



INTEGRATED HISTORIC PRESERVATION PLANNING

March 21, 2014

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RE: Preliminary Archeological Assessment of the Proposed United Illuminating Baird to Congress Project in Bridgeport and Stratford, Connecticut

Mr. Crosbie:

Heritage Consultants, LLC, is pleased to have this opportunity to provide United Illuminating, with the following preliminary archeological assessment of the proposed United Illuminating Baird to Congress Project in Bridgeport and Stratford, Connecticut. The currently proposed project plans for the separation of the existing utility lines from the overhead catenary system along Metro North's rail line system to a series of free-standing poles near the edge of the existing railroad corridor (Figure 1). The current project entailed completion of an existing conditions cultural resources summary based on the examination of GIS data obtained from the Connecticut State Historic Preservation Office, as well as historic maps, aerial photographs, and topographic quadrangles maintained by Heritage Consultants, LLC. This investigation did not consider the effects of the proposed construction upon built resources, and it is based upon project location information provided to Heritage Consultants, LLC by United Illuminating. The objectives of this study were: 1) to gather and present data regarding previously identified cultural resources situated within the vicinity of the Areas of Potential Effect; 2) to investigate the proposed project areas in terms of their natural and historical characteristics; and 3) to evaluate the need for completing additional cultural resources investigations.

Brief Contextual History of the New York and New Haven Railroad (Metro North)

In order to evaluate possible impacts the construction project may have cultural resource in the region, it was necessary to produce a historical context of the area. Railroad history in Fairfield and New Haven began in the 1840s, when the state's third railroad, the New York and New Haven Railroad, was incorporated. Its line from New Haven into New York State was completed in 1849, and it featured a single 69 mile iron track designed mainly for passenger traffic. During the 1860s, the line's economic situation improved, allowing for replacement of the rails with steel, the construction of new stations, and the expansion of maintenance facilities. The railroad also began to take more of an interest in freight shipping at that time. In 1872, the New York and New Haven Railroad merged with the Hartford and New Haven Railroad. Together they were the largest transportation company in Connecticut, and was renamed the New York, New Haven, and Hartford Railroad. Over the succeeding three decades, company leaders carried out a series of acquisitions and long-term leases, through which the rail line became a near-monopoly on transportation in the state. The company owned railroads (including almost 1,000 steam engines by 1904), steamboats, and electric trolley lines (Turner and Jacobus 1987). In the process it also purchased a number of electricity generation facilities (Campbell 1950). The company was an early

experimenter with electric engines, first moving the route between New Haven and New York to that mode of propulsion. The choice of overhead wire systems was made because the third-rail system was demonstrably unsafe on open tracks (Turner and Jacobus 1987).

In 1907, the rail line participated in fiscal overreach and shady dealings in the opening years of the twentieth century which led to a 1907 exposé and a series of investigations, fiscal retrenchment, and a series of fatal accidents. The president of the company resigned in 1913 and a series of prosecutions under the Sherman Anti-Trust Act led to some divestments. This anti-trust process was interrupted by the federal takeover of the railroads during World War I, and in 1920 a partially revived company began adding buses and trucking companies to its portfolio. Old debts from the pre-war era caught up to it during the Great Depression, however, and in 1935 it entered bankruptcy and a 12 year long period of reorganization that carried the company through World War II. In 1947, however, it was taken over by a corporate profiteer, and the combination of persistently deferred maintenance, cost-cutting, and competition from Interstate 95 (opened in 1958 as the Connecticut Turnpike) led to a new bankruptcy in 1961. This bankruptcy led to its forced merger – and consequent disappearance as a corporate entity – into the new Penn Central Transportation Company in 1968. That poorly-run company went into bankruptcy in by 1970, and in 1985, the Connecticut Department of Transportation bought much of the track and facilities. It now operates as Metro North.

Electrical Generation and Transmission along the Railroad Corridor

The process of using electricity to power New York, New Haven and Hartford Railroad trains began in 1904, when the process of electrifying the track between Woodlawn, New York, and Stamford, Connecticut was begun. Opened for use in 1907, it was the country's first trunk line electrification and used alternating current, which was a break with the less efficient direct current systems that had been in common use up to that point. Much of the system was designed and built by Westinghouse Electric and Manufacturing Company, which was pioneering commercial use of alternating current at the time. Between 1911 and 1914, the electrification was continued an additional 45 miles to New Haven. Power generation was at first handled by a plant in Cos Cob, Greenwich, which was the first facility for generating 11,000 volts of alternating current at 25 cycles for railroad use. This later became the standard for railroad electrification in the United States. The plant included a monitoring and control system, and transmission was along an overhead catenary and trolley wire system. Electricity was also provided to stations and maintenance facilities. Finally, a signaling and communications system was also added. Various components of the system were improved while in service between 1907 and 1924. By 1912, extension of electrification required the company to begin buying power from a Consolidated Edison predecessor company, in addition to that provided by the expanded Cos Cob plant (Stewart 2000).

Regardless of where the power came from, the railroad developed two different systems for transmitting it to the trains. There is an unusual section within a small area in Stamford, near the Darien line, which contains three wires above the track spaced by hangers, forming a downward-pointing triangle. The powered trolley wire comprises the lower point. Use of this type of system, however, showed that the hangers caused too much wear on the contact wire. As a result, flexible clips were installed to hold a new trolley wire below the original one, and no more of the triangular suspension system was built. The remainder of the electrical line uses a simpler system, with the catenary line suspended from “hanger beams” between “bridges.” The powered trolley line is suspended by hangers from those. The four trolley wires (for the four tracks) were insulated from one another and a system of separate powered sections and circuit breakers helped make operation and repair safer. The system also called for steel open truss bridges over the tracks about 300 feet apart to support the complex of wires. It also includes “anchor bridges” about every two miles, which are much stronger structures that help support the weight of the wires and also carry transformers, access walkways, and other necessary items (Stewart 2000). This

system has remained in place and in operation for over 100 years; however, the proposed project calls for the separation of the existing utility lines from the overhead catenary system to free-standing poles.

Results of the Current Investigation

As the historical discussion above suggests, the portions of Bridgeport and Stratford containing the proposed project tower locations were settled by the middle of the nineteenth century. This is confirmed by Figures 2 and 3, Sheets 1 and 2, historic maps from 1856 and 1867, respectively, which demonstrate that these areas contained a well-developed system of roads and residential homes, as well as the tracks associated with the New York and New Haven Railroad (now Metro North). The area also likely contained many parcels of open land that were likely used for agricultural purposes at that time. Figure 4, Sheets 1 and 2, which are aerial images taken in 1934, show that in the decades between 1860 and 1930 significant changes to the landscape occurred, including a large area of urban sprawl comprised of new roads, residences, commercial operations, and industrial facilities. By 1934, Bridgeport had become a major city in Connecticut. In addition, New York and New Haven Railroad was fully built and in operation by the early twentieth century, and its facilities had been greatly improved since the 1850s to include additional lines and large rail yards. Figure 5, Sheet 1 and 2 document the continued development of the area surrounding the proposed tower locations and the associated railroad corridor as of 1965. These additional developments include housing subdivisions, more large commercial facilities, and the recently built Interstate 95 corridor. Figure 6, Sheets 1 and 2 represent an aerial image captured in 1990; it shows continued growth in the region, with a large build out of the area adjacent of the eastern portion of the study area. Finally, Figures 7 and 8, Sheets 1 and 2, aerial images dating from 2006 and 2012, respectively, show the areas encompassing the proposed tower locations in their essentially modern state. It confirms the developed nature of the proposed project areas and their proximity to the Metro North line.

During the current investigation, Heritage Consultants, LLC also collected data relating to previously completed cultural resources investigations within the vicinity of the proposed project areas. The survey files of the Connecticut State Historic Preservation Office and Heritage Consultants, LLC revealed that these portions of Bridgeport and Stratford, Connecticut have been subjected to six large scale cultural resources studies (CHPC 234, 820, 1283, 1376, 1509 and 1715) (Figure 9, Sheets 1 and 2). CHPC 234 is particularly important for the current investigation since it was specific to the existing railroad corridor containing the currently proposed project items. During the 1980s, De Leuw, Cather completed CHPC234, which resulted in the identification of two historic bridges, a single historic railroad viaduct, one historic railroad station (which had recently burned down), one National Register listed building, and one National Register District in Bridgeport, Connecticut. This survey resulted in the recordation of one National Register listed structure, two National Register eligible structures, a single historic railroad station, and the Housatonic River Bridge in Stratford, Connecticut. Since the results of this investigation simply represent an inventory of what cultural resources present in the area as of 1980, there were no recommendations concerning additional recordation of these cultural resources.

Heritage Consultants, LLC also completed a review of previously recorded archaeological sites and National Register of Historic Places Properties in the vicinity of the proposed tower locations that are on file with the Connecticut State Historic Preservation Office (Figures 10 and 11, Sheets 1 and 2). This review resulted in the identification of two previously recorded archaeological sites and nine National Register of Historic Places properties and historic districts within 0.4 km (0.25 mi) of the proposed tower locations. The archaeological sites (15-7 and 15-20) consist of a Woodland period cemetery that has been destroyed and a scatter of "stone posts" that were attributed to a Native American occupation from an unspecified period. The latter site also has been destroyed. The National Register of Historic Places properties and historic districts consist of the Connecticut Railway and Lighting Barn, Pequonnock River Bridge, East Bridgeport Historic District, East Main Street Historic District, Deacons Point Historic

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District, American Chain Company, Gateway Village Historic District, Remington Village Historic District, and Wilmot Apartments Historic District (see Figure 11, Sheets 1 and 2). These cultural resources date from the nineteenth and twentieth centuries and are considered significant in the areas of architecture, industrial development, engineering, community planning, and design. Despite the presence of the above-referenced cultural resources within 0.4 km (0.25 mi) of the proposed project areas, none will be impacted directly by the proposed tower construction project. In addition, since the electrical utilities already exist in the area and are located on catenaries associated with the railroad corridor, the addition of new towers of similar heights next to the existing catenaries will present no new impacts to known cultural resources in the project region.

In addition to a review of historic maps, aerial images, previously completed cultural resources investigations, and previously recorded cultural resources, Heritage Consultants, LLC reviewed environmental characteristics that frequently are used to predict the location of yet-to-be-identified archeological sites. Typically distance to water, slope, and soil types are included as part of these predictive models. Favorable conditions are characterized by gently sloping, well-drained, undisturbed soils in close proximity to fresh water. While some of the proposed towers are situated in proximity to gently sloping areas and fresh water sources, it is clear in Figure 12, Sheets 1 and 2 that the soils situated along almost the entirety of the railroad corridor have been substantially impacted by development over the last 150 years or more. These soils have been designated as either Udorthents or Urban Land. While Udorthents are characterized by soils that have been substantially disturbed through cutting and filling activities, Urban Land is described as a land surface where at least 85 percent of it is covered by streets, parking lots, buildings and other impervious surfaces. Generally, the original soils within these series have been so significantly altered through excavating or filling that no other soil designation is possible. Udorthents and Urban Land soil types retain little, if any, potential to yield intact cultural deposits. Finally, pedestrian survey of the areas encompassing each of the proposed project items also was completed. Photos 1 through 18, which are representative photographs of the proposed project areas, clearly show the disturbed nature of each area, as well as the presence of underground facilities.

Summary and Recommendations

A review of environmental characteristics, historic maps and aerial images, and previously recorded cultural resources was used to assess the potential for the proposed project areas to contain intact subsurface deposits. Given the substantial amount of development within the proposed areas and the large number of previous disturbances, it is highly unlikely that intact soil deposits remain. Therefore, it is the professional opinion of Heritage Consultants, LLC that no further archeological investigations of the tower locations associated with the proposed United Illuminating Baird to Congress Upgrade Project in Bridgeport and Stratford, Connecticut are warranted.

If you have any questions regarding this Technical Memorandum, or if we may be of additional assistance with this or any other projects you may have, please do not hesitate to call us at 860-667-3001 or email us info@heritage-consultants.com. We are at your service.

Sincerely,



Nicholas Griffis, M.A.
Staff Archaeologist

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1950 *Progress and Change: A Brief History of Connecticut's Largest Electric & Gas Utility*. NY: The Newcomen Society in North America.
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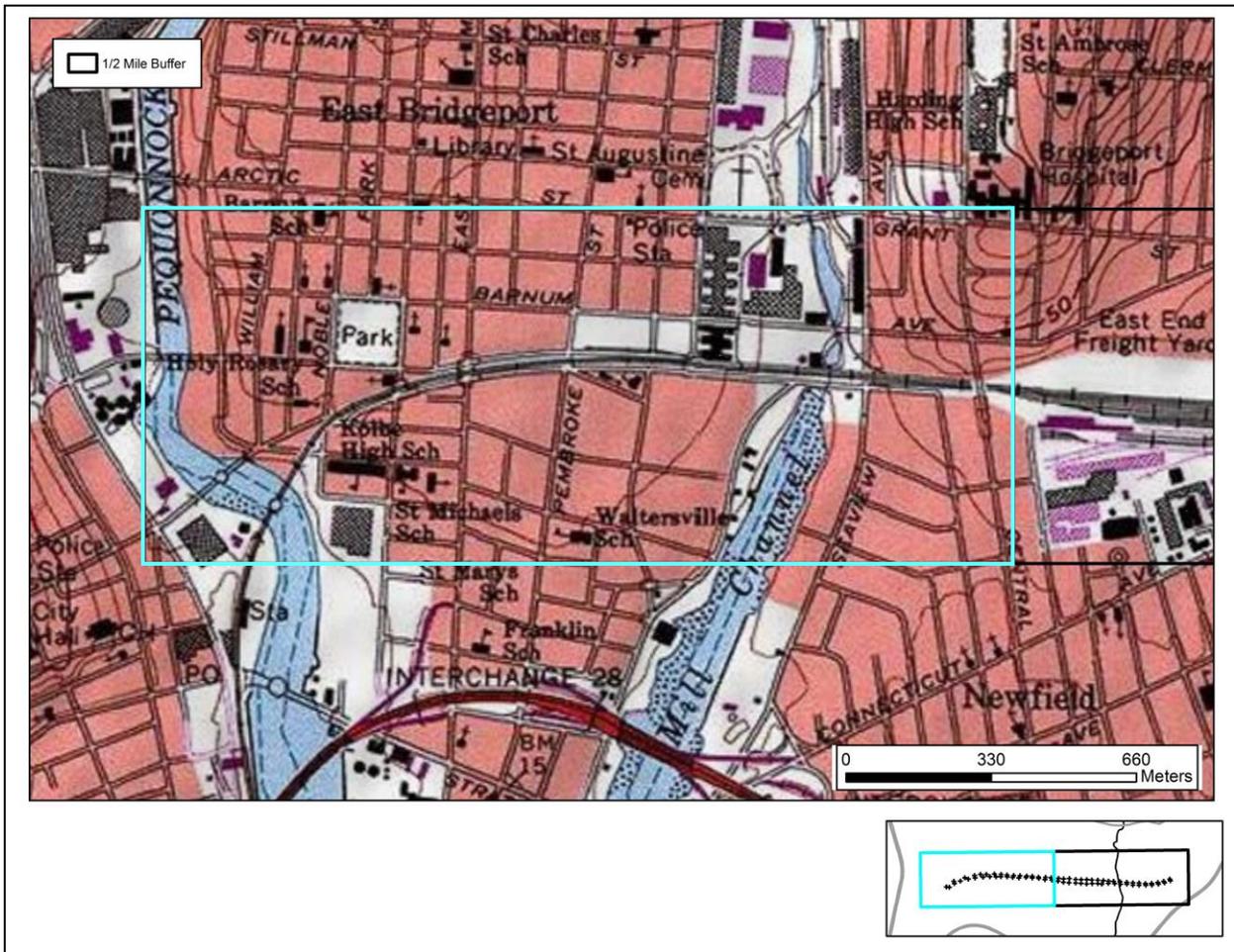


Figure 1, Sheet 1. Excerpt from recent USGS topographic quadrangle map, depicting the proposed Baird to Congress Project Area.

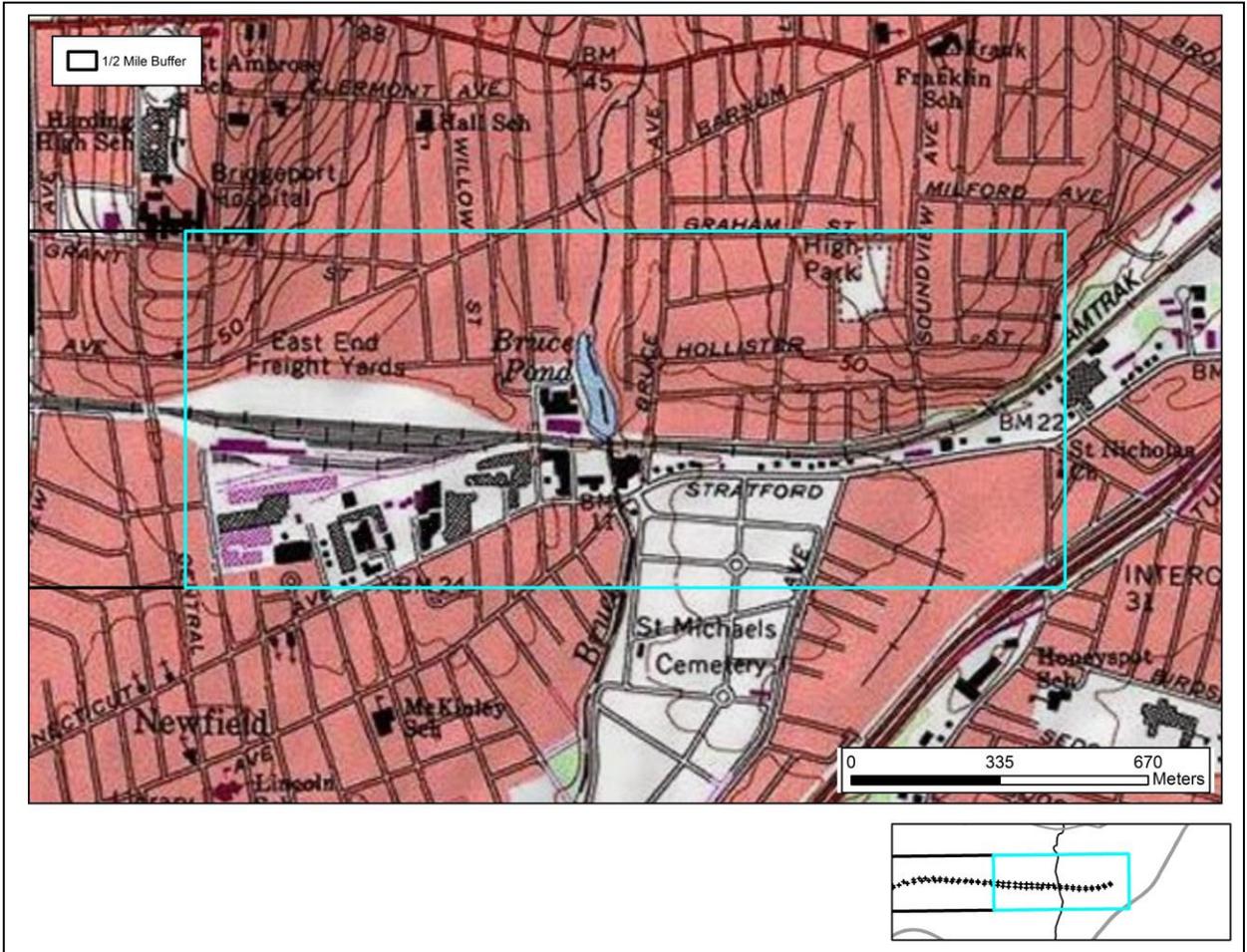


Figure 1, Sheet 2. Excerpt from recent USGS topographic quadrangle map, depicting the proposed Baird to Congress Project Area.



Figure 2, Sheet 1. Excerpt from a 1856 historic map depicting the proposed Baird to Congress Project Area.

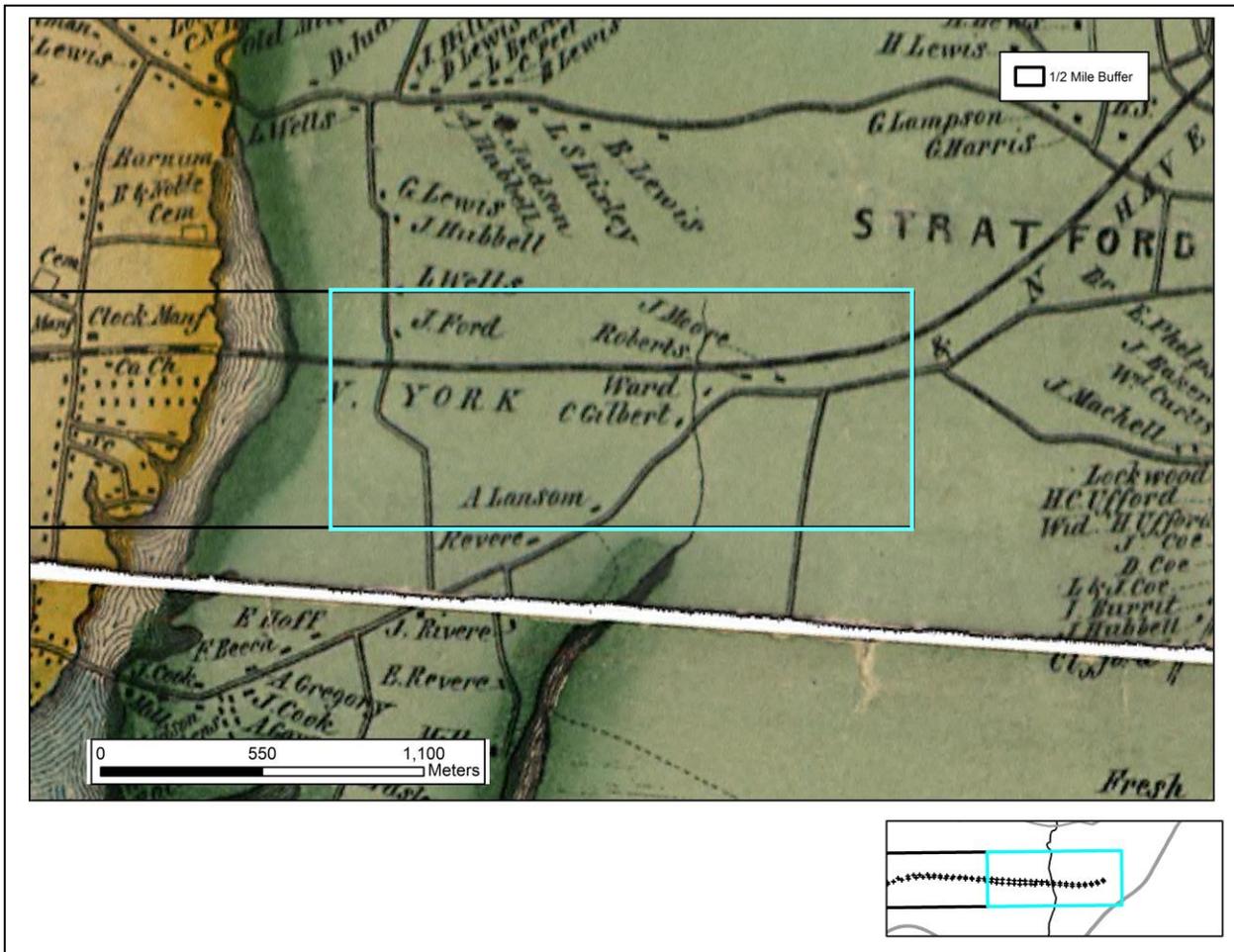


Figure 2, Sheet 2. Excerpt from a 1856 historic map depicting the proposed Baird to Congress Project Area.



Figure 3, Sheet 1. Excerpt from a 1867 historic map depicting the proposed Baird to Congress Project Area.

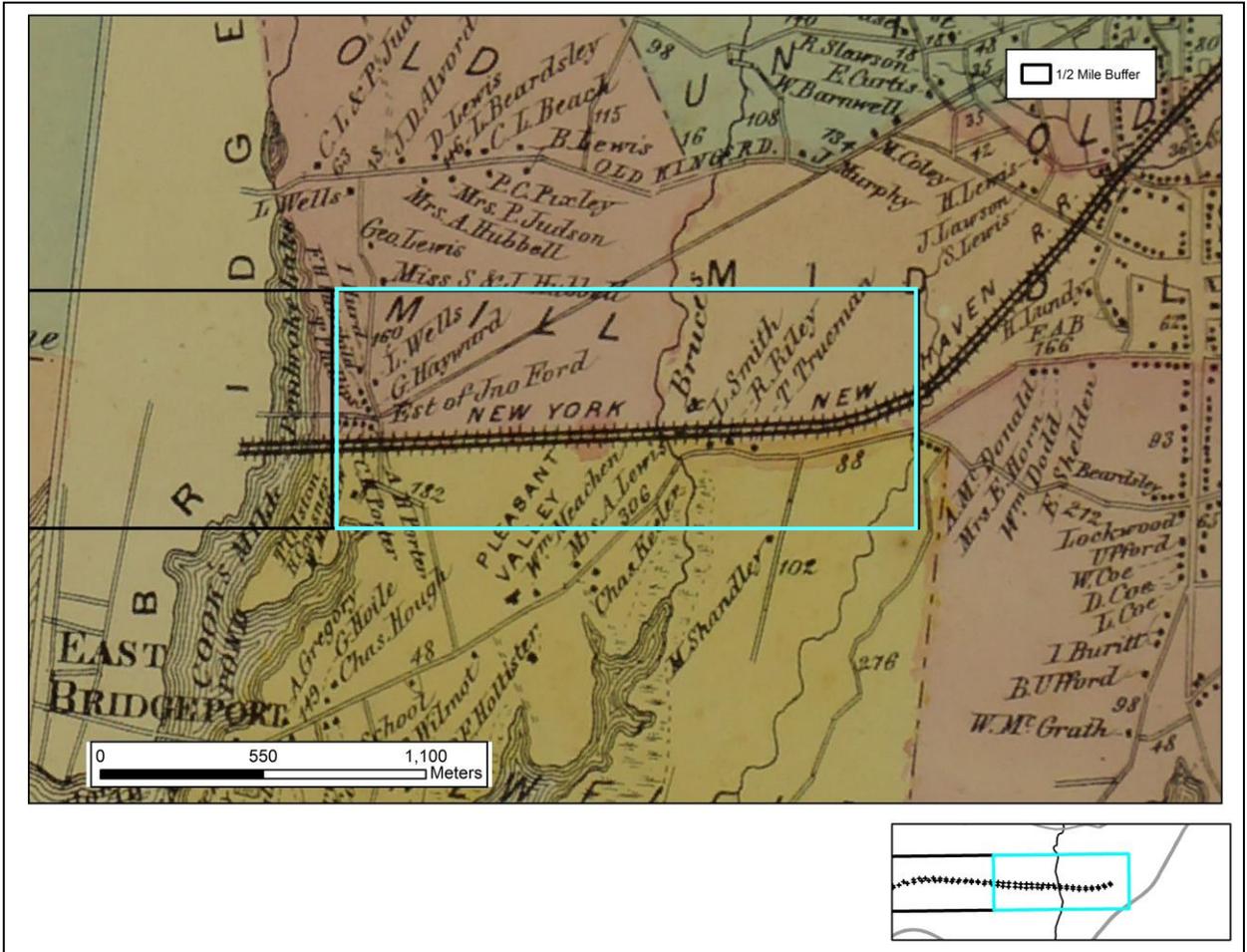


Figure 3, Sheet 2. Excerpt from a 1867 historic map depicting the proposed Baird to Congress Project Area.



Figure 4, Sheet 1. Excerpt from a 1934 aerial image depicting the proposed Baird to Congress Project Area.



Figure 4, Sheet 2. Excerpt from a 1934 aerial image depicting the proposed Baird to Congress Project Area.



Figure 5, Sheet 1. Excerpt from a 1965 aerial image depicting the proposed Baird to Congress Project Area.



Figure 5, Sheet 2. Excerpt from a 1965 aerial image depicting the proposed Baird to Congress Project Area.

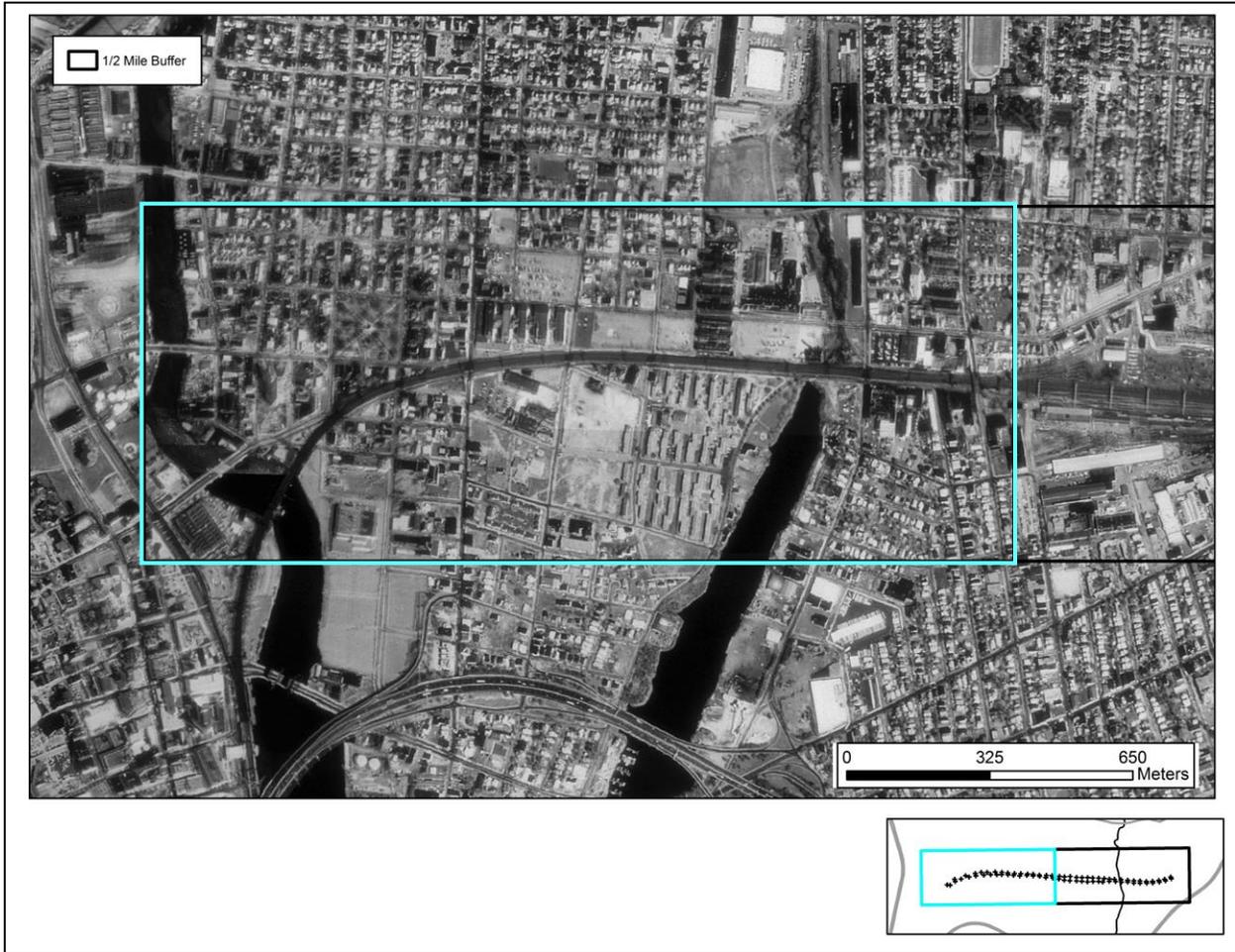


Figure 6, Sheet 1. Excerpt from a 1990 aerial image depicting the proposed Baird to Congress Project Area.

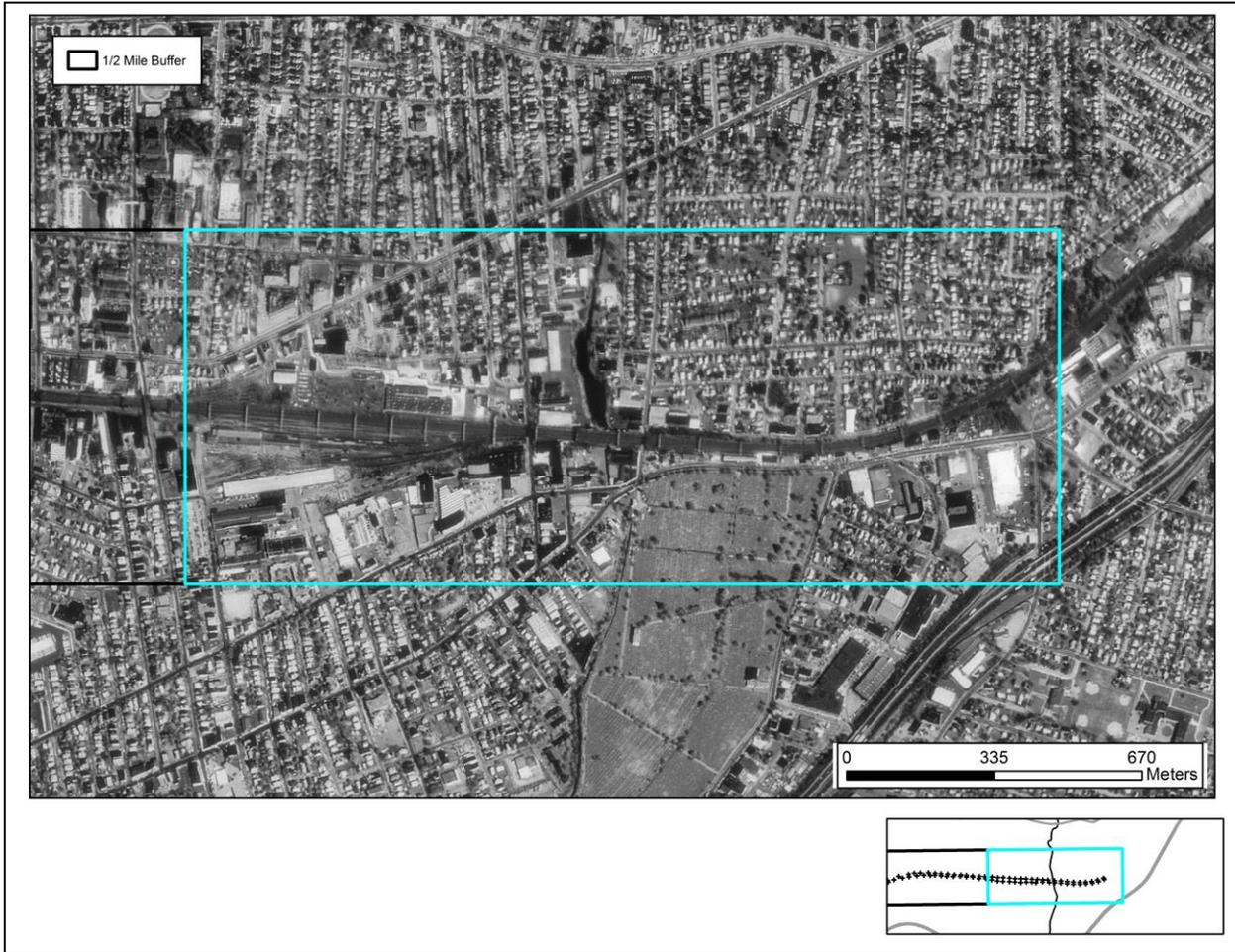


Figure 6, Sheet 2. Excerpt from a 1990 aerial image depicting the proposed Baird to Congress Project Area.

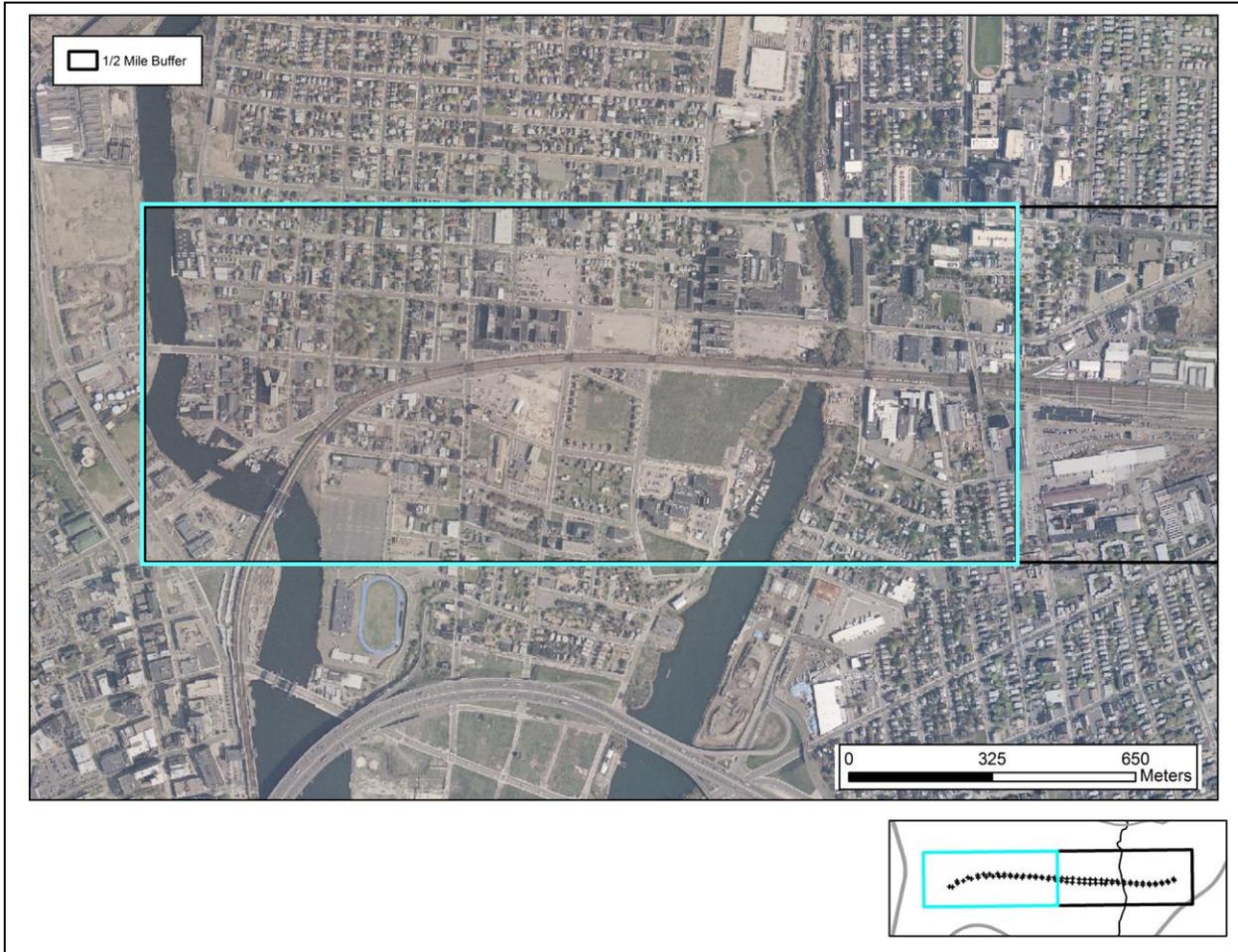


Figure 7, Sheet 1. Excerpt from a 2008 aerial image depicting the proposed Baird to Congress Project Area.

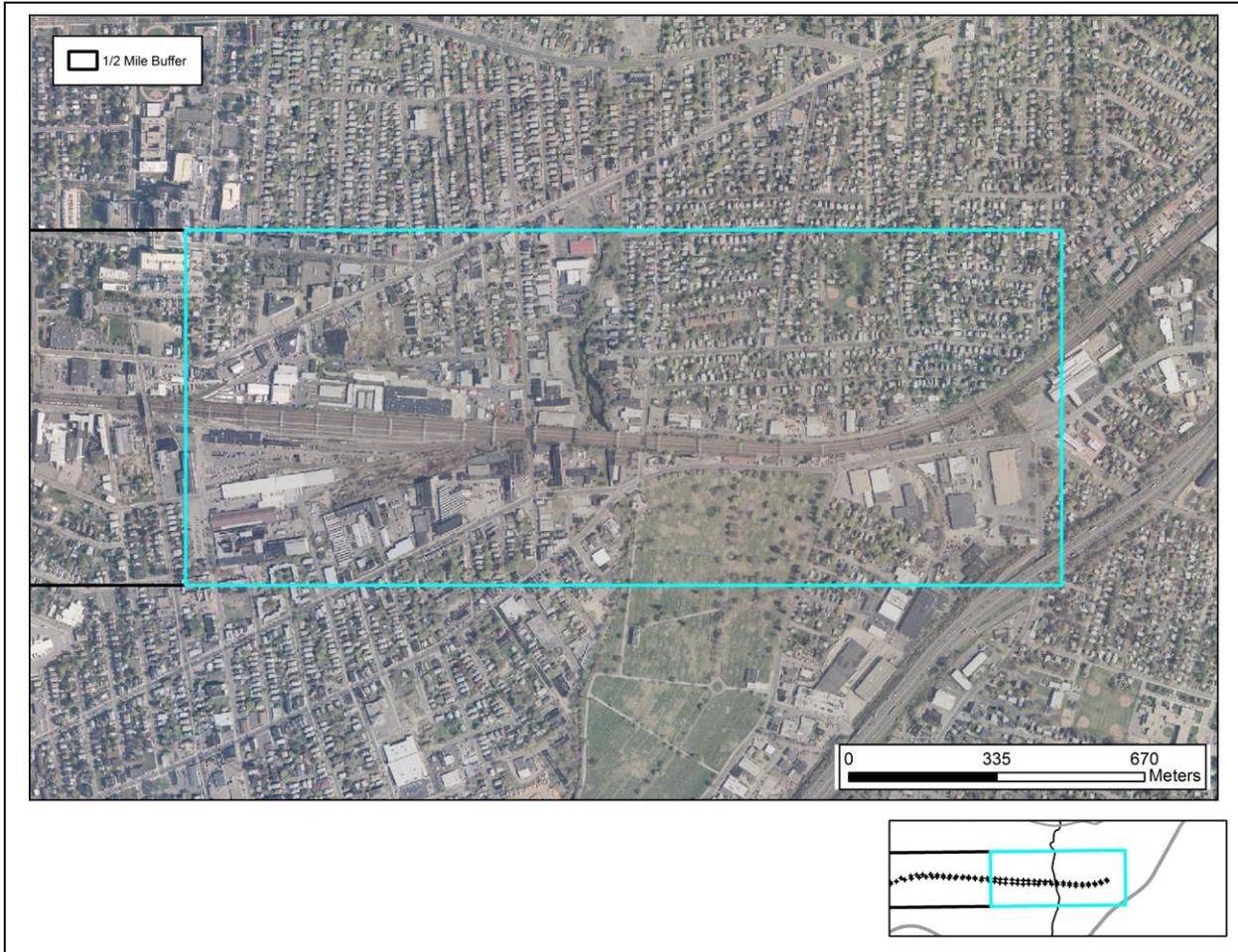


Figure 7, Sheet 2. Excerpt from a 2008 aerial image depicting the proposed Baird to Congress Project Area.

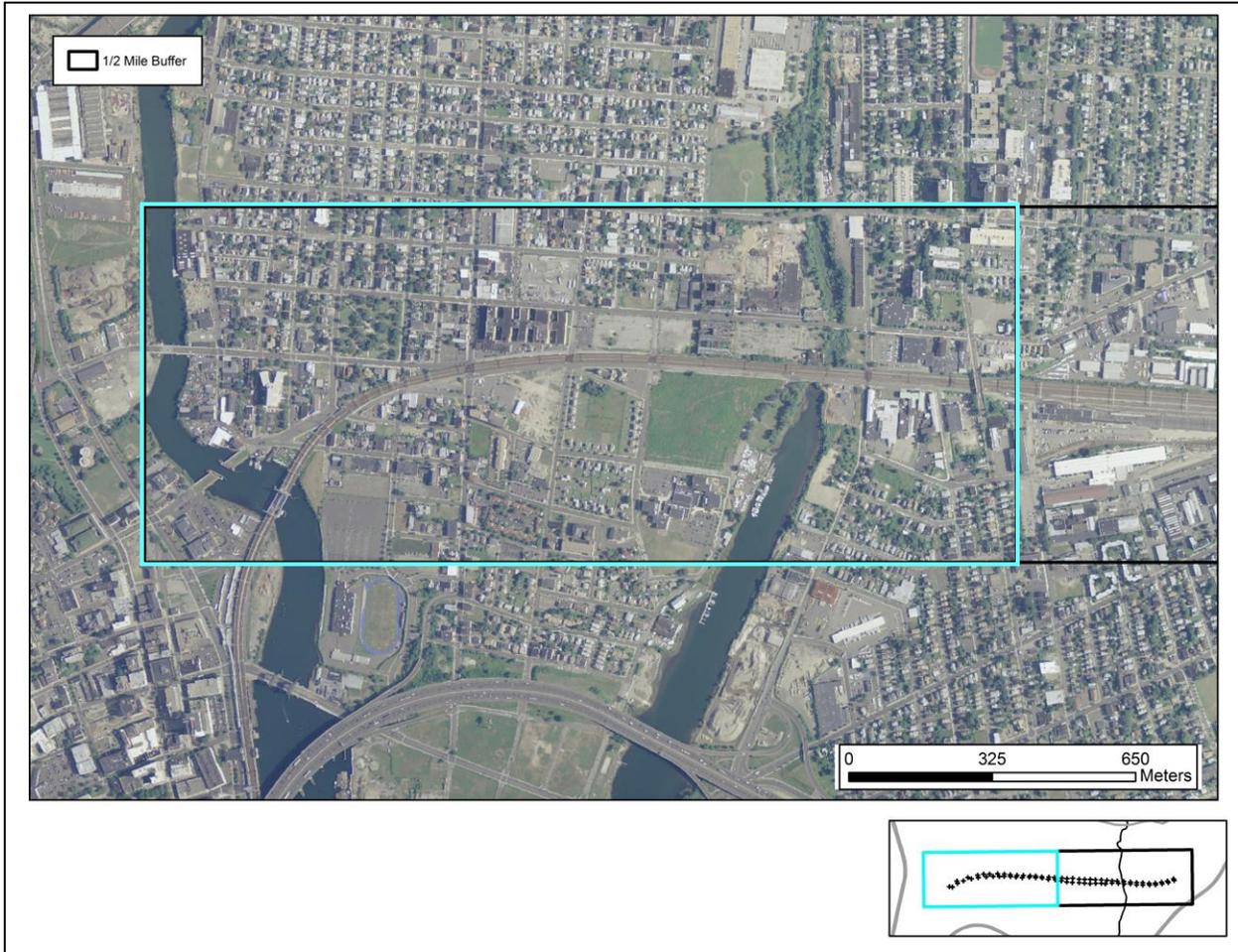


Figure 8, Sheet 1. Excerpt from a 2012 aerial image depicting the proposed Baird to Congress Project Area.

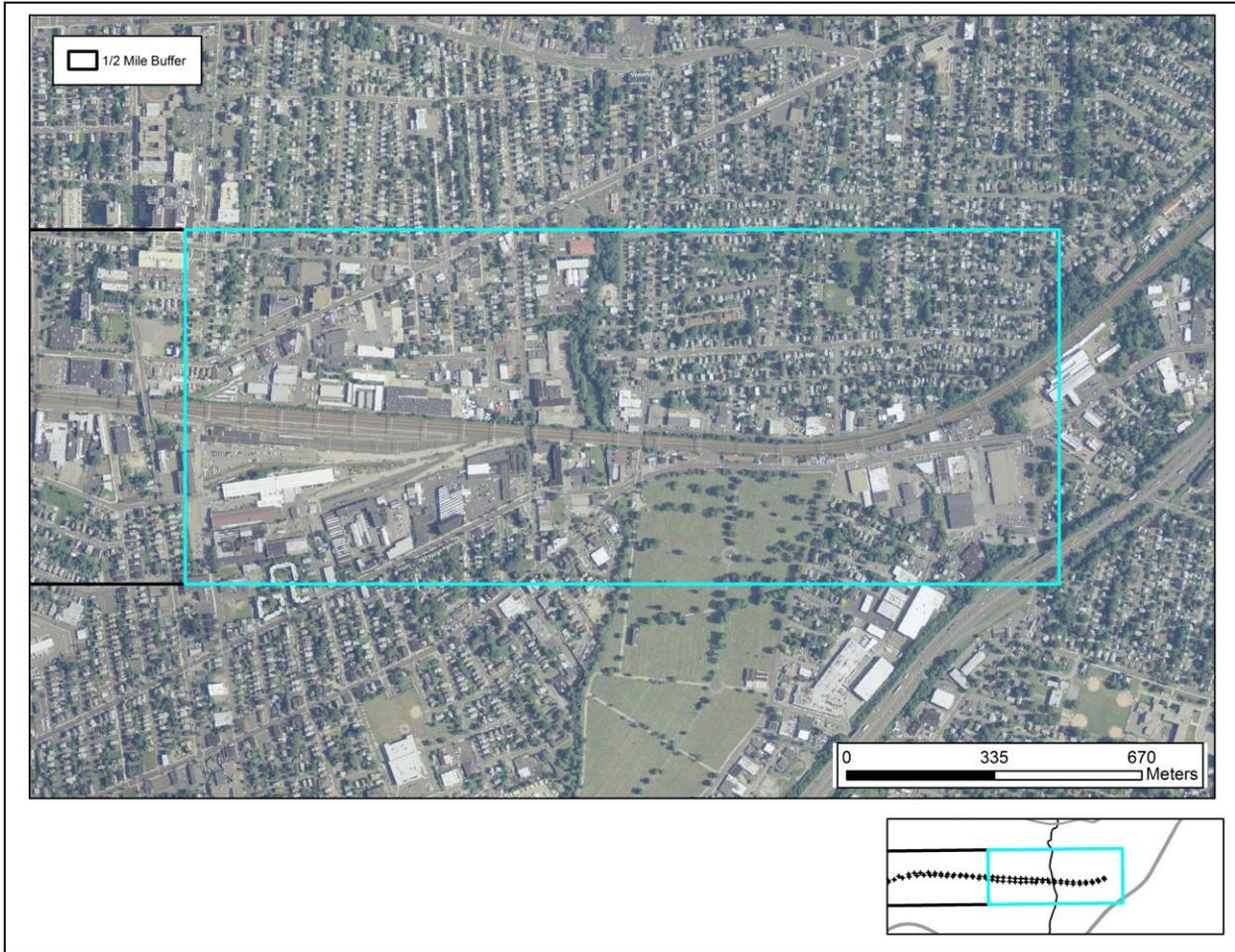


Figure 8, Sheet 2. Excerpt from a 2012 aerial image depicting the proposed Baird to Congress Project Area.

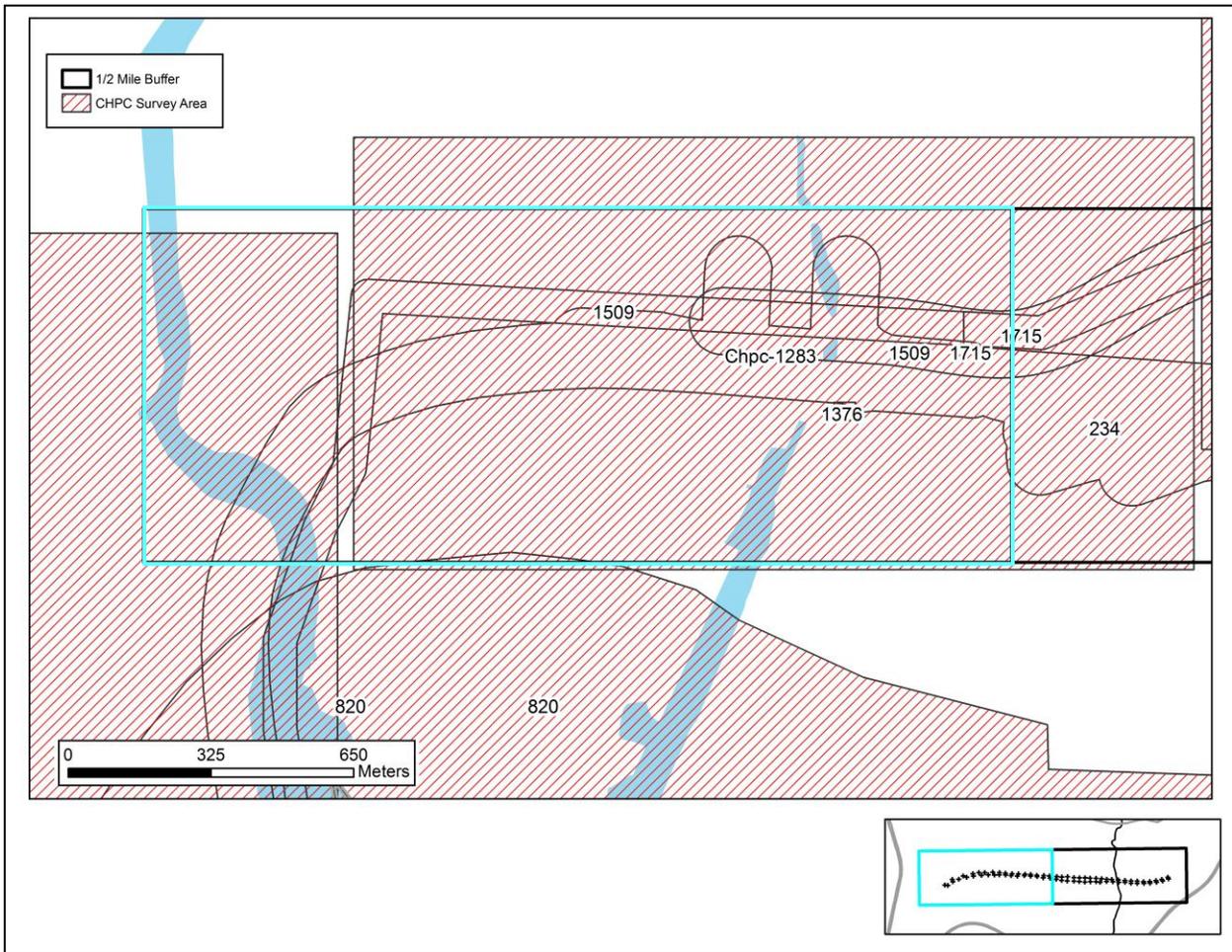


Figure 9, Sheet 1. Digital map depicting the locations of previously completed cultural resources surveys in the vicinity of the proposed Baird to Congress Project Area.

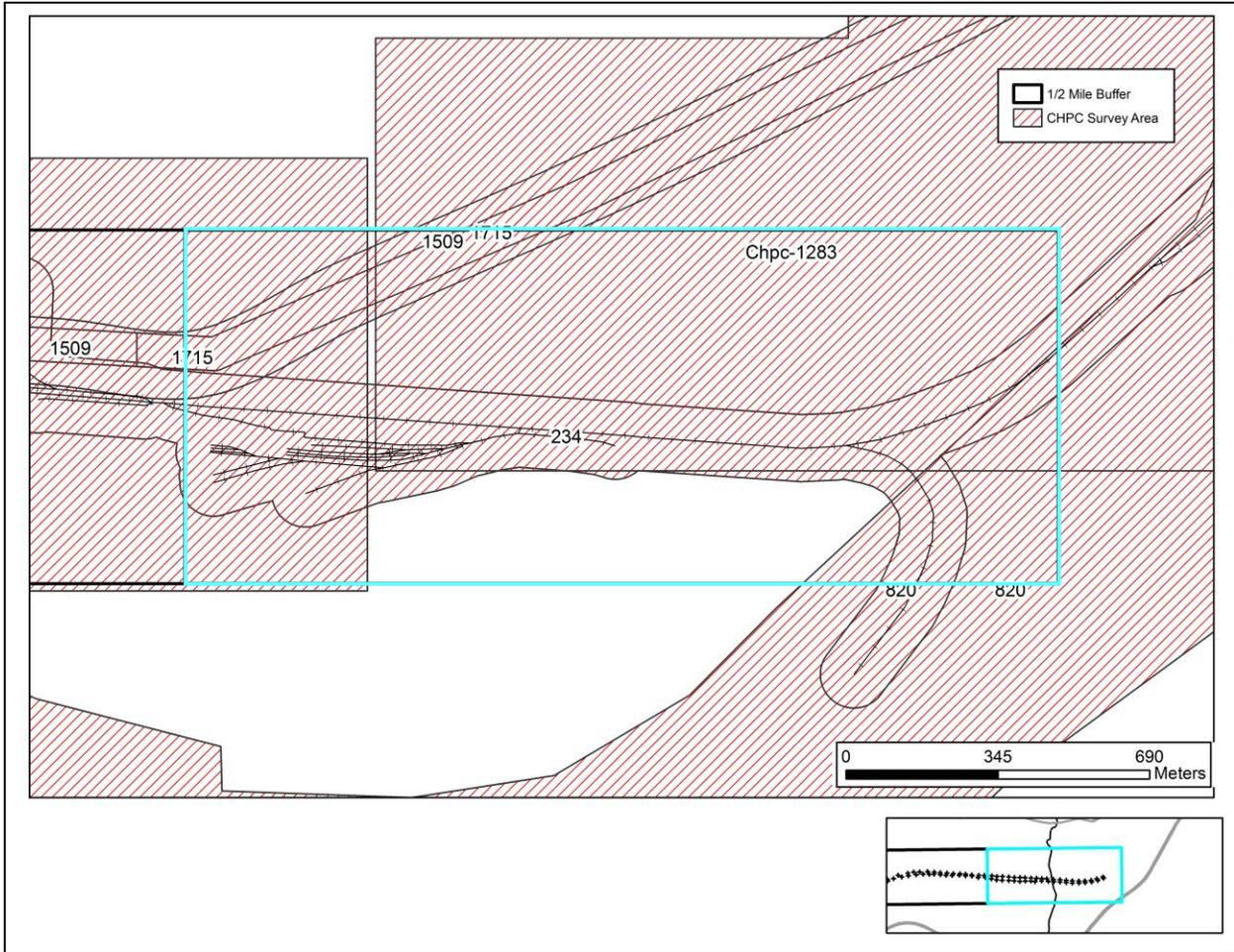


Figure 9, Sheet 2.

Digital map depicting the locations of previously completed cultural resources surveys in the vicinity of the proposed Baird to Congress Project Area.

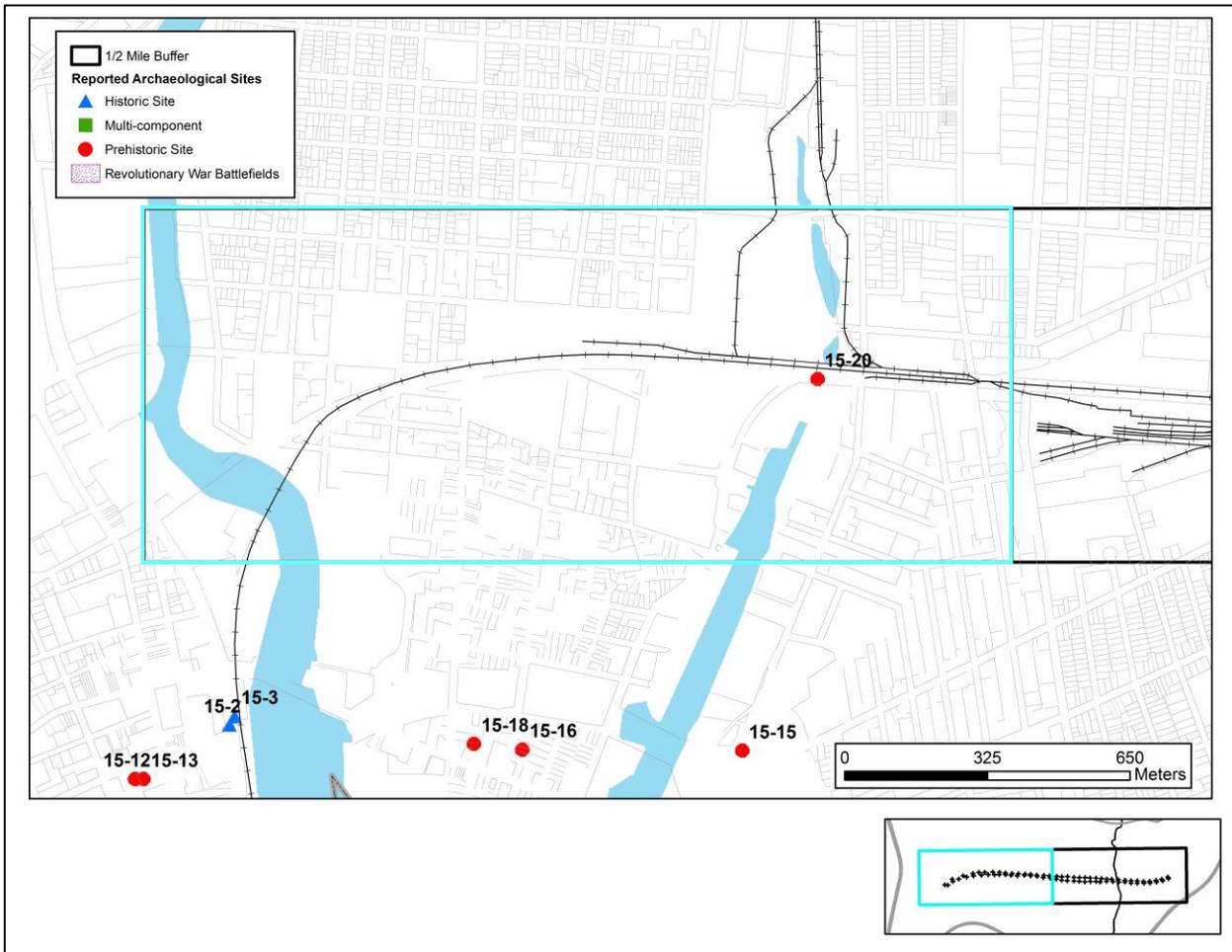


Figure 10, Sheet 1. Digital map depicting the locations of previously recorded archaeological sites in the vicinity of the proposed Baird to Congress Project Area.

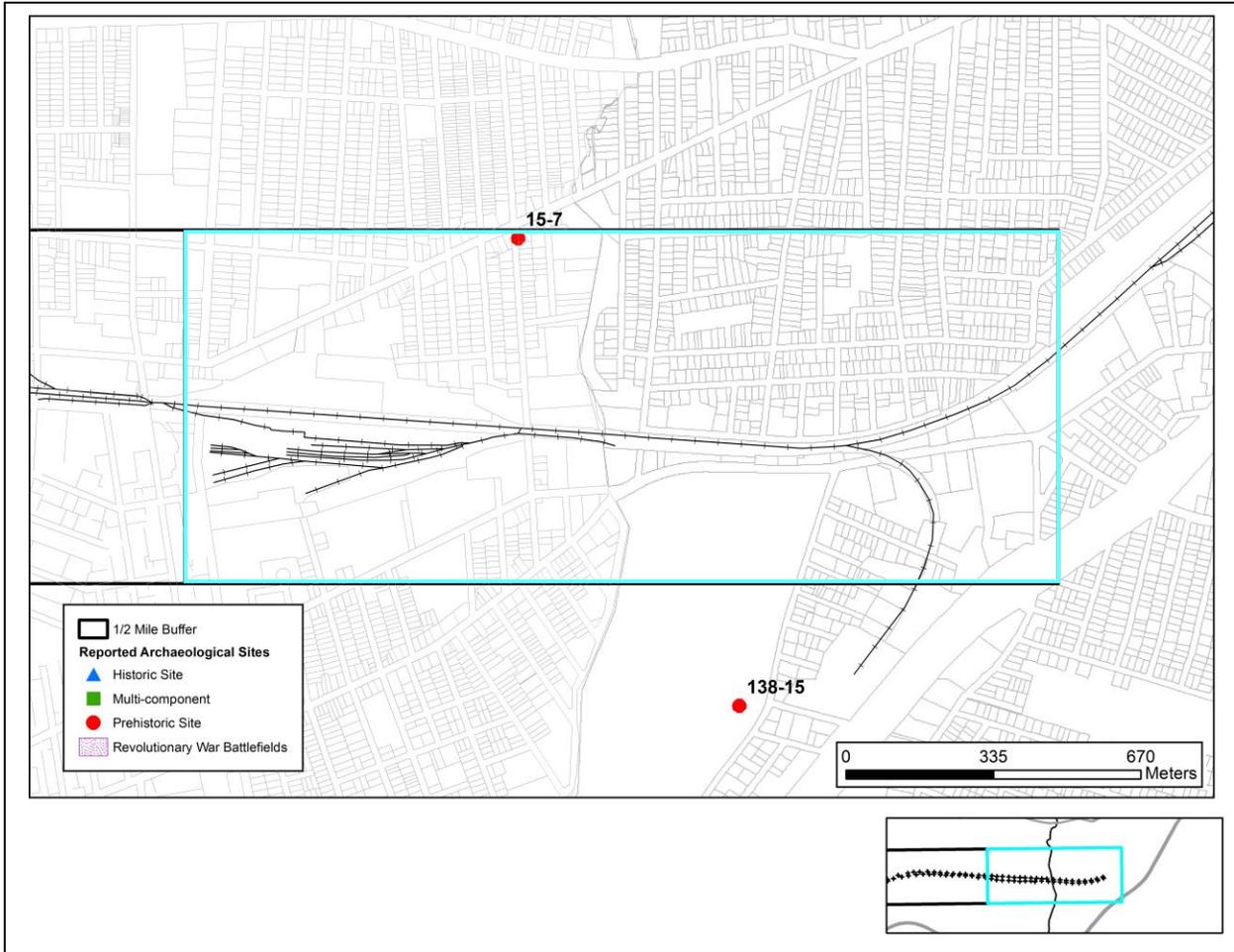


Figure 10, Sheet 2. Digital map depicting the locations of previously recorded archaeological sites in the vicinity of the proposed Baird to Congress Project Area.

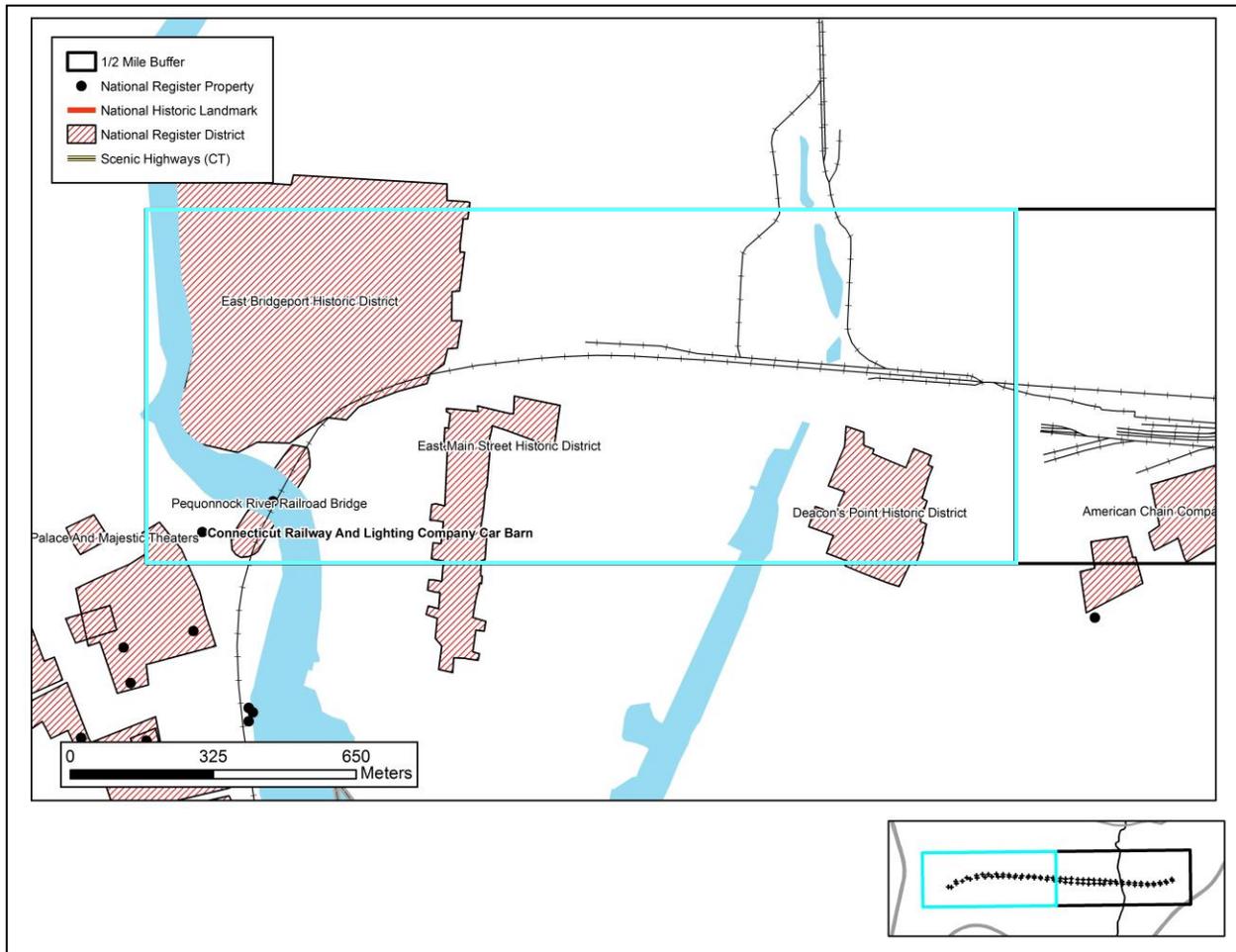


Figure 11, Sheet 1. Digital map depicting the locations of previously recorded National Register of Historic Places properties in the vicinity of the proposed Baird to Congress Project Area.

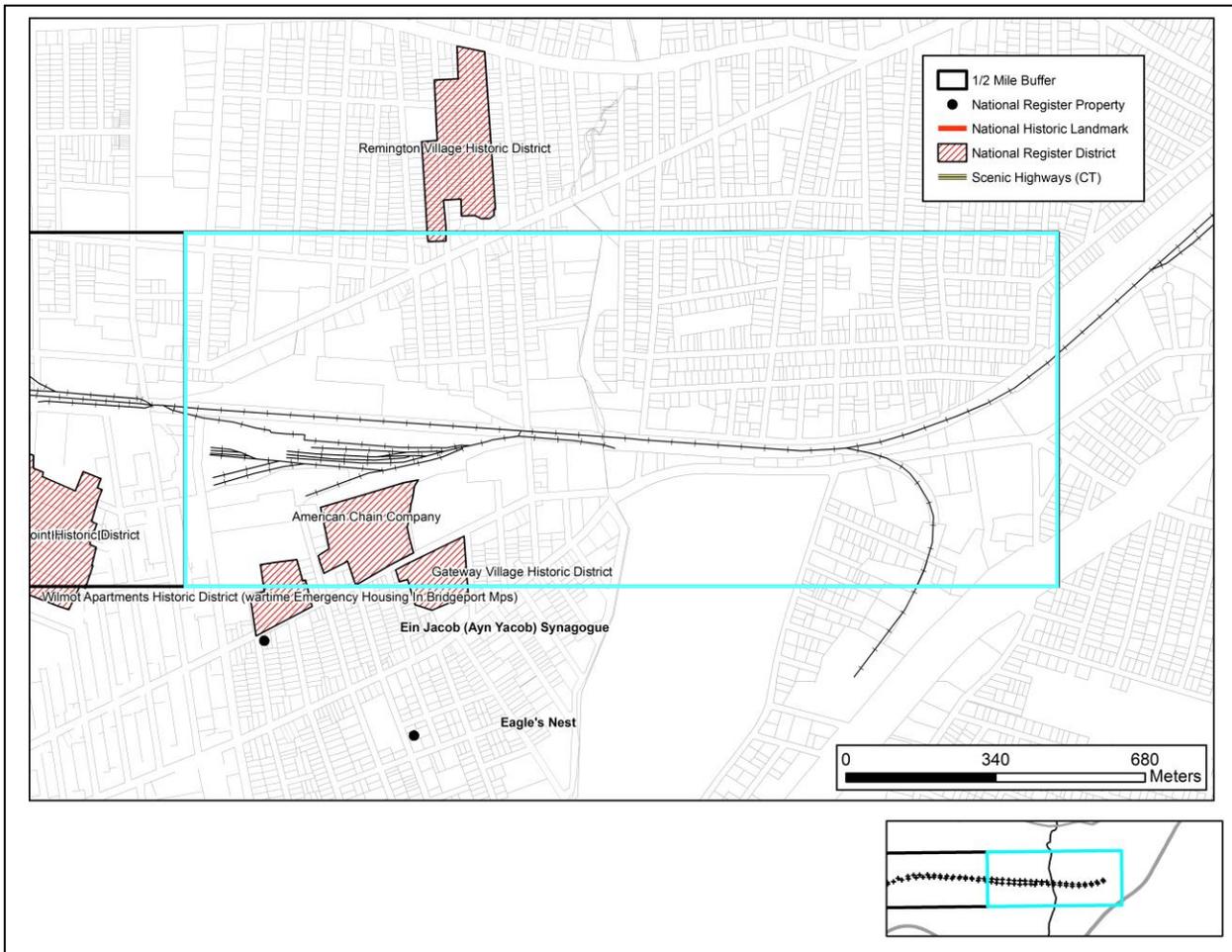


Figure 11, Sheet 2. Digital map depicting the locations of previously recorded National Register of Historic Places properties in the vicinity of the proposed Baird to Congress Project Area.

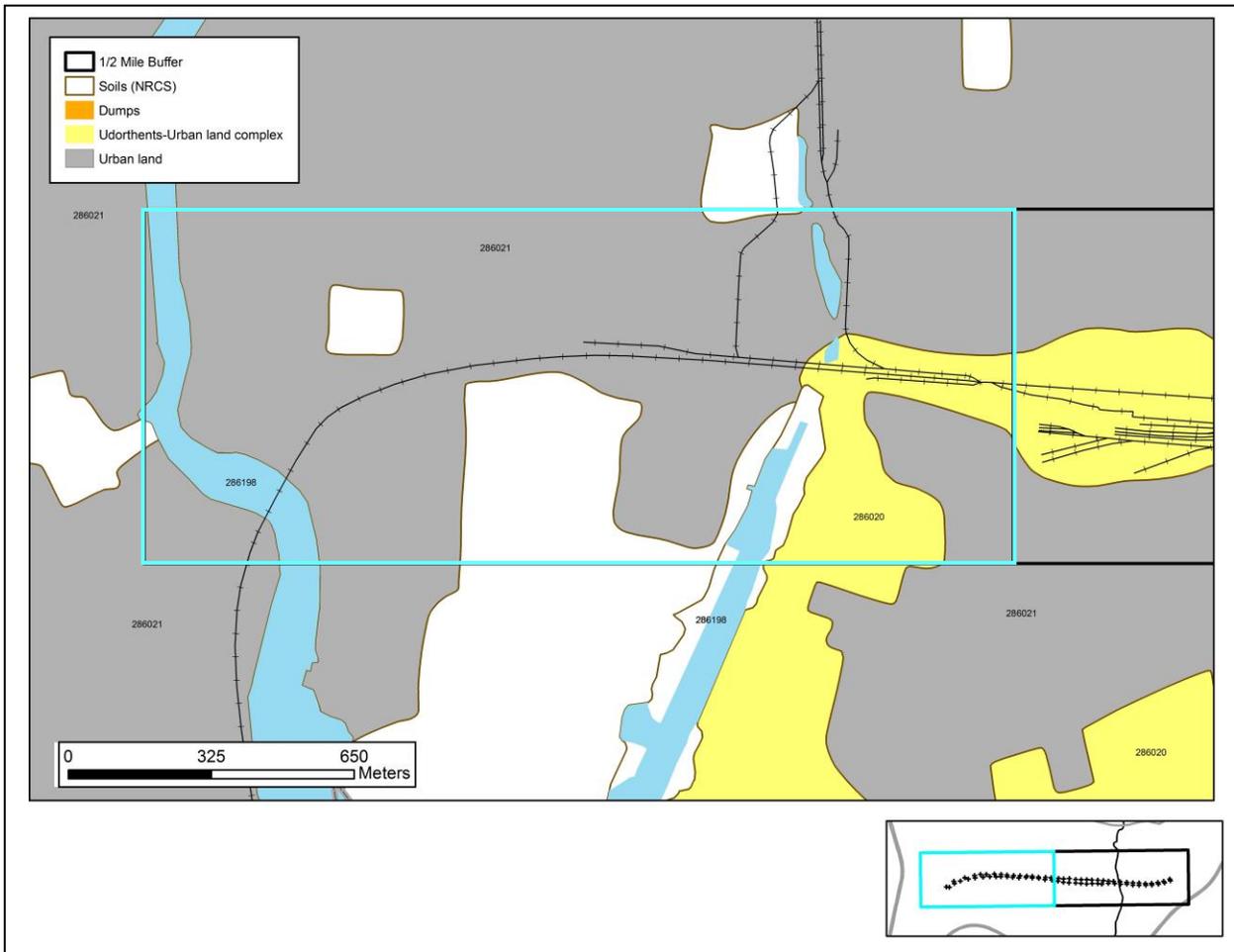


Figure 12, Sheet 1. Digital map depicting the distribution of various soil in the vicinity of the proposed Baird to Congress Project Area.

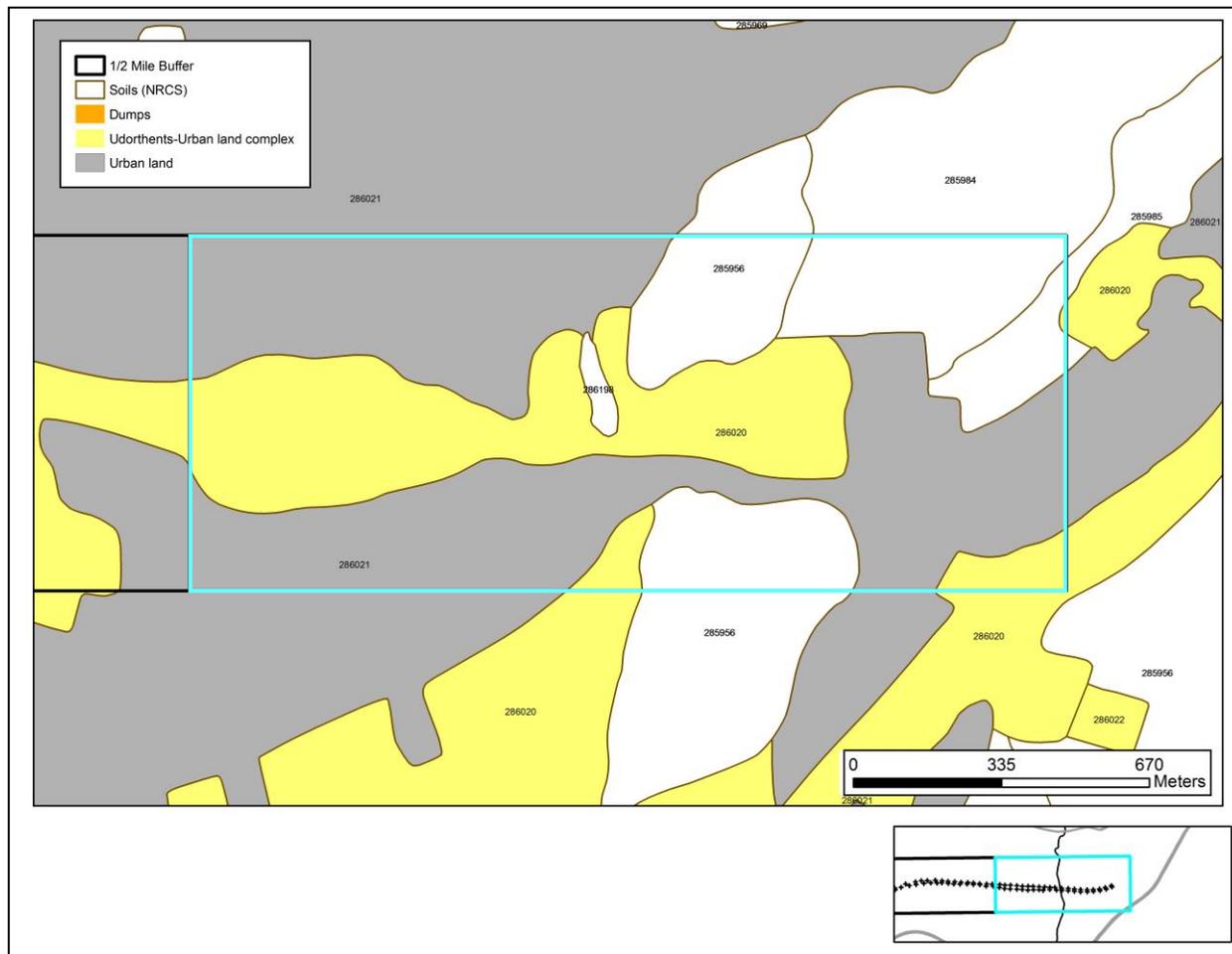


Figure 12, Sheet 2. Digital map depicting the distribution of various soil in the vicinity of the proposed Baird to Congress Project Area.



Photo 1. Overview photo of the locations of Towers BC01, BC13, BCG01 and BCG25 facing northeast.



Photo 2. Overview photo of the locations of Towers BCG27, BC02, BC14, and BCG02, as well as access road facing east.



Photo 3. Overview photo of the location of Towers BC15, BCG05, BCG30, and BC03, as well facing west.



Photo 4. Overview photo of the locations of Towers BCG31, BCG32, BCG06, BCG33, and BCG0 facing east.



Photo 5. Overview photo of the locations of Towers BCG06, BCG07, and BC04, as well as proposed access road facing east.



Photo 6. Overview photo of the locations of Towers BCG09, BC05, and BCG10, as well as proposed access road facing east.



Photo 7. Overview photo of the locations of Towers BCG34, BCG35, and BC17 facing east.



Photo 8. Overview photo of the locations of Towers BCG326, BCG!1, BCG37, and BC06 facing east.



Photo 9. Overview photo of the locations of Towers BCG13 and BCG12 facing west.



Photo 10. Overview photo of the locations of Towers BCG14 and BC07, as well as proposed access road facing east.



Photo 11. Overview photo of proposed access to Towers BC06 and BCG12 facing southwest.



Photo 12. Overview photo of proposed access to Towers BCG13 and CG14 facing south.



Photo 13. Overview photo of the proposed access road to Towers BCG38, BCG39, BCG40, BC19, BCG41, BCG42, BCG43, and BC20 facing east.



Photo 14. Overview photo of the locations of Towers BCG20, BC10, BCG21, and BCG47, as well as proposed access road facing east.



Photo 15. Overview photo of the locations of Towers BCG22, BCG21, and BCG47, as well as proposed access road, facing west.



Photo 16. Overview photo of the locations of Towers BC11 and BCG48, as well as proposed access road facing west.



Photo 17. Overview photo of the locations of Towers BCG49, BCG48, and BC11, as well as proposed access road facing west.



Photo 18. Overview photo of proposed access road to Towers BC23 and BC12.