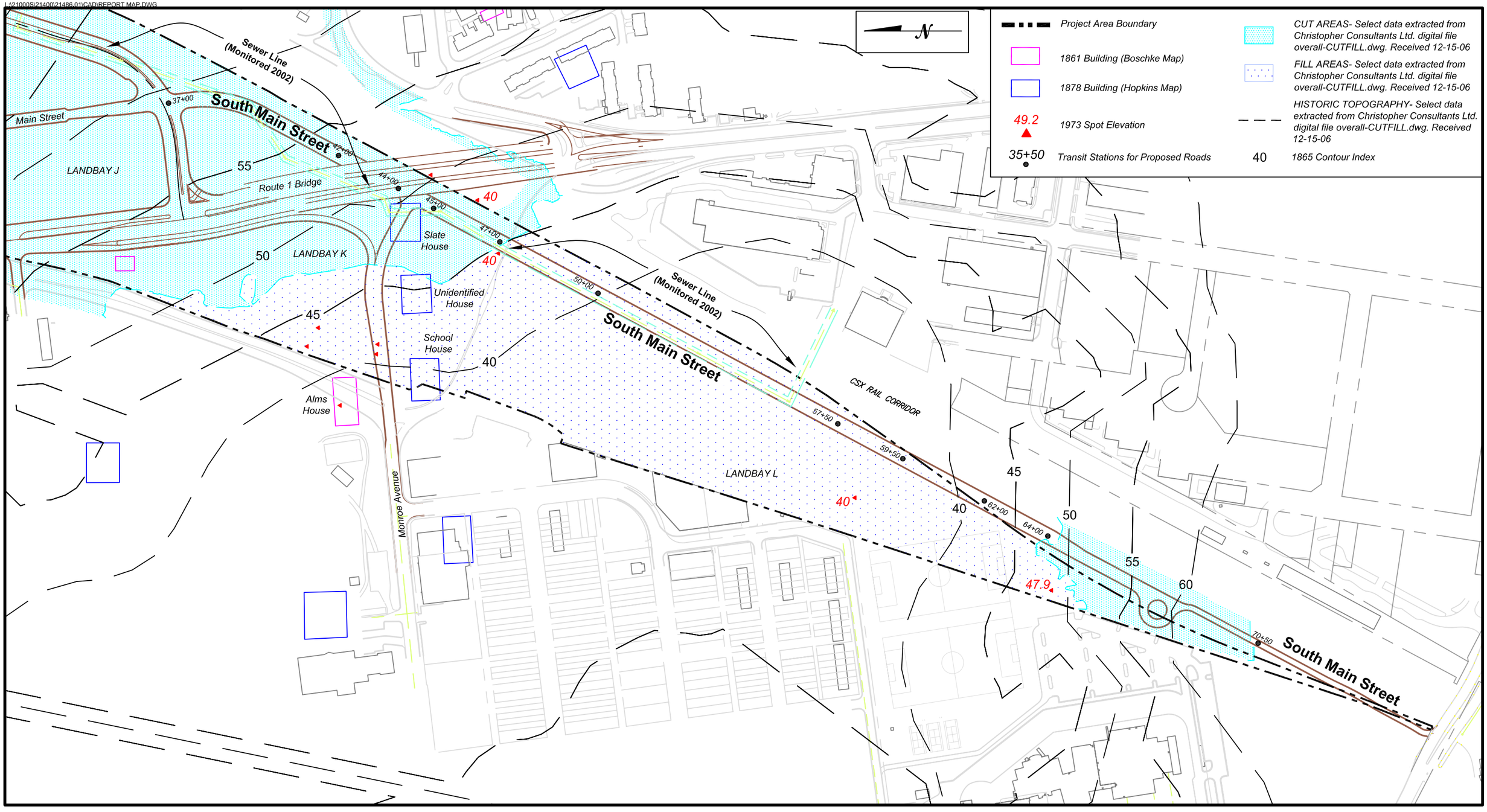

South Main Street: Potential Historic Resources
Potomac Yard - WSSI #21486.01
Scale: 1" = 250'

Thunderbird Archeology
A division of Wetland Studies and Solutions, Inc.

Exhibit 7

Main Street Improvements
Plan Number: C-4918

Location

The proposed Main Street extends from its intersection with East Glebe Road south toward the intersection with Potomac Avenue (Station 36 + 83.25) (Exhibit 8). The site plan includes the western portions of the east/west roads: East Glebe Road (Station 10 + 94.89 to 14 + 91.53); eastbound Swann Avenue (Stations 10 + 94.83 to 13 + 71.68); westbound Swann Avenue (Stations 11 + 97.75 to 13 + 71.68), Custis Avenue (Station 10 + 94.95 to 13 + 89.21); eastbound Howell Avenue (Stations 10 + 94.95 to 13 + 91.56); and westbound Howell Avenue (Stations 11 + 99.50 to 13 + 91.63).

Potential Prehistoric and Historic Resources

The probability that an area might yield a prehistoric archeological site is dependent on variables such as topography, aspect, proximity to water, and the availability of knappable lithic raw material. The path of Main Street roughly parallels the edge of a terrace, which in 1865, ranged in elevation between 45-55 feet a.s.l. The level ground would have a moderate probability for prehistoric sites, as it located 1000 feet from the marshes behind Dangerfield Island.

Transportation related historic resources were located along the path of the future Main Street. Main Street crosses the Alexandria Canal (which traverses much of the project area) in two places: at the probable canal turning basin between Stations 8 + 50 and 13 + 00 and between Stations 30 + 50 and 33 + 75 (see Exhibit 8). The canal is also crossed by Swann Avenue between Stations 13 + 00 and 13 + 75; by Custis Avenue between Stations 11 + 50 and 12 + 50; and by Howell Avenue between Stations 12 + 25 and 13 + 00.

The proposed Main Street also crosses the former alignment of the Alexandria, Loudoun and Hampshire railroad (along the same corridor as the 20th century railroad trestle) between Stations 27 + 75 and 28 + 50. Finally, the location of the Washington and Ohio Junction Station, depicted on the 1878 and 1894 Hopkins maps, appears to lie along the path of East Glebe Road, between Stations 11 + 00 and 12 + 00 (see Exhibit 8).

Of the historic resources, the possible turning basin of the Alexandria Canal would likely be considered most significant in terms of contributing archeological research information.

Potomac Yard Railroad Resources

The 1953 yard map shows Main Street originating just south of the Southbound Hump and crossing through the Southbound Classification Yard (Exhibit 9). Although the proposed path of the road was once covered mostly by tracks, some open space and buildings are shown around the intersection of Main Street with East Glebe Road. Two rail yard buildings (848 and 850) were located between Stations 5 + 00 and 6 + 00 of Main Street and several rail yard buildings (numbers 817-820) were located between the proposed intersections with

Howell and Potomac Avenues. The pedestrian tunnel leading underneath the tracks was located between Stations 3 + 50 and 4 + 00; the tunnel was still depicted in this location on the 1973 map of the yard.

None of the 1953 buildings were identified in the 1989 cultural resources inventory. The two that were identified in the vicinity were Building 18, the Northbound Control Tower, which was located west of the path of the proposed road, and Building 35, a metal-sided storage shed. Both buildings were less than 50 years old at the time of the 1989 inventory and no further investigations were recommended.

None of these rail yard resources are considered significant.

Analysis and Recommendations

Main Street

The proposed path of Main Street lies almost entirely within a "cut area", where the 2004 elevation is more than 5 feet below the historic 1865 elevation (see Exhibit 8). Historically, the path of Main Street extends down from East Glebe Avenue at an elevation of approximately 52.5 feet to a low of 40 feet near Custis Avenue, where the topography rises to just over 60 feet at the southern end of Main Street. The 1973 map of the rail yard shows a gradual drop in elevation from north to south. The elevation is 40 feet a.s.l. at the beginning of the road; drops to 37 feet a.s.l. throughout much of the classification yard and finally reaches a low of 33 feet a.s.l. at the intersection with Potomac Avenue. In 2004, the elevations along Main Street range from roughly 40 feet a.s.l. to a low of 35 feet a.s.l. near Custis Avenue, then rise again to roughly 40 feet a.s.l at the terminus of the road. From this data, it appears that as much as 20 feet of the original ground surface has been removed.

One area that does not appear to have been deeply cut from the comparison of the 1865 and 2004 topography is between Stations 9 + 00 and 13 + 00, near the former location of the Alexandria Canal turning basin. However, an examination of the 1973 topographic map of Alexandria shows this area was graded much lower than the historic surface (see Exhibits 5 and 8). Additionally, Jim Foley asserts that the final yard grade floor in 1977, "had undercut the floor of the canal for its entire length through the yard by as much as 5-8 feet or more"(personal communication, 2007).

Finally, previous archeological work has been unable to locate evidence of the canal in the vicinity of this turning basin. International Archaeological Consultants (IAC) mechanically excavated one archeological trench and found the soil profile heavily disturbed from buried utility lines (sewer, water, electrical etc.). No evidence of "artifacts or sediments, tow paths, or spoil associated with its [Alexandria Canal] construction" was located during this testing (Adams 1996a).

Only one small section of Main Street (between Stations 22 + 36 and 25 + 75) appears to be located within a potentially "filled" area (see Exhibit 8). This area is situated above the historic headwaters of a stream that emptied into the marshes at Dangerfield Island. Any

undisturbed, level terraces in this area would have a higher potential for containing prehistoric resources. However, no historic resources have been identified nearby and the area is considered low probability for historic resources. Therefore, archeological work is not recommended for any portion of Main Street.

The Main Street site plan includes the western portions of the east/west roads:

East Glebe Road

East Glebe Road, between Stations 10 + 94.89 to 14 + 91.53 is located entirely within a cut area (see Exhibit 8). The 1865 topography shows a terrace with elevations from 60 to 50 feet along the path of this road; in 1973, the elevations along this section of East Glebe Avenue were 40 feet a.s.l.; and in 2004, the elevations ranged from 38 to 32 feet a.s.l.

No archeological testing is recommended for the portion of East Glebe Road located within this site plan.

Swann Avenue (Stations 10 + 94.83 [East] / 11 + 97.75 [West] to 13 + 71.68)

As mentioned above, the former path of the Alexandria Canal crosses the proposed intersection of Swann Avenue with Main Street (see Exhibit 8). The comparison of the 2004 and historic topography shows this as a filled area; however, the 1973 topographic data shows that this area was cut well below the historic surface at that time. No archeological work is recommended for the portion of Swann Avenue that is included in this site plan.

Custis Avenue (Station 10 + 94.95 to 13 + 89.21)

Historically, the topography dropped along Custis Avenue from 47 feet to roughly 37 feet. In 1973, this section of the rail yard was roughly level at 36 feet a.s.l.; while in 2004, the elevation dropped from 36.5 feet a.s.l. at one of the road to 35 feet a.s.l. at Station 13 + 89.21. Thus, the eastern end of this road, from Stations 12 + 78 to 13 + 89.21, is located within a filled area (see Exhibit 8); however, this area is not considered high probability for archeological resources and no testing is recommended in this or any section of Custis Avenue.

Howell Avenue (Station 10 + 94.95 to 13 + 91.56 eastbound and Station 11 + 99.50 to 13 + 91.63 westbound)

Howell Avenue is located entirely within a "cut" area of Potomac Yard (see Exhibit 8). The historic topography ranged from 56 to 49 feet in elevation; the 1973 map shows an average of 33 feet in elevation a.s.l.; in 2004, the elevations ranged from 37 to 34 feet a.s.l. No archeological testing is recommended for this proposed section of the road.

Main Street Improvements Recommendations

No archeological testing is recommended for the infrastructure included within this site plan.

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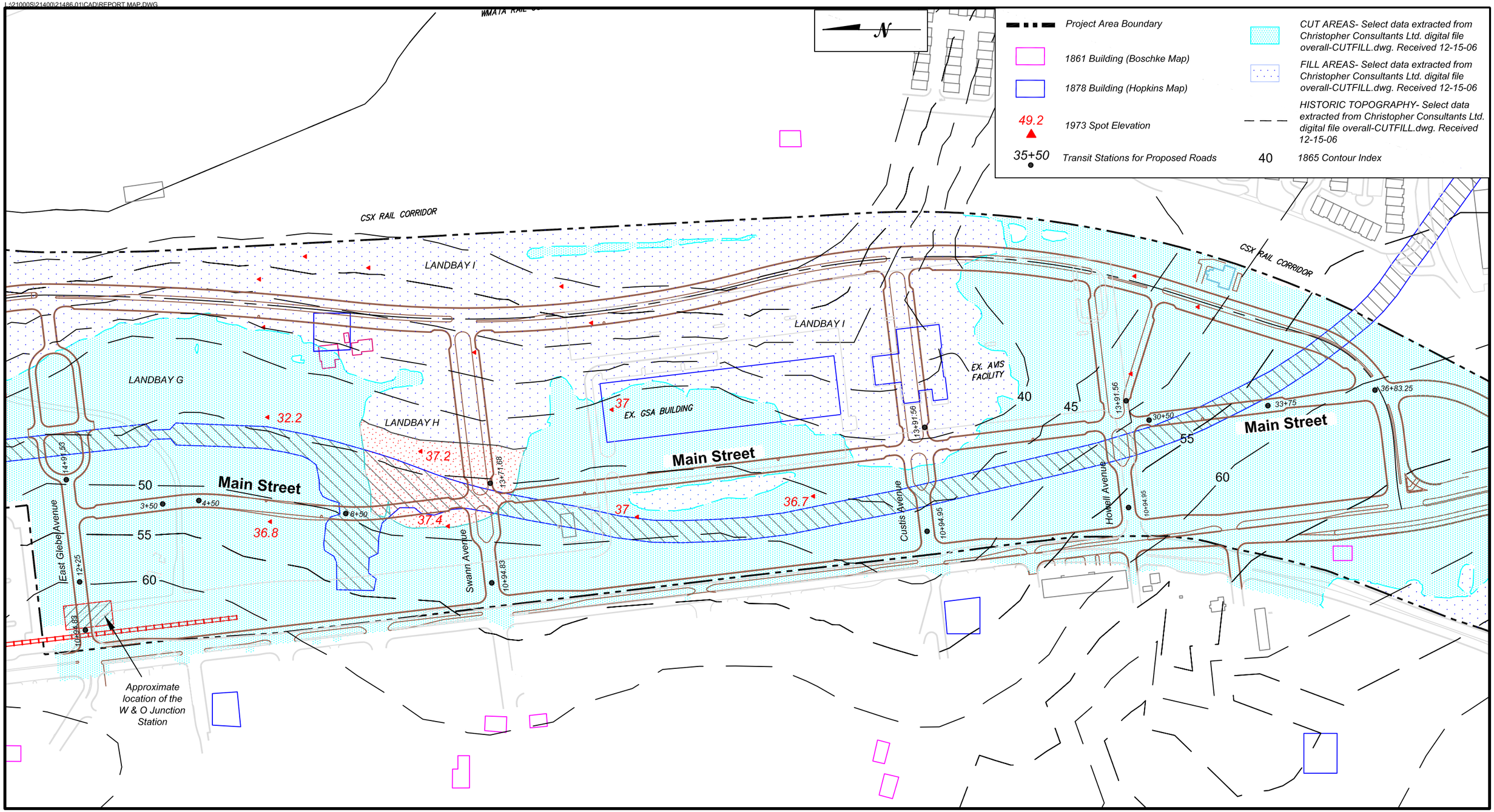

Main Street: Potential Historic Resources
Potomac Yard - WSSI #21486.01
Scale: 1" = 250'

Thunderbird Archeology
A division of Wetland Studies and Solutions, Inc.

Exhibit 8

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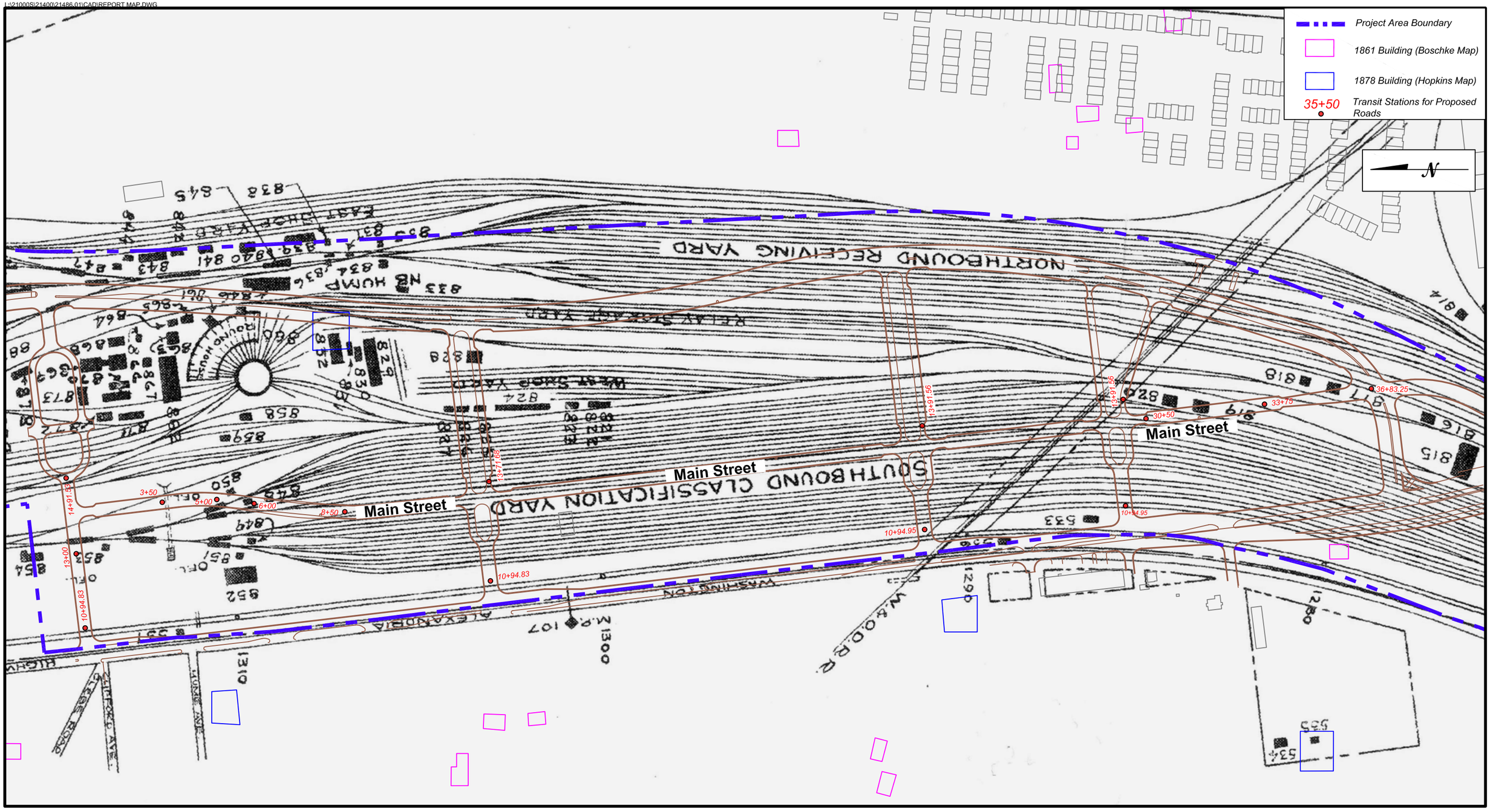

Portion of 1953 Map Showing Main Street
Potomac Yard - WSSI #21486.01
Scale: 1" = 250'

Potomac Avenue and East/West Roads

Location

Potomac Avenue extends from the northern end of the project area at Four Mile Run, to the intersection with the proposed re-alignment of Route 1 in the southern portion of the project area (Exhibits 10 and 11). The section of the proposed road within the existing Potomac Yard retail center (Stations 5 + 50 through 28 + 50) is not considered in this discussion.

The proposed east/west roads in the Potomac Avenue site plan include the eastern portions of East Glebe Road (Stations 15 + 27.03 through 20 + 76.93); Swann Avenue (Stations 14 + 00 through 18 + 25.69); Custis Avenue (Stations 14 + 00 through 18 + 52.41); and Howell Avenue (Stations 14 + 00 through 17 + 53.48). The western portions of these roads are included in the Main Street Improvements site plan.

Potential Prehistoric and Historic Resources

The Potomac Yard property was situated along relatively level terraces that drained toward the marshes behind Daingerfield Island and eventually into the Potomac River. Some of the highest probability areas - the high ground along the western side of the project area and the land adjacent to Four Mile Run- have been destroyed by the landscape alteration during the establishment of the yard; however, the terraces along the southern half of Potomac Avenue, which may have survived buried under fill deposits, have a moderate probability for prehistoric resources. The terraces closest to the stream depicted on late 19th century historic maps have a high probability for the presence of prehistoric sites (see Exhibit 3).

Potential historic resources within the vicinity of the proposed Potomac Avenue and its associated roads include the Preston Plantation, the Alexandria Canal, the Alexandria Turnpike, and the Barbour House.

The projected location of the 18th -19th century Preston Plantation falls near Stations 4 + 50 through 5 + 50, just north of the existing Potomac Yard Shopping Center (see Exhibit 10). In 1996, five archeological trenches were mechanically excavated in the vicinity of Preston Plantation by International Archaeological Consultants (Adams 1996a). The test trenches (Trenches 3 and 4) in the location of the plantation showed that 13-23 feet of original soil had been removed from this area. Adams believed that any features on the much higher topographic relief were gone. The test trench profiles near the reported location of the Preston cemetery (Trenches 2, 5-6) showed fills consisting of gravel and cinder ballast overlying clay horizons. No evidence of buried historic ground surfaces (pre-1906) or cultural features were found.

The two transportation- related historic resources in this area are the Alexandria Turnpike and the Alexandria Canal. The path of the proposed road crosses the original alignment of the Alexandria Turnpike, which remained here until the road was routed around the west side of the rail yard circa 1906. The former location of the Alexandria Canal traverses much of

the project area. Potomac Avenue crosses the canal path between Stations 68 + 00 and 69 + 00, while East Glebe Road crosses the canal between Stations 16 + 00 and 17 + 00 and Swann Avenue between Stations 13 + 00 and 14 + 00.

Finally, an unidentified building near Station 41 + 00 of Potomac Avenue that first appears on the 1878 Hopkins map, is later identified on the 1894 Hopkins map as the estate of S. L. Barbour (Exhibit 12). This 76-acre estate was once the northern portion of Dangerfield's "Island Farm" tract. The property was divided amongst his heirs at his death and Susan Dangerfield Barbour inherited this portion in 1870. It is unclear whether she ever resided on this property, but the house is estimated to have been constructed between 1870 and 1878, based on archival information and historic map projection.

Potomac Yard Railroad Resources

The 1953 map of the Yard shows the proposed route of Potomac Avenue crossing through the Northbound Classification Yard, which appears to be occupied solely by tracks, through or adjacent to the northbound hump and numerous railroad buildings, through the Northbound Receiving Yard (occupied by tracks), then through an open area between Stations 70 + 50 and 73 + 00, just before its intersection with Main and South Main Streets (Exhibit 13).

A number of rail yard buildings identified during the 1989 cultural resources inventory of Potomac Yard stood in proximity to the proposed Potomac Avenue between Stations 36 + 00 and 50 + 50. All of these buildings were less than 50 years old at the time of the inventory and were not considered to be significant (Walker and Harper 1989:82-89). The Northbound Hump was also located near the path of Potomac Avenue and dated to the original 1906 layout of the rail yard. Rail cars were sorted using gravity at/on the hump (Walker and Harper 1989:6).

The eastern portion of East Glebe Road traverses the former central operations area, where numerous buildings are depicted on the 1953 map of the rail yard. The eastern portion of Swann Avenue crosses the southern end of the central operations area; several buildings depicted on the 1953 plat lie in the path of the road. The eastern portion of Custis Avenue traverses portions of the former Northbound Receiving Yard and the Southbound Classification Yard. Both of the yards appear to be occupied only by tracks on the 1953 plat (see Exhibit 13). The eastern portion of Howell Avenue also traverses portions of these same two yards.

Analysis

Potomac Avenue

Based on evidence from aerial photographs, there appears to be no probability of extant archeological resources in the northern portion of Potomac Avenue, adjacent to Four Mile Run (Exhibit 14). During the Four Mile Run Flood Control Project in 1978, the stream was straightened and widened. Prior to this project, the stream appears to have been approximately 50 feet wide; afterwards, it appears to be 250 feet wide. Any archeological resources in proximity to the stream would have been destroyed during the dredging and widening operations.

The natural topography along the northernmost portion of Potomac Avenue (Stations 1 + 00 to 4 + 50) that is shown in the 1949 aerial photography appears to have been destroyed by the channel widening during the Four Mile Run Flood Control Project in the 1970s (see Exhibit 14).

Further to the south, the proposed road crosses along the eastern side of the former central operations area of the rail yard and the former roundhouse location. The 2004 ground surface is estimated to be above the historic surface in these areas (see Exhibit 11). Although we have no way of knowing how much disturbance may have occurred here during the operation of the Yard, dark-colored areas visible in the 1980 aerial photography south of the former location of the roundhouse, particularly between Station 39 + 00 and 40 + 50 as well as from 40 + 75 through 41 + 50, may indicate disturbance in this area.

Frank Lasch, a 30-year veteran of the rail yard and overseer of the demolition of the yard, has indicated that a great deal of disturbance occurred in the central operations area during the removal of the yard buildings in the 1990s (personal communication 2006). The level of 20th century disturbance in this area may lower the likelihood of any intact significant archaeological resources.

The map projected location of the Barbour House falls within the proposed path of Potomac Avenue between Stations 40 + 50 to 41 + 50. The 1971 city topographic map shows the Potomac Yard power station along the western edge of the former house location and the tunnel under the northbound hump to the south (see Exhibit 11)

East Glebe Road (Stations 15 + 27.03 through 20 + 76.93)

With the exception of the last 100-foot stretch of road, East Glebe Road lies within a "cut area", where the 2004 ground surface is estimated to be 13 to 16 feet below the historic surface (see Exhibit 11). No potential historic resources are located between Stations 19 + 00 and 20 + 76.93; no testing is recommended for this 100-foot stretch of road.

Swann Avenue (Stations 14 + 00 through 18 +25.69)

Swann Avenue is located within a "filled area" between Stations 14 + 87.5 and 16 + 68.5 and between Stations 17 + 50 through 18 + 25.69 (see Exhibit 11). The areas south and east of the roundhouse originally sloped toward the marshes near Daingerfield Island and were reportedly filled and leveled. Two previously excavated geotechnical borings show between 5 and 10.5 feet of fill in this vicinity.

Custis Avenue (Stations 14 + 00 through 18 +52.41)

The Avis building and parking lots are currently situated within the proposed path of Custis Avenue, which was the location of tracks in 1971. Based on the historic topography, this was the location of the stream/drainage shown on the Boschke map. No historic resources are shown in this area and the probability for prehistoric resources is highest near this stream.

Recommendations

Potomac Avenue and a portion of Swann Avenue are situated within a “filled area” that has a moderate to high probability for prehistoric resources within the potentially buried ground surface (see Exhibit 11). The level terraces situated above the marshes of Daingerfield Island would have been attractive to prehistoric populations for their resources. Although test borings have been excavated within Potomac Yard, the buried ground surface may have been overlooked.

Because the planned construction will impact the potentially buried ground surface beneath these proposed roads, further geotechnical boring is recommended. The testing should be limited between Stations 35 + 50 and 52 + 50 for Potomac Avenue and between Stations 14 + 87.5 and 16 + 68.5 and Stations 17 + 50 through 18 + 25.69 for Swann Avenue (Exhibit 15). The testing limits are based on the historic topography and the existing utility pipe that runs under Potomac Avenue up to approximately 35 + 00.

Archeological testing is also recommended in the vicinity of the Barbour House, which is located partially within the proposed path of Potomac Avenue and partially within Landbay H (see Exhibit 15). The proposed utilities beneath Potomac Avenue will impact the potentially buried historic surface to as much as an estimated 11 feet. Test trenches should be mechanically excavated in this location to locate any buried historic ground surfaces or significant archeological resources related to the Barbour House.

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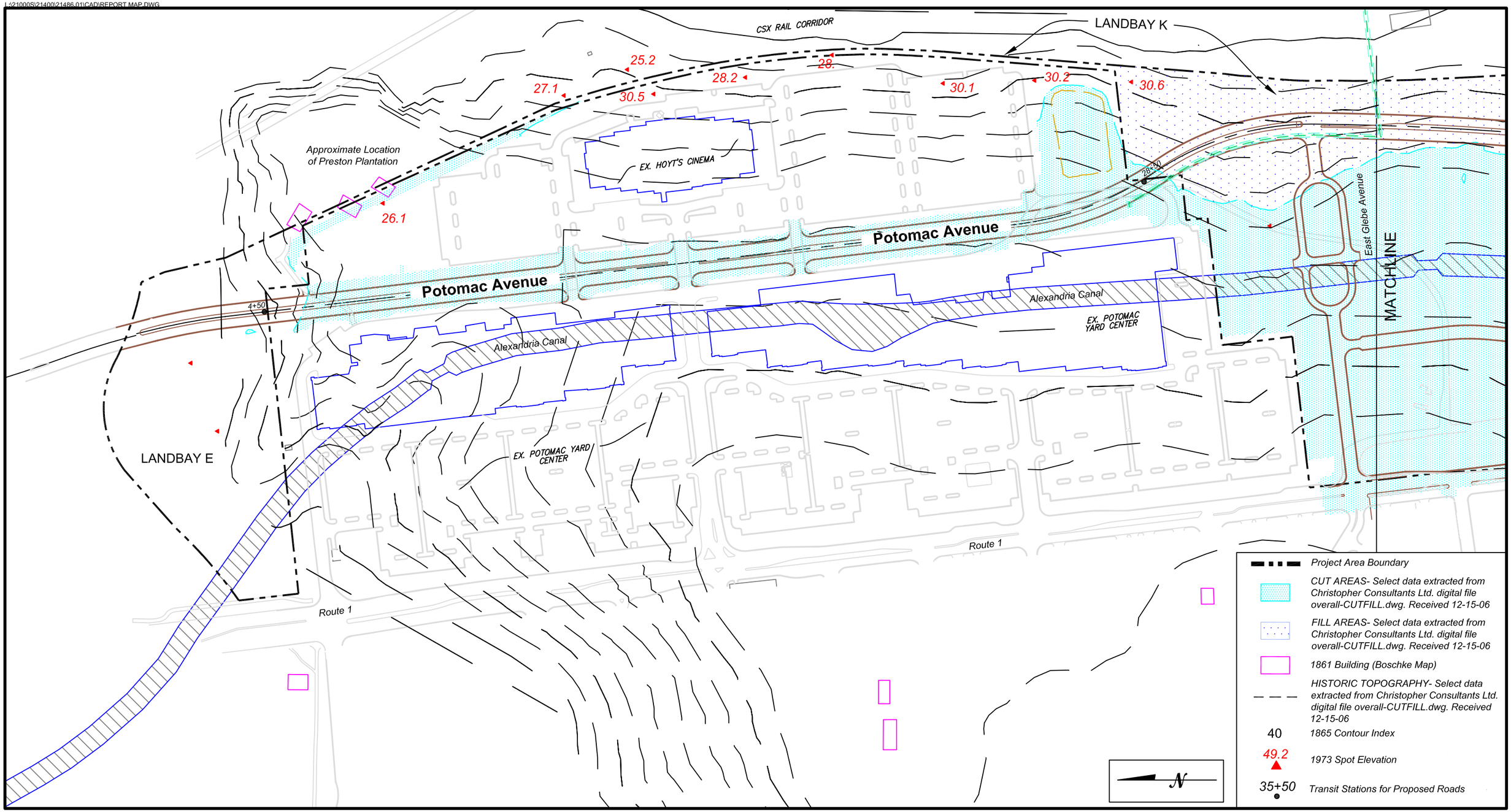

Potomac Avenue and Associated East/West Roads- Northern Portion: Potential Historic Resources
Potomac Yard - WSSI #21486.01
Scale: 1" = 250'

Thunderbird Archeology
A division of Wetland Studies and Solutions, Inc.

Exhibit 10

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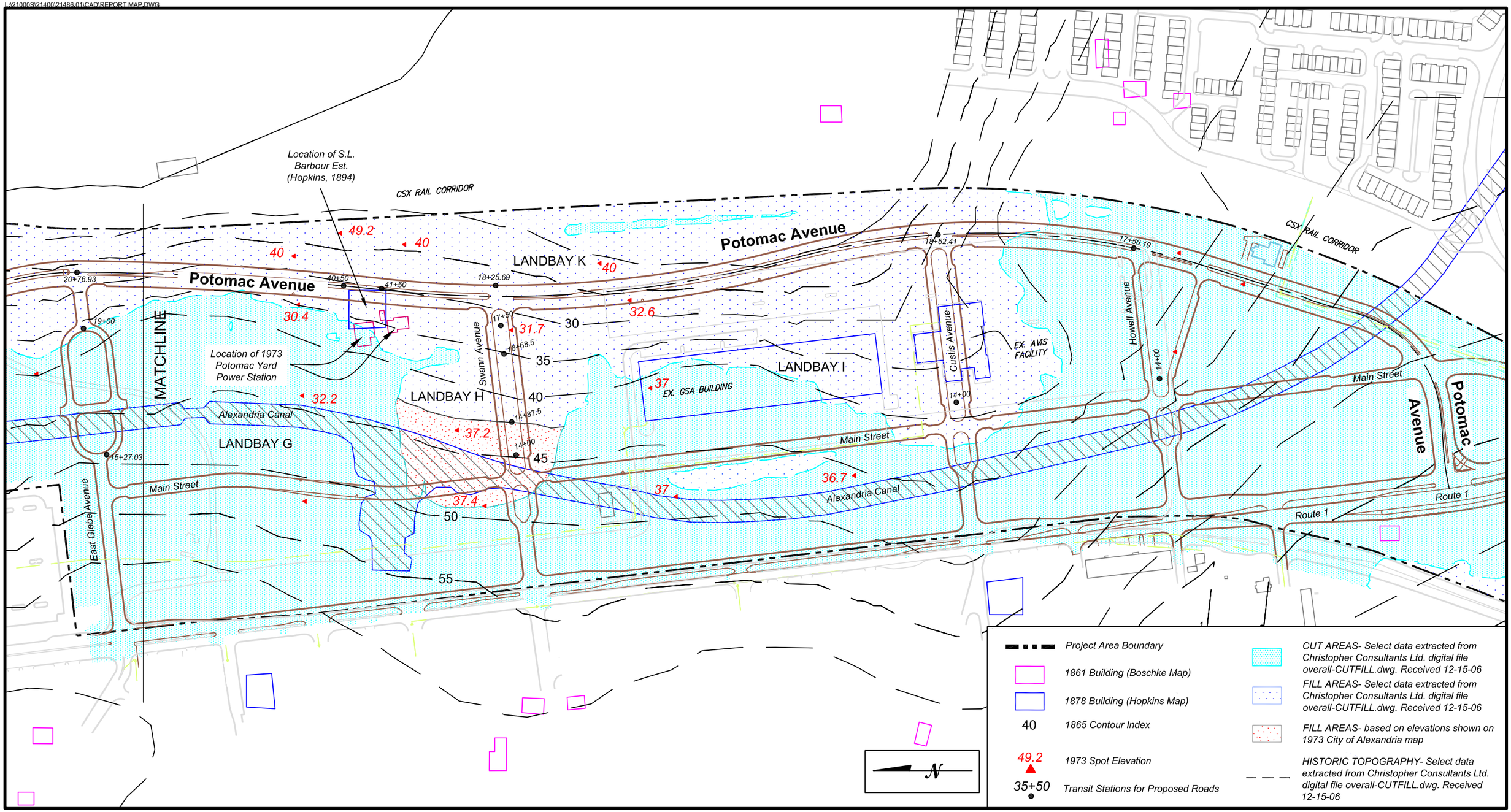

Potomac Avenue and Associated East/West Roads - Southern Portion: Potential Historic Resources
Potomac Yard - WSSI #21486.01
Scale: 1" = 250'

Thunderbird Archeology
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Exhibit 11

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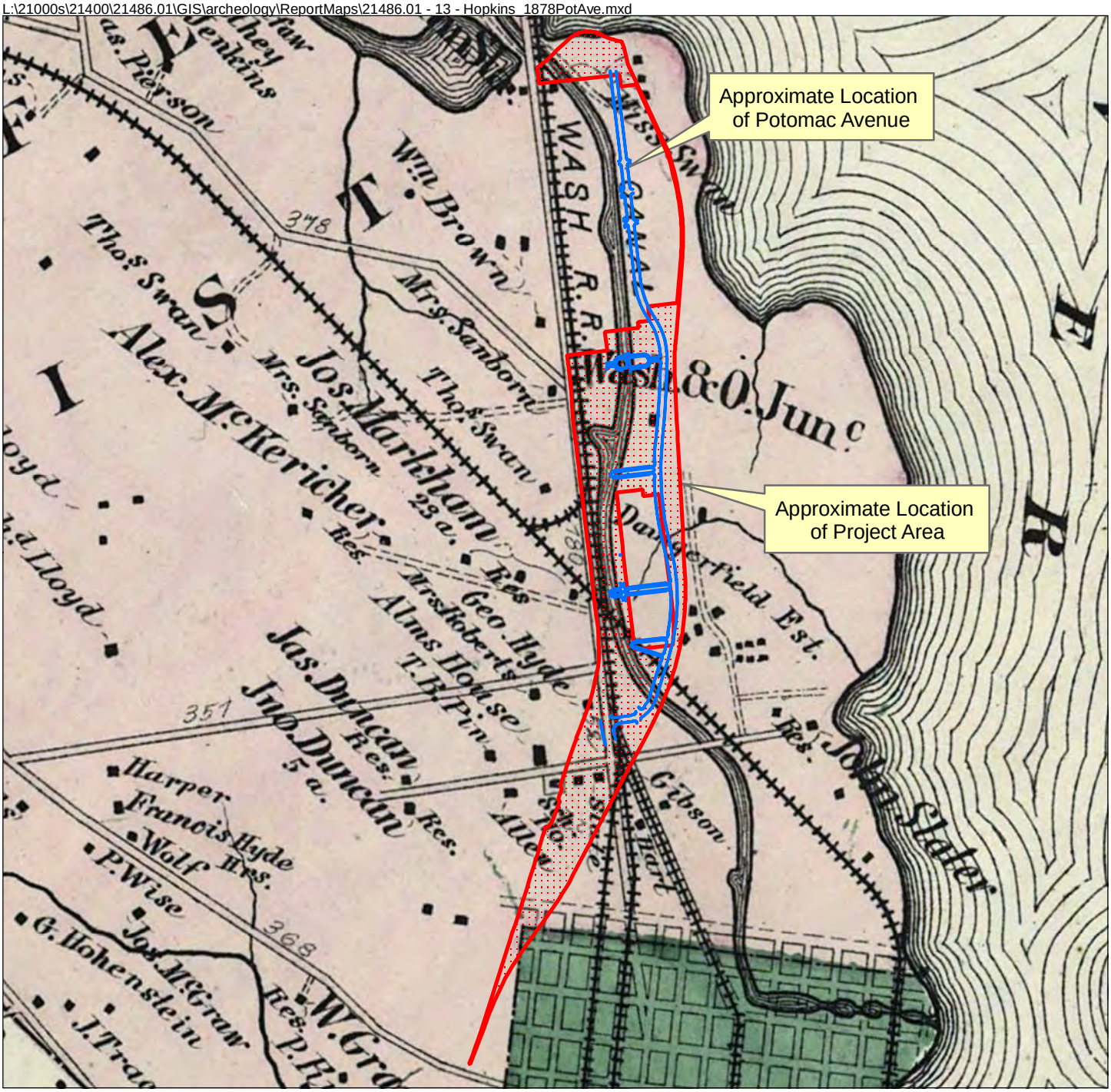

1878 Hopkins Map
Alexandria, VA
Potomac Yard
WSSI #21486.01
Scale: 1" = 1500'

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Map Source: "Alexandria County, Virginia. Entered according to the Act of Congress in the year 1878. By G.M. Hopkins in the Office of the Librarian of Congress at Washington". Library of Congress Geography and Map Division Washington D.C. Original Scale: 2 inches = 1 mile.

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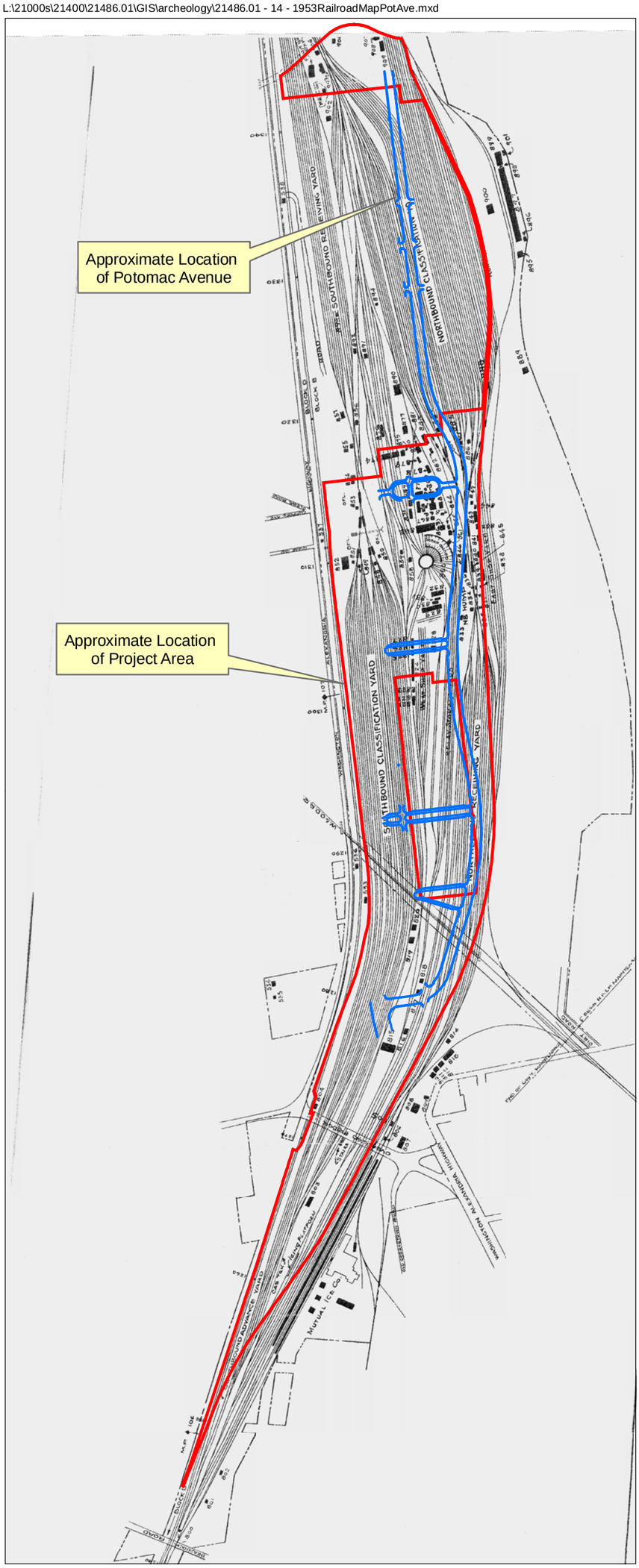

1953 Richmond, Fredericksburg & Potomac Railroad Co. Map
Potomac Yard
WSSI #21486.01
Scale: 1" = 800'

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Map Source: "Richmond, Fredericksburg & Potomac Railroad Co. Potomac Yard, VA. Location of Buildings". Original Scale: 1" = 400'. Revised to April 20, 1953. Obtained from History Matters, LLC. 1502 21st Street, NW Washington, DC 20036

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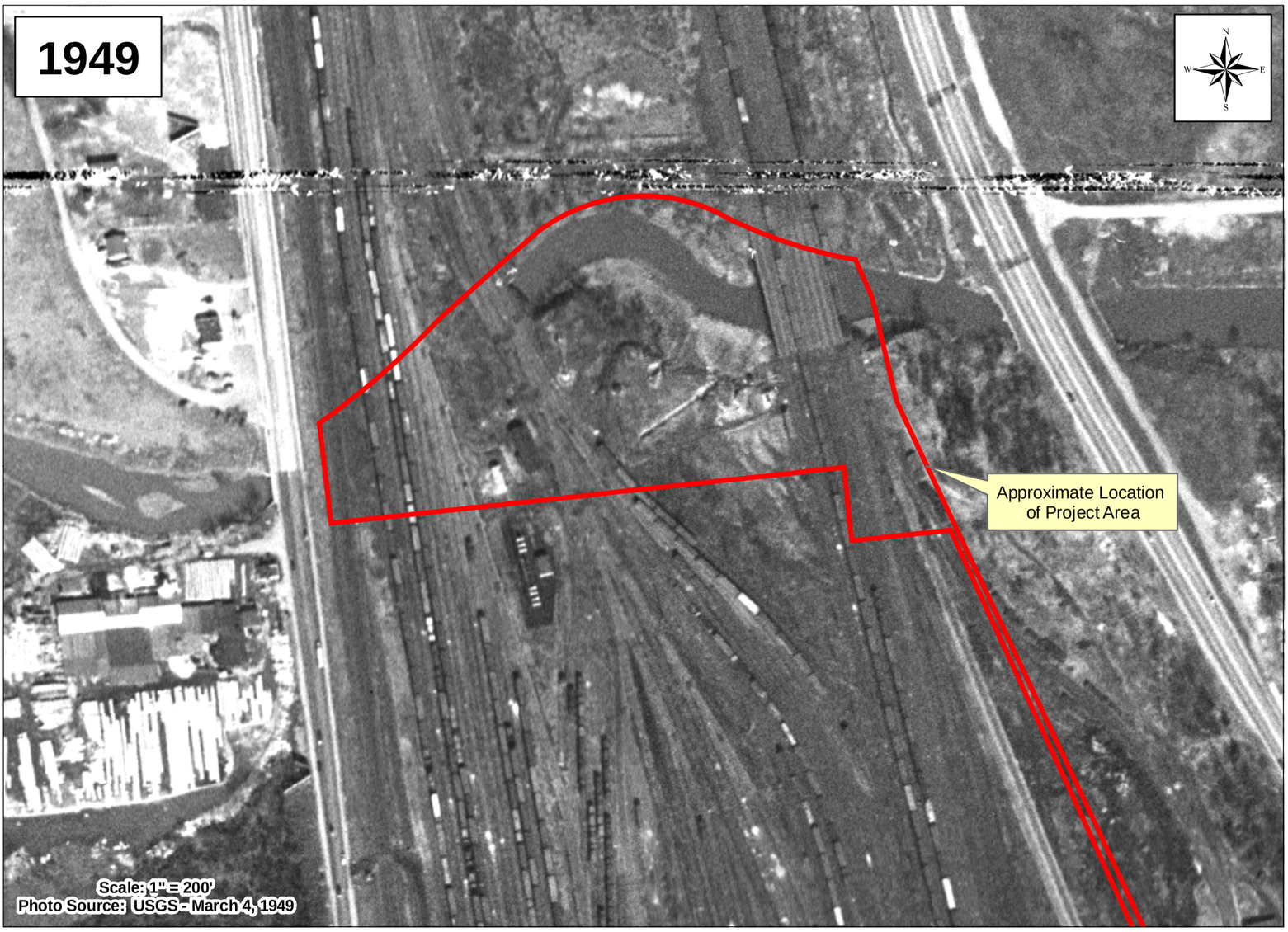

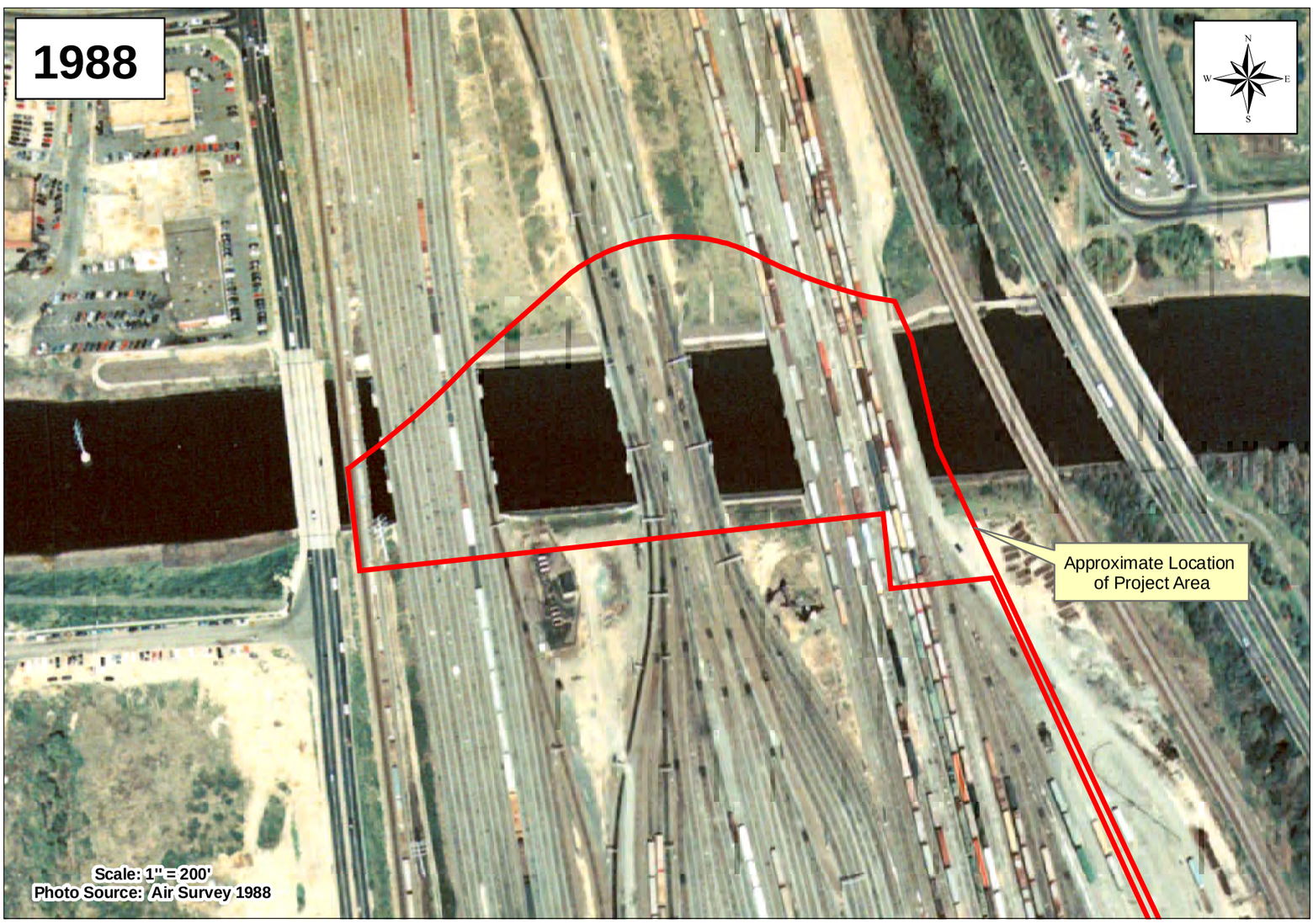

1949 and 1988 Aerial Photo Comparison
Potomac Yard
WSSI #21486.01

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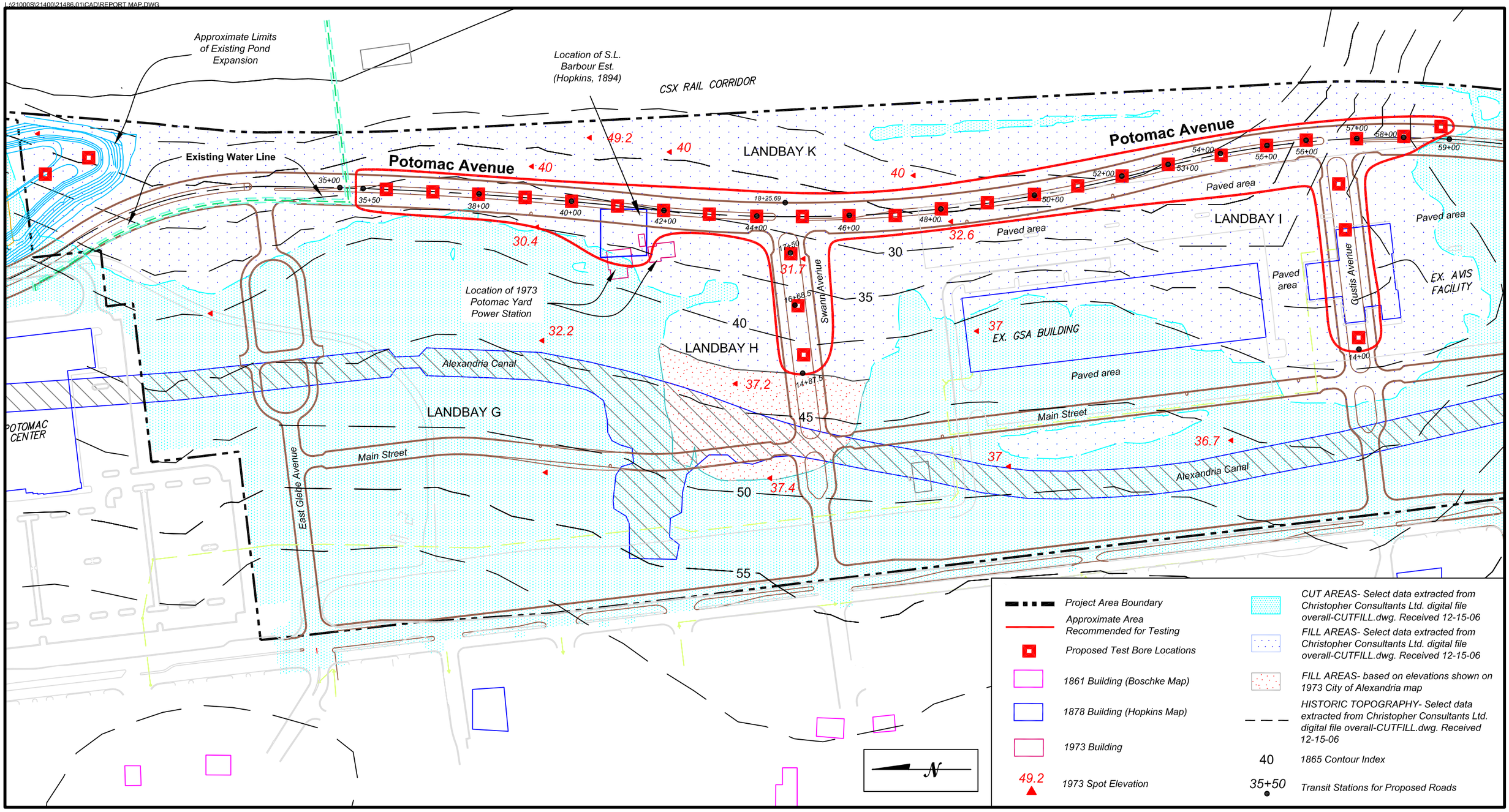

Potomac Avenue and East/West Roads - Areas Recommended for Testing
Potomac Yard - WSSI #21486.01
Scale: 1" = 200'

Thunderbird Archeology
A division of Wetland Studies and Solutions, Inc.

Exhibit 15

Route 1 Frontage Improvements and
Temporary Connection to Proposed Route 1 Bridge
Plan Number: C-5262

Location

The temporary connection to the proposed Route 1 Bridge extends from the northern end of the proposed bridge (Station 61 + 35) to the end of the temporary Route 1 connection at Custis Avenue (Station 74 + 92.37) (Exhibit 16).

Potential Prehistoric and Historic Resources

The probability that an area might yield a prehistoric archeological site is dependent on variables such as topography, aspect, proximity to water, and the availability of knappable lithic raw material. Historic maps do not show any nearby streams and the Route 1 temporary connection is some distance from the marshes above Daingerfield Island. Therefore, this section has a low probability of containing prehistoric resources.

Nineteenth and 20th century maps show several buildings that formerly were along the path of the proposed connection. The 1878 Hopkins map depicts a building identified as "Geo. Hyde" on the west side of what was then the Alexandria Turnpike; this residence may also be depicted on the 1862 McDowell and the 1861 Boschke maps, although it is unidentified on these earlier maps (see Exhibit 3). Re-alignment of the Alexandria Turnpike during the early 20th century placed the location of the Hyde house within the limits of the rail yard (see Exhibit 16). The location of the dwelling appears to lie south of the temporary Route 1 connection and the Monroe Avenue slip ramp, between Stations 63 + 50 and 65 + 00.

Potomac Yard Railroad Resources

The 1953 plat of the rail yard shows a former building (number 536) between Stations 72 + 75 and 73 + 50, and another yard building (number 533) is adjacent to the proposed road between Stations 70 + 75 and 71 + 25 (Exhibit 17). The proposed road also crosses the former AL&H RR corridor between Stations 74 + 00 and 76 + 00.

Analysis and Recommendations

Although significant historic resources may have been located nearby, the entire stretch of this road lies within a "cut area"; the 2004 ground surface is an estimated 17-20 feet below the 1865 ground surface (see Exhibit 16). No archeological testing in recommended within any portion of this road.

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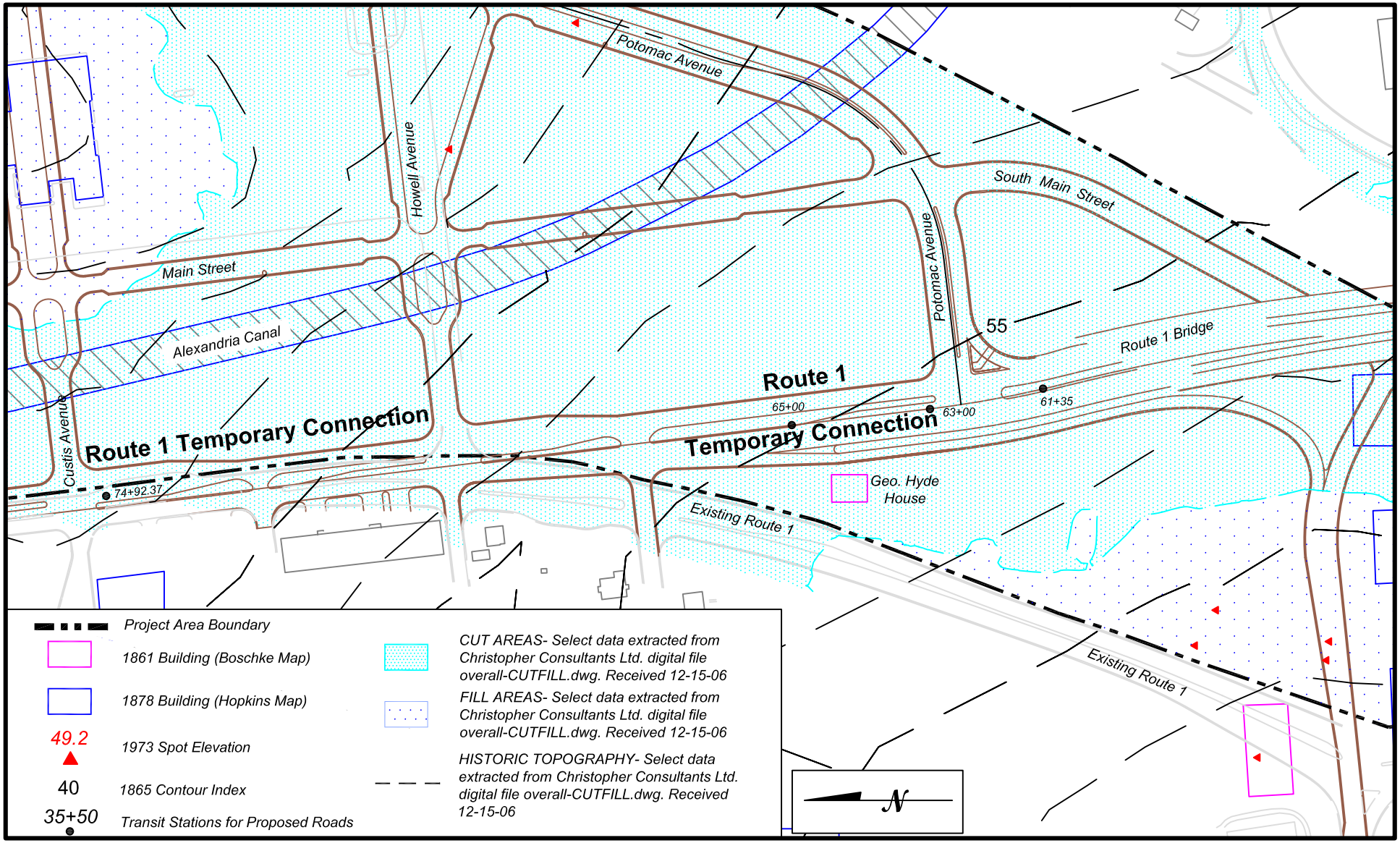

Route 1 - Temporary Connection to Proposed Route 1 Bridge: Potential Historic Resources
Potomac Yard - WSSI #21486.01
Scale: 1" = 200'

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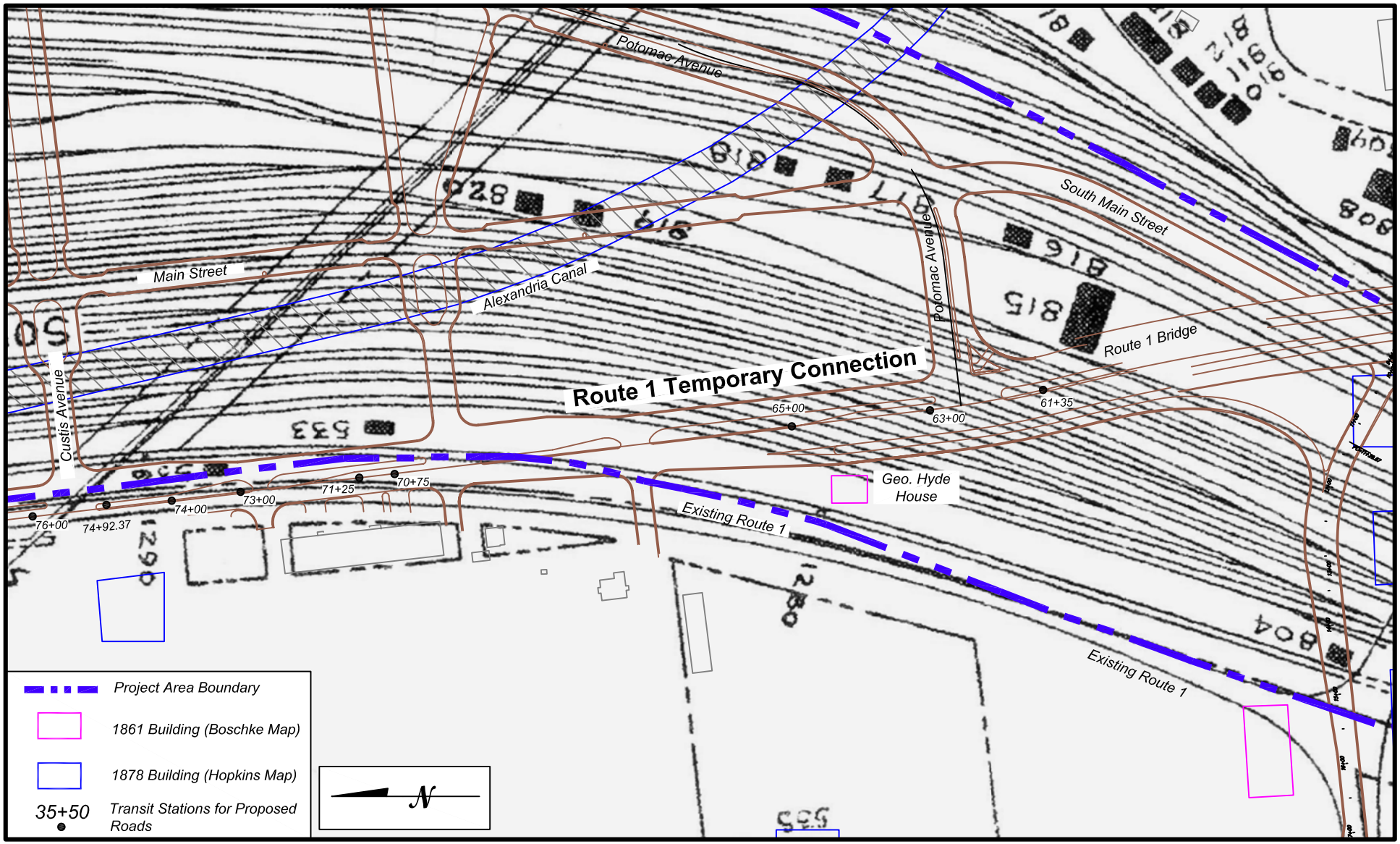

Portion of 1953 Map Showing the Route 1 Temporary Connection
Potomac Yard - WSSI #21486.01
Scale: 1" = 200'

Onsite Pump Station and Forcemain
Plan Number: C-4905

Location

The proposed Pump Station and Onsite Forcemain are located within Landbay K, approximately 80 feet east of Stations 65 + 00 through 66 + 00 of Potomac Avenue (Exhibit 18).

Potential Prehistoric and Historic Resources

The probability that an area might yield a prehistoric archeological site is dependent on variables such as topography, aspect, proximity to water, and the availability of knappable lithic raw material. Historic maps do not show any nearby streams near the pump station and it is some distance from the marshes above Daingerfield Island. Therefore, this section has a low probability of containing prehistoric resources.

Nineteenth and 20th century maps do no show any buildings in the vicinity of the proposed Pump Station, however the location of the Pump Station was once a part of the Daingerfield property, a 19th century farmstead. The buildings that comprised the farmstead appear to have been located several hundred feet to the east, outside of the project area.

The location of the proposed Pump Station is partly within the former Alexandria, Loudoun & Hampshire Railroad corridor; a trestle was constructed to carry the rail line when Potomac Yard was established in 1906. With the abandonment of the rail line in the late 1960s, the trestle was dismantled, although portions of the piers remained into the late 1980s.

Potomac Yard Railroad Resources

The 1953 plat of the rail yard shows only railroad tracks in the vicinity of the proposed Pump Station; these tracks were part of the Northbound Receiving Yard (Exhibit 19). The plat also shows a narrow strip of open space between tracks immediately west of the proposed Pump Station location.

Analysis and Recommendations

The proposed Pump Station is located within a "cut area"; there is considered to be no possibility of extant archeological resources at the location of the proposed building or within the adjacent area to the west. No archeological work is recommended for the proposed Pump Station and Onsite Forcemain location.

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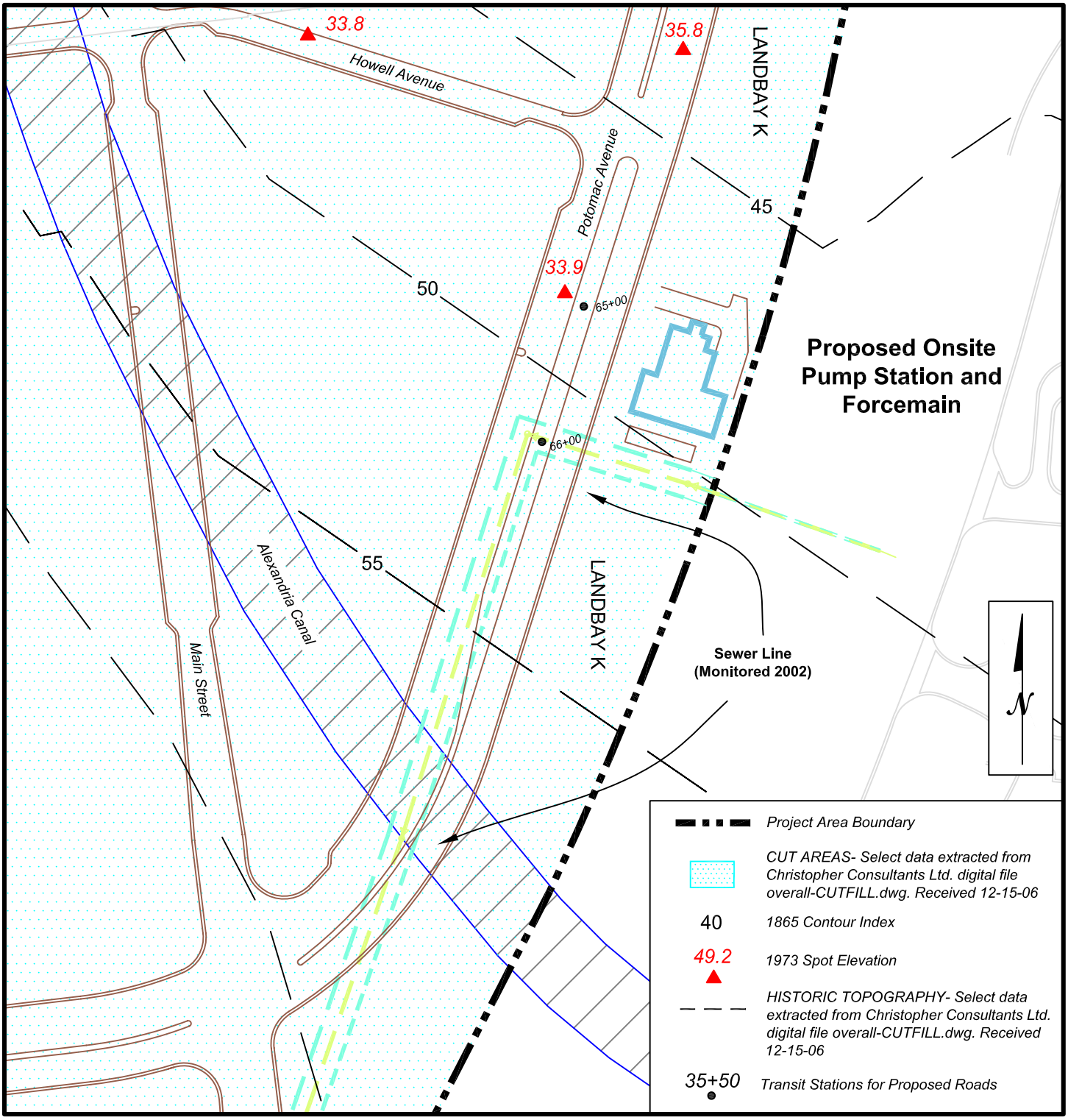

Onsite Pump Station and Forcemain : Potential Historic Resources
Potomac Yard - WSSI #21486.01
Scale: 1" = 200'

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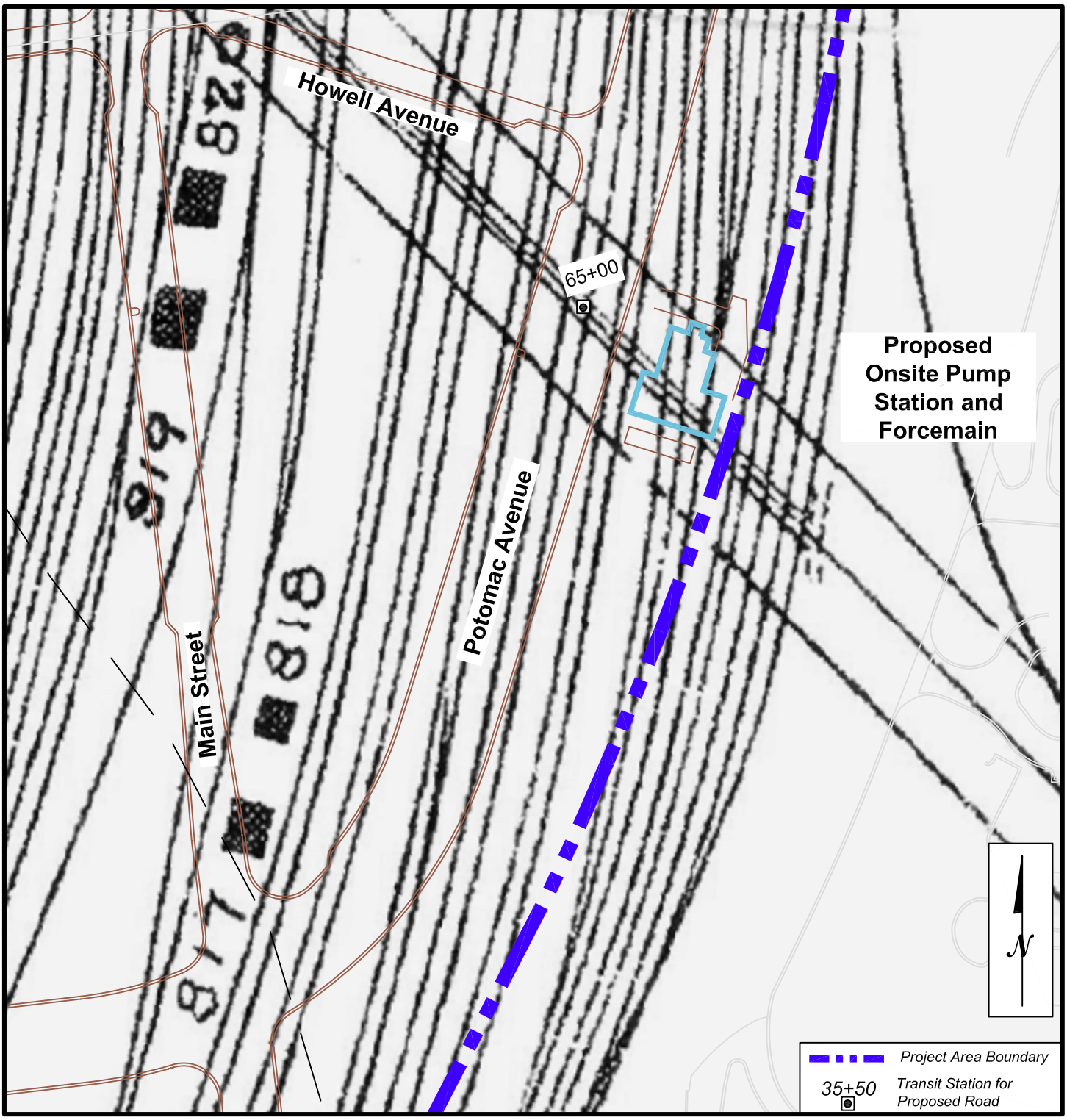

Portion of 1953 Map Showing Proposed Location of Onsite Pump Station and Forcemain
Potomac Yard - WSSI #21486.01
Scale: 1" = 200'