streets. Structures were also located on the northeastern corner of Jefferson and 1st streets. Within the vicinity of the tank site, there was no development; the undeveloped lots adjacent to the tank site were associated with Julia Ruebell. Speilmann and Brush's 1880 map indicates that the tank site was in meadowlands to the south of the Hoboken Creek (see Figure 15). The 1880 map also indicates that Jefferson Street was laid out to a point just south of 2nd Street; a sewer line was located within the southern portion of Jefferson Street but did not extend north of 1st Street into the proposed tank site.[731]

G.M. Hopkins & Co.'s 1909 map indicates that a six-inch pipeline and sewer line were located within the Jefferson Street roadbed in the immediate vicinity of the tank site (see Figure 37). A frame building associated with a wood yard and an adjacent iron clad structure had developed to the immediate east of the proposed tank site. By 1923, the wood yard had been replaced by a brick building associated with the Hoboken Recreation Center. There were no other apparent changes in the vicinity of the tank site.[732]

The Hoboken Recreation Center was located to the east of the tank site through 1951. Between 1951 and 1979, this structure became the Hoboken Day Care Center. There were no other mapped changes within the vicinity of Tank T8-JEF.[733]

The As-Built plans indicate that a pre-existing wooden box sewer which had been located within Jefferson Street between Newark Avenue and 2nd Street was replaced in 1990. At this time, a 42-inch reinforced concrete pipe was installed within Jefferson Street between Newark Avenue and 2nd Street.[734]

Summary and Conclusions

The earliest development within the vicinity of Tank T8-JEF was the mid to late-nineteenth century extension of Jefferson Street and the installation of a sewer line within Jefferson Street in the late-nineteenth or early-twentieth centuries. Beginning in the 1920s and through the present day, a community building has existed and operated to the east of the tank site. In 1990, the pre-existing wooden box sewer within Jefferson Street was replaced by a reinforced concrete pipe.

Of the available soil boring data for Hoboken, the nearest boring, GW-2, to Tank T8-JEF was located approximately 1,300 feet to the northwest of the site (see Appendix D). Soil Boring GW-2 contained an overlying fill deposit consisting of multicolored sand, brown, gray, black, and red, with brick and wood fragments. The fill deposit extended to a depth of 13 feet below the surface. The fill layer was underlain by a stratum of gray clayey silt with trace fibers. Boring GW-2 was terminated at a depth of 22 feet below the surface within the gray clayey silt matrix. The gray clay silt matrix within GW-2 was similar to the deep meadow deposit previously analyzed by Schuldenrein, Boring R15-V4. While GW-2 was not excavated to the depth of R15-V4, the similarities between the borings suggest that the clay silt deposit is most likely deep and extensive within the area of GW-2. Schuldenrein interpreted the

[731] US Coastal Survey 1844; G.M. Hopkins & Co. 1873; Spielmann and Brush 1880.
[732] G.M. Hopkins & Co. 1909; G.M. Hopkins & Co. 1923.
[733] Sanborn Library, LLC 1937-2006.
[734] Whittemore 1940.

meadow profile within his boring as reflective of a uniform marsh surface which would have been an unattractive setting for prehistoric occupation.[735] As Tank T8-JEF was located in a similar historic topographic setting to GW-2, meadowlands south of the Hoboken Creek, it seems probable that the profile within the tank site would be similar to that exposed within the boring. Therefore, given the similarities between GW-2 and soil Boring R15-V4, the tank site is considered to possess little to no prehistoric archaeological sensitivity.

Historic development within Tank T8-JEF consisted of the mid to late-nineteenth century extension of Jefferson Street, the late-nineteenth to early-twentieth century wooden sewer installation, and the replacement of the wooden sewer line in 1990. Given that the original sewer line within Jefferson Street has been removed and replaced, Tank T8-JEF is not considered sensitive for historic sewer-related deposits. Furthermore, in light of the lack of additional historic development within the tank site, T8-JEF is not considered sensitive for any additional historic resources.

T2-2ST (Jackson Street and 2nd Street) (Plate 34)

Proposed Tank T2-2ST will be located on the southern frontage of 2nd Street to the east of its intersection with Jackson Street. The proposed tank will be located in the public ROW and includes the paved road surface and the adjacent cobblestone sidewalk and ornamental tree plantings. The tank would be located to the immediate north of a mixed-use commercial and residential building. Utilities within the vicinity of the proposed tank site include a drainage grate and road signs. A fire hydrant is also present on Jackson Street to the south of its intersection with 2nd Street.

The tank will measure approximately 16 feet in length and 5 feet in width. The tank will have an overall depth of eight feet below the surface. Installation of the tank will require excavation to a depth of approximately 10.67 feet below the surface. The limit of disturbance associated with Tank TD4-OBS is approximately 80 square feet to an approximate depth of 10.67 feet. This limit of disturbance encompasses the approximate footprint of the tank. Current design plans do not include staging areas or any other areas of disturbance associated with the tank installation.

Historical Development

The 1844 U.S. Coastal Survey map indicates that T2-2ST was located in undeveloped meadowlands to the immediate east of a bend within the Hoboken Creek (see Figure 30). G.M. Hopkins & Co.'s 1873 map suggests that 2nd Street had been laid out and that blocks had formed and been allotted to the north and south of 2nd Street (see Figure 35). The lot at the southeast corner of 2nd and Jackson streets, adjacent to the proposed tank site, was associated with W. Russell. The lot was undeveloped. Speilmann and Brush's 1880 map indicates that 2nd Street between Jackson and Monroe streets had not been laid out (see Figure 15). The Hoboken Creek is also depicted within the immediate vicinity of the tank site. A sewer line was located along Jackson Avenue from 2nd Street to Ferry Street. There is no indication of a sewer line within 2nd Street.[736]

[735] Geismar 2006, 24.
[736] US Coastal Survey 1844; G.M. Hopkins & Co. 1873; Spielmann and Brush 1880.

G.M. Hopkins & Co.'s 1909 map indicates that a trolley line was located within 2nd Street in the vicinity of the tank site (see Figure 37). Frame buildings had developed along the eastern frontage of Jackson Street and the northern frontage of 2nd Street. There is no indication of a sewer line within 2nd Street; a six-inch sewer line was located within the Jackson Street roadbed. There were no apparent changes in the vicinity of the tank site in 1923.[737] The 1940 As-Built plans indicate that there was a brick sewer line installed within Jackson Street between 2nd and 4th Streets. The plans indicate that there were no sewer lines within 2nd Street in the vicinity of T2-2ST by 1940.

By 1937, a storage building was located at the southeast corner of Jackson and 2nd streets. The Sanborn Insurance maps do not indicate the presence of a trolley line along 2nd Street. By 1979, a 16-inch water pipe appears to have been installed within 2nd Street. Between 1994 and 2002, the storage building had been removed and replaced by the current mixed residential and commercial property.[738]

Summary and Conclusions

The earliest development within the vicinity of Tank T2-2ST was the late-nineteenth century extension of 2nd Street and an early-twentieth century trolley line along 2nd Street. Trolley tracks were not present along 2nd Street by 1939. By 1979, a water pipe had been installed within 2nd Street. Commercial and residential properties were located in the vicinity of the tank site throughout the twentieth century. There are no indications that a sewer line had been installed within 2nd Street in the vicinity of the tank site. A brick sewer line was installed along Jackson Street; this sewer line is to the west of the tank site and outside of its limits of potential disturbance.

Of the available soil boring data for Hoboken, the nearest Boring, GW-2, to Tank T2-2ST was located approximately 670 feet to the northwest of the site (see Appendix D). As previously discussed, GW-2 contained a continuous layer of gray clayey silt beneath its overlying fill deposit. This profile while shallower than R15-V4, is reminiscent to that profile suggesting that this area may represent a similar marsh profile to that exposed in the southwestern portion of the city. Furthermore, Tank T2-2ST was in a similar topographic position to GW-2 in that both locations were adjacent to the Hoboken Creek. Therefore, it seems likely that the tank site has a similar profile to that exposed within Boring GW-2. On the basis of Schuldenrein's analysis of R15-V4, the profile within GW-2 is considered to reflect a uniform historic marshland with little environmental diversification over time.[739] As such, given the proposed tank site's similarities to the setting of GW-2, Tank T2-2ST is considered to possess little to no prehistoric archaeological sensitivity.

Historic development within Tank T2-2ST consisted of the late-nineteenth century extension of 2nd Street and an early-twentieth century trolley line along 2nd Street. The trolley line appears to have operated along 2nd Street from at least 1909 to 1923. By 1939, the tracks were no longer extant. A water line was installed within 2nd Street between 1951 and 1979. The installation of this water line would most likely have disturbed any existing trolley-related deposits as those deposits would have been relatively shallow or at the surface. Given the twentieth century

[737] G.M. Hopkins & Co. 1909; G.M. Hopkins & Co. 1923.
[738] Sanborn Library, LLC 1937-2006; NETR 1931-2013.
[739] Geismar 2006, 24.

disturbance to the roadbed, and the lack of additional documented historic development within the vicinity of the tank site, Tank T2-2ST is not considered sensitive for any historic archaeological deposits.

T7-JEF & T3-3T (Plates 35 and 36)

Proposed Tank T7-JEF will be located on the eastern frontage of Jefferson Street to the south of its intersection with 3rd Street. Proposed Tank T3-3ST will be located at the southeastern intersection of 3rd and Jefferson streets, approximately 70 feet to the northeast of T7-JEF. The proposed tanks will be located in the public ROW and include the paved road surface and the adjacent cement and asphalt sidewalk. The tanks would be located to the immediate west and north of a fenced paved parking area. Utilities within the vicinity of the proposed tank sites include a drainage grate, wooden utility lines, and road signs.

Tank T7-JEF will measure approximately 20 feet in length and 5 feet in width. The tank will have an overall depth of six feet below the surface. Installation of the tank will require excavation to a depth of approximately 8.67 feet below the surface. The limit of disturbance associated with Tank T7-JEF is approximately 100 square feet to an approximate depth of 8.67 feet. This limit of disturbance encompasses the approximate footprint of the tank. Tank T3-3ST will measure approximately 16 feet in length and 5 feet in width. The tank will have an overall depth of 6.5 feet below the surface. Installation of the tank will require excavation to a depth of approximately 9.17 feet below the surface. The limit of disturbance associated with Tank T3-3ST is approximately 80 square feet to an approximate depth of 9.17 feet. This limit of disturbance encompasses the approximate footprint of the tank. Current design plans do not include staging areas or any other areas of disturbance associated with the installation of the tank.

Historical Development

The 1844 U.S. Coastal Survey map indicates that T7-JEF and T3-3ST were located in undeveloped meadowlands to the immediate north of a bend within the Hoboken Creek; Tank T7-JEF may have been located within the creek (see Figure 30). G.M. Hopkins & Co.'s 1873 map suggests that Jefferson and 3rd streets had been laid out and that the adjacent blocks had formed and been allotted (see Figures 35 & 36; Figure 40). Both tank sites were in the vicinity of undeveloped lots associated with Andrew Leicht. Speilmann and Brush's 1880 map indicates that the intersection of Jefferson and 3rd streets had not been laid out (see Figure 15). The Hoboken Creek was also depicted within the immediate vicinity of the tank sites. There is no indication of a sewer line within this portion of Jefferson or 3rd streets.[740]

G.M. Hopkins & Co.'s 1909 map indicates that a six-inch pipeline was installed within the Jackson Street roadbed and a 12-inch pipeline was installed within the 3rd Street roadbed (see Figure 37). The 3rd Street pipeline may have been one of the discharge lines for the sewer system. Frame buildings had developed along the western frontage of Jefferson Street and the northern frontage of 3rd Street. There is no indication of a sewer line within 2nd Street; a six-inch pipeline and sewer line were located within the Jackson Street roadbed. By 1923, the Hoboken Iron Works had been established at the southeast corner of Jackson and 3rd Streets to the south and east of the tank sites.[741] The 1940 As-Built plans indicate that a wooden sewer previously installed within Jefferson Street had been replaced

[740] US Coastal Survey 1844; G.M. Hopkins & Co. 1873; Spielmann and Brush 1880.
[741] G.M. Hopkins & Co. 1909; G.M. Hopkins & Co. 1923.

Plate 35: Location of T7-JEF, Jefferson Street to the south of 3rd Street. View North. (ZE 5/23/2016).

Plate 36: Location of T3-3ST, 3rd Street to the east of Jefferson Street. View East. (ZE 5/23/2016).

with a reinforced concrete pipe in September of 1990. The As-Builts also indicate that a wooden sewer line was located within 3rd Street between Jefferson and Garden streets.[742]

By 1951, the Iron Works had been removed and the parcel to the south and east of the tank sites was a cleared playground. By 1979, a senior citizen housing complex had developed to the southeast of the playground. Aerial imagery suggests that the playground area was converted to a parking area and adjacent green space by 1979.[743]

Summary and Conclusions

The earliest development within the vicinity of Tank T7-JEF and Tank T3-3ST was the late-nineteenth century extension of Jefferson and 3rd streets and the early-twentieth century installation of sewer lines within Jefferson and 3rd streets. Data provided by the NHSA indicates that a brick sewer line was installed within the intersection of Jefferson and 3rd streets prior to 1916; wooden sewer lines were also located on 3rd Street to the west and east of the tank sites. An ironworks had been established in the vicinity of the tank sites in the early-twentieth century. By 1951, the area had been cleared and was ultimately converted into a parking area for the adjacent senior housing complex.

Of the available soil boring data for Hoboken, the nearest boring, GW-2, to tanks T7-JEF and T3-3ST was located approximately 1,400 feet to the west of the sites (see Appendix D). As previously discussed, GW-2 contained a continuous layer of gray clayey silt beneath its overlying fill deposit. This profile, while shallower than R15-V4, is reminiscent to that profile suggesting that this area may represent a similar marsh profile to that exposed in the southwestern portion of the city. Tanks T7-JEF and T3-3ST were in similar topographic position to GW-2 in that all of these locations were adjacent to the Hoboken Creek. Therefore, it seems likely that the tank sites have a similar profile to that exposed within Boring GW-2. On the basis of Schuldenrein's analysis of R15-V4, the profile within GW-2 is considered to reflect a uniform historic marshland with little environmental diversification over time.[744] As such, given the proposed tank sites' similarities to the setting of GW-2, tanks T7-JEF and T3-3ST are considered to possess little to no prehistoric archaeological sensitivity.

Historic development within tanks T7-JEF and T3-3ST consisted of the late-nineteenth century extension of Jefferson and 3rd streets, the late-nineteenth to early-twentieth century installation of sewer lines within Jefferson and 3rd streets, and the replacement of the Jefferson Street sewer line with a reinforced concrete pipe in 1990. The As-Built plans indicate that the pre-existing wooden sewer within Jefferson Street between 2nd and 3rd streets was replaced with a reinforced concrete pipe in September 1990. Therefore, Tank T7-JEF is not considered sensitive for historic sewer-related resources.

With respect to Tank T3-3ST, additional data provide by the NHSA suggests that sewer lines were installed within 3rd Street prior to 1916. In light of the historic research and the available utility data, Tank T3-3ST is considered sensitive for historic deposits associated with the 3rd Street wooden sewer line. These sewer deposits would have

[742] Whittemore 1940.
[743] Sanborn Library, LLC 1937-2006; NETR 1931-2013.
[744] Geismar 2006, 24.

the potential to provide significant information regarding the development and evolution of the municipal sewer system within Hoboken. Archaeological deposits associated with the sewer might include the sewer line, a builder's trench associated with utility installation, and/or wood planks and other support features for the pipe. The As-Built plans indicate that the wooden sewer within 3rd Street was located at a depth of approximately 5.5 to 11 feet below the surface. Therefore, sewer deposits within Tank T3-3ST are anticipated at depths greater than 5.5 feet below the surface. Given the lack of additional historic development within the tanks T7-JEF and T3-3T, the sites are not considered sensitive for any additional historic resources.

T9-ADM (Adams Street and 3rd Street) (Plate 37)

Proposed Tank T9-ADM will be located on the eastern frontage of Adams Street to the north of its intersection with 3rd Street. The proposed tank will be located in the public ROW and includes the paved road surface and the adjacent cement sidewalk. The tank would be located to the immediate west of a large apartment building. Utilities within the vicinity of the proposed tank site include drainage grates, wooden transmission poles, and road signs.

The tank will measure approximately 20 feet in length and 5 feet in width. The tank will have an overall depth of seven feet below the surface. Installation of the tank will require excavation to a depth of approximately 9.67 feet below the surface. The limit of disturbance associated with Tank T9-ADM is approximately 100 square feet to an approximate depth of 9.67 feet. This limit of disturbance encompasses the approximate footprint of the tank. Current design plans do not include staging areas or any other areas of disturbance associated with the tank installation.

Historical Development

The 1844 U.S. Coastal Survey map indicates that T9-ADM was located in undeveloped meadowlands to the immediate east of the Hoboken Creek (see Figure 30). G.M. Hopkins & Co.'s 1873 map suggests that Adams and 3rd streets had been laid out and that the adjacent blocks had formed and been allotted (see Figure 70). The lot to the immediate east of the tank site was associated with Coughlin & Callahan and a structure was located in the central portion of the lot. Speilmann and Brush's 1880 map indicates that Adams Street had not been laid out to the north of 3rd Street (see Figure 15). Sewer pipes had been laid down within 3rd Street to the east of the tank site and within Adams Street to the south of the site.[745]

G.M. Hopkins & Co.'s 1909 map indicates that a six-inch pipeline and sewer line were installed within the Adams Street roadbed (see Figure 38). A complex of brick buildings had developed on the northeast corner of Adams and 3rd streets. These buildings were associated with the Keuffel & Esser Company, manufacturers of architectural, engineering, and drawing supplies. By 1923, the Keuffel & Esser complex had expanded to the north and occupied much of the eastern frontage of Adams Street.[746] By 1954, the Keuffel & Esser plant was no longer located at the northeast corner of Adams and 3rd streets. Rather, the current apartment complex had developed. There was little evident change within the vicinity of the tank site from 1954 to the present day.[747]

[745] US Coastal Survey 1844; G.M. Hopkins & Co. 1873; Spielmann and Brush 1880.
[746] G.M. Hopkins & Co. 1909; G.M. Hopkins & Co. 1923.
[747] Sanborn Library, LLC 1937-2006; NETR 1931-2013.

Plate 37: Location of T9-ADM, Adams and 9th Streets. View East. (DVS 3/24/2016).

Plate 38: Location of T6-4ST, Harrison and 4th Streets. View West. (TF 4/5/2016).

The 1940 As-Built plans indicate that a brick sewer was located within Adams Street from 3rd to 4th streets. The plans also indicate that a wooden sewer was located within 3rd Street between Jefferson and Garden streets.[748]

Summary and Conclusions

The earliest development within the vicinity of Tank T9-ADM was the late-nineteenth century extension of Adams and 3rd streets and the early-twentieth century installation of sewer lines within Adams Street. The As-Built plans indicate that a brick sewer was located within Adams Street and a wooden sewer was located within 3rd Street in the vicinity of the tank site. Additional data provided by the NHSA indicates that these sewer lines were installed prior to 1916. The Keuffel & Esser plant had been established in the vicinity of the tank site in the early-twentieth century. By 1954s the property was occupied by a large apartment complex.

Of the available soil boring data, the nearest boring, GW-3, to Tank T9-ADM was located approximately 1,300 feet to the northeast (see Appendix D). The soil profile within GW-3 consisted of an overlying fill deposit of black sand with asphalt and gravel which extended to a depth of ten feet below the surface. At a depth of 15 feet below the surface, a matrix of black organic silt with decomposing organics was encountered. GW-3 was terminated within this matrix. The black organic silt deposit within GW-3 is unlike the gray clayey silt documented in Boring GW-2 or Boring R15-V4 suggesting that different environmental processes may have occurred within this area. An examination of the Speilmann and Brush 1880 map indicates that GW-3 was located near dry land along the eastern extent of Hoboken. This setting is unlike the marsh setting of T9-ADM. Thus, it seems more likely that the profile within the vicinity of the tank site would be similar to locations within the meadowlands like Boring GW-2. As such, it is assumed that the soil profile around Tank T9-ADM reflects a uniform meadow deposit with little environmental diversification; thus, the tank site is considered to possess little to no prehistoric archaeological sensitivity.

Historic development within Tank T9-ADM consisted of the late-nineteenth century extension of Adams Street and the late-nineteenth to early-twentieth century installation of sewer lines within Adams and 3rd streets. The 3rd Street sewer line is located to the south of the tank site and outside of its limits of disturbance. The historic research and available utility information suggest a brick sewer line was installed within Adams Street prior to1916. Tank T9-ADM is considered sensitive for historic deposits associated with the Adams Street sewer line. Sewer-related deposits would have the potential to provide significant information regarding the development and evolution of the municipal sewer system within Hoboken. Archaeological deposits associated with the sewers might include the sewer line, a builder's trench associated with utility installation, and/or wood planks and other support features for the pipe. The As-Built plans indicate that the brick sewer line was installed at a depth of approximately 3.7 to 5 feet below the surface in Adams Street. Therefore, sewer deposits within the tank sites are anticipated at depths greater than 3.5 feet below the surface. Given the lack of additional historic development within the tank site, T9-ADM is not considered sensitive for any additional historic resources.

[748] Whittemore 1940.

T6-4ST (Harrison Street and 4th Street) (Plate 38)

Proposed Tank T6-4ST will be located at the northwestern corner of Harrison and 4th streets. The proposed tank will be located in the public ROW and includes the paved road surface and the adjacent cement sidewalk. The tank would be located to the immediate south of a brick building associated with an adjacent ball field. Utilities within the vicinity of the proposed tank site include manholes, wooden transmission poles, a traffic signal, and drainage grates.

The tank will measure approximately 17 feet in length and 5 feet in width. The tank will have an overall depth of 4.5 feet below the surface. Installation of the tank will require excavation to a depth of approximately 7.17 feet below the surface. The limit of disturbance associated with Tank T6-4ST is approximately 85 square feet to an approximate depth of 7.17 feet. This limit of disturbance encompasses the approximate footprint of the tank. Current design plans do not include staging areas or any other areas of disturbance associated with the tank installation.

Historical Development

The 1844 U.S. Coastal Survey map indicates that T6-4ST was located in undeveloped meadowlands to the east of the Hoboken Creek (see Figure 30). G.M. Hopkins & Co.'s 1873 map suggests that Harrison and 4th streets may have been proposed, with blocks and lots having been delineated (see Figure 70). There is no development in the vicinity of Harrison and 4th streets. The tank site was located in the vicinity of lots associated with C.W. Buckler on the western frontage of Harrison Street and with John Winkler on the eastern frontage. Speilmann and Brush's 1880 map indicates that neither Harrison nor 4th Street had been extended (see Figure 15). The tank site was located in undeveloped meadowlands. There is no indication of any sewer lines within the vicinity of the tank site.[749]

G.M. Hopkins & Co.'s 1909 map indicates that a six-inch pipeline was installed within the 4th Street roadbed (Figure 71). There is no sewer line within the Harrison Street roadbed. The lots on the eastern and western frontage of Harrison Streets have not been developed. The 1923 map does not indicate the presence of sewer lines within Harrison Street. The lots to the west of Harrison Street were still undeveloped; these lots were associated with the Hoboken Manufacturing Railroad Company. The lots to the east of Harrison Street were also undeveloped. The As-Built plans indicate that there were no sewer lines installed within the vicinity of Tank T6-4ST.[750]

A review of the twentieth century Sanborn Insurance maps and available aerial imagery indicate that by 1931 the area to the immediate north, west, and southwest of the tank site had been cleared. The 1937 Sanborn Insurance map indicates that six-inch water pipelines were located within 4th and Harrison streets in the vicinity of the tank site (Figure 72). The Friedrichs Iron Works occupied the lot at the southeast corner of 4th and Harrison streets. By 1951, the Andrew Jackson Gardens apartment complex had been constructed to the north, west, and southwest of the tank site (Figure 73). Harrison Street between 4th and 6th streets had been removed. From 1951 to 1997, the tank site was located to the immediate south of a cleared paved surface associated with an adjacent playground. Between 1997 and 2002, the current brick building was constructed to the immediate north of T6-4ST.[751]

[749] US Coastal Survey 1844; G.M. Hopkins & Co. 1873; Spielmann and Brush 1880.
[750] G.M. Hopkins & Co. 1909; G.M. Hopkins & Co. 1923; Whittemore 1940.
[751] Sanborn Library, LLC 1937-2006; NETR 1931-2013.

Summary and Conclusions

The earliest development within the vicinity of Tank T6-4ST was the late-nineteenth to early-twentieth century extension of Harrison and 4th streets. The As-Built plans suggest that there were no sewer lines installed within the vicinity of the tank site prior to 1940. The 1937 Sanborn map indicates the presence of six-inch water lines within both 4th and Harrison streets. It is possible that the pipeline on the 1909 map reflects a water line associated with fire hydrants located along 4th Street. The Andrew Jackson Gardens public housing complex was established to the north, west, and southwest of the tank site by 1951. Between 1997 and 2002, a brick clubhouse building was established to the north of the tank site.

Of the available soil boring data for Hoboken, the nearest boring, GW-2, to Tank T6-4ST was located approximately 620 feet to the southwest (see Appendix D). This boring was also historically located in a similar topographic position to the tank site in that both were situated in meadowlands to the immediate east of the Hoboken Creek. Given the historic topographic similarities of Boring GW-2 and the tank site, it seems highly likely that the soil profile within the tank site would be identical or similar to that of the boring. Therefore, Tank T6-4ST is considered to possess little to no prehistoric archaeological sensitivity in light of the uniform meadow complex suggested by the profile within Boring GW-2.

Historic development within Tank T6-4ST consisted of the late-nineteenth to early-twentieth century extension of Harrison and 4th streets and the potential early-twentieth century extension of a water line into 4th Street. Current information from NHSA suggests that a vitrified clay sewer line was not installed within 4th Street in the vicinity of the tank site until sometime after 1916. It is possible that the pipeline on the early-twentieth century historic maps reflects a water line which was installed before the sewer line. Such a water line may have been associated with fire hydrants located along 4th Street. Given the early to mid-twentieth century date of the water line and the mid-twentieth century date of the 4th Street sewer line, the pipelines within the vicinity of the tank site are not considered significant historic resources associated with the early municipal developments within Hoboken. Furthermore, in light of the lack of documented historic development within the vicinity of Tank T6-4ST and the lack of significant sewer or municipal water-related deposits within this area, the tank site is not considered sensitive for historic archaeological resources.

T5-JAC (Jackson Street and 4th Street) (Plate 39)

Proposed Tank T5-JAC will be located on the western frontage of Jackson Street to the north of its intersection with 4rd Street. The proposed tank will be located in the public ROW and includes the paved road surface and the adjacent cement sidewalk. The tank would be located to the immediate south of a fenced ball field. Utilities within the vicinity of the proposed tank site include a fire hydrant, manhole, drainage grate, and road signs.

The tank will measure approximately 20 feet in length and 5 feet in width. The tank will have an overall depth of 7.5 feet below the surface. Installation of the tank will require excavation to a depth of approximately 10.17 feet below the surface. The limit of disturbance associated with Tank T5-JAC is approximately 100 square feet to an approximate depth of 10.17 feet. This limit of disturbance encompasses the approximate footprint of the tank.

Plate 39: Location of T5-JAC, Jackson Street and 4th Street. View North. (ZE 5/23/2016).

Plate 40: Location of T4-4ST, Madison and 4th Streets. View Northwest. (DVS 3/24/2016).

Current design plans do not include staging areas or any other areas of disturbance associated with the tank installation.

Historical Development

The 1844 U.S. Coastal Survey map indicates that T5-JAC was located in undeveloped meadowlands to the north of the Hoboken Creek (see Figure 30). G.M. Hopkins & Co.'s 1873 map suggests that Jackson and 4th streets may have been proposed, with blocks and lots having been delineated (see Figure 70). There is no development in the vicinity of Jackson and 4th streets. The tank site was located in the vicinity of lots associated with E. Grassman on the western frontage of Jackson Street. Speilmann and Brush's 1880 map indicates that neither Jackson nor 4th Street had been extended this far to the north and west (see Figure 15). The tank site was located in undeveloped meadowlands. There is no indication of any sewer lines within the vicinity of the tank site.[752]

G.M. Hopkins & Co.'s 1909 map indicates that six-inch pipelines had been installed within 4th Street and Jackson Street (see Figure 71). The lots on the western frontage of Jackson Street contained frame buildings with associated garages/stables. A possible fire hydrant was also located at the northwest corner of 4th and Jackson streets; the 4th Street pipeline may have serviced this hydrant. The 1923 G.M. Hopkins & Co.'s map does not indicate a fire hydrant within 4th Street; the map does, however, show a six-inch pipeline and sewer line within Jackson Street to the immediate east of the tank site. Frame buildings continued to be located on the western frontage of Jackson Street. As-Built plans indicate that a brick sewer line was installed within Jackson Street between 2nd and 5th streets.[753]

The 1937 Sanborn Insurance map indicates that six-inch pipelines were located within 4th Street and Jackson Street in the vicinity of the tank site (see Figure 72). A fire hydrant was also located at the northwest corner of 4th and Jackson streets in the immediate vicinity of the tank site. The 4th Street pipeline may have been connected to this hydrant. A storefront and adjacent garage were also located on the northwest corner, to the immediate west of the tank site (see Figure 72). By 1951, the storefront had been converted to an office building and the garage had been converted into a Motor Spa (see Figure 73). By 1954, the parcels to the immediate north of the tank site had been cleared and converted into a ball field associated with the adjacent Andrew Garden apartments. The area experienced little additional development from the mid-1950s to the present day.[754]

Summary and Conclusions

The earliest development within the vicinity of Tank T5-JAC was the late-nineteenth to early-twentieth century extension of Jackson and 4th streets and the presence of an early-twentieth century sewer line within Jackson Street. The As-Built plans indicate that a brick sewer line was installed within Jackson Street between 2nd and 5th streets prior to 1940. Additional data provided by the NHSA indicates that this sewer line was installed before 1916. There may have also been a water line within 4th Street by 1909; this line may have serviced a fire hydrant at the intersection of Jackson and 4th streets. The 1937 Sanborn map indicates the presence of six-inch water lines within both 4th Street and Jackson Street, and the presence of a fire hydrant at the northwest intersection of Jackson and

[752] US Coastal Survey 1844; G.M. Hopkins & Co. 1873; Spielmann and Brush 1880.
[753] G.M. Hopkins & Co. 1909; G.M. Hopkins & Co. 1923; Whittemore 1940.
[754] Sanborn Library, LLC 1937-2006; NETR 1931-2013.

4th streets. By the mid-twentieth century, the area to the north of the tank site had been cleared and converted into a ball field associated with the apartment complex to the west.

Of the available soil boring data for Hoboken, the nearest boring, GW-2, to Tank T5-JAC was located approximately 780 feet to the southwest (see Appendix D). Boring GW-4 was located approximately 1,100 feet to the northwest of the tank site and exhibited a profile dissimilar to that of GW-2. GW-4 contained approximately ten feet of fill consisting of black sand with gravel and asphalt deposits. At 15 feet below the surface, Boring GW-4 contained a black organic silt layer with decomposed organic material. The boring was terminated at a depth of 20 feet below the surface within this organic matrix. Historically, Boring GW-4 was located in undeveloped meadowlands to the north and west of the Hoboken Creek. Tank T5-JAC was similarly located to the north of the creek as opposed to Boring GW-2 which was located in close proximity to the Hoboken Creek. The historic topographic setting of the borings and the tank site suggest that the soil profile of the tank site might resemble that of Boring GW-4. The black organic silt deposit within GW-4 differs from the gray organic clay or silty clay identified beneath the fill deposit within other portions of Hoboken. This discrepancy suggests that different environmental processes may have operated within the location of GW-4 possibly creating an environmental setting attractive for prehistoric settlement or exploitation. Given the historic topographic similarities between Boring GW-4 and Tank T5-JAC, the tank site is considered to have the potential for a similar stratigraphic profile. Tank T5-JAC is, therefore, considered to possess prehistoric archaeological sensitivity at a depth greater than 15 feet below the surface.

Historic development within Tank T5-JAC consisted of the late-nineteenth to early-twentieth century extension of Jackson and 4th streets and the early-twentieth century extension of a sewer line within Jackson Street and a possible water line within 4th Street. The historic research and available utility information suggests that a brick sewer line was installed within Jackson Street in the vicinity of the tank site before 1916. As this sewer line was may have been installed prior to 1909, it appears to be a component within Hoboken's municipal sewer system at a time when the system was attempting to adapt to its growing population and infrastructure demands. Tank T5-JAC is considered sensitive for historic deposits associated with the Jackson Street sewer line. Archaeological deposits associated with the sewer might include the sewer line, a builder's trench associated with utility installation, and/or wood planks and other support features for the pipe. The As-Built plans indicate that the brick sewer line within Jackson Street in the vicinity of the tank site was installed at a depth of approximately 8 to 17 feet below the surface. Therefore, sewer deposits within the tank site are anticipated at depths greater than eight feet below the surface.

The 1909 Hopkins map indicates the presence of a water line, a sewer line, and possible fire hydrant within 4th Street in the vicinity of the tank site; both the water line and fire hydrant were also present on the 1937 Sanborn map. Currently, a fire hydrant is located at the northwest corner of 4th and Jackson streets. Thus, it appears that an early to mid-twentieth century water line and fire hydrant are extant within the immediate vicinity of the tank site. Given the twentieth century date of these features, neither the water line nor the fire hydrant are considered significant historic resources associated with the early municipal development of Hoboken. As such, Tank T5-JAC is not sensitive for significant historic deposits associated with the water line or fire hydrant.

T4-4ST (Madison Street and 4th Street) (Plate 40)

Proposed Tank T4-4ST will be located at the northwestern corner of the intersection of Madison and 4th streets. The proposed tank will be located in the public ROW and includes the paved road surface and the adjacent cement sidewalk. The tank would be located to the immediate south of an apartment building. Utilities within the vicinity of the proposed tank site include a subsurface water line, drainage grate, and road signs.

The tank will measure approximately 18 feet in length and 5 feet in width. The tank will have an overall depth of 8.5 feet below the surface. Installation of the tank will require excavation to a depth of approximately 11.17 feet below the surface. The limit of disturbance associated with Tank T4-4ST is approximately 85 square feet to an approximate depth of 11.17 feet. This limit of disturbance encompasses the approximate footprint of the tank. Current design plans do not include staging areas or any other areas of disturbance associated with the tank installation.

Historical Development

The 1844 U.S. Coastal Survey map indicates that T4-4ST was located in undeveloped meadowlands to the north of the Hoboken Creek (see Figure 30). Dripps' 1855 map indicates that the tank site was located to the immediate west of Jefferson Square (see Figure 10). The G.M. Hopkins & Co.'s 1873 map does not indicate the presence of Jefferson Square (see Figure 70). Rather, the blocks including Madison and Jefferson streets between 4th and 5th streets appear to have been laid out and allotted. A structure associated with George Shimedes and/or John Mohler was located to the immediate north of the tank site. The structure was located in the center of two lots at the northwest corner of Madison and 4th streets. The location of the structure in the center of the lots suggests that it may have predated the extension of both streets. Speilmann and Brush's 1880 map indicates that neither Madison nor 4th Street had been extended this far to the north and west (see Figure 15). The tank site was located in undeveloped meadowlands. There is no indication of any sewer lines within the vicinity of the tank site. Bailey and Ward's 1881 View of the City indicates that both Madison and 4th streets had been extended in the vicinity of the tank site. However, there was no additional development within this immediate area.[755]

G.M. Hopkins & Co.'s 1909 map indicates that a six-inch pipeline had been installed within the 4th Street roadbed; a six-inch and a 12-inch pipeline were located within the Madison Street roadbed (see Figure 71). Several frame structures had developed to the north of the tank site. The 1923 G.M. Hopkins & Co. map indicates the presence of three pipelines within Madison Street, with the addition of a 16-inch pipeline (Figure 74). Frame buildings continue to be located to the north of the tank site. The 1940 As-Built plans indicate that a brick sewer line was installed within Madison Street between 4th and 7th streets. There were no sewer lines within this portion of 4th Street by 1940.[756]

The 1937 Sanborn Insurance map indicates that a six-inch pipeline was located within 4th Street and that two pipelines were located within Madison Street in the vicinity of the tank site. A store was located at the northwest corner of 4th and Madison streets; a small storefront and dwelling were located to the west of the larger store and

[755] US Coastal Survey 1844; Dripps 1855; G.M. Hopkins & Co. 1873; Spielmann and Brush 1880; Bailey and Ward 1881; Whittemore 1940.
[756] G.M. Hopkins & Co. 1909; G.M. Hopkins & Co. 1923.

north of the tank site. The area to the north of the tank site remained relatively unchanged through the mid to late-twentieth century. By 2008, it appears the structures currently located to the north of the tank site had developed.[757]

Summary and Conclusions

The earliest development within the vicinity of Tank T4-4ST was the late-nineteenth century extension of Madison and 4th streets and the presence of an early-twentieth century sewer line within Madison Street and a water line within 4th Street. The As-Built plans indicate that a brick sewer line was installed within Madison Street in the vicinity of the tank site. Data provided by the NHSA indicates that this brick sewer line was installed before 1916. There may have also been a water line within 4th Street by 1909. The 1937 Sanborn map indicates the presence of a six-inch water line within 4th Street and two pipelines within Madison Street. Commercial and residential development has been located to the north of the tank site throughout the twentieth century and into the present-day.

Tank T4-4ST is equidistant between soil borings GW-2 and GW-4 (see Appendix D). As with Tank T5-JAC, Tank T4-4ST was historically in a topographical setting similar to that of Boring GW-4. As such, it seems likely that the tank site would have a soil profile similar to that exposed within the boring. Given that a black organic silt with decomposing organic material was uncovered beneath the fill deposit in GW-4 and the dissimilarity of this matrix to other meadow-related soil profiles within the city, there is the possibility that a more attractive prehistoric setting existed within this area. In light of this possibility, Tank T4-4ST is considered sensitive for prehistoric deposits at depths greater than 15 feet below the surface.

Historic development within Tank T4-4ST consisted of the late-nineteenth century extension of Madison and 4th streets, the early-twentieth century extension of sewer lines within Madison Street, and a water line within 4th Street. The 1909 Hopkins map indicates the presence of a water line within 4th Street in the vicinity of the tank site. Thus, it appears that an early to mid-twentieth century water line is extant within the immediate vicinity of the tank site. Given that the water line dates to the early to mid-twentieth century it is not considered a significant historic resource associated with the early municipal development of Hoboken.

The historic research and available utility information suggest that a brick sewer line was installed within Madison Street in the vicinity of the tank site before 1916. As this sewer line was most likely installed prior to 1909, it appears to be a component within the municipal sewer system at a time when the system was attempting to adapt to its growing population and infrastructure demands. Therefore, Tank T4-4ST is considered sensitive for historic deposits associated with the Madison Street sewer line. Archaeological deposits associated with the sewer might include the sewer line, a builder's trench associated with utility installation, and/or wood planks and other support features for the pipe. The As-Built plans indicate that the sewer line was installed at a depth of approximately 3.5 to 9 feet below the surface. Therefore, sewer deposits within the tank sites are anticipated at depths greater than 3.5 feet below the surface. Given the lack of additional historic development within the tank site, Tank T4-4ST is not considered sensitive for additional historic archaeological deposits.

[757] Sanborn Library, LLC 1937-2006; NETR 1931-2013.

T3-4ST (Adams Street and 4th Street) (Plate 41)

Proposed Tank T3-4ST will be located at the southwestern intersection of Adams and 4th streets. The proposed tank will be located in the public ROW and includes the paved road surface and the adjacent cement sidewalk. The tank would be located to the immediate north of a mixed-use commercial and residential building. Utilities within the vicinity of the proposed tank site include a drainage grate and road signs.

The tank will measure approximately 15 feet in length and 5 feet in width. The tank will have an overall depth of 4.5 feet below the surface. Installation of the tank will require excavation to a depth of approximately 7.17 feet below the surface. The limit of disturbance associated with Tank T3-4ST is approximately 75 square feet to an approximate depth of 7.17 feet. This limit of disturbance encompasses the approximate footprint of the tank. Current design plans do not include staging areas or any other areas of disturbance associated with the tank installation.

Historical Development

Tank T3-4ST appears to have been undeveloped through the mid-twentieth century. The 1844 U.S. Coastal Survey map indicates that the tank site was located in undeveloped meadowlands to the north of the Hoboken Creek (see Figure 30). Dripps' 1855 map indicates that the tank site was located to the immediate south of Jefferson Square (see Figure 10). The G.M. Hopkins & Co.'s 1873 map does not indicate the presence of Jefferson Square (see Figure 70). Rather, the blocks including Adams and Jefferson streets between 3rd and 4th streets appear to have been laid out and allotted. The lots to the immediate south of the tank site were associated with Londrian & Logan. There were no structures within these lots or in the vicinity of the tank site. Speilmann and Brush's 1880 map indicates that neither Adams nor 4th Street had been extended this far to the north and west (see Figure 15). The tank site was still located in undeveloped meadowlands. There is no indication of any sewer lines within the vicinity of the tank site. Bailey and Ward's 1881 View of the City indicates that both Adams and 4th streets had been extended in the vicinity of the tank site. Three adjacent structures were located on the southwest corner of Adams and 4th streets.[758]

G.M. Hopkins & Co.'s 1909 map indicates that a six-inch pipeline and a sewer line had been installed within the 4th Street roadbed; a six-inch pipeline was located within the Adams Street roadbed (see Figure 71). A brick structure with an associated frame building was located at the southeast corner of 4th and Adams streets to the south of the tank site. The Keuffel & Esser Manufacturing complex was also located to the south. There appears to be little change or additional development within the vicinity of the tank site by 1923. The 1940 As-Built plans indicate that a brick sewer line was installed within Adams Street between 3rd and 4th streets. The plans also indicate that there was no sewer line within 4th Street by 1940.[759]

The 1937 Sanborn Insurance map indicates that pipelines were located within 4th and Adams streets in the vicinity of the tank site. Two attached stores were located at the southwest corner of 4th and Adams streets; a small apartment was located to the west of the larger store and south of the tank site. By 1951, a club occupied the building on the southwest corner of 4th and Adams streets; an apartment continued to be located to its west. A review of the

[758] US Coastal Survey 1844; Dripps 1855; G.M. Hopkins & Co. 1873; Spielmann and Brush 1880; Bailey and Ward 1881.
[759] G.M. Hopkins & Co. 1909; G.M. Hopkins & Co. 1923.

Plate 41: Location of T3-4ST, Adams and 4th Streets. View Southwest. (DVS 3/24/2016).

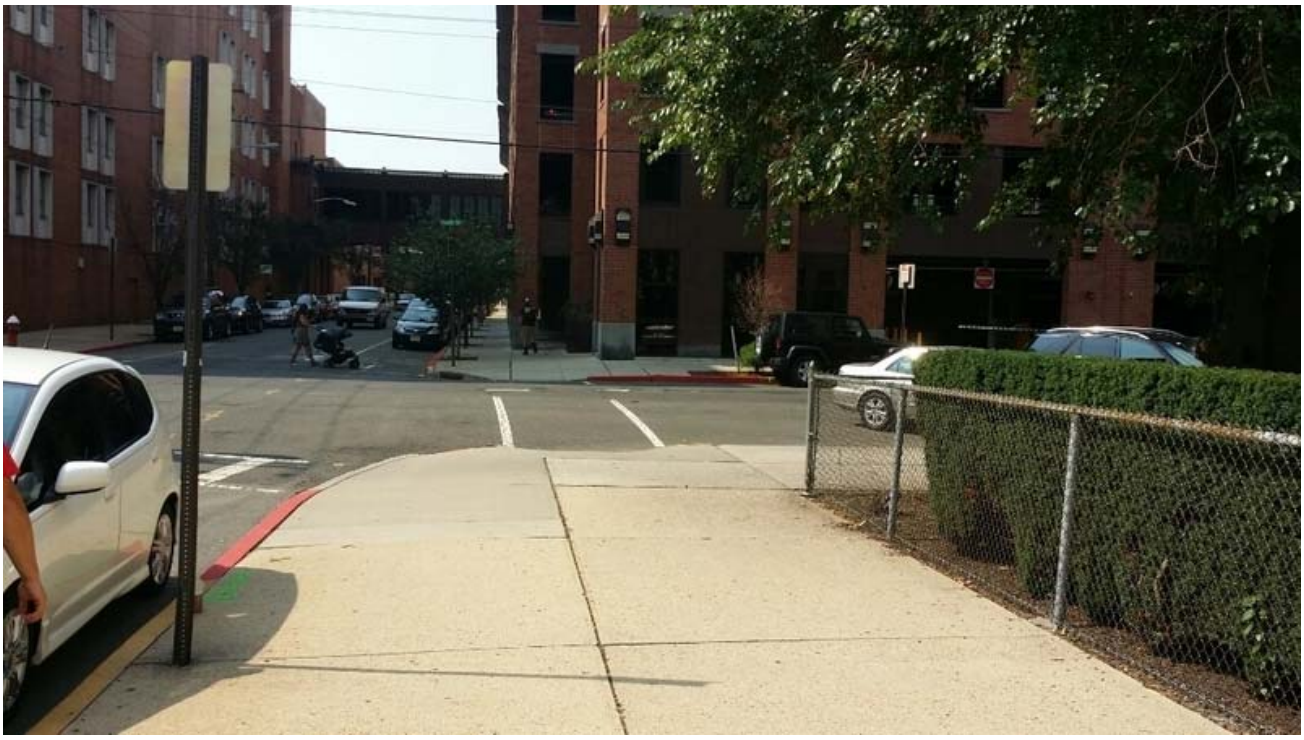

Plate 42a: Location of TD14-CLA, Clinton Street and 4th Street. View South. (ZE 5/23/2016).

mid to late-twentieth century Sanborn maps and aerial imagery suggests that the vicinity of the tank site remained relatively unchanged throughout this period.[760]

Summary and Conclusions

The earliest development within the vicinity of Tank T3-4ST was the late-nineteenth century extension of Adams and 4th streets and the presence of an early-twentieth century sewer line within Adams Street and a water line within 4th Street. The As-Built plans indicate that there was a brick sewer line within Adams Street in the vicinity of the tank site. Data provided by the NHSA indicates that a brick sewer line was installed within Adams Street from 2nd to 7th streets before 1916. A water line was located within 4th Street by 1909. Commercial and residential development has been located to the south of the tank site throughout the twentieth century and into the present day.

Of the available soil boring data, Tank T3-4ST is in closest proximity to Boring GW-3 which was located approximately 1,300 feet to its east (see Appendix D). However, an examination of the historic topographic location of Boring GW-3 suggests that this boring was located within or immediately adjacent to dry uplands along the eastern portion of the city. This setting differs from the meadowland location of the tank site which more closely resembles the historic topographic setting of Boring GW-4. Given the topographic similarities of Boring GW-4 and Tank T3-4ST, the profile exposed within the boring is assumed to be a close representation to the profile within the tank site. Therefore, in light of the previously discussed potential for a favorable prehistoric environment evidenced by this soil profile, Tank 3-4ST is considered sensitive for prehistoric deposits at depths greater than 15 feet below the surface.

Historic development within the vicinity of Tank T3-4ST consisted of the late-nineteenth century extension of Adams and 4th streets, the early-twentieth century extension of a sewer line within Adams Street, and a possible water line within 4th Street. The 1909 Hopkins map indicates the presence of a water line within 4th Street in the vicinity of the tank site; this water line may have serviced fire hydrants located along 4th Street. Thus, it appears that an early to mid-twentieth century water line is extant within the immediate vicinity of the tank site. Given that the water line dates to the early to mid-twentieth century, it is not considered a significant historic resource associated with the early municipal development of Hoboken.

The historic research and available utility information suggests that a brick sewer line was installed within Adams Street in the vicinity of the tank site before 1916. As this sewer line was most likely installed prior to 1909, it appears to be a component within the municipal sewer system at a time when the system was attempting to adapt to its growing population and infrastructure demands. Therefore, Tank T3-4ST is considered sensitive for historic deposits associated with the Madison Street sewer line. Archaeological deposits associated with the sewer might include the sewer line, a builder's trench associated with utility installation, and/or wood planks and other support features for the pipe. The As-Built plans indicate that the brick sewer line was installed within Adams Street at a depth of approximately three to seven feet below the surface. Therefore, sewer deposits within the tank site is

[760] Sanborn Library, LLC 1937-2006; NETR 1931-2013.

anticipated at depths greater than three feet below the surface. Given the lack of additional historic development within the tank site, Tank T3-4ST is not considered sensitive for additional historic archaeological deposits.

TD14-CLA, TD1-4ST, T2-4ST (Clinton Street and 4th Street) (Plates 42a, b & 43)

Proposed Tank TD14-CLA will be located on the western frontage of Clinton Street to the immediate north of its intersection with 4th Street. Tank TD2-4ST will be located to the immediate southeast of TD14-CLA at the northwestern intersection of Clinton and 4th streets. Tank TD1-4ST will be located on the opposite side of the intersection from TD2-4ST and TD14-CLA at the southeastern intersection of Clinton and 4th streets. The proposed tanks will be located in the public ROW and include the paved road surface, delineated parking areas, and the adjacent cement sidewalk. Tank TD14-CLA and TD2-4ST would be located to the immediate east and south of an apartment building; Tank TD2-4T would be located to the immediate north of the Hoboken University Medical Center. Utilities within the vicinity of the proposed tank sites include a fire hydrant, drainage grates, wooden transmission poles, and road signs.

Tank TD14-CLA will measure approximately 20 feet in length and 5 feet in width. The tank will have an overall depth of five feet below the surface. Installation of the tank will require excavation to a depth of approximately 7.67 feet below the surface. The limit of disturbance associated with Tank TD14-CLA is approximately 100 square feet to an approximate depth of 7.67 feet. Tank T2-4ST will measure approximately 14 feet in length and 5 feet in width. The tank will have an overall depth of four feet below the surface. Installation of the tank will require excavation to a depth of approximately 6.67 feet below the surface. The limit of disturbance associated with Tank T2-4ST is approximately 70 square feet to an approximate depth of 6.67 feet. Tank TD1-4ST will measure approximately 12 feet in length and 5 feet in width. The tank will have an overall depth of four feet below the surface. Installation of the tank will require excavation to a depth of approximately 6.67 feet below the surface. The limit of disturbance associated with Tank TD1-4ST is approximately 60 square feet to an approximate depth of 8.67 feet. The limits of disturbance for each tank site encompass only the approximate footprint of each tank. Current design plans do not include staging areas or any other areas of disturbance associated with the installation of the tanks.

Historical Development

The 1844 U.S. Coastal Survey map indicates that the three tank sites were located in undeveloped meadowlands to the northeast of the Hoboken Creek (see Figure 30). Dripps' 1855 map indicates that Tank T2-4ST was located to the immediate south of a rectangular structure on the northwest corner of Clinton Avenue and 4th Street; Tank TD14-CLA was located to the immediate east of this structure (see Figure 10). Tank TD1-4ST was located in an undeveloped parcel to the south of Church Square. The G.M. Hopkins & Co.'s 1873 map indicates that TD14-CLA and T2-4ST were located in the immediate vicinity of a building on the northwest corner of Clinton and 4th streets (see Figure 70). It was one of two buildings associated with Thomas Robinson. Tank TD1-4ST was located in the immediate vicinity of a structure at the southeast corner of 4th and Clinton streets. St. Mary's Church occupied the block on the northeast corner of 4th and Clinton streets. St. Mary's Hospital was located at the southwest corner of Willow and 4th streets.[761]

[761]US Coastal Survey 1844; Dripps 1855; G.M. Hopkins & Co. 1873.

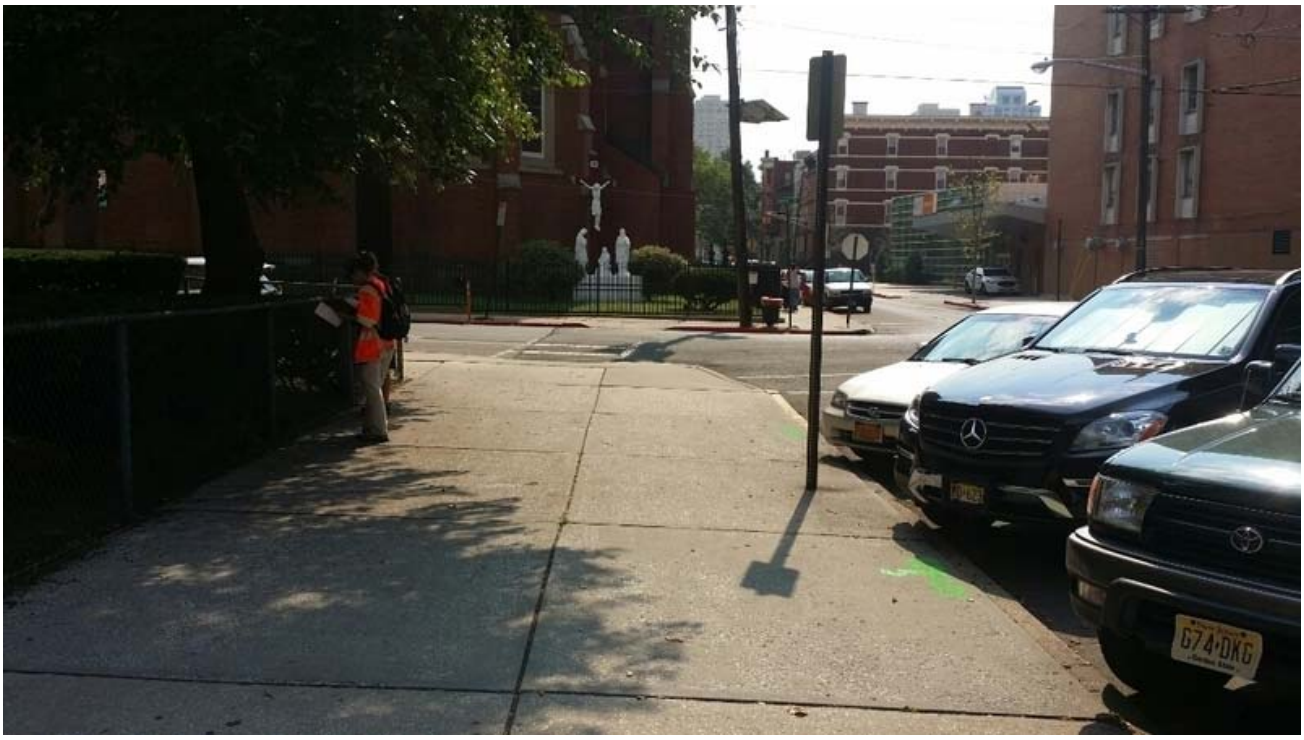

Plate 42b: Location of T2-4ST, 4th Street and Clinton Street. View East. (ZE 5/23/2016).

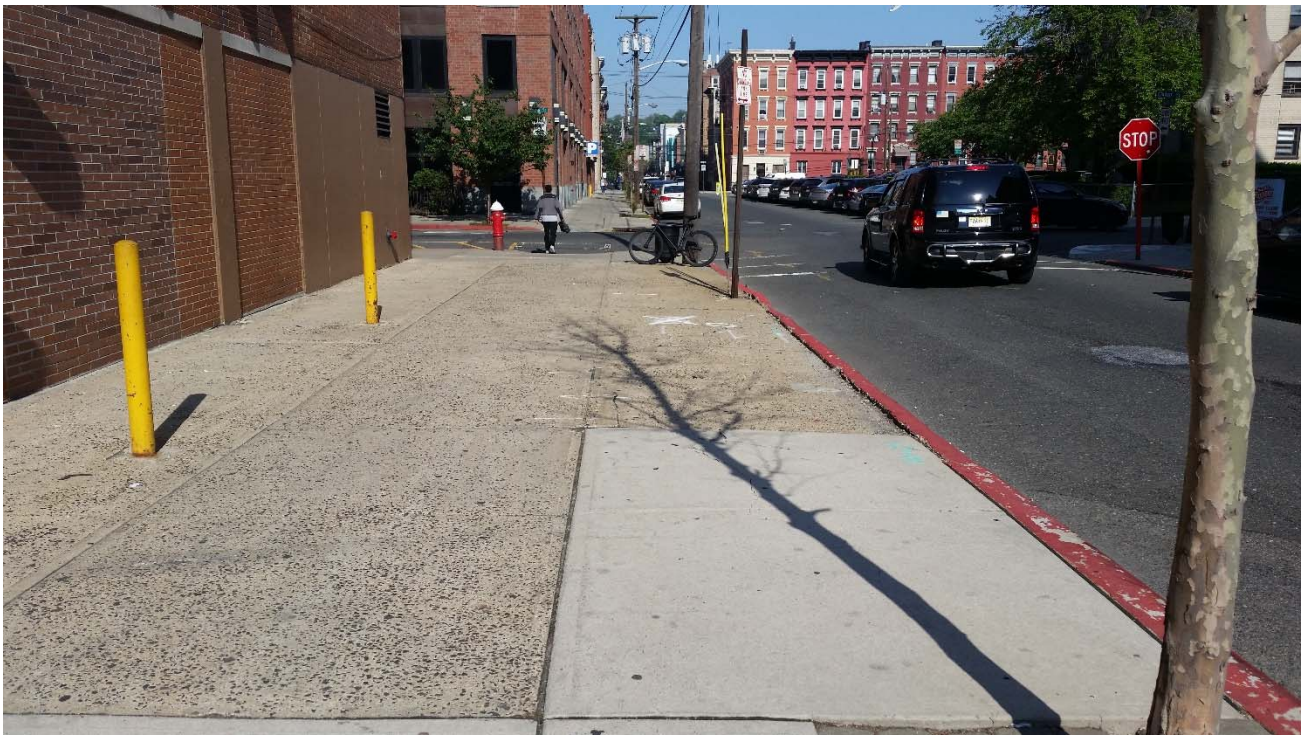

Plate 43: Location of TD1-4ST, Clinton and 4th Streets. View West. (ZE 5/23/2016).

Speilmann and Brush's 1880 map indicates that Clinton and 4th streets had been extended to the north and west of the tank sites (see Figure 15). A sewer line was present within Clinton Street from Newark Avenue to 5th Street. There is no indication of a sewer line within 4th Street. Bailey and Ward's 1881 View of the City indicates that both Adams and 4th streets had been extended in the vicinity of the tank sites (Figure 68). Three adjacent structures were located on the southwest corner of Adams and 4th streets.[762]

G.M. Hopkins & Co.'s 1909 map indicates that a sewer line, a 12-inch pipeline and a six-inch pipeline had been installed within Clinton Street (Figure 75). A trolley line was also located along Clinton Street. A six-inch water line was located along 4th Street. Frame buildings were located at the northwest corner of the intersection of Clinton and 4th streets in the vicinity of TD14-CLA and T2-4ST. The Roman Catholic Church of Our Lady of Grace occupied the entire block at the northeastern corner of Clinton and 4th streets. St Mary's Hospital occupied the entire northern portion of Block 1800, the entire 4th Street frontage between Clinton Street and Willow Avenue. Tank TD1-4ST was located in the vicinity of the hospital, near a brick building situated at the southeastern corner of Clinton and 4th streets. The area appears unchanged by 1923. The 1940 As-Built plans indicate that a wooden sewer line was installed within Clinton Street between 4th and 5th streets. The plans indicate that there was no sewer line within 4th Street by 1940.[763]

The 1937 Sanborn Insurance map indicates that pipelines were located within 4th Street and Clinton Street in the vicinity of the tank site (Figure 76). A series of stores were located on the northern frontage of 4th Street in the vicinity of Tank TD14-CLA and T2-4ST. Vacant space adjacent to St. Mary's Hospital was located to the south of Tank TD1-4ST. By 1966, the storefronts along the northern frontage of 4th Street had been removed; the entire block at the northwest intersection of Clinton and 4th streets had been cleared. By 1979, the current Church Towers Apartments had been constructed at the northwest corner of Clinton and 4th streets. A fire hydrant had also been installed at the southeast corner of Clinton and 4th streets near Tank TD1-4ST. St. Mary's Hospital had also expanded with the construction of the current brick building at the southeastern intersection of Clinton and 4th streets.[764]

Summary and Conclusions

The earliest development within the vicinity of the tank sites consisted of the mid-nineteenth century extension of Clinton and 4th streets. Development was located at the northwest intersection of Clinton and 4th streets beginning in the 1850s. Within the tank sites the earliest development aside from the roadways was the installation of municipal sewer and water lines. The As-Built plans indicate that a wooden sewer line was installed within Clinton Street between 4th and 5th streets. Data provided by the NHSA indicates that the wooden sewer line was installed before 1916; this line may have been installed before 1880. A water line was also installed within 4th Street during the early-twentieth century. A fire hydrant was attached to this water line in the 1970s. Commercial development was located to the immediate north of Tank TD14-CLA and T2-4ST through the mid-twentieth century. By the 1970s, a large

[762]Spielmann and Brush 1880; Bailey and Ward 1881.
[763] G.M. Hopkins & Co. 1909; G.M. Hopkins & Co. 1923; Whittemore 1940.
[764] Sanborn Library, LLC 1937-2006; NETR 1931-2013.

REBUILD BY DESIGN HUDSON RIVER ▪ RESIST ▪ DELAY ▪ STORE ▪ DISCHARGE ▪

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Bird's Eye View of Tank Locations - Bailey and Ward ,1881

August 2016

FIGURE 68

residential property had developed within this area. St. Mary's Hospital was located in the vicinity of TD1-4ST for the majority of the twentieth century through the present day.

Of the available soil boring data, the three tank sites are in closest proximity to Boring GW-3 which was located approximately 770 feet to the east (see Appendix D). However, an examination of the historic topographic location of GW-3 suggests that this boring was located within or immediately adjacent to dry uplands along the eastern portion of the city. This setting differs from the meadowland location of the tank sites which more closely resembles the historic topographic setting of Boring GW-4. Given the topographic similarities of Boring GW-4 and the tank sites, the profile exposed within the boring is assumed to be a close representation to their soil profile. Therefore, in light of the previously discussed potential for a favorable prehistoric environment evidenced by this soil profile, Tank TD14-CLA, Tank T2-4ST, and Tank TD1-4ST are considered sensitive for prehistoric deposits at depths greater than 15 feet below the surface.

Historic development within the vicinity of the tank sites consisted of the mid-nineteenth century extension of Clinton and 4th streets, an early-twentieth century trolley along Clinton Street, the mid to late-nineteenth century installation of a wooden sewer line within Clinton Street, and a possible water line within 4th Street. Current information from NHSA suggests that a wooden sewer line was installed within Clinton Street in the vicinity of the tank sites before 1916. The Clinton Street sewer line would be in the immediate vicinity of Tank TD14-CLA. The 1909 Hopkins map indicates the presence of a water line within 4th Street in the vicinity Tank T2-4ST and Tank TD1-4ST; this water line may have serviced fire hydrants located along 4th Street. Given that the water line dates to the early to mid-twentieth century, it is not considered a significant historic resource associated with the early municipal development of Hoboken. Therefore Tank T2-4ST and Tank TD1-4ST are not considered sensitive for historic municipal water-related deposits.

Conversely, Tank TD14-CLA is in the immediate vicinity of a potentially pre-1880 wooden sewer line. Tank sites T2-4ST and T1-4ST are located to the west and east of the Clinton Street sewer line, respectively; the sewer line is located outside of their limits of potential disturbance. As the Clinton Street sewer was associated with the early municipal development of Hoboken and the city's initial sewer system, it is considered a potentially significant historic resource. Thus, Tank TD14-CLA is considered sensitive for historic sewer-related deposits. Archaeological deposits associated with the sewer might include the sewer line, a builder's trench associated with utility installation, and/or wood planks and other support features for the pipe. The As-Built plans indicate that the wooden sewer line was installed at a depth of approximately 5 to 8.5 feet below the surface. Therefore, sewer deposits within the tank site are anticipated at depths greater than five feet below the surface.

An early-twentieth century trolley line also operated along Clinton Street in the immediate vicinity of Tank TD14-CLA. By 1937, the trolley tracks were no longer extant. This trolley line was not an elevated track, therefore, archaeological deposits associated with the trolley line would most likely consist of the rail tracks. Such tracks would be anticipated near the surface. Given that the route of the early-twentieth century trolley lines are known through cartographic and documentary records, any track remnants would provide little additional information regarding the history or nature of this resource. As such, any deposits associated with the trolley line would not constitute a

significant resource eligible for listing in the National Register. Therefore, Tank TD14-CLA is not considered sensitive for significant historic resources associated with the early-twentieth century Clinton Street trolley line. Given the lack of additional historic development within the tank sites, Tank TD14-CLA, Tank T2-4ST, and Tank TD1-4ST are not considered sensitive for any additional historic resources.

TD1-WIL (Willow Street and 4th Street), TD6-WIL (Willow Street/5th) (Plate 44)

Proposed Tank TD1-WIL will be located on the eastern frontage of Willow Street to the north of 4th Street. Proposed Tank TD6-WIL will be located 210 feet to the north of Tank TD1-WIL on the eastern frontage of Willow Street south of its intersection with 5th Street. The proposed tanks will be located in the public ROW and include the paved road surface and the adjacent cement sidewalk. The tanks would be located to the immediate west of Church Square Park. Utilities within the vicinity of the proposed tank sites include a fire hydrant, drainage grates, a manhole, wooden transmission poles, and road signs.

Tank TD1-WIL will measure approximately 20 feet in length and 5 feet in width. The tank will have an overall depth of 4.5 feet below the surface. Installation of the tank will require excavation to a depth of approximately 7.17 feet below the surface. The limit of disturbance associated with Tank TD1--WIL is approximately 100 square feet to an approximate depth of 7.17 feet. Tank TD6-WIL will measure approximately 20 feet in length and 5 feet in width. The tank will have an overall depth of 4.5 feet below the surface. Installation of the tank will require excavation to a depth of approximately 7.17 feet below the surface. The limit of disturbance associated with Tank TD6-WIL is approximately 100 square feet to an approximate depth of 7.17 feet. The limits of disturbance encompass the approximate footprint of the tanks. Current design plans do not include staging areas or any other areas of disturbance associated with the installation of the tanks.

Historical Development

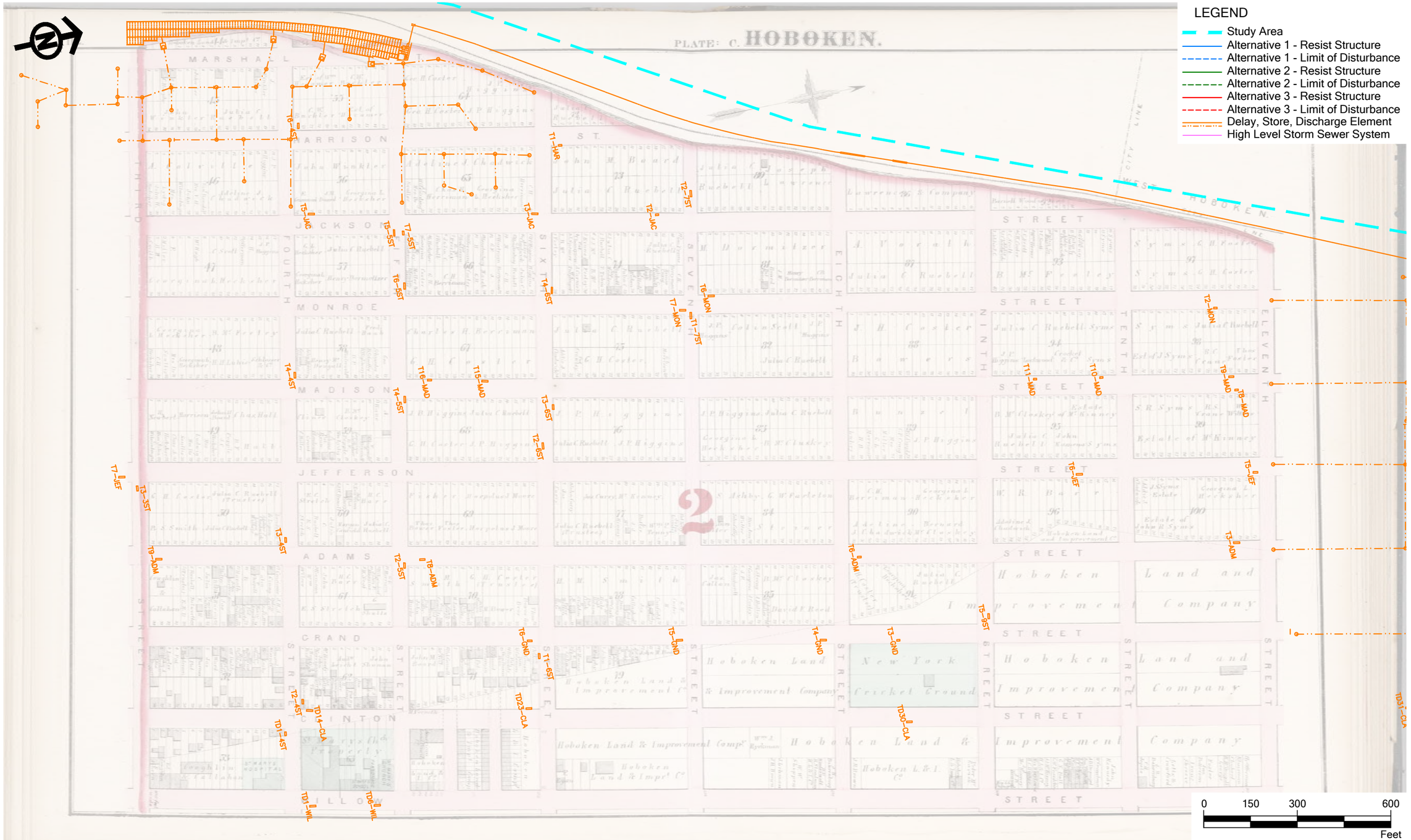
The 1844 U.S. Coastal Survey map indicates that Tank TD1-WIL and Tank TD6-WIL were located in undeveloped meadowlands to the southwest of the trotting course (see Figure 30). Dripps' 1855 map indicates that both tank sites were located within the Church Square which was bounded by Clinton Avenue to the west, Meadow Street to the east, 4th Street to the south, and 5th Street to the north (see Figure 10). Hufnagel and Hexamer's 1856 Map of the City of Hoboken indicates that Willow Street was not established and that the tank sites were to the immediate west of the park (Figure 77). The G.M. Hopkins & Co.'s 1873 map indicates that Willow Street had become the western border of the Public Square (see Figures 40 & 70). There is no indication of any buildings or other development within the Public Square. St. Mary's Church occupied the entire block to the immediate west of the tank sites.[765]

Speilmann and Brush's 1880 map indicates that Willow and 4th streets had been extended to the north and west of the tank sites (see Figure 15). A sewer line was present within Willow Street from Newark Avenue to 12th Street. There is no indication of a sewer line within 4th Street. The tank sites appear to be to the immediate east of

[765]US Coastal Survey 1844; Dripps 1855; B. Hufnagel and E. Hexamer, *Map of the City of Hoboken Situated in the County of Hudson, New* Jersey, (On file: Hoboken, Hoboken Public Library), 1856. G.M. Hopkins & Co. 1873.

Plate 44: Location of TD1-WIL and TD6-WIL, Church Square Park. View North Northeast. (DVS 3/30/2016).

Plate 45: Location of T1-GAR, Garden Street and 4th Street. View South. (ZE 5/23/2016).



REBUILD BY DESIGN HUDSON RIVER ▪ RESIST ▪ DELAY ▪ STORE ▪ DISCHARGE ▪

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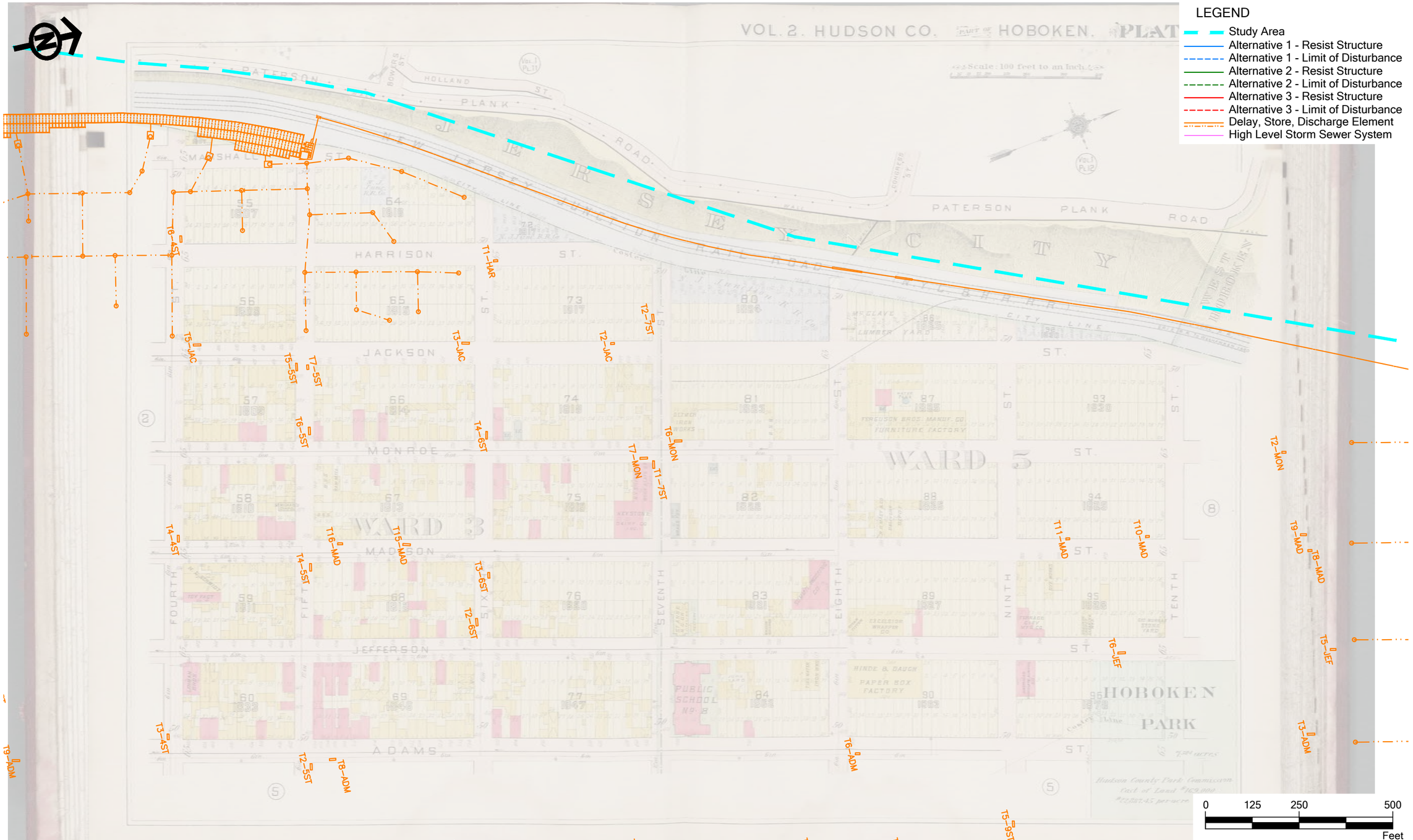
DSD Locations in 1873 - Hopkins 1873 (Plate C)

August 2016

FIGURE 70



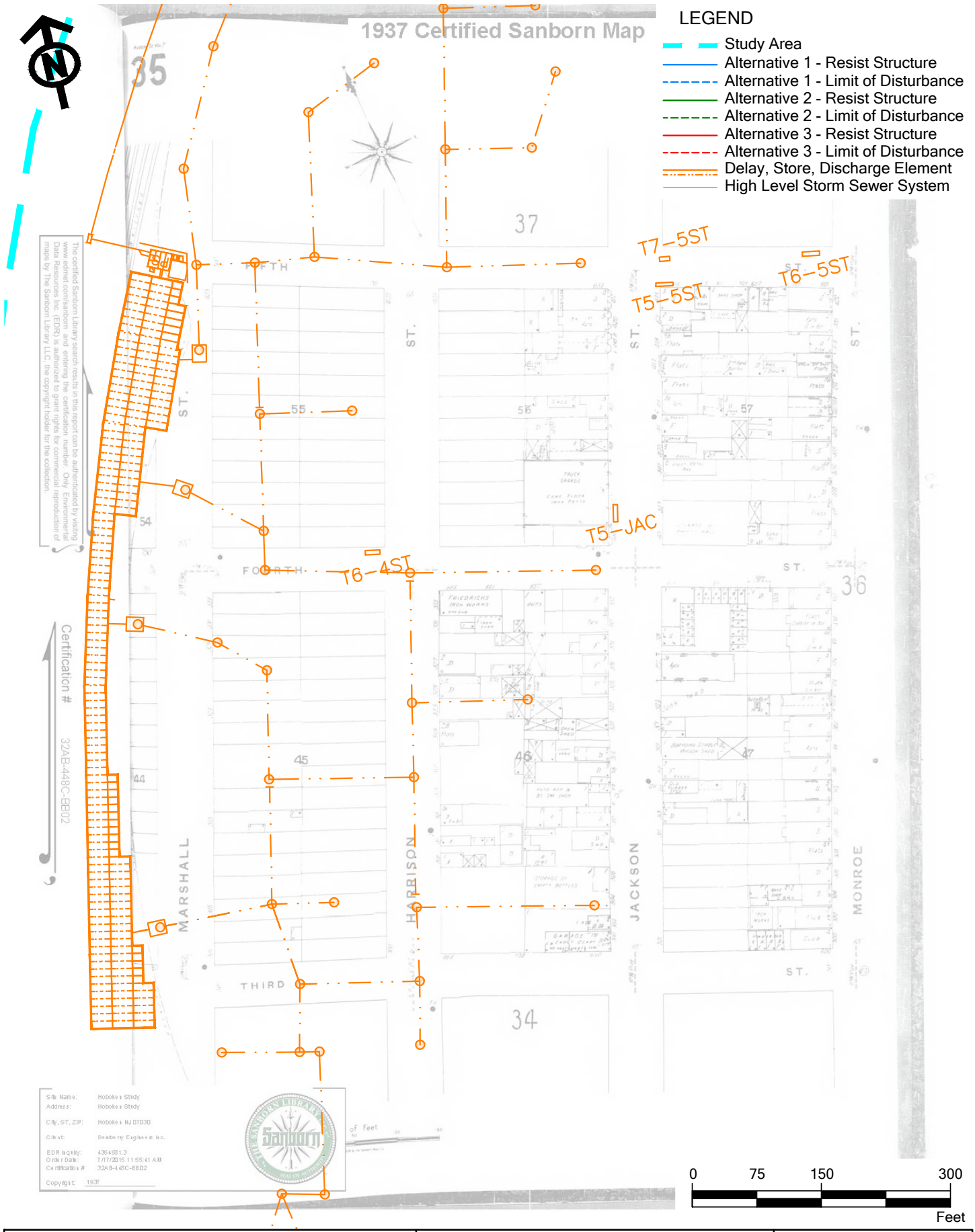
REBUILD BY DESIGN HUDSON RIVER ▪ RESIST ▪ DELAY ▪ STORE ▪ DISCHARGE ▪

Dewberry · State of New Jersey Department of Environmental Protection

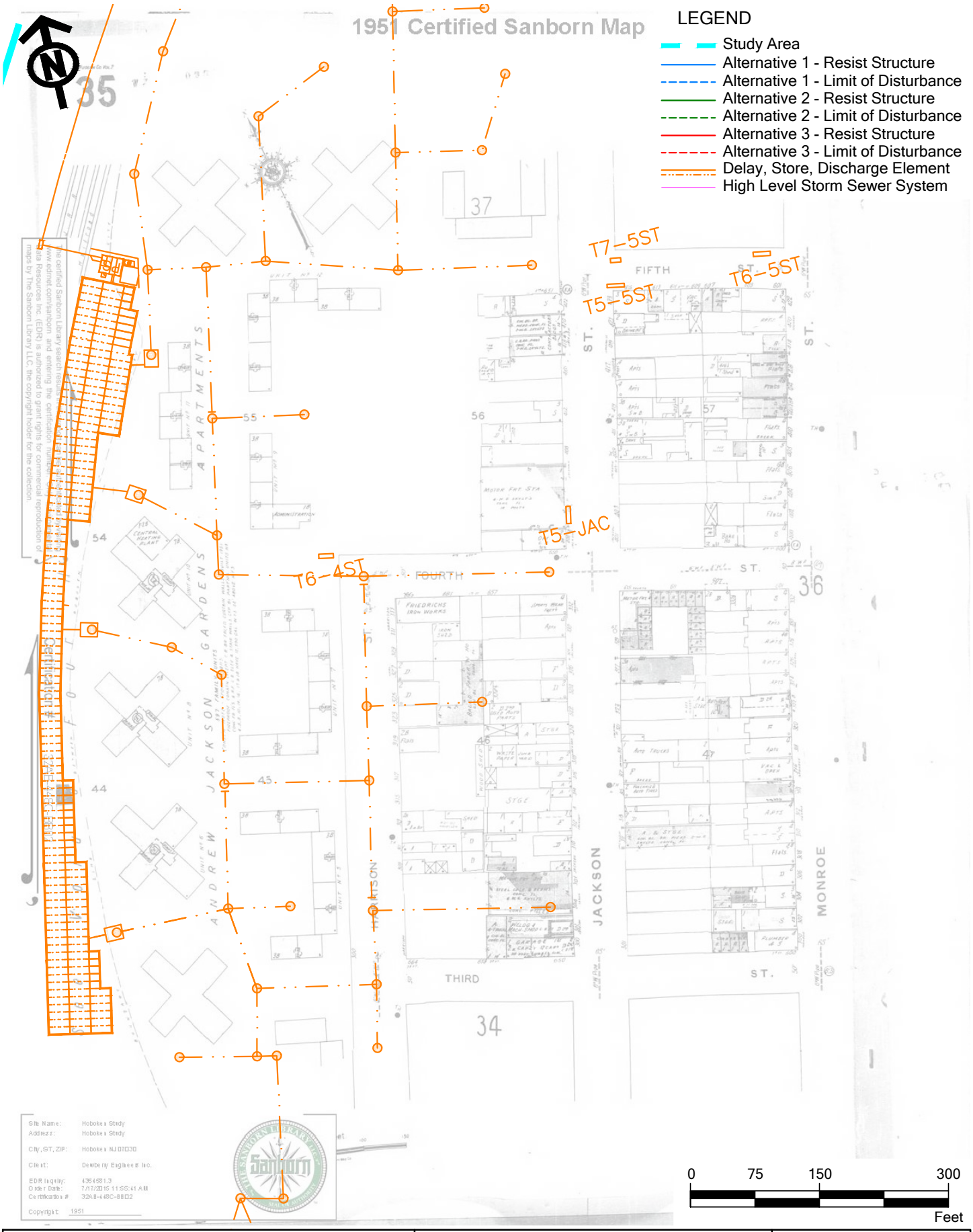
DSD Locations in 1909 - Hopkins 1909 (Plate 6)

August 2016

FIGURE 71



REBUILD BY DESIGN HUDSON RIVER ▪ RESIST ▪ DELAY ▪ STORE ▪ DISCHARGE ▪ Dewberry · Department of Environmental Protection	DSD Locations in 1937 Sanborn 1937 (Plate 35)	August 2016 FIGURE 72



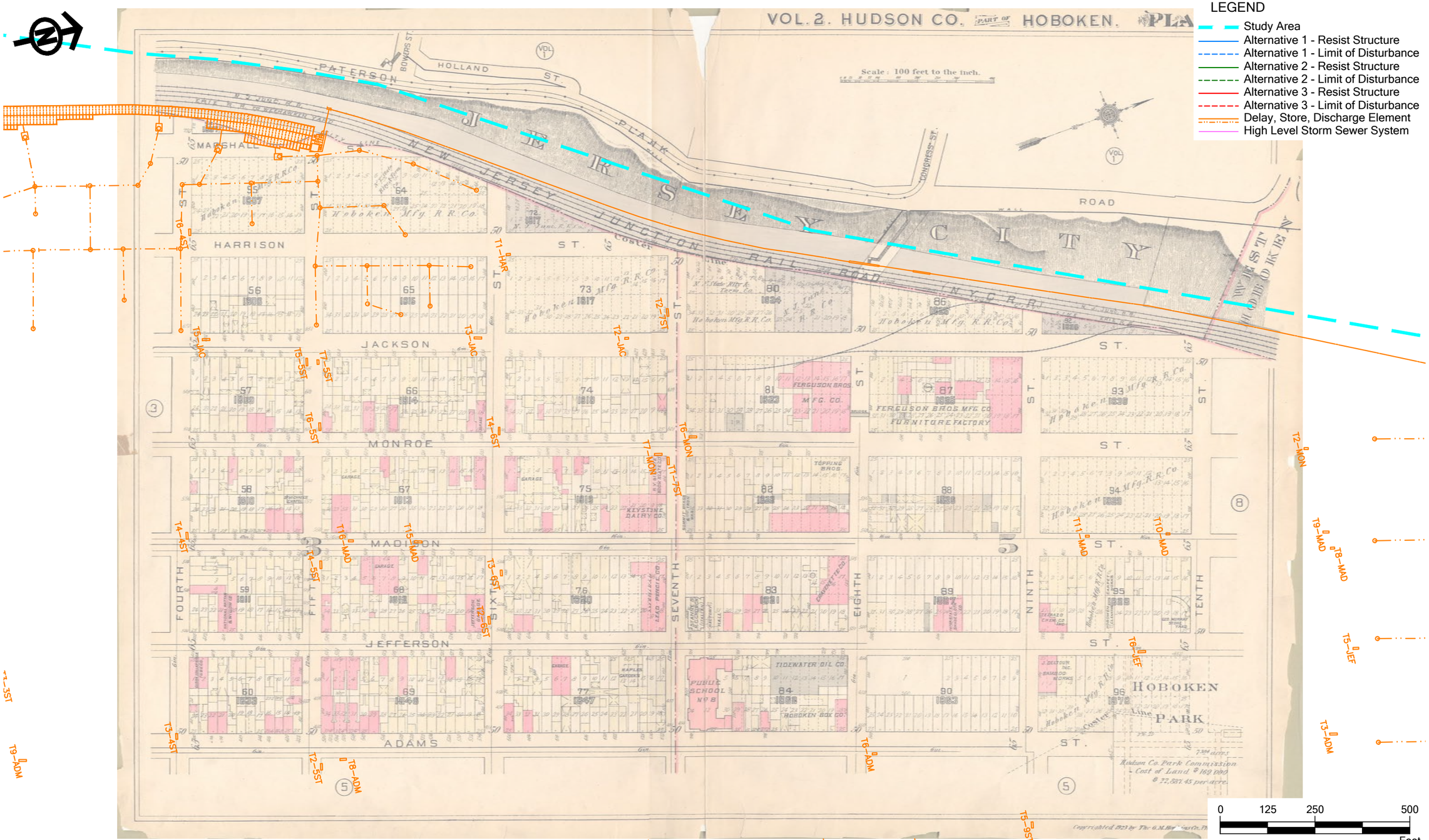
REBUILD BY DESIGN HUDSON RIVER ▪ RESIST ▪ DELAY ▪ STORE ▪ DISCHARGE ▪

Dewberry | NJ Department of Environmental Protection

DSD Locations in 1951
Sanborn 1951 (Plate 35)

August 2016

FIGURE 73



LEGEND

- Study Area
- Alternative 1 - Resist Structure
- Alternative 1 - Limit of Disturbance
- Alternative 2 - Resist Structure
- Alternative 2 - Limit of Disturbance
- Alternative 3 - Resist Structure
- Alternative 3 - Limit of Disturbance
- Delay, Store, Discharge Element
- High Level Storm Sewer System

0 125 250 500 Feet

REBUILD BY DESIGN HUDSON RIVER ▪ RESIST ▪ DELAY ▪ STORE ▪ DISCHARGE ▪

Dewberry | State of New Jersey Department of Environmental Protection

DSD Locations in 1923 - Hopkins 1923 (Plate 6)

August 2016

FIGURE 74

meadowlands. Bailey and Ward's 1881 View of the City indicates the tank sites were located across the street from the Lady of Grace Catholic Church. William Henn's bakery was located to the south of the park (see Figure 68).[766]

G.M. Hopkins & Co.'s 1909 map indicates that a sewer line, a 12-inch pipeline and a six-inch pipeline had been installed within Willow Street (see Figure 75). A trolley line was also located along Willow Street. A six-inch water line was located along 4th Street; a 16-inch pipeline was also located along 5th Street. The Volunteer Firemen's Memorial Monument was located to the east of the tank sites within Church Square. Both tank sites were located near pedestrian paths which provided pedestrian access to the park from Willow Avenue. The Roman Catholic Church of Our Lady of Grace occupied the entire block on the opposite side of Willow Avenue from the tank sites. The area appears unchanged by 1923. The 1940 As-Built plans indicate that a brick sewer line had been installed within Willow Avenue between 4th and 7th streets.[767]

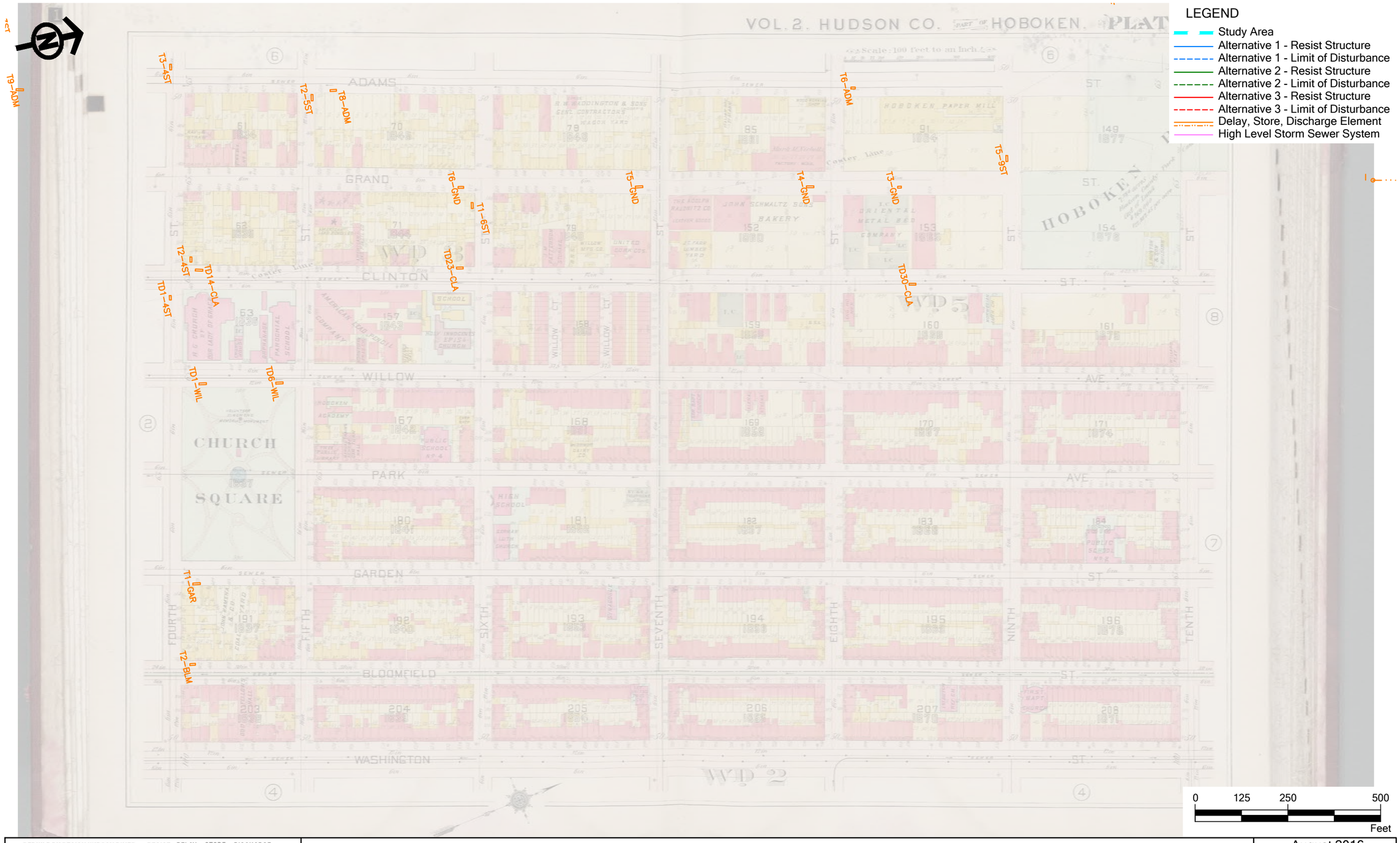
A review of the twentieth century Sanborn maps and available aerial imagery indicates little change or additional development within the vicinity of the tank sites. Between 1951 and 1979, a fire hydrant was installed at the northeastern corner of Willow Avenue and 4th Street to the south of Tank TD1-WIL.[768]

Summary and Conclusions

The earliest development within the vicinity of the tank sites appears to be the development of historic Church Square Park by 1855. By 1873, Willow Avenue had been extended and became the new western border of the park. St. Mary's Church (Our Lady of Grace) developed to the west of the tank sites around this time. By 1880, a sewer line had been installed within Willow Avenue. The As-Built plans confirm the presence of a brick sewer line within Willow Avenue; data provided by the NHSA indicates that this brick sewer line had been installed before 1916. A water line was also installed within 4th Street and a 16-inch pipeline was installed within 5th Street during the early-twentieth century. A fire hydrant was installed at the northwest corner of the intersection of Willow Avenue and 4th Street in the 1970s. The area to the west of the tank sites remained a municipal park from the mid-nineteenth century through the present day.

Of the available soil boring data, Boring GW-3 is located in closest proximity to the tank sites, being approximately 500 feet to the east (see Appendix D). Boring GW-3 also appears to have been in a similar historic topographic setting to the tank sites as these locations do not appear to have been historic meadowlands. The profile within GW-3 consisted of an overlying layer of brown sand with asphalt and subbase deposits. The brown sand extended to a depth of three feet below the surface which overlaid a matrix of gray sand. The boring was terminated at a depth of 20 feet below the surface within the gray sand deposit. There was no indication of an organic surface within the soil profile. It is unclear whether past subsurface disturbance may have removed any preexisting organic deposits within the area. Given the historic and present topographic similarities between Boring GW-3 and the tank sites, it is assumed that the tank sites would reflect a similar stratigraphic profile lacking an organic deposit which might

[766]Spielmann and Brush 1880; Bailey and Ward 1881.
[767] G.M. Hopkins & Co. 1909; G.M. Hopkins & Co. 1923; Whittemore 1940.
[768] Sanborn Library, LLC 1937-2006; NETR 1931-2013.



REBUILD BY DESIGN HUDSON RIVER ▪ RESIST ▪ DELAY ▪ STORE ▪ DISCHARGE ▪

Dewberry | State of New Jersey Department of Environmental Protection

DSD Locations in 1909 - Hopkins 1909 (Plate 5)

August 2016

FIGURE 75

REBUILD BY DESIGN HUDSON RIVER ▪ RESIST ▪ DELAY ▪ STORE ▪ DISCHARGE ▪

Dewberry | Department of Environmental Protection

DSD Locations in 1937
Sanborn 1937 (Plate 29)

August 2016

FIGURE 76

REBUILD BY DESIGN HUDSON RIVER ▪ RESIST ▪ DELAY ▪ STORE ▪ DISCHARGE ▪

Dewberry | State of New Jersey Department of Environmental Protection

Location of Tank T1-GAR and Tank T2-BLM, 1856
Hufnagel and Hexamer 1856

August 2016

FIGURE 77

suggest a former prehistoric occupation surface. Therefore, in light of the soil profile within GW-3, Tank TD1-WIL and Tank TD6-WIL are considered to possess little to no potential for prehistoric archaeological resources.

Historic development within the vicinity of the tank sites consisted of the mid-nineteenth century Church Square Park, the mid to late-nineteenth century extension of Willow Avenue, the mid-nineteenth century installation of a brick sewer line within Willow Avenue, an early-twentieth century trolley line along Willow Avenue, and early-twentieth century pipelines along 4th and 5th streets. Given the distance between Tank TD1-WIL and 4th Street and between TD6-WIL and 5th Street, the tank sites are not considered sensitive for deposits associated with the pipelines along either street.

The earliest historic deposits within Tank TD1-WIL and Tank TD6-WIL would be associated with the mid-nineteenth century Public Square that predated the creation of Willow Avenue and the extension of a sewer line within the street. It is unclear to what extent the area may have been filled for the creation of Willow Avenue. However, the installation of a sewer line within the streetbed indicates past subsurface disturbance to a depth of at least 8.5 feet below the street. Such disturbance would have removed or severely compromised any pre-existing deposits associated with the Public Square. As such, the tank sites are not considered sensitive for mid-nineteenth century deposits associated with the Public Square. In addition, St. Mary's Church (Our Lady of Grace) was located to the west of the tank sites. Therefore, the tank sites are not considered sensitive for historic deposits associated with the mid to late-nineteenth century church occupation.

Cartographic records and available utility data indicate that a brick sewer line was installed within Willow Avenue sometime prior to 1880. This sewer line would be located in the immediate vicinity of both Tank TD1-WIL and Tank TD6-WIL. As the Willow Avenue sewer is associated with the early municipal development of Hoboken and the city's initial sewer system, it is considered a significant historic resource. Thus, Tank TD1-WIL and Tank TD6-WIL are considered sensitive for historic sewer-related deposits. Archaeological deposits associated with the sewer might include the sewer line, a builder's trench associated with utility installation, and/or wood planks and other support features for the pipe. The As-Built plans indicate that the brick sewer line within Willow Avenue was installed at a depth of 2.5 to 8.5 feet below the surface. Therefore, sewer deposits within the tank sites are anticipated at depths greater than 2.5 feet below the surface.

An early-twentieth century trolley line also operated along Willow Avenue in the immediate vicinity of the tank sites. By 1937, the trolley tracks were no longer extant. This trolley line was not an elevated track, therefore, archaeological deposits associated with the trolley line would most likely consist of the rail tracks. Such tracks would be anticipated near the surface. Given that the route of the early-twentieth century trolley lines are known through cartographic and documentary records, any track remnants would provide little additional information regarding the history or nature of this resource. As such any deposits associated with the trolley line would not constitute a significant resource eligible for listing in the National Register. Therefore, Tank TD1-WIL and Tank TD6-WIL are not considered sensitive for significant historic resources associated with the early-twentieth century Willow Avenue trolley line. Given the lack of additional historic development within the tank sites, Tank TD1-WIL and Tank TD6-WIL are not considered sensitive for any additional historic resources.

T1-GAR (Garden Street and 4th Street) (Plate 45)

Proposed Tank T1-GAR will be located at the northeast corner of the intersection of Garden and 4th streets. The proposed tank will be located in the public ROW and includes the paved road surface and the adjacent cement sidewalk. The tank would be located to the immediate southwest of the A.J. Demarest Junior High School. Utilities within the vicinity of the proposed tank site include a fire hydrant, a drainage grate, a manhole and road signs.

The tank will measure approximately 20 feet in length and 5 feet in width. The tank will have an overall depth of seven feet below the surface. Installation of the tank will require excavation to a depth of approximately 9.67 feet below the surface. The limit of disturbance associated with Tank T1-GAR is approximately 100 square feet to an approximate depth of 9.67 feet. This limit of disturbance encompasses the approximate footprint of the tank. Current design plans do not include staging areas or any other areas of disturbance associated with the tank installation.

Historical Development

Tank T1-GAR may have been developed by 1844. The 1844 U.S. Coastal Survey map indicates that the tank site was located at the western terminus of an historic roadway, on the border of the meadowlands and cleared land, south of the trotting course (see Figure 30). There is no indication of any structures within the vicinity of the tank site. Dripps' 1855 map indicates that the tank site was located to the south of the Methodist Episcopal Church and in the vicinity of structures on Garden and 4th streets (see Figure 10). Hufnagel and Hexamer's 1856 Map of the City of Hoboken indicates that the tank site was located to the immediate west of the Vauxhall Gardens (see Figure 77). A linear structure associated with the garden was located to the west of the tank site.[769]

The Vauxhall Gardens was a famous pleasure garden in Great Britain which operated on the south bank of the Thames.

> Commercial pleasure gardens, an English invention, were privately-run sites of entertainment; they were often situated on the outskirts of large towns or cities, and paying visitors were entertained in the summer months with music and company; refreshments were available at a price. Pleasure gardens, as their name implies, were mainly outdoor spaces, though sometimes with an assembly room or concert hall, and they were normally open in the evening, after the working day; anybody who could afford the admission price and who was at least respectably dressed would be admitted.[770]

The Vauxhall Gardens within Hoboken as depicted on the Hufnagel and Hexamer map appears to have been a pleasure garden in the mode and named after a well-known English pleasure garden. The Hoboken Vauxhall Gardens may have operated within the resort economy established and fostered by Stevens' Castle Garden development. Other than the mapped depiction of the Vauxhall Gardens, no other historic record of the gardens could be identified.

[769]US Coastal Survey 1844; Dripps 1855; B. Hufnagel and E. Hexamer 1856.
[770] David Coke and Alan Borg, *Vauxhall Gardens: A History*, accessed online May 5, 2016 at http://vauxhallgardens.com/index.html.

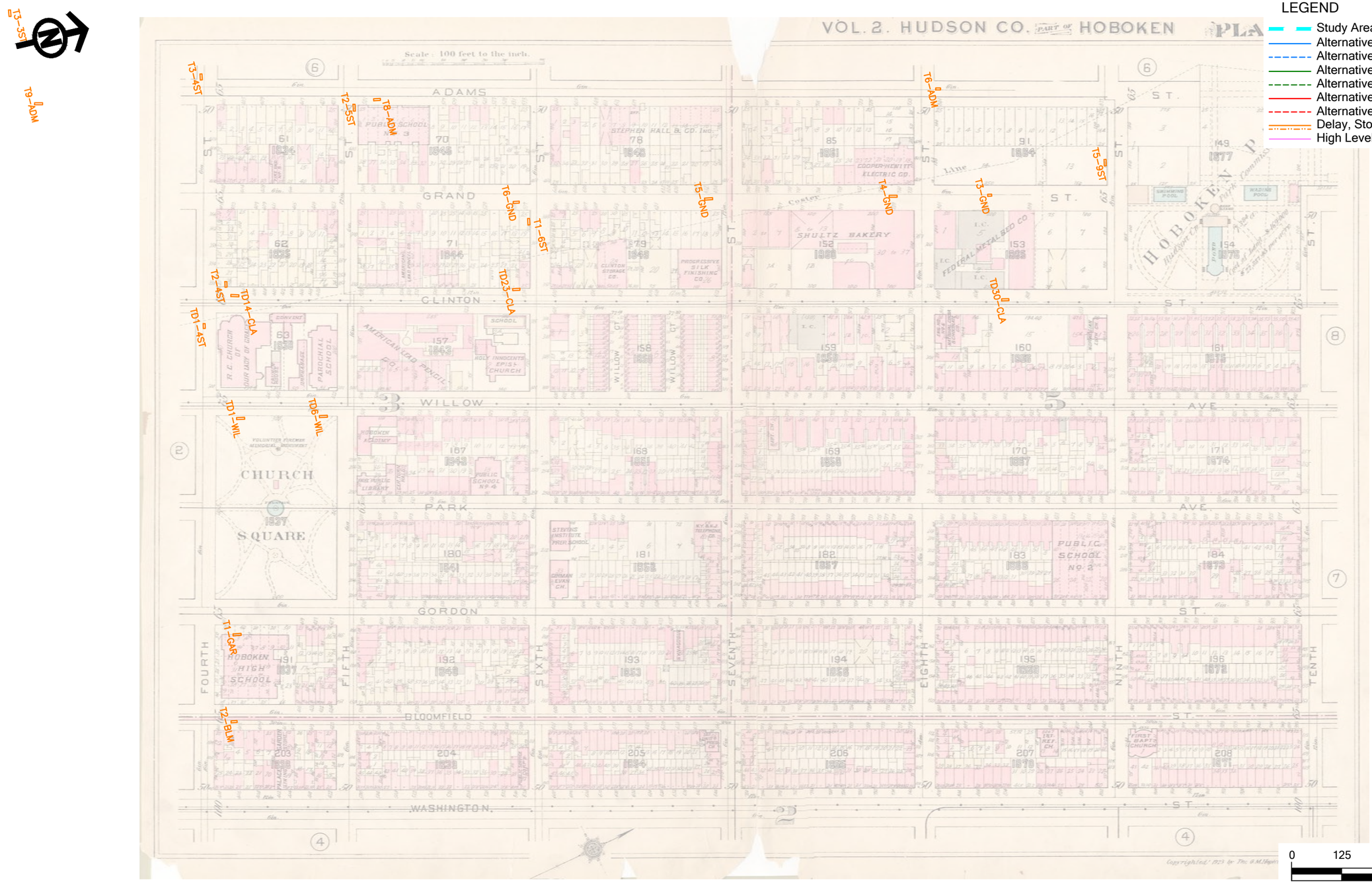
By 1873, the Vauxhall Gardens was no longer extant (see Figure 40). Rather, there appears to have been extensive development within the block located to the northeast of the tank site. Georeferencing the project location on the 1873 map indicates that the tank site was located within a building associated with Louis Becker. Given the current location of the tank site within the streetbed of Garden Street, it appears that the location of the tank site on the 1873 map may reflect inaccuracies in reconciling current cartographic technology with historic maps that may have used different reference points and other surveying techniques. The 1873 map also indicates that the Public Square was located to the west. Speilmann and Brush's 1880 map indicates that Garden and 4th streets were located in an area of dry land to the immediate north of meadowlands (see Figure 15). A sewer line was present within Garden Street from Ferry to 11th streets. There is no indication of a sewer line within 4th Street. Bailey and Ward's 1881 View of the City indicates the tank site was located across the street from a park within Church Square. The Methodist Episcopal Church was no longer located at the southeastern corner of the park.[771]

G.M. Hopkins & Co.'s 1909 map indicates that a sewer line and a six-inch pipeline had been installed within Garden Street (see Figure 75). Tank T1-GAR appears to have been located within the Garden Street roadbed, to the west of its location on the 1873 map. A six-inch pipeline was also located along 4th Street; this pipeline appeared to service a fire hydrant located at the southeast corner of Garden and 4th streets in the vicinity of Tank T1-GAR. Several frame buildings were located to the northeast of the tank site. The John Kamena & Co. Coal Yard was located farther north of the frame buildings. The Roman Catholic Church of Our Lady of Grace occupied the entire block on the opposite side of Willow Avenue from the tank site. By 1923, the Hoboken High School had developed along the southern portion of Block 191, on the northern frontage of 4th Street, to the northeast of the tank site (Figure 78). The 1923 map locates Tank T1-GAR to the immediate west of the high school, east of the Garden Street roadbed. There is no indication of a fire hydrant at the corner of Garden and 4th streets on the 1923 map.[772]

The 1940 As-Built plans indicate the presence of two sewer lines within Garden Street between 4th and 7th streets. A concrete trunk sewer line was located within Garden Street at a depth of approximately 6.25 to 11 feet below the surface. A brick sewer line was located to the west of the trunk line at a depth of approximately 5 to 9.5 feet below the surface.[773]

A review of the twentieth century Sanborn maps indicates little change or additional development within the vicinity of the tank site. The 1937 Sanborn Insurance map indicates that a fire hydrant was located at the southeast corner of Garden and 4th streets and six-inch pipelines were located within Garden and 4th streets. Between 1951 and 1979, the high school located to the northeast of the tank site had become the current A.J. Demarest Junior High School.[774]

[771]Spielmann and Brush 1880; Bailey and Ward 1881.
[772] G.M. Hopkins & Co. 1909; G.M. Hopkins & Co. 1923.
[773] Whittemore 1940.
[774] Sanborn Library, LLC 1937-2006.



LEGEND

- Study Area
- Alternative 1 - Resist Structure
- Alternative 1 - Limit of Disturbance
- Alternative 2 - Resist Structure
- Alternative 2 - Limit of Disturbance
- Alternative 3 - Resist Structure
- Alternative 3 - Limit of Disturbance
- Delay, Store, Discharge Element
- High Level Storm Sewer System

0 125 250 500 Feet

REBUILD BY DESIGN HUDSON RIVER ▪ RESIST ▪ DELAY ▪ STORE ▪ DISCHARGE ▪

Dewberry | State of New Jersey Department of Environmental Protection

DSD Locations in 1923 - Hopkins 1923 (Plate 5)

August 2016

FIGURE 78

Summary and Conclusions

It appears that Garden Street and 4th Street in the vicinity of Tank T1-GAR had been created by the mid-nineteenth century. From 1856 to sometime before 1873, a pleasure garden, the Vauxhall Gardens, was located to the northeast of the tank site, in the block at the northeast corner of Garden and 4th streets. By 1873, the garden was no longer extant and dense development had occurred within its former location. By 1880, a sewer line had been installed within Garden Street. The As-Built plans indicate the presence of a concrete trunk sewer line and a brick sewer line within Garden Street in the vicinity of the tank site. Additional data provided by the NHSA indicates that a brick sewer line had been installed within Garden Street between 4th and 7th Streets ca. 1916. A water line was also installed within 4th Street during the early-twentieth century which serviced a fire hydrant at the northeast corner of Garden and 4th streets. The area to the northeast of the tank site was occupied by the Hoboken High School from around1923 to 1971; by 1971, the high school had become the present day A.J. Demarest Junior High School. It should be noted that both the 1873 and the 1923 map situated Tank T1-GAR within developed lots as opposed to within the streetbed adjacent to municipal lots. Given the current location of the tank site, it appears the historic maps have incorrectly situated it to the east of its historic location. Such inaccuracy may reflect the fact that earlier cartographers utilized different reference points than today thus resulting in misplacement of the tank site on the historic maps.

Of the available soil boring data, Boring GW-3 is located in closest proximity to the tank site, being approximately 70 feet to the southwest (see Appendix D). Boring GW-3 also appears to have been in a similar historic topographic setting to the tank site as neither location appears to have been within historic meadowlands. As previously discussed, the profile within GW-3 revealed sequential sand layers beneath the overlying deposit of sand and asphalt. There was no indication of an organic surface within the soil profile despite the fact that organic deposits had been found at similar depths and higher within other borings in the city. Given the historic and present topographic similarities between Boring GW-3 and Tank T1-GAR, it is assumed that the tank site would reflect a similar stratigraphic profile lacking an organic deposit. Therefore, in light of the soil profile within GW-3, Tank T1-GAR is considered to possess little to no potential for prehistoric archaeological resources.

Historic development within the immediate vicinity of the tank site consisted of the early to mid-nineteenth century extension of Garden and 4th streets, the potential mid-nineteenth century installation of a sewer line within Garden Street, and an early-twentieth century water pipeline and fire hydrant along 4th Street and at the intersection of Garden and 4th streets. The tank site is located to the northeast of the fire hydrant and water line within 4th Street. Given the distance between Tank T1-GAR and 4th Street, the tank site is not considered sensitive for deposits associated with the water line or fire hydrant. As previously noted, the location of Tank T1-GAR within the lots to the east of Garden Street on the 1873 and 1923 maps appears to reflect inaccuracies in georeferencing historic maps with current geographical data. It is assumed, in light of the contemporary location of the tank site, that the tank was located to the west of the structures which had developed in the early to mid-twentieth century.

Cartographic records suggest that a sewer line was installed within Garden Street prior to 1880. The As-Built plans indicate the presence of a brick sewer line and a shallower concrete trunk sewer within Garden Street. Given this information, it seems highly likely that a mid to late-nineteenth century brick sewer line had been installed within

Garden Street. As such, this sewer line would have been a component within the city's initial sewer system and is considered a potentially significant historic resource. The concrete trunk sewer within Garden Street is a later deposit and, thus, is not considered a significant historic resource. The As-Built plans indicate that the concrete trunk sewer was located at a shallower depth to the east of the brick sewer line. Thus, it does not appear that the installation of the trunk line disturbed the pre-existing brick sewer line. Given the presence of the mid to late-nineteenth century brick sewer within Garden Street, Tank T1-GAR is considered sensitive for historic mid to late-nineteenth century sewer-related deposits. Archaeological deposits associated with the sewer might include the sewer line, a builder's trench associated with utility installation, and/or wood planks and other support features for the pipe. The As-Built plans suggest that the brick sewer line was installed at a depth of 5 to 9.5 feet below the surface. Therefore, sewer deposits within the tank site are anticipated at depths greater than five feet below the surface. Given the lack of documented additional historic development within the tank site, Tank T1-GAR is not considered sensitive for any additional historic resources.

T2-BLM (Bloomfield Street and 4th Street) (Plate 46)

Proposed Tank T2-BLM will be located at the northwestern corner of Bloomfield and 4th streets. The proposed tank will be located in the public ROW and includes the paved road surface and the adjacent cement sidewalk. The tank would be located to the immediate east of the A.J. Demarest Junior High School. Utilities within the vicinity of the proposed tank site include a drainage grate, a manhole, and road signs.

The tank will measure approximately 15 feet in length and 5 feet in width. The tank will have an overall depth of 6.5 feet below the surface. Installation of the tank will require excavation to a depth of approximately 9.17 feet below the surface. The limit of disturbance associated with Tank T2-BLM is approximately 75 square feet to an approximate depth of 9.17 feet. This limit of disturbance encompasses the approximate footprint of the tank. Current design plans do not include staging areas or any other areas of disturbance associated with the tank installation.

Historical Development

Tank T2-BLM may have been developed by 1844. The 1844 U.S. Coastal Survey map indicates that the tank site was located within a cleared parcel to the south of the trotting course and to the immediate south of an historic road (see Figure 30). Development was located to the east and northeast of the tank site. Dripps' 1855 map indicates that the tank site was located to the immediate north of the Baptist Church located at the northwestern corner of Bloomfield and 4th streets (see Figure 10). Hufnagel and Hexamer's 1856 Map of the City of Hoboken indicates that the tank site was located to the immediate east of the Vauxhall Gardens (see Figure 77). By 1873, the Vauxhall Gardens were no longer extant. Rather, there appears to have been extensive development within the block located to the northwest of the tank site (see Figure 40). A building associated with Louis Becker and adjacent structures associated with John Lehman and R. Schroeder were located to the immediate northwest of the tank site.[775]

Speilmann and Brush's 1880 map indicates that Bloomfield and 4th streets were located in an area of dry land to the immediate north of meadowlands (see Figure 15). A sewer line was present within Bloomfield Street from Ferry to

[775]US Coastal Survey 1844; Dripps 1855; B. Hufnagel and E. Hexamer 1856; G.M. Hopkins & Co. 1873.

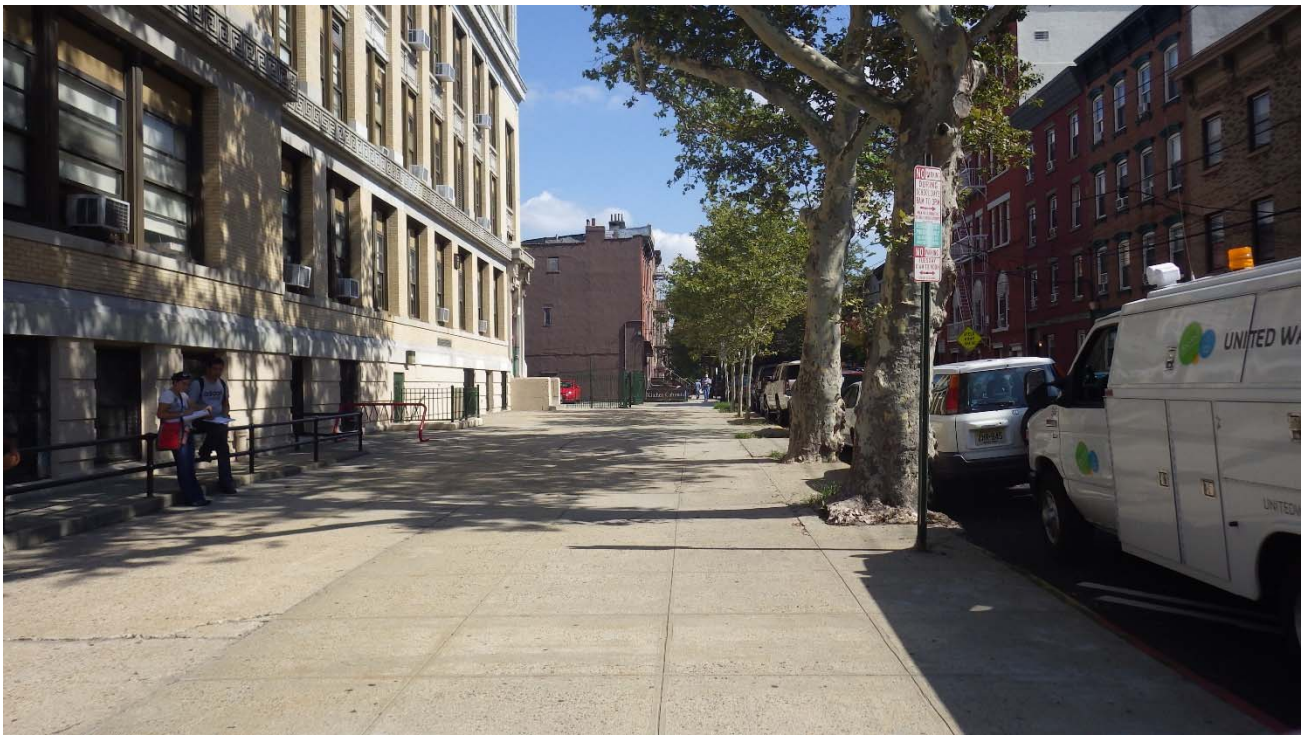


Plate 46: Location of T2-BLM, Bloomfield Street and 4th Street. View North. (ZE 5/23/2016).

Plate 47: Location of T5-5ST, Jackson and 5th Streets. View Southeast. (DVS 3/24/2016).

8th streets. There is no indication of a sewer line within 4th Street. Bailey and Ward's 1881 View of the City indicates dense development throughout the block to the northwest of the tank site. The As-Built plans indicate that a brick sewer line was installed within Bloomfield Street from 2nd to 5th streets.[776]

G.M. Hopkins & Co.'s 1909 map indicates that a sewer line, a six-inch pipeline, and a 30-inch pipeline had been installed within Bloomfield Street (see Figure 75). A six-inch pipeline was also located along 4th Street and may have serviced fire hydrants along the street. Several frame buildings were located to the northwest of the tank site. The John Kamena & Co. Coal Yard was located farther north of the frame buildings. By 1923, the Hoboken High School had developed along the southern portion of Block 191, on the northern frontage of 4th Street, to the northwest of the tank site (see Figure 78).[777]

A review of the twentieth century Sanborn maps indicates little change or additional development within the vicinity of the tank site. The 1937 Sanborn Insurance map indicates that a 12-inch and a six-inch water pipe were located within 4th Street in the vicinity of Tank T2-BLM. Between 1951 and 1979, the high school located to the northwest of the tank site had become the current A.J. Demarest Junior High School.[778]

Summary and Conclusions

It appears Bloomfield and 4th streets in the vicinity of Tank T2-BLM had been created by the mid-nineteenth century. From 1856 to sometime before 1873, a pleasure garden, the Vauxhall Gardens, was located to the northwest of the tank site, in the block at the northwest corner of Bloomfield and 4th streets. By 1873, the garden was no longer extant and dense development had occurred within its former location. By 1880, a sewer line had been installed within Bloomfield Street. The As-Builts indicate that a brick sewer line was located within Bloomfield Street between 2nd and 5th streets; data provided by the NHSA indicates that this brick sewer line had been installed prior to 1916. A water line was also installed within 4th Street during the early-twentieth century. The area to the northwest of the tank site was occupied by the Hoboken High School from around 1923 to 1971; by 1971, the high school had become the present day A.J. Demarest Junior High School.

Of the available soil boring data, Boring GW-3 is located in closest proximity to the tank site, being approximately 280 feet to the west (see Appendix D). Boring GW-3 also appears to have been in a similar historic topographic setting to the tank site as neither location appears to have been within historic meadowlands. As previously discussed, the profile within GW-3 revealed sequential sand layers beneath the overlying deposit of sand and asphalt. There was no indication of an organic surface within the soil profile despite the fact that organic deposits had been found at similar depths and higher within other borings in the city. Given the historic and present topographic similarities between Boring GW-3 and Tank T2-BLM, it is assumed that the tank site would reflect a similar stratigraphic profile lacking an organic deposit. Therefore, in light of the soil profile within GW-3, Tank T2-BLM is considered to possess little to no potential for prehistoric archaeological resources.

[776]Spielmann and Brush 1880; Bailey and Ward 1881.
[777] G.M. Hopkins & Co. 1909; G.M. Hopkins & Co. 1923; Whittemore 1940.
[778] Sanborn Library, LLC 1937-2006.

Historic development within the immediate vicinity of the tank site consisted of the early to mid-nineteenth extension of Bloomfield and 4th streets, the mid-nineteenth century installation of a brick sewer line within Bloomfield Street, and an early-twentieth century water pipeline along 4th Street. Tank T2-BLM appears to be located in the immediate vicinity of the mid-nineteenth century brick sewer and the early to mid-nineteenth century water line. Given that the water line dates to the early to mid-twentieth century it is not considered a significant historic resource associated with the early municipal development of Hoboken. Therefore, Tank T2-BLM is not considered sensitive for significant historic municipal water-related deposits.

With respect to the Bloomfield Street brick sewer line, the potential mid-nineteenth century resource would have been a component of the city's initial sewer system and, as such, is representative of the early municipal development of Hoboken. Thus, Tank TD2-BLM is considered sensitive for historic sewer-related deposits. Archaeological deposits associated with the sewer might include the sewer line, a builder's trench associated with utility installation, and/or wood planks and other support features for the pipe. The As-Built plans indicate that this sewer line was installed at a depth of approximately four to six feet below the surface. Therefore, sewer deposits within the tank site are anticipated at depths greater than four feet below the surface. Given the lack of documented additional historic development within the tank site, Tank T2-BLM is not considered sensitive for any additional historic resources.

T5-5ST & T7-5ST (Jackson Street and 5th Street) (Plates 47 & 48)

Proposed Tank T5-5ST will be located at the southeast corner of the intersection of Jackson and 5th streets. Proposed Tank T7-5ST will be located approximately 40 feet to the north of Tank T5-5ST at the northeast corner of Jackson and 5th streets. The proposed tanks will be located in the public ROW and include the paved road surface and the adjacent cement sidewalk. Tank T5-5ST would be located to the immediate north of a small apartment building; Tank T7-5ST would be located to the west and south of a modern apartment building. Utilities within the vicinity of the proposed tank sites include drainage grates, manholes, and road signs.

Tank T5-5ST will measure approximately 20 feet in length and 4 feet in width. The tank will have an overall depth of 7.5 feet below the surface. Installation of the tank will require excavation to a depth of approximately 10.17 feet below the surface. The limit of disturbance associated with Tank T5-5ST is approximately 80 square feet to an approximate depth of 10.17 feet. Tank T7-5ST will measure approximately 12 feet in length and 5 feet in width. The tank will have an overall depth of 7.5 feet below the surface. Installation of the tank will require excavation to a depth of approximately 10.17 feet below the surface. The limit of disturbance associated with Tank T7-5ST is approximately 60 square feet to an approximate depth of 10.17 feet. The limits of disturbance encompass the approximate footprint of each of the tanks. Current design plans do not include staging areas or any other areas of disturbance associated with the installation of the tanks.

Historical Development

The 1844 U.S. Coastal Survey map indicates that the tank sites were located in undeveloped meadowlands to the north and east of the Hoboken Creek (see Figure 30). The G.M. Hopkins & Co.'s 1873 map indicates that Jackson and 5th streets had been proposed and the blocks surrounding these streets had been proposed and allotted (see

Plate 48: Location of T7-5ST, Jackson Street and 5th Street. View West. (ZE 5/23/2016).

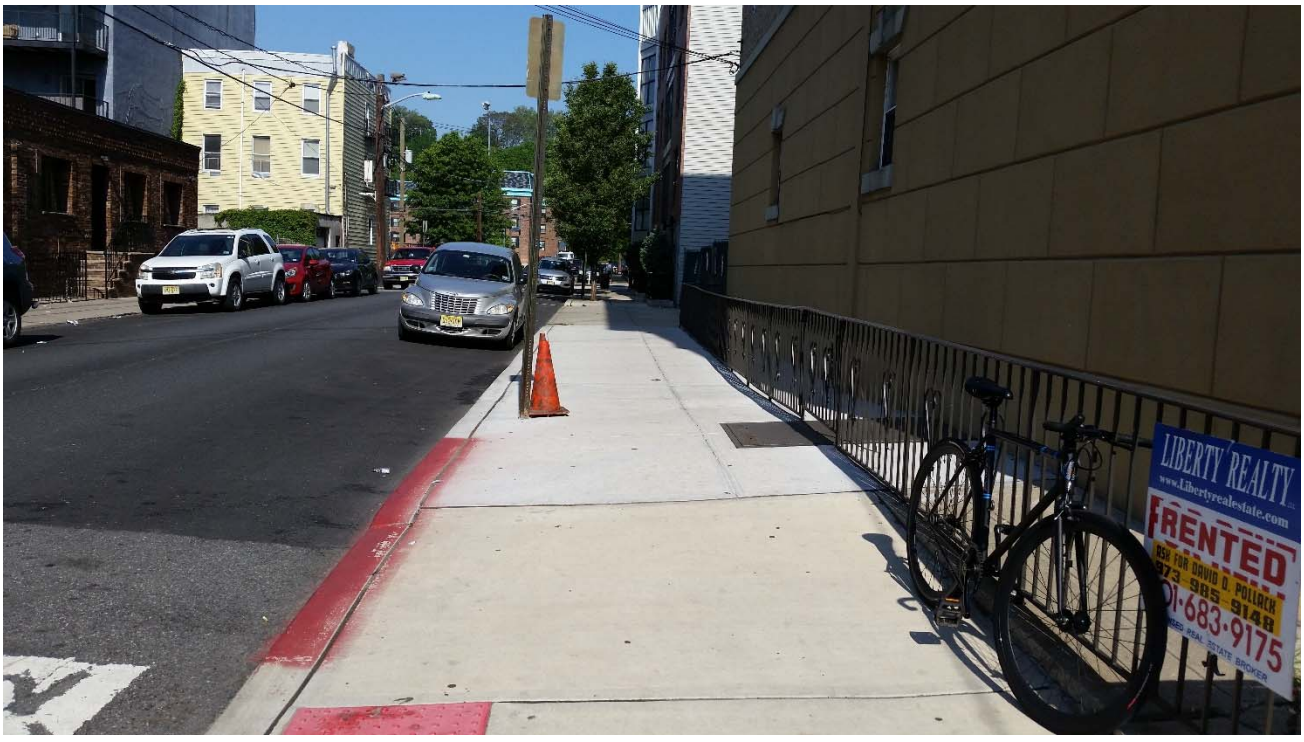


Plate 49: Location of T6-5ST, Monroe Street and 5th Street. View West. (ZE 5/23/2016).

Figure 70). The lots in the vicinity of Tank T5-5ST were associated with Julia C. Ruebell; the lots in the vicinity of Tank T7-5ST were associated with W.Clarkson and B.M. Freeley. There was no development within these lots or in the vicinity of the tank sites. The Speilmann and Brush 1880 map indicates that Jackson and 5th streets had not yet been extended this far north or west (see Figure 15). The tank sites were situated within undeveloped meadowlands. There were no sewer lines within the vicinity of the tank sites. Bailey and Ward's 1881 map suggests that the roads may have been laid out and that the blocks to the north and south had been cleared. There was no other development within the vicinity of the tank sites.[779]

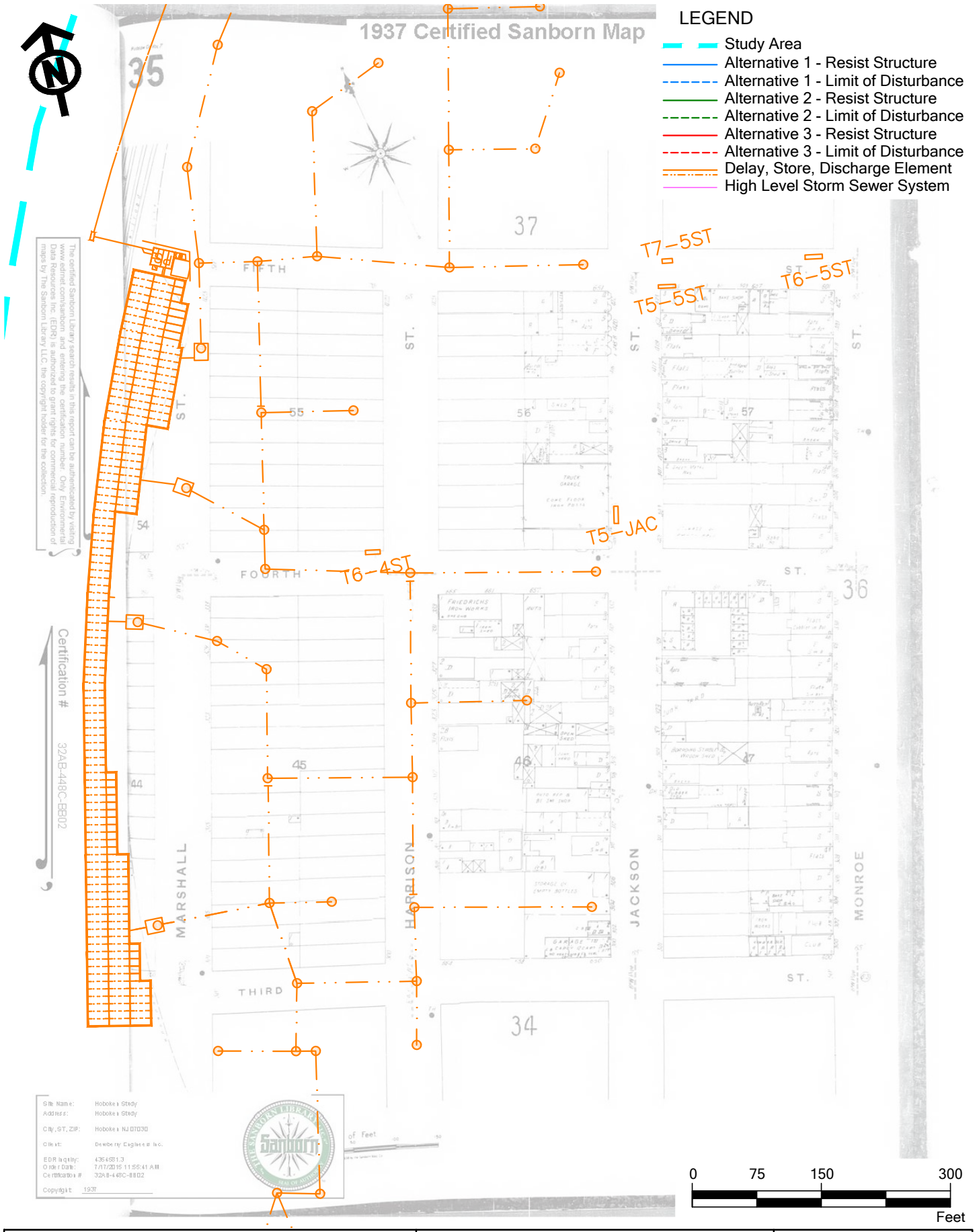
G.M. Hopkins & Co.'s 1909 map indicates that a sewer line and six-inch pipeline were located within Jackson Street to the immediate south of its intersection with 5th Street (see Figure 71). There were no pipelines within 5th Street or within Jackson Street to the north of 5th Street. Development had occurred within the blocks to the south and north of the tank sites. To the south of Tank T5-5ST, several frame buildings had developed along the southern frontage of 5th Street. To the north of Tank T7-5ST, several frame buildings had also developed on the northern frontage of 5th Street. The 1923 G.M. Hopkins & Co. map indicates that a six-inch pipeline was located within 5th Street in the vicinity of the tank sites (see Figure 74). There was no pipeline within Jackson Street to the north of its intersection with 5th Street. Development to the north and south of the tank sites appears to have been relatively unchanged. The 1940 As-Built plans indicate that a vitrified clay pipe was located within Jackson Street to the north of 5th Street; a brick sewer line was located within Jackson Street to the south of 5th Street; these lines were located to the west of the tank sites. The plans indicate that there was no sewer line within 5th Street in the vicinity of the tank site by 1940.[780]

By 1937, a store, apartment building, and bake shop were located to the south of Tank T5-5ST (Figure 79). A dwelling, small apartment building, and junk shop were located to the north of Tank 7-5ST (Figure 80). A six-inch pipeline was located along Jackson Street; there is no indication of a pipeline along 5th Street. By 1951, a six-inch water pipe had been installed within 5th Street; the Andrew Jackson Gardens apartment complex had developed to the west of the tank sites. Between 1951 and 1979, the buildings to the north of Tank 7-5ST had been replaced with an L-shaped machine shop with a narrow frontage on 5th Street. The structure to the north of Tank T5-5ST was replaced by the current apartment building in 2008.[781]

Summary and Conclusions

The earliest development within the vicinity of the tank sites appears to be the late-nineteenth to early-twentieth century extension of Jackson and 5th streets. By 1909, a sewer line and a six-inch pipeline had been installed within Jackson Street to the south of 5th Street. The As-Built plans indicate the presence of a brick sewer line within Jackson Street south of 5th Street; a vitrified clay pipe was located within Jackson Street to the north of 5th Street. Data provided by the NHSA indicates that the brick sewer line may have been installed ca.1919. By 1951, a water pipe had been installed within 5th Street in the vicinity of the tank sites. Commercial, residential, and industrial

[779]US Coastal Survey 1844; G.M. Hopkins & Co. 1873; Spielmann and Brush 1880; Bailey and Ward 1881.
[780] G.M. Hopkins & Co. 1909; G.M. Hopkins & Co. 1923; Whittemore 1940.
[781] Sanborn Library, LLC 1937-2006; NETR 1931-2013.



REBUILD BY DESIGN HUDSON RIVER ▪ RESIST ▪ DELAY ▪ STORE ▪ DISCHARGE ▪ Dewberry · Department of Environmental Protection	DSD Locations in 1937 Sanborn 1937 (Plate 35)	August 2016 FIGURE 79

development occurred around the tank sites throughout the twentieth century; currently, the area consists primarily of commercial and residential development.

Of the available soil boring data, Boring GW-4 is located in closest proximity to the tank sites, being approximately 860 feet to the northwest (see Appendix D). GW-4 contained approximately ten feet of fill consisting of black sand with gravel and asphalt deposits. At 15 feet below the surface, Boring GW-4 contained a black organic silt layer with decomposed organic material. The boring was terminated at a depth of 20 feet below the surface within this organic matrix. Historically, GW-4 was located in a similar topographic setting to the tank sites, within undeveloped meadowlands to the north and west of the Hoboken Creek. The historic topographic settings of the boring and the tank sites suggest that the soil profile of the tank sites might resemble that of Boring GW-4. The black organic silt deposit within GW-4 differs from the gray organic clay or silty clay identified beneath the fill deposit within other portions of Hoboken. This discrepancy suggests that there may have been different environmental processes within the location of GW-4 possibly creating an environmental setting attractive for prehistoric settlement or exploitation. Given the topographic similarities between GW-4 and the tank sites, the sites are considered to have the potential for a similar stratigraphic profile. In addition, these tank sites were located in a relatively level area in proximity to the Hoboken Creek. In light of these topographic conditions, and the soil profile exposed within GW-4, Tank T5-5ST and Tank T7-5ST are considered to possess prehistoric archaeological sensitivity at a depth greater than 15 feet below the surface.

Historic development within the vicinity of the tank sites consisted of the late-nineteenth to early-twentieth century extension of Jackson and 5th streets, the early-twentieth century installation of a brick sewer line within a portion of Jackson Street, and the mid-twentieth century installation of a water pipeline within 5th Street. The As-Built plans indicate that there were no sewer lines within 5th Street in the vicinity of the tank sites by 1940. Given the distance between the tank sites and Jackson Street, these sites are not considered sensitive for deposits associated with sewer lines along Jackson Street.

Tank T5-5ST and Tank T7-5ST are located in the immediate vicinity of the water pipeline within 5th Street. However, given that this water line was installed during the mid-twentieth century, the pipeline is not considered a significant resource associated with the early municipal development of Hoboken. Thus, Tank T5-5ST and Tank T5-7ST are not considered sensitive for significant historic deposits associated with the water pipeline. Furthermore, given the lack of documented additional historic development within the tank sites, Tank T5-5ST and Tank T7-5ST are not considered sensitive for historic archaeological deposits.

T6-5ST (5th Street north of Monroe Street) (Plate 49)

Proposed Tank T6-5ST will be located at the northwest corner of the intersection of Monroe and 5th streets. The proposed tank will be located in the public ROW and includes the paved road surface and the adjacent cement sidewalk. The tank would be located to the immediate south of an apartment building. Utilities within the vicinity of the proposed tank site include a drainage grate and road signs.

The tank will measure approximately 20 feet in length and 5 feet in width. The tank will have an overall depth of 9.5 feet below the surface. Installation of the tank will require excavation to a depth of approximately 12.17 feet below the surface. The limit of disturbance associated with Tank T6-5ST is approximately 100 square feet to an approximate depth of 12.17 feet. This limit of disturbance encompasses the approximate footprint of the tank. Current design plans do not include staging areas or any other areas of disturbance associated with the tank installation.

Historical Development

The 1844 U.S. Coastal Survey map indicates that the tank site was located in undeveloped meadowlands to the north of the Hoboken Creek (see Figure 30). The G.M. Hopkins & Co.'s 1873 map indicates that Monroe and 5th streets had been proposed and the blocks surrounding these streets had been proposed and allotted (see Figure 70). The lot in the vicinity of the tank site was associated with Blenden Bender. There was no development within this lot or in the vicinity of the tank site. The Speilmann and Brush 1880 map indicates that Monroe and 5th streets had not yet been extended this far north or west (see Figure 15). The tank site was situated within undeveloped meadowlands. There were no sewer lines within the vicinity of the tank site. Bailey and Ward's 1881 map suggests that the both Monroe and 5th streets may have been laid out and that the blocks to the north and south had been cleared. There was no other development within the vicinity of the tank site.[782]

G.M. Hopkins & Co.'s 1909 map indicates that a sewer line and six-inch pipeline were located within Monroe Street (see Figure 71). There were no pipelines within 5th Street. Several structures were located to the immediate north of the tank site. A brick building was located in the northwest corner of Monroe and 5th streets; a frame structure was located to the west of the brick building. The 1923 G.M. Hopkins & Co. map indicates that the brick structure to the south of the tank site had expanded to occupy the majority of the lot (see Figure 74). There was no other evident development or change within the vicinity of the tank site. The 1940 As-Built plans indicate that a brick sewer line was located along Monroe Street between 4th and 7th streets. These plans also indicate that there was no sewer within 5th Street by 1940.[783]

By 1937, a store was located in the lot to the immediate north of Tank T6-5ST (see Figure 72). By 1951, a six-inch water pipe had been installed within 5th Street. The area appears to have remained relatively unchanged through 2008. Between 2008 and 2009, the store to the north of the tank site had been removed and replaced by the current apartment building.[784]

Summary and Conclusions

The earliest development within the vicinity of the tank site appears to be the late-nineteenth to early-twentieth century extension of Monroe and 5th streets. By 1909, a sewer line and a six-inch pipeline had been installed within Monroe Street. The As-Built plans indicate that a brick sewer had been installed within Monroe Street. Data provided by the NHSA indicates that this sewer line may have been installed before 1916. By 1951, a water pipe had been

[782]US Coastal Survey 1844; G.M. Hopkins & Co. 1873; Spielmann and Brush 1880; Bailey and Ward 1881.
[783] G.M. Hopkins & Co. 1909; G.M. Hopkins & Co. 1923; Whittemore 1940.
[784] Sanborn Library, LLC 1937-2006; NETR 1931-2013.

installed within 5th Street in the vicinity of the tank site. Commercial and residential development were located in the immediate vicinity of the tank site throughout the twentieth century.

Of the available soil boring data, Boring GW-4 is located in closest proximity to the tank site, being approximately 950 feet to the northwest (see Appendix D). As previously noted, a black organic silt layer was uncovered within Boring GW-4 at a depth of 15 feet below the surface. This matrix is dissimilar to the organic deposits noted elsewhere within Hoboken which has been interpreted as indicative of a uniform meadow surface throughout the Holocene. The dissimilarity of this organic deposit suggests that a more favorable prehistoric environmental setting may have existed within this portion of the city. Thus, given the historic topographic similarities between the Boring GW-4 and the tank site, Tank T6-5ST is considered to possess prehistoric archaeological sensitivity at a depth greater than 15 feet below the surface.

Historic development within the vicinity of the tank site consisted of the late-nineteenth to early-twentieth century extension of Monroe and 5th streets, the early-twentieth century installation of a brick sewer line within a portion of Jackson Street, and the mid-twentieth century installation of a water pipeline within 5th Street. Given the distance between the tank site and Monroe Street, this site is not considered sensitive for deposits associated with the early-twentieth century sewer line. Furthermore, there were no sewer deposits within 5th Street. Thus, the tank site is not considered sensitive for historic sewer-related deposits.

Tank T6-5ST is located in the immediate vicinity of the water pipeline within 5th Street. However, given that this water line was installed during the mid-twentieth century, the pipeline is not considered a significant resource associated with the early municipal development of Hoboken. Thus, Tank T6-5ST is not considered sensitive for significant historic deposits associated with the water pipeline. Furthermore, given the lack of documented additional historic development within the tank site, Tank T6-5ST is not considered sensitive for historic archaeological deposits.

T4-5ST, T16-MAD, & T15-MAD (Madison Street and 5th Street) (Plates 50 & 51)

Proposed Tank T4-5ST will be located at the northeastern corner of the intersection of 5th and Madison streets. Proposed Tank T16-MAD will be located on the western frontage of Madison Street to the north of its intersection with 5th Street. Proposed Tank T15-MAD will be located approximately 180 feet to the north of Tank T16-MAD on the western frontage of Madison Street between 5th and 6th streets. The proposed tanks will be located in the public ROW and include the paved road surface and the adjacent cement sidewalk. Tank T4-5ST would be located to the immediate southwest of a fenced vacant lot. Tank T16-MAD would be located to the east of a brick-faced garage and an adjacent fenced parking area; Tank T15-MAD would be to the immediate east of the Columbian Arms apartment complex. Utilities within the vicinity of the proposed tank sites include drainage grates, manholes, a wooden transmission pole, and road signs.

Tank T4-5ST will measure approximately 20 feet in length and 5 feet in width. The tank will have an overall depth of 5.5 feet below the surface. Installation of the tank will require excavation to a depth of approximately 8.17 feet below the surface. The limit of disturbance associated with Tank T4-5ST is approximately 100 square feet to an

Plate 50: Location of T4-5ST, Madison and 5th Streets. View Northeast. (DVS 3/24/2016).

Plate 51: Location of T16-MAD and T15-MAD, Madison and 5th Streets. View Northwest. (DVS 3/24/2016).

approximate depth of 8.17 feet. Tank T16-MAD will measure approximately 13 feet in length and 5 feet in width. The tank will have an overall depth of six feet below the surface. Installation of the tank will require excavation to a depth of approximately 8.67 feet below the surface. The limit of disturbance associated with Tank T16-MAD is approximately 65 square feet to an approximate depth of 8.67 feet. Tank T15-MAD will measure approximately 20 feet in length and 5 feet in width. The tank will have an overall depth of seven feet below the surface. Installation of the tank will require excavation to a depth of approximately 9.67 feet below the surface. The limit of disturbance associated with Tank T15-MAD is approximately 100 square feet to an approximate depth of 9.67 feet. The limits of disturbance encompass the approximate footprint of the tanks. Current design plans do not include staging areas or any other areas of disturbance associated with the installation of the tanks.

Historical Development

The 1844 U.S. Coastal Survey map indicates that the tank sites were located in undeveloped meadowlands to the north of the Hoboken Creek (see Figure 30). The G.M. Hopkins & Co.'s 1873 map indicates that Madison and 5th streets had been proposed and the blocks surrounding these streets had been proposed and allotted (see Figure 70). The lots in the vicinity of Tank T4-5ST were associated with J.B. Higgins; the lots in the vicinity of Tank T16-MAD and Tank T15-MAD were associated with G.H. Coster. There was no development within these lots or in the vicinity of the tank sites. The Speilmann and Brush 1880 map indicates that Madison and 5th streets had not been extended this far north or west (see Figure 15). The tank sites were situated within undeveloped meadowlands. There were no sewer lines within the vicinity of the tank sites. Bailey and Ward's 1881 map suggests that the roads may have been laid out and that the blocks to the north and west had been cleared. There was no other development within the vicinity of the tank sites.[785]

G.M. Hopkins & Co.'s 1909 map indicates that a sewer line and six-inch pipeline were located within Madison Street; there was no pipeline within 5th Street to the west of Madison Street (see Figure 71). Development had occurred within the blocks to the north and west of the tank sites. To the north of Tank T4-5ST, a frame building was located at the northeast corner of Madison and 5th streets. To the west of Tank T16-MAD, several frame buildings had also developed on the western frontage of Madison Street. The block was vacant to the west of Tank T15-MAD. By 1923, additional frame structures had developed within the lot to the north of Tank T4-5ST (see Figure 74). Brick and frame structures were located on the western frontage of Madison Street to the west of Tank T16-MAD. A 16-inch pipeline had also been placed within Madison Street. There was still no development to the west of Tank T15-MAD. The 1940 As-Built plans indicate that a brick sewer was installed within Madison Street between 4th and 7th streets. The plans indicate that there was no sewer line within 5th Street in the vicinity of the tank sites by 1940.[786]

The 1937 Sanborn Insurance map indicates that there was a 16-inch and a six-inch water pipe within Madison Street. A 12-inch water pipe was also located within the 5th Street roadbed in the vicinity of Tank T4-5ST. Two adjacent storefronts were located to the north of Tank T4-5ST. A garage and storefront were located to the west of Tank T16-MAD. The lots were undeveloped to the west of Tank T15-MAD. By 1951, an undertaker's shop was located to the north of Tank T4-5ST; a parking lot and vacant lot were located to the west of Tank T16-MAD. By

[785]US Coastal Survey 1844; G.M. Hopkins & Co. 1873; Spielmann and Brush 1880; Bailey and Ward 1881.
[786] G.M. Hopkins & Co. 1909; G.M. Hopkins & Co. 1923; Whittemore 1940.

1979, the current garage and adjacent parking area were established to the west of Tank T16-MAD; a playground was located to the west of Tank T15-MAD. By 1988, the storefront to the north of Tank T4-5ST was vacant. In 1990, the current apartment complex was established to the west of Tank T15-MAD. Between 1988 and 2006, the lot to the north of Tank T4-5ST was vacated.[787]

Summary and Conclusions

The earliest development within the vicinity of the tank sites appears to be the late-nineteenth to early-twentieth century extension of Madison and 5th streets. By 1909, a sewer line and a six-inch pipeline had been installed within Madison Street. The As-Built plans indicate that a brick sewer was installed within Madison Street; data provided by the NHSA indicates that this sewer line was installed before 1916. By 1937 a water pipe had been installed within 5th Street in the vicinity of the tank sites. Commercial, residential, and industrial development occurred around the tank sites throughout the twentieth century.

Of the available soil boring data, Boring GW-4 is located in closest proximity to the tank sites, being approximately 940 feet to the northwest (see Appendix D). As previously discussed, a black organic silt layer was uncovered within Boring GW-4 at a depth of 15 feet below the surface. This matrix is dissimilar to the organic deposits noted elsewhere within Hoboken which has been interpreted as indicative of a uniform meadow surface throughout the Holocene. The dissimilarity of this organic deposit suggests that a more favorable prehistoric environmental setting may have existed within this portion of the city. Thus, given the historic topographic similarities between the boring and the tank sites, Tank T4-5ST, Tank T16-MAD, and Tank T15-MAD are considered to possess prehistoric archaeological sensitivity at a depth greater than 15 feet below the surface.

Historic development within the vicinity of the tank sites consisted of the late-nineteenth to early-twentieth century extension of Madison and 5th streets, the early-twentieth century installation of a brick sewer line within Madison Street, and the mid-twentieth century installation of a water pipeline within 5th Street. Tank T16-MAD and Tank T15-MAD are both located in the vicinity of the brick sewer line within Madison Street. Tank T4-5ST is located to the east of Madison Street; the sewer line will be outside of its limit of disturbance. According to the NHSA data, this sewer was installed before 1916; the cartographic records indicate that the sewer was most likely installed between 1880 and 1909. Given that this sewer line was a component within the late-nineteenth to early-twentieth century sewer system of Hoboken and reflects the growth of the city and the city's attempts to adapt to this growth, it is considered a potentially significant historic resource. Therefore, Tank T16-MAD and Tank T15-MAD are considered sensitive for historic deposits associated with the late-nineteenth to early-twentieth century sewer line. Archaeological deposits associated with the sewer might include the sewer line, a builder's trench associated with utility installation, and/or wood planks and other support features for the pipe. The As-Built plans indicate that the Madison Street sewer was installed at a depth ranging from 3.5 to 9 feet below the surface. Therefore, sewer deposits within the tank site are anticipated at depths greater than 3.5 feet below the surface.

[787] Sanborn Library, LLC 1937-2006; NETR 1931-2013.

Tank T4-5ST is located in the immediate vicinity of the water pipeline within 5th Street. However, given that this water line was installed during the mid-twentieth century, the pipeline is not considered a significant resource associated with the early municipal development of Hoboken. Thus, Tank T4-5ST is not considered sensitive for significant historic deposits associated with the water pipeline. Given the lack of documented additional historic development within the tank sites, Tank T4-5ST, Tank T16-MAD, and Tank T15-MAD are not considered sensitive for any other historic archaeological deposits.

T2-5ST, T8-ADM (Adams Street and 5th Street) (Plates 52a & 52b)

Proposed Tank T2-5ST will be located at the northeastern corner of Adams and 5th streets. Proposed Tank T8-ADM will be located approximately 60 feet to the north of T2-5ST on the eastern frontage of Adams Street to the immediate north of its intersection with 5th Street. The proposed tanks will be located in the public ROW and include the paved road surface and the adjacent cement and brick cobblestone sidewalk. The tanks would be located to the immediate south and east of Public School No. 3. Utilities within the vicinity of the proposed tank sites include drainage grates, wooden transmission poles, an above-ground utility box, and road signs.

Tank T2-5STwill measure approximately 17 feet in length and 5 feet in width. The tank will have an overall depth of 4.5 feet below the surface. Installation of the tank will require excavation to a depth of approximately 7.17 feet below the surface. The limit of disturbance associated with Tank T2-5ST is approximately 85 square feet to an approximate depth of 7.17 feet. Tank T8-ADM will measure approximately 17 feet in length and 5 feet in width. The tank will have an overall depth of five feet below the surface. Installation of the tank will require excavation to a depth of approximately 7.67 feet below the surface. The limit of disturbance associated with Tank T8-ADM is approximately 85 square feet to an approximate depth of 7.67 feet. The limits of disturbance encompass the approximate footprint of the tanks. Current design plans do not include staging areas or any other areas of disturbance associated with the installation of the tanks.

Historical Development

The 1844 U.S. Coastal Survey map indicates that the tank sites were located in undeveloped meadowlands to the north of the Hoboken Creek (see Figure 30). Dripps' 1855 map indicates that the tank sites were located to the north of the western portion of Jefferson Square (see Figure 10). The G.M. Hopkins & Co.'s 1873 map indicates that Adams and 5th streets had been proposed and the blocks surrounding these streets had been proposed and allotted (see Figure 70). The lots in the vicinity of the tank sites were associated with H.M. Smith. There was no development within these lots or in the vicinity of the tank sites. The Speilmann and Brush 1880 map indicates that Adams and 5th streets had not been extended this far north or west (see Figure 15). The tank sites were situated within undeveloped meadowlands. There were no sewer lines within the vicinity of the tank sites. Bailey and Ward's 1881 map suggests that the roads may have been laid out and that the blocks to the north, east, and west had been cleared. Scattered development was located to the east and west of Adams Street, outside of the tank sites.[788]

[788]US Coastal Survey 1844; G.M. Hopkins & Co. 1873; Spielmann and Brush 1880; Bailey and Ward 1881.

Plate 52a: Location of T2-5ST, 5th Street and Adams Street. View West. (ZE 5/23/2016).

Plate 52b: Location of T8-ADM, Adams Street and 5th Street. View North. (ZE 5/23/2016).

G.M. Hopkins & Co.'s 1909 map indicates that a sewer line and six-inch pipeline were located within Adams Street; a 12-inch pipeline was also located within 5th Street (see Figure 75). The lots to the north and east of the tank sites were vacant. Dense development was located in the lots farther north and east of the tank sites. By 1923, Public School No. 3, a large brick building, had been constructed at the northwestern corner of Adams and 5th streets, to the immediate north and east of the tank sites.[789]

A review of the twentieth century Sanborn maps and available aerial imagery indicate that little additional development had occurred within the vicinity of the tank sites. Public School No. 3 continued to be located to the north and east of the tank sites. The 1940 As-Built plans indicate that a brick sewer line was installed within Adams Street between 4th and 7th streets. The plans do not indicate the presence of a sewer line within 5th Street in the vicinity of the tank site.[790]

Summary and Conclusions

The earliest development within the vicinity of the tank sites appears to be the late-nineteenth to early-twentieth century extension of Adams and 5th streets. By 1909 a sewer line and a six-inch pipeline had been installed within Adams Street. The As-Built plans indicate that a sewer line had been installed within Adams Street; data provided by the NHSA indicates that the brick sewer line was installed before 1916. By 1937, a water pipe had been installed within 5th Street in the vicinity of the tank sites. By 1923, Public School No. 3 had developed to the north and east of the tank sites; prior to this, there was little development within the vicinity of the tank sites.

The tank sites are located at relatively similar approximate distances from soil Borings GW-3 and GW-4—GW-3 is approximately 1,320 feet to the southwest and GW-4 is approximately 1,550 feet to the northwest (see Appendix D). However, the historic topographic conditions of the tank sites, being in undeveloped meadowlands to the north of the Hoboken Creek, were similar to those of GW-4. Therefore, given the lack of any additional soil boring data, it is assumed that the underlying soil profile within the tank sites would be most similar to that exposed in Boring GW-4. As previously discussed, a black organic silt layer was uncovered within Boring GW-4 at a depth of 15 feet below the surface. This matrix is dissimilar to the organic deposits noted elsewhere within Hoboken which has been interpreted as indicative of a uniform meadow surface throughout the Holocene. The dissimilarity of this organic deposit suggests that a more favorable prehistoric environmental setting may have existed within this portion of the city. Thus, given the historic topographic similarities between Boring GW-4 and the tank sites, Tank T2-5ST and Tank T8-ADM are considered to possess prehistoric archaeological sensitivity at a depth greater than 15 feet below the surface.

Historic development within the vicinity of the tank sites consisted of the late-nineteenth to early-twentieth century extension of Adams and 5th streets, the early-twentieth century installation of a brick sewer line within Adams Street, and the mid-twentieth century installation of a water pipeline within 5th Street. Tank T8-ADM is located along Adams Street and in the vicinity of the Adams Street sewer; Tank T2-5ST is located to the immediate east of Adams Street and thus will not affect any potential sewer-related deposits along Adams Street. On the basis of the cartographic

[789] G.M. Hopkins & Co. 1909; G.M. Hopkins & Co. 1923.
[790] Sanborn Library, LLC 1937-2006; NETR 1931-2013; Whittemore 1940.

records and available utility information it appears, that the brick sewer was most likely installed between 1880 and 1909. Given that this sewer line was a component within the late-nineteenth to early-twentieth century sewer system of Hoboken and reflects the growth of the city and the city's attempts to adapt to this growth, it is considered a potentially significant historic resource. Therefore, Tank T8-ADM is considered sensitive for historic deposits associated with the Adams Street brick sewer line. Archaeological deposits associated with the sewer might include the sewer line, a builder's trench associated with utility installation, and/or wood planks and other support features for the pipe. The As-Built plans indicate that the Adams Street sewer was installed at a depth of approximately three to seven feet below the surface. Therefore, sewer deposits within the tank site are anticipated at depths greater than three feet below the surface.

Tank T2-5ST is located in the immediate vicinity of the water pipeline within 5th Street. However, given that this water line was installed during the mid-twentieth century, the pipeline is not considered a significant resource associated with the early municipal development of Hoboken. Thus, Tank T2-5ST is not considered sensitive for significant historic deposits associated with the water pipeline. Furthermore, given the lack of documented additional historic development within the tank sites, Tank T2-5ST and Tank T8-ADM are not considered sensitive for any other historic archaeological deposits.

T1-HAR (Harrison Street and 6th Street) (Plate 53)

Proposed Tank T1-HAR will be located at the northeast corner of the intersection of Harrison and 6th streets. The proposed tank will be located in the public ROW and includes the paved road surface and the adjacent cement sidewalk. The tank would be located to the immediate southeast of an apartment complex. Utilities within the vicinity of the proposed tank site include a manhole, drainage grate, and road signs.

The tank will measure approximately 11 feet in length and 5 feet in width. The tank will have an overall depth of four feet below the surface. Installation of the tank will require excavation to a depth of approximately 6.67 feet below the surface. The limit of disturbance associated with Tank T1-HAR is approximately 55 square feet to an approximate depth of 6.67 feet. This limit of disturbance encompasses the approximate footprint of the tank. Current design plans do not include staging areas or any other areas of disturbance associated with the tank installation.

Historical Development

The 1844 U.S. Coastal Survey map indicates that the tank site was located in undeveloped meadowlands to the north of the Hoboken Creek and east of the Palisades (see Figure 30). The G.M. Hopkins & Co.'s 1873 map indicates that Harrison and 6th streets had been proposed and the blocks surrounding these streets had been proposed and allotted (see Figure 70). The lots in the vicinity of Tank T1-HAR were associated with John M. Board. There was no development within these lots or in the vicinity of the tank site. The Hoboken Creek and the eventual DLWRR and Junction RR tracks were located to the west of the tank site. The Speilmann and Brush 1880 map indicates that Harrison and 6th streets had not yet been extended this far north or west (see Figure 15). The tank site was situated within undeveloped meadowlands. There were no sewer lines within the vicinity of the tank site. Bailey and Ward's 1881 map suggests that Harrison and 6th streets had yet to be extended to their western extents.

Plate 53: Location of T1-HAR, Harrison Street and 6th Street. View South. (ZE 5/23/2016).

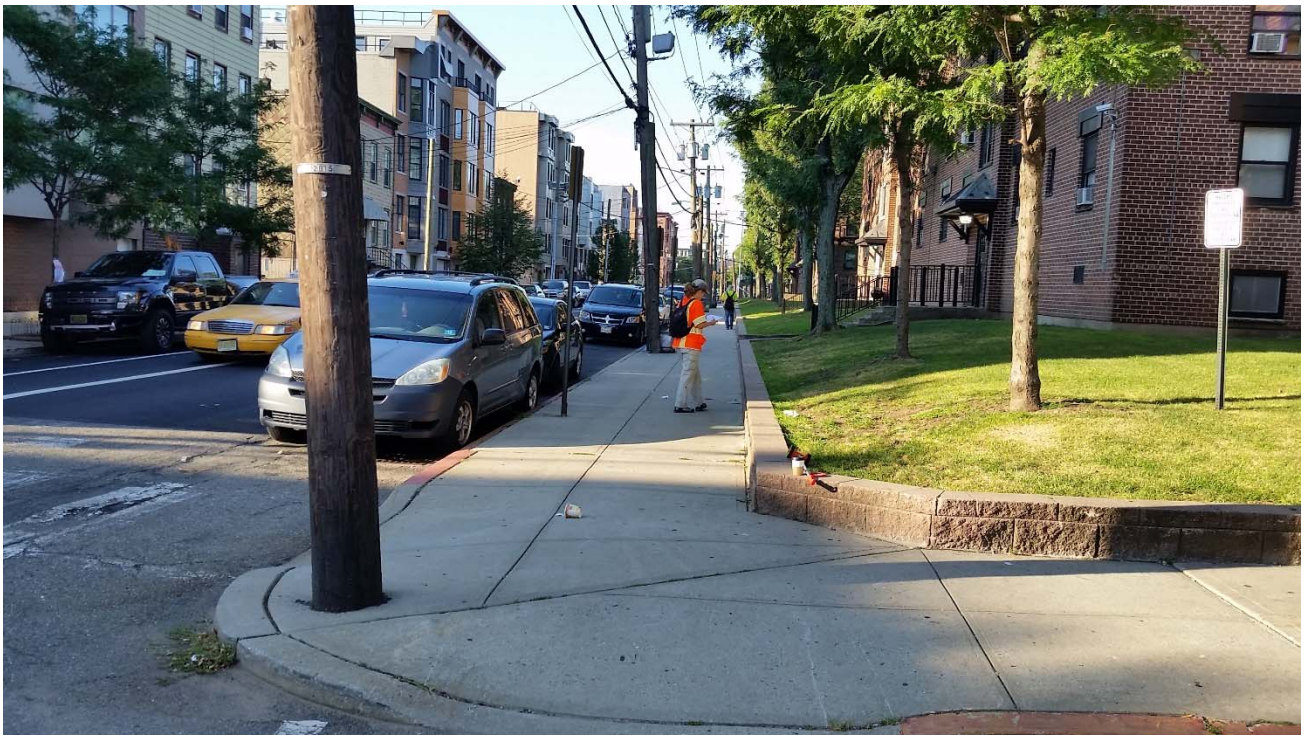


Plate 54: Location of T3-JAC, Jackson Street and 6th Street. View South. (ZE 5/23/2016).

Limited development was located to the south and east of the tank site; however, there was no development within the immediate vicinity of the tank site.[791]

G.M. Hopkins & Co.'s 1909 map indicates that there was no development within the immediate vicinity of the tank site (see Figure 71). It appears that Harrison and 6th streets may have been extended by this point; however, there was no development within the block to the north and east of their intersection. In addition, there do not appear to have been any sewer or water lines within the vicinity of the tank site. The 1923 G.M. Hopkins & Co. map indicates that a six-inch pipeline was located within a portion of 6th Street to the east of Harrison Street and outside of the tank site (see Figure 74). There was still no development in the immediate vicinity of the tank site. The lots located to the northeast of Tank T1-HAR were associated with the Hoboken Manufacturer's Railroad. The 1940 As-Built plans indicate that vitrified clay pipe sewers had been installed within Harrison Street and 6th Street in the vicinity of the tank site by 1940.[792]

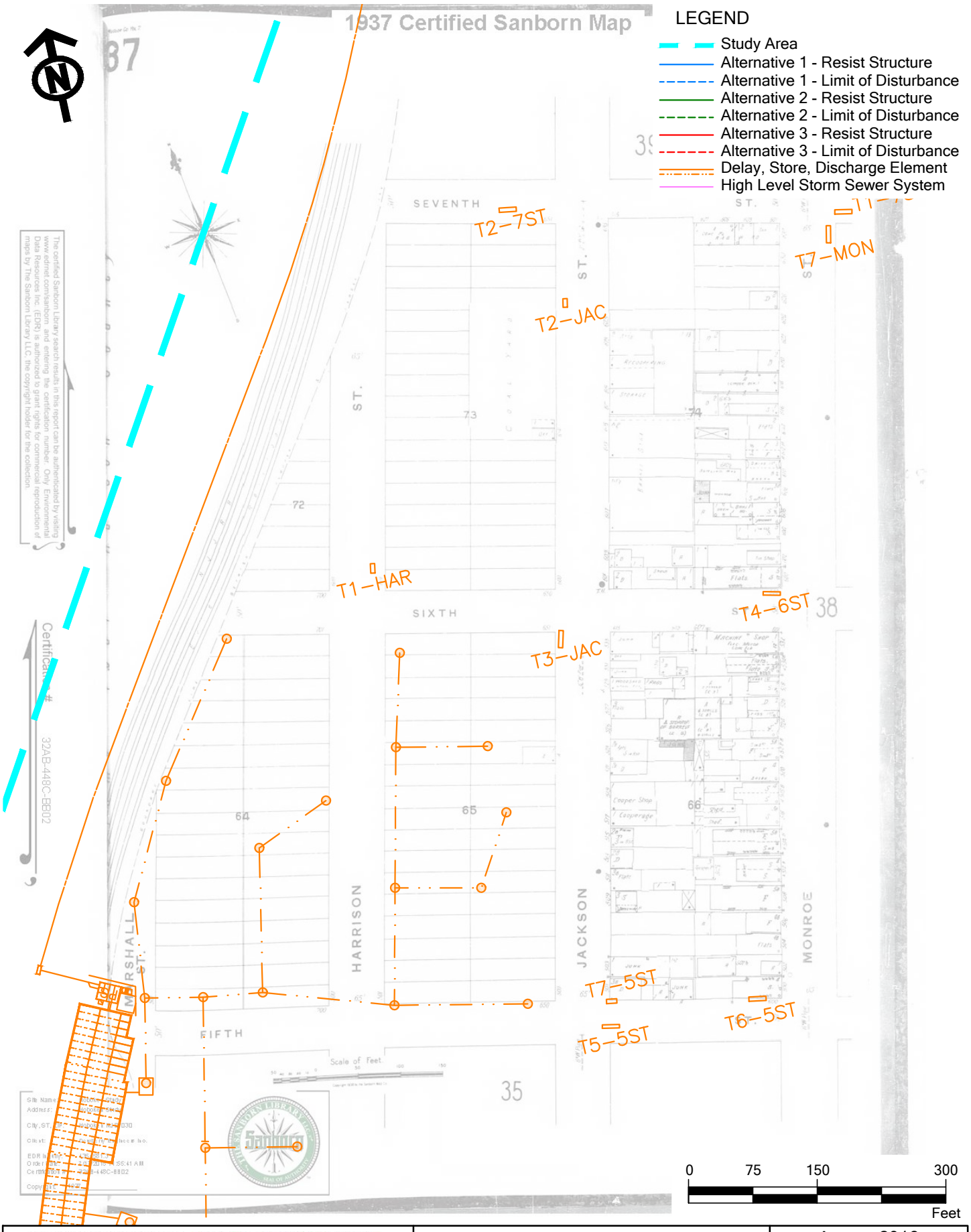
The 1937 Sanborn Insurance map indicates that there was no development within the tank site; limited development was located to the northeast and southeast including a coal yard to the northeast (see Figure 80). By 1951, the coal yard had become a steel drum storage yard. The Andrew Jackson Garden apartment complex had developed to the south of the tank site (Figure 81). There was no development within the immediate vicinity of Tank T1-HAR. By 1979, a six-inch water pipeline had been installed within 6th Street, to the immediate south of the tank site. There was no development within the tank site. Historic aerial imagery indicates that from 1979 through 2002 the lots to the immediate north and east of the tank site had been used as a large parking area. By 2006, the current apartment building located to the immediate northeast of the tank site had been established.[793]

Summary and Conclusions

The earliest development within the vicinity of the tank site appears to be the late-nineteenth to early-twentieth century extension of Harrison and 6th streets. By 1979, a six-inch water pipeline had been installed within 6th Street to the south of the tank site. The As-Built plans indicate that vitrified clay sewer lines had been installed in Harrison and 6th streets. Data provided by the NHSA indicates that these sewer lines were installed during the latter part of the twentieth century. The area to the immediate northeast of the tank site functioned as a vehicular storage area for much of the twentieth century; the current apartment complex did not develop until 2006.

Of the available soil boring data, Boring GW-4 is located in closest proximity to the tank site, being approximately 300 feet to the north (see Appendix D). As previously discussed, a black organic silt layer was uncovered within Boring GW-4 at a depth of 15 feet below the surface. This matrix is dissimilar to the organic deposits noted elsewhere within Hoboken which have been interpreted as indicative of a uniform meadow surface throughout the Holocene. The dissimilarity of the organic deposit within GW-4 suggests that a more favorable prehistoric environmental setting may have existed within this portion of the city. Thus, given the historic topographic similarities

[791]US Coastal Survey 1844; G.M. Hopkins & Co. 1873; Spielmann and Brush 1880; Bailey and Ward 1881.
[792] G.M. Hopkins & Co. 1909; G.M. Hopkins & Co. 1923.
[793] Sanborn Library, LLC 1937-2006; NETR 1931-2013.



REBUILD BY DESIGN HUDSON RIVER ▪ RESIST ▪ DELAY ▪ STORE ▪ DISCHARGE ▪

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DSD Locations in 1937
Sanborn 1937 (Plate 37)

August 2016

FIGURE 80

between the boring and the tank site, Tank T1-HAR is considered to possess prehistoric archaeological sensitivity at a depth greater than 15 feet below the surface.

Historic development within the vicinity of the tank site consisted of the late-nineteenth to early-twentieth century extension of Harrison and 6th streets, the mid-twentieth century installation of a vitrified clay sewer lines within Harrison and 6th streets, and a six-inch water pipeline within 6th Street. Given the mid to late-twentieth century dates of the sewer and water lines within the vicinity of the tank site, Tank T1-HAR is not considered sensitive for historic deposits associated with municipal sewer or water services. Furthermore, in light of the lack of documented historic development in the vicinity of the tank site, Tank T1-HAR is not considered sensitive for historic archaeological deposits.

T3-JAC (Jackson Street and 6th Street) (Plate 54)

Proposed Tank T3-JAC will be located at the southwest corner of the intersection of Jackson and 6th streets. The proposed tank will be located in the public ROW and includes the paved road surface and the adjacent cement sidewalk. The tank would be located to the immediate northeast of an apartment building within the Andrew Jackson Gardens apartment complex. Utilities within the vicinity of the proposed tank site include a drainage grate, wooden transmission poles, and road signs.

The tank will measure approximately 20 feet in length and 5 feet in width. The tank will have an overall depth of six feet below the surface. Installation of the tank will require excavation to a depth of approximately 8.67 feet below the surface. The limit of disturbance associated with Tank T3-JAC is approximately 100 square feet to an approximate depth of 8.67 feet. This limit of disturbance encompasses the approximate footprint of the tank. Current design plans do not include staging areas or any other areas of disturbance associated with the tank installation.

Historical Development

The 1844 U.S. Coastal Survey map indicates that the tank site was located in undeveloped meadowlands to the north of the Hoboken Creek (see Figure 30). The G.M. Hopkins & Co.'s 1873 map indicates that Jackson and 6th streets had been proposed and the blocks surrounding these streets had been proposed and allotted (see Figure 70). The lots in the vicinity of Tank T3-JAC were associated with C.H. Herriman. There was no development within these lots or in the vicinity of the tank site. The Hoboken Creek and the eventual DLWRR and Junction RR tracks were located to the west of the tank site. The Speilmann and Brush 1880 map indicates that Jackson and 6th streets had not been extended this far north or west (see Figure 15). The tank site was situated within undeveloped meadowlands. There were no sewer lines within the vicinity of the tank site. Bailey and Ward's 1881 map suggests that Jackson and 6th streets had been extended; a few structures had developed to the southwest of the tank site. A structure was also located on the opposing corner of Jackson and 6th streets.[794]

G.M. Hopkins & Co.'s 1909 map indicates that there was no development within the immediate vicinity of the tank site (see Figure 71). There was no development within the block to the south and west of the Jackson and 6th Street

[794]US Coastal Survey 1844; G.M. Hopkins & Co. 1873; Spielmann and Brush 1880; Bailey and Ward 1881.

intersection. In addition, there does not appear to have been any sewer or water lines within the vicinity of the tank site. The 1923 G.M. Hopkins & Co. map indicates that six-inch pipelines were located within 6th and Jackson streets in the vicinity of the tank site (see Figure 76). There was still no development in the lots to the south and west of the tank site. The As-Built plans indicate that there was a vitrified clay sewer line within Jackson Street south of 6th Street by 1940.[795]

The 1937 Sanborn Insurance map indicates that there was still no development to the south and west of the tank site (see Figure 80). The map indicates the presence of a six-inch water line within Jackson Street; no pipeline is depicted within 6th Street. By 1951, a townhouse apartment building associated with the Andrew Jackson Gardens Apartments had developed to the southwest of the tank site (see Figure 81). By 1979, a six-inch water pipeline is depicted within the 6th Street roadbed. There has been little additional development within the vicinity of the tank site since the creation of the Andrew Jackson Gardens apartment complex.[796]

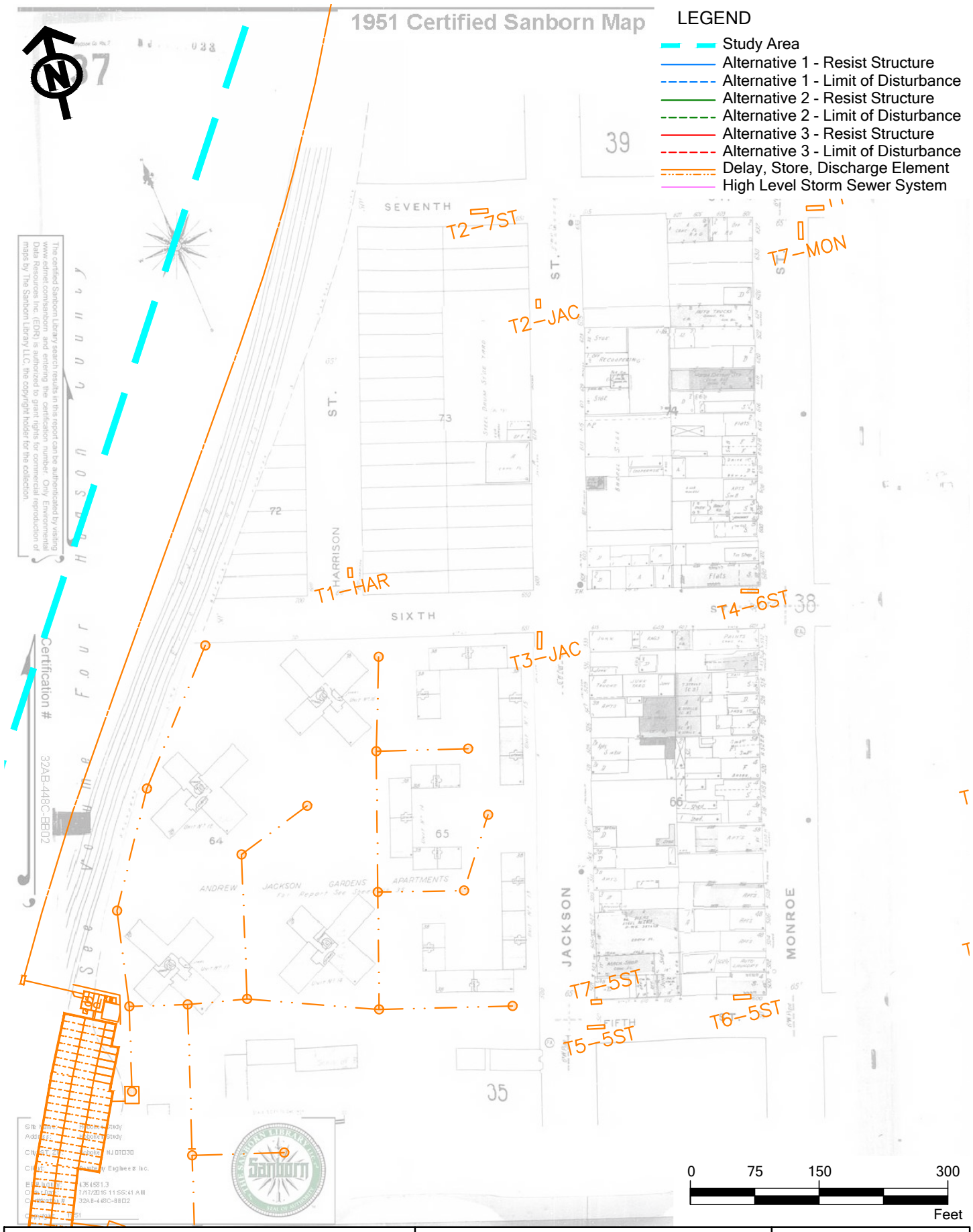
Summary and Conclusions

The earliest development within the vicinity of the tank sites appears to be the late-nineteenth to early-twentieth century extension of Jackson and 6th streets. By 1923, six-inch water pipelines had been installed within Jackson and 6th streets in the vicinity of the tank site. The Sanborn Insurance maps suggest that the 6th Street line may have been removed or may not have been installed until sometime between 1951 and 1979. The 1940 As-Built plans indicate that a vitrified clay sewer line was located within Jackson Street south of 6th Street. Data provided by the NHSA indicates that this sewer line was installed during the latter part of the twentieth century. The area to the immediate southwest of the tank site was undeveloped until the installation of public housing in the mid-twentieth century.

Of the available soil boring data, Boring GW-4 is located in closest proximity to the tank site, being approximately 430 feet to the northwest (see Appendix D). As previously discussed, a black organic silt layer was uncovered within Boring GW-4 at a depth of 15 feet below the surface. This matrix is dissimilar to the organic deposits noted elsewhere within Hoboken which have been interpreted as indicative of a uniform meadow surface throughout the Holocene. The dissimilarity of the organic deposit within GW-4 suggests that a more favorable prehistoric environmental setting may have existed within this portion of the city. Thus, given the historic topographic similarities between the boring and the tank site, Tank T3-JAC is considered to possess prehistoric archaeological sensitivity at a depth greater than 15 feet below the surface.

Historic development within the vicinity of the tank site consisted of the late-nineteenth to early- twentieth century extension of Jackson and 6th streets, the mid-twentieth century installation of a vitrified clay sewer line within Jackson Street, and the mid-twentieth century installation of six-inch water pipelines within Jackson and 6th streets. Given the mid to late-twentieth century dates of the sewer and water lines within the vicinity of the tank site, Tank T3-JAC is not considered sensitive for historic deposits associated with municipal sewer or water services.

[795] G.M. Hopkins & Co. 1909; G.M. Hopkins & Co. 1923; Whittemore 1940.
[796] Sanborn Library, LLC 1937-2006; NETR 1931-2013.



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DSD Locations in 1951
Sanborn 1951 (Plate 37)

August 2016

FIGURE 81

Furthermore, in light of the lack of documented historic development in the vicinity of the tank site, Tank T3-JAC is not considered sensitive for historic archaeological deposits.

T4-6ST (Monroe Street and 6th Street) (Plate 55)

Proposed Tank T4-6ST will be located at the northwest corner of the intersection of Monroe and 6th streets. The proposed tank will be located in the public ROW and includes the paved road surface and the adjacent cement sidewalk. The tank would be located to the immediate south of an apartment building. Utilities within the vicinity of the proposed tank site include a drainage grate, manholes, and road signs.

The tank will measure approximately 20 feet in length and 4 feet in width. The tank will have an overall depth of nine feet below the surface. Installation of the tank will require excavation to a depth of approximately 11.67 feet below the surface. The limit of disturbance associated with Tank T4-6ST is approximately 80 square feet to an approximate depth of 11.67 feet. This limit of disturbance encompasses the approximate footprint of the tank. Current design plans do not include staging areas or any other areas of disturbance associated with the tank installation.

Historical Development

The 1844 U.S. Coastal Survey map indicates that the tank site was located in undeveloped meadowlands to the north of the Hoboken Creek (see Figure 30). The G.M. Hopkins & Co.'s 1873 map indicates that Monroe and 6th streets had been proposed and the blocks surrounding these streets had been proposed and allotted (see Figure 70). The lots in the vicinity of Tank T4-6ST were unassociated; development was located to the north of the tank site within the block to its north. However, there was no development within the immediate vicinity of the tank site. The Speilmann and Brush 1880 map indicates that Monroe and 6th streets had not yet been extended this far north or west (see Figure 15). The tank site was situated within undeveloped meadowlands. There were no sewer lines within the vicinity of the tank site. Bailey and Ward's 1881 map suggests that Monroe and 6th streets had been extended; a few structures had developed to the west of the tank site.[797]

G.M. Hopkins & Co.'s 1909 map indicates that a sewer line and six-inch pipeline had been installed within Monroe Street in the immediate vicinity of the tank site (see Figure 71). A brick building had also developed in the lot to the north of Tank T4-6ST. There were no pipelines within 6th Street. By 1923, a six-inch pipeline had been installed within 6th Street in the vicinity of the tank site. No additional development had occurred in the vicinity of the tank site. The 1940 As-Built plans indicate that a brick sewer line was located within Monroe Street between 4th and 7th streets. There were no sewer lines within this portion of 6th Street by 1940.[798]

The 1937 Sanborn Insurance map indicates that there was an apartment building located in the lot to the immediate north of the tank site. A building has been situated at this corner throughout the twentieth century and into the present-day. The 1937 Sanborn map indicates the presence of a six-inch water line within Monroe Street. The 1951

[797]US Coastal Survey 1844; G.M. Hopkins & Co. 1873; Spielmann and Brush 1880; Bailey and Ward 1881.
[798] G.M. Hopkins & Co. 1909; G.M. Hopkins & Co. 1923; Whittemore 1940.

Plate 55: Location of T4-6ST, Monroe and 6th Streets. View West. (DVS 3/24/2016).

Plate 56: Locations of T3-6ST and T2-6ST, Madison and 6th Streets. View Northeast. (DVS 3/24/2016).

Sanborn map indicates the presence of a six-inch water line within 6th Street. There appears to have been little additional development within the vicinity of the tank site from the mid-twentieth century through the present day.[799]

Summary and Conclusions

The earliest development within the vicinity of the tank sites appears to be the late-nineteenth century extension of Monroe and 6th streets. By 1909, a sewer line and six-inch water line were located within Monroe Street. The As-Built plans indicate that a brick sewer line was located within Monroe Street to the east of the tank site; there is no indication of a sewer line within 6th Street. By 1923, a six-inch water pipeline may have also been installed within 6th Street in the vicinity of the tank site. The Sanborn Insurance maps suggest that the 6th Street line may have been removed or may not have been installed until sometime between 1939 and 1951. The area to the immediate north of the tank site was a residential occupation throughout the twentieth century.

Of the available soil boring data, Boring GW-4 is located in closest proximity, being approximately 575 feet to the northwest, and most closely resembles the historic topographic conditions of the tank site (see Appendix D). As previously discussed, a black organic silt layer was uncovered within Boring GW-4 at a depth of 15 feet below the surface. This matrix is dissimilar to the organic deposits noted elsewhere within Hoboken which have been interpreted as indicative of a uniform meadow surface throughout the Holocene. The dissimilarity of the organic deposit within GW-4 suggests that a more favorable prehistoric environmental setting may have existed within this portion of the city. Thus, given the historic topographic similarities between the boring and the tank site, Tank T4-6ST is considered to possess prehistoric archaeological sensitivity at a depth greater than 15 feet below the surface.

Historic development within the vicinity of the tank site consisted of the late-nineteenth century extension of Monroe and 6th streets, the early-twentieth century installation of a brick sewer line within Monroe Street, and the early to mid-twentieth century installation of six-inch water pipelines within Monroe and 6th streets. Tank T4-6ST is located to the east of Monroe Street. Therefore, construction of the tank site will not have an effect upon archaeological resources within Monroe Street. Thus, Tank 4-6ST is not considered sensitive for historic sewer-related deposits.

Given the twentieth century dates of the Monroe and 6th Street water lines, these pipelines are not considered historic resources associated with the nineteenth century development of Hoboken or with technological advances/adaptions associated with the extension of municipal service during this development. Therefore, Tank T4-6ST is not considered sensitive for historic deposits associated with the water lines. Furthermore, given the lack of historic development within the vicinity of the tank site, Tank T4-6ST is not considered sensitive for any historic archaeological resources.

T3-6T & T2-6T (Madison Street and 6th Street) (Plate 56)

Proposed Tank T3-6ST will be located on the northern frontage of 6th Street to the east of its intersection with Madison Street. Proposed Tank T2-6ST will be located approximately 135 feet to the southeast of Tank T3-6T on the southern frontage of 6th Street to the west of its intersection with Jefferson Street. The proposed tanks will be

[799] Sanborn Library, LLC 1937-2006; NETR 1931-2013.

located in the public ROW and include the paved road surface and the adjacent cement sidewalk. Tank T3-6T would be located to the south of a brick apartment building; Tank T2-6T would be located to the north of a converted brick warehouse. The tanks would be located to the immediate south of a storage building. Utilities within the vicinity of the proposed tank sites include drainage grates, wooden transmission poles, and road signs.

Tank T3-6ST will measure approximately 15 feet in length and 5 feet in width. The tank will have an overall depth of 5.5 feet below the surface. Installation of the tank will require excavation to a depth of approximately 8.17 feet below the surface. The limit of disturbance associated with Tank T3-6ST is approximately 75 square feet to an approximate depth of 8.17 feet. Tank T2-6ST will measure approximately 20 feet in length and 5 feet in width. The tank will have an overall depth of 4.5 feet below the surface. Installation of the tank will require excavation to a depth of approximately 7.17 feet below the surface. The limit of disturbance associated with Tank T2-6ST is approximately 100 square feet to an approximate depth of 7.17 feet. The limits of disturbance encompass the approximate footprint of the tanks. Current design plans do not include staging areas or any other areas of disturbance associated with the installation of the tanks.

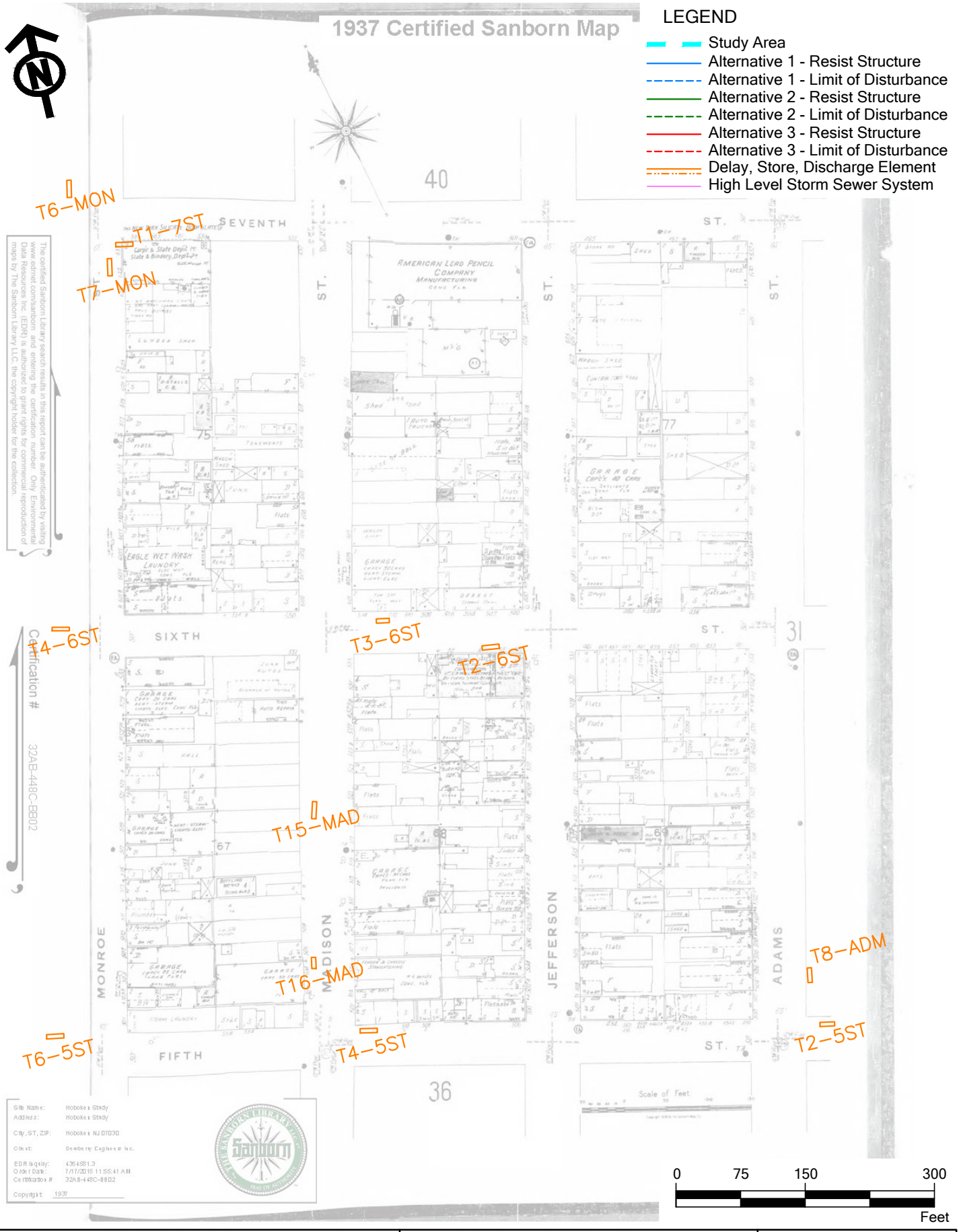
Historical Development

The 1844 U.S. Coastal Survey map indicates that the tank sites were located in undeveloped meadowlands to the north of the Hoboken Creek (see Figure 30). Dripps' 1855 map indicates that the tank sites were located to the north of the western portion of Jefferson Square (see Figure 10). The G.M. Hopkins & Co.'s 1873 map indicates that Madison and 6th streets had been proposed and the blocks surrounding these streets had been proposed and allotted (see Figure 70). The lots in the vicinity of both tank sites were associated with J.P. Higgins. There was no development within these lots or in the vicinity of the tank sites. The Speilmann and Brush 1880 map indicates that Madison and 6th streets had not yet been extended this far north or west (see Figure 15). The tank sites were situated within undeveloped meadowlands. There were no sewer lines within the vicinity of the tank sites. Bailey and Ward's 1881 map suggests that the roads have been laid out and that the blocks to the north, east, and west had been cleared. Development was located to the east of Jefferson Street and to the south of 5th Street.[800]

G.M. Hopkins & Co.'s 1909 map indicates that a sewer line and six-inch pipeline were located within Madison Street; a six-inch pipeline was also located within 6th Street (see Figure 71). A frame building with attached garage/stable was located to the north of Tank T3-6ST. A frame building was also located to the south of Tank T2-6ST. By 1923, a 16-inch pipeline was also located within Madison Street (see Figure 74). By this time, a brick structure, the Jefferson Garage, was located at the southwestern corner of Jefferson and 6th streets to the south of Tank T2-6ST. The 1940 As-Built plans indicate that there were no sewer lines within 6th Street; a brick sewer line was located within Madison Street from 4th to 7th streets.[801]

The 1937 Sanborn Insurance map indicates that six-inch water lines were located within Madison and 6th streets (Figure 82). A building with an attached garage was located to the north of Tank T3-6ST; a garage structure was located to the south of Tank T2-6ST. By 1951, the structure located to the north of Tank T3-6ST was a mixed-use

[800]US Coastal Survey 1844; G.M. Hopkins & Co. 1873; Spielmann and Brush 1880; Bailey and Ward 1881.
[801] G.M. Hopkins & Co. 1909; G.M. Hopkins & Co. 1923; Whittemore 1940.



REBUILD BY DESIGN HUDSON RIVER ▪ RESIST ▪ DELAY ▪ STORE ▪ DISCHARGE ▪

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DSD Locations in 1937
Sanborn 1937 (Plate 38)

August 2016

FIGURE 82

apartment building with storefronts on its western extent. Historic aerial imagery indicates that the current structures to the north of Tank T3-6ST and to the south of Tank T2-6ST had developed between 1979 and 1987. There appears to have been little to no additional development within the vicinity of the tank sites.[802]

Summary and Conclusions

The earliest development within the vicinity of the tank sites appears to be the late-nineteenth century extension of Madison and 6th streets. By 1909, a sewer line and a six-inch pipeline had been installed within Madison Street; a six-inch water line was also located within 6th Street. The As-Builts indicate that there was a brick sewer line within Madison Street; there were no sewer lines within 6th Street by 1940. Residential, commercial, and industrial development was located in the vicinity of the tank sites throughout the twentieth century.

Of the available soil boring data, Boring GW-4 is located in closest proximity, being approximately 944 feet to the northwest, and most closely resembles the historic topographic conditions of the tank sites (see Appendix D). As previously discussed, a black organic silt layer was uncovered within Boring GW-4 at a depth of 15 feet below the surface. This matrix is dissimilar to the organic deposits noted elsewhere within Hoboken which have been interpreted as indicative of a uniform meadow surface throughout the Holocene. The dissimilarity of the organic deposit within GW-4 suggests that a more favorable prehistoric environmental setting may have existed within this portion of the city. Thus, given the historic topographic similarities between the boring and the tank sites, Tank T3-6ST and Tank T2-6ST are considered to possess prehistoric archaeological sensitivity at a depth greater than 15 feet below the surface.

Historic development within the vicinity of the tank sites consisted of the late-nineteenth century extension of Madison and 6th streets, the late-nineteenth to early-twentieth century installation of a brick sewer line within Madison Street, and the early-twentieth century installation of a water pipeline within Madison and 6th streets. Data provided by the NHSA indicates that the brick sewer within Madison Street was installed prior to 1916. Both tank sites are located along 6th Street to the east of Madison Street and are, therefore, to the east of the Madison Street sewer line. Therefore, Tank T3-6ST and Tank T2-6ST are not considered sensitive for historic deposits associated with the Madison Street sewer.

Tank T3-6ST and Tank T2-6ST are located in the vicinity of the water line within 6th Street. Given that this water line was installed during the early-twentieth century it is not considered an historic resource associated with the nineteenth century development of Hoboken or with technological advances/adaptions associated with the extension of municipal service during this development. Therefore, Tank T3-6ST and Tank T2-6ST are not considered sensitive for historic deposits associated with the water lines. Furthermore, given the lack of documented additional historic development within the tank sites, Tank T3-6ST and Tank T2-6ST are not considered sensitive for any other historic archaeological deposits.

[802] Sanborn Library, LLC 1937-2006; NETR 1931-2013.

T6-GND & T1-6ST (Grand Street and 6th Street) (Plates 57a & 57b)

Proposed Tank T6-GND will be located on the eastern frontage of Grand Street to the immediate south of its intersection with 6th Street. Proposed Tank T1-6ST will be located approximately 64 feet to the northeast of Tank T6-GND on the southern frontage of 6th Street to the immediate east of its intersection with Grand Street. The proposed tanks will be located in the public ROW and include the paved road surface and the adjacent cement sidewalk. Tank T6-GND would be located to the immediate west of a fenced parking area; Tank T1-6ST would be located to the immediate north of this same parking area. Utilities within the vicinity of the proposed tank sites include a fire hydrant, a drainage grate, a manhole, wooden transmission poles, and road signs.

Tank T6-GND will measure approximately 15 feet in length and 5 feet in width. The tank will have an overall depth of five feet below the surface. Installation of the tank will require excavation to a depth of approximately 7.67 feet below the surface. The limit of disturbance associated with Tank T6-GND is approximately 75 square feet to an approximate depth of 7.67 feet. Tank T1-6ST will measure approximately 16 feet in length and 5 feet in width. The tank will have an overall depth of 6.5 feet below the surface. Installation of the tank will require excavation to a depth of approximately 9.17 feet below the surface. The limit of disturbance associated with Tank T1-6ST is approximately 80 square feet to an approximate depth of 9.17 feet. The limits of disturbance encompass the approximate footprint of the tanks. Current design plans do not include staging areas or any other areas of disturbance associated with the installation of the tanks.

Historical Development

The earliest development within the vicinity of the tank sites appears to have occurred by the mid-nineteenth century. The 1844 U.S. Coastal Survey map indicates that the tank sites were located in undeveloped meadowlands to the north of the Hoboken Creek and to the west of the trotting course (see Figure 30). Dripps' 1855 map indicates that the tank sites were located to the west of development within the block bordered by Grand Street to the west, Clinton Avenue to the east, 5th Street to the south, and 6th Street to the north (see Figure 10). The G.M. Hopkins & Co.'s 1873 map indicates that the tank sites were located to the north of this block; additional development had occurred within this block, to the east of Tank T6-GND and south of Tank T1-6ST (see Figure 70). The lots to the east and south of the tank sites were associated with Dan and M. Coleman. A structure was located in the lot to the south of Tank T1-6ST. [803]

The Speilmann and Brush 1880 map indicates that Grand and 6th streets in the vicinity of the tank sites had been established (see Figure 15). A sewer line was also located within Grand Street from 3rd to 6th streets, in the immediate vicinity of Tank T6-GND. Bailey and Ward's 1881 map indicates relatively dense development within the block to the east and south of the tank sites. Buildings occupy the entire eastern frontage of Grand Street between 5th and 6th streets.[804]

G.M. Hopkins & Co.'s 1909 map indicates that six-inch pipelines were located within Grand and 6th streets (see Figure 75). The pipeline on Grand Street may have serviced fire hydrants in the center of the street and at the

[803]US Coastal Survey 1844; Dripps 1855; G.M. Hopkins & Co. 1873.
[804]Spielmann and Brush 1880; Bailey and Ward 1881.

Plate 57a: Location of T6-GND, Grand Street and 6th Street. View North. (ZE 5/23/2016).

Plate 57b: Location of T1-6ST, Grand Street and 6th Street. View West.

southeast corner of Grand and 6th streets. Frame buildings were located to the east of Tank T6-GND and to the immediate south of Tank T1-6ST which appears to have been located within the lot immediately to the south of 6th Street. The area remained relatively unchanged by 1923. Notably, georeferencing the location of Tank T1-6ST on both the 1909 and 1923 maps situates the tank within the lot on the southeast corner of Grand and 6th street. Given the current location of the tank site within the 6th Street roadbed, the location of the tank on the historic maps appears to reflect slight inconsistencies between historic and contemporary mapping technologies.

The 1940 As-Built plans indicate that there was a wooden box sewer within Grand Street between 4th and 6th streets in the vicinity of Tank T6-GND. There was no sewer line within 6th Street by 1940.[805]

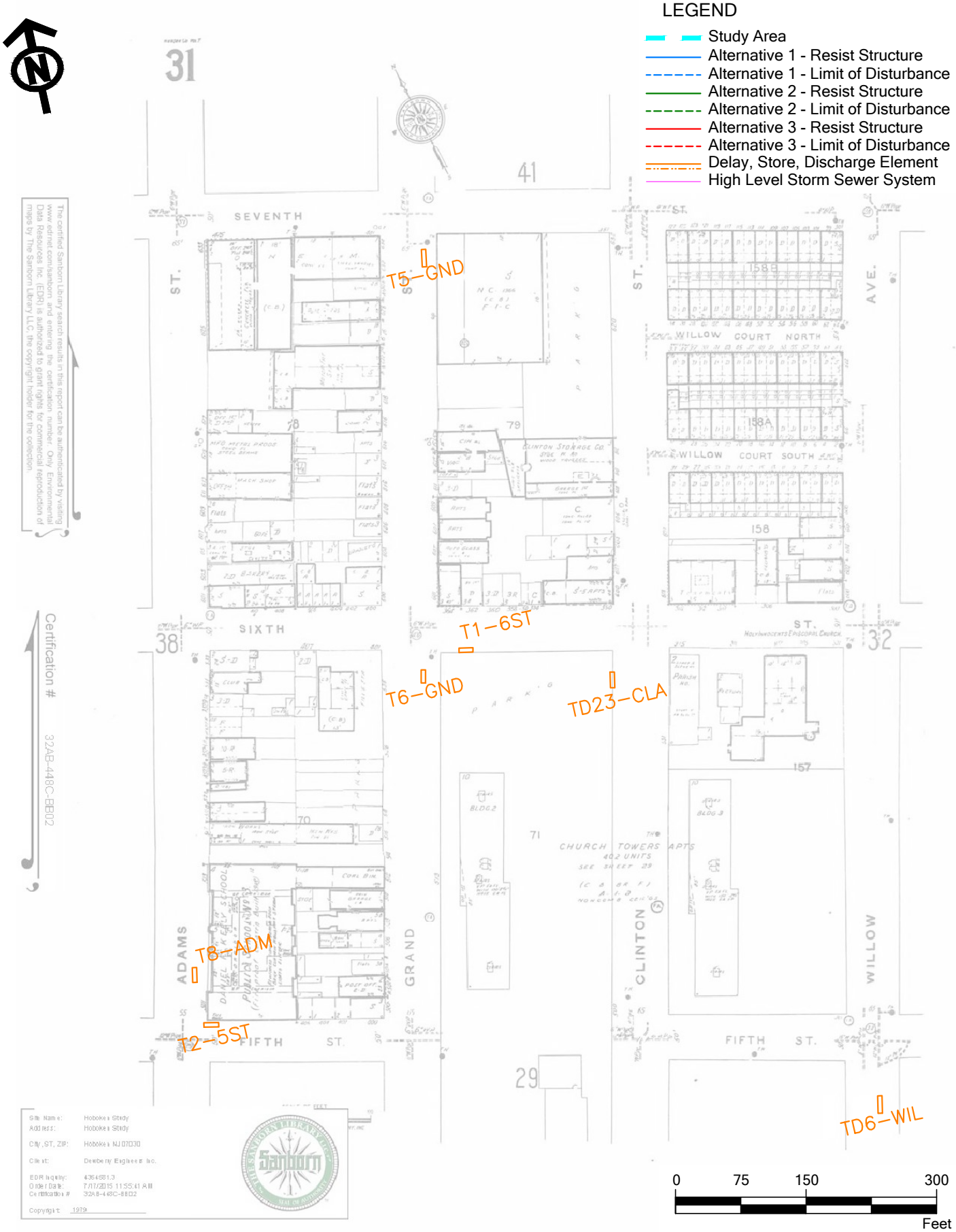
The 1937 Sanborn Insurance map indicates that six-inch water lines were located within Grand and 6th streets. A storefront was located at the southeast corner of Grand and 6th streets in the immediate vicinity of the tank sites. A portion of the storefront appears to have extended into the 6th Street roadbed in the vicinity of Tank T1-6ST. A fire hydrant was located to the north and west of the tank sites at the intersection of Grand and 6th streets. The 1951 Sanborn map reflects little change to the area. The storefront at the intersection no longer appears to have extended into the 6th Street roadbed. Between 1954 and 1966, the area to the east and south of the tank sites had been cleared. By 1979, the area to the immediate east and south of the tank sites consisted of a paved parking surface associated with the Church Towers Apartments to the south (Figure 83). Tank T1-6ST is situated within the 6th Street roadbed on the 1979 Sanborn map. There appears to have been minimal changes to the area since the installation of the apartment complex.[806]

Summary and Conclusions

The tank sites appear to have been developed by the 1850s with the extension of Grand and 6th streets. By 1855, development was located to the south and east of the tank sites along Grand Street. By 1880, a sewer line had been installed within Grand Street south of 6th Street. Data provided by the NHSA indicates that a brick sewer line was installed along Grand Street between 1st and 6th streets before 1916. Water lines were installed within Grand and 6th streets by 1909; the Grand Street pipeline appears to have serviced a fire hydrant in the vicinity of the tank sites. Commercial development was located in the vicinity of the tank sites from the late-nineteenth through the mid-twentieth century. The location of Tank T1-6ST on the 1909 and 1923 historic maps indicates that the tank site was within the lot at the southeast corner of Grand and 6th streets. Subsequent historic maps, i.e., the Sanborn Insurance maps, and the current location of the tank site, located Tank T1-6ST within the 6th Street roadbed to the immediate north of the southeastern lot. It appears that the mapping of the tank site on the 1909 and 1923 maps reflects discrepancies between historic and current mapping technologies. As such, it is assumed that the tank site was not located within the southeastern lot, but rather within the roadbed to the immediate north of the lot. By 1979, the current parking area to the east and south of the tank sites had been installed.

Of the available soil boring data, Tank T6-GND and Tank T1-6ST are in closest proximity to Boring GW-3, being located approximately 1,260 feet to its northwest (see Appendix D). However, an examination of the historic

[805] G.M. Hopkins & Co. 1909; G.M. Hopkins & Co. 1923; Whittemore 1940.
[806] Sanborn Library, LLC 1937-2006; NETR 1931-2013.



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DSD Locations in 1979
Sanborn 1979 (Plate 31)

August 2016

FIGURE 83

topographic location of GW-3 suggests that this boring was located within or immediately adjacent to dry uplands along the eastern portion of the city. This setting differs from the meadowland location of the tank sites which more closely resemble the historic topographic setting of Boring GW-4, located approximately 1,630 feet to the northwest. Given the topographic similarities of Boring GW-4 and Tank T6-GND and Tank T1-6ST, the profile exposed within the boring is assumed to be a close representation to the profile within the tank sites. Therefore, in light of the previously discussed potential for a favorable prehistoric environment evidenced by this Boring GW-4's profile, Tank T6-GND and Tank T1-6ST are considered sensitive for prehistoric deposits at depths greater than 15 feet below the surface.

Historic development within Tank T6-GND and Tank T1-6ST consisted of the mid-nineteenth century extension of Grand and 6th streets and the mid to late-nineteenth century extension of a sewer line within Grand Street. Water lines and a fire hydrant were also installed in the vicinity of the tank sites in the early to mid-twentieth century.

Based on the historic research and available utility data it appears that the wooden sewer line within Grand Street may have been installed during the mid-nineteenth century. This sewer line would have been a component within the early sewer system of Hoboken and, as such, reflects the expansion of the city and the extension of municipal services to the ever-expanding population. Thus, the wooden sewer line is considered a potentially significant historic resource. Tank T6-GND is located in the immediate vicinity of the Grand Street sewer; Tank T1-6ST is located to the east of Grand Street and will not impact Grand Street. Therefore, Tank T6-GND is considered sensitive for historic deposits associated with the Grand Street sewer. Archaeological deposits associated with the sewer might include the sewer line, a builder's trench associated with utility installation, and/or wood planks and other support features for the pipe. The As-Built plans indicate that the wooden sewer line was installed at a depth of 3 to 7.5 feet below the surface. Therefore, sewer deposits within the tank site are anticipated at depths greater than three feet below the surface.

The 1909 Hopkins map indicates the presence of water lines and a possible fire hydrant within Grand and 6th streets in the vicinity of the tank sites. These features were also present on the 1937 Sanborn map. Currently, a fire hydrant is located at the southeast corner of 6th and Grand streets. Thus, it appears that early to mid-twentieth century water lines and a fire hydrant are extant within the immediate vicinity of the tank sites. Given the twentieth century date of these features, neither the water lines nor the fire hydrant are considered significant historic resources associated with the early municipal development of Hoboken. Therefore, Tank T6-GND and Tank T1-6ST are not considered sensitive for significant historic deposits associated with municipal water resources. Given the lack of additional historic development within Tank T1-6ST the tank site is not considered sensitive for historic archaeological deposits.

TD23-CLA (Clinton Street and 6th Street) (Plate 58)

Proposed Tank TD23-CLA will be located on the western frontage of Clinton Street to the immediate south of its intersection with 6th Street. The proposed tank will be located in the public ROW and includes the paved road surface and the adjacent cement sidewalk. The tank would be located to the immediate east of a fenced paved parking area. Utilities within the vicinity of the proposed tank site include a drainage grate, manhole, and road signs.

Plate 58: Location of TD23-CLA, Clinton Street and 6th Street. View South. (ZE 5/23/2016).

Plate 59: Location of T2-7ST, 7th Street and Jackson Street. View West. (ZE 5/23/2016).

The tank will measure approximately 18 feet in length and 5 feet in width. The tank will have an overall depth of 4.5 feet below the surface. Installation of the tank will require excavation to a depth of approximately 7.17 feet below the surface. The limit of disturbance associated with Tank TD23-CLA is approximately 90 square feet to an approximate depth of 7.17 feet. This limit of disturbance encompasses the approximate footprint of the tank. Current design plans do not include staging areas or any other areas of disturbance associated with the tank installation.

Historical Development

The earliest development within the vicinity of the tank site appears to have occurred by the mid-nineteenth century. The 1844 U.S. Coastal Survey map indicates that the tank site was located in undeveloped meadowlands to the west of the trotting course (see Figure 30). Dripps' 1855 map indicates that the tank site was located to the immediate east of development within the adjacent block (see Figure 10). It should be noted that georeferencing the tank location on to the Dripps' map situates the tank site to the west of Clinton Avenue. This location differs from the current location of the tank site and from the location of the tank site on other historic maps. Such discrepancies suggest differences in historic and current mapping techniques which may result in inaccuracies in georeferencing current coordinates on to historic maps.

Hufnagel & Hexamer's 1856 map indicates that Clinton and 6th streets had been laid out. However, there was no development to the west of the tank site. The G.M. Hopkins & Co.'s 1873 map indicates development within the block to the east of Tank TD23-CLA (see Figure 70). Structures were located on the rear of the lots to the immediate west of the tank site. The orientation of the development suggests that these structures predated the division of the block into building lots.[807]

The Speilmann and Brush 1880 map indicates that Clinton and 6th streets in the vicinity of the tank sites had been established (see Figure 15). A sewer line was also located within Clinton Street from Newark Avenue to 5th Street. The sewer line did not extend to the vicinity of Tank TD23-CLA. Bailey and Ward's 1881 map indicates relatively dense development within the block to the west of the tank site. Buildings occupy the entire western frontage of Clinton Street between 5th and 6th streets.[808]

G.M. Hopkins & Co.'s 1909 map indicates that a sewer line, a six-inch pipeline, and a 12-inch pipeline were located within Clinton Street; a six-inch pipeline was also located within 6th Street. A trolley line was located within Clinton Street (see Figure 75). A brick building and two adjacent frame buildings were located to the west of Tank TD23-CLA. The area appears to have remained relatively unchanged by 1923 (see Figure 78). The 1940 As-Built plans indicate that there was a circular brick sewer within Clinton Street in the vicinity of Tank TD23-CLA. There was no sewer line within 6th Street by 1940.[809]

[807]US Coastal Survey 1844; Dripps 1855; Hufnagel & Hexamer 1856; G.M. Hopkins & Co. 1873.
[808]Spielmann and Brush 1880; Bailey and Ward 1881.
[809] G.M. Hopkins & Co. 1909; G.M. Hopkins & Co. 1923; Whittemore 1940.

The 1937 Sanborn Insurance map indicates that two 12-inch water lines were located within Clinton Street and a six-inch pipeline was located within 6th Street. A storefront was located at the southeast corner of Grand and 6th streets in the immediate vicinity of the tank sites. A portion of the storefront and a dwelling were located on the southwest corner of 6th and Clinton streets to the west of the tank site. Between 1954 and 1966, the area to the west of the tank site had been cleared. By 1979, the area to the immediate west of the tank site consisted of a paved parking surface associated with the Church Towers Apartments to the south. There appear to have been minimal changes to the area since the installation of the apartment complex.[810]

Summary and Conclusions

The area surrounding the tank site appears to have been developed by the 1850s with the extension of Clinton and 6th streets. By 1855, development was located to the south and east of the tank site. By 1909, a sewer line had been installed within Clinton Street. The As-Built plans indicate that a circular brick sewer line was located within Clinton Street; data provided by the NHSA indicates that this sewer line was installed before 1916. Water lines were installed within Clinton and 6th streets by 1909; a trolley line also operated along Clinton Street by the early-twentieth century. Commercial and residential development was located in the vicinity of the tank site from the late-nineteenth through the mid-twentieth century. By 1979, the current parking area to the west of the tank site had been installed.

Of the available soil boring data, Tank TD23-CLA is in closest proximity to Boring GW-3, being located approximately 1,085 feet to its northwest (see Appendix D). However, an examination of the historic topographic location of GW-3 suggests that this boring was located within or immediately adjacent to dry uplands along the eastern portion of the city. This setting differs from the meadowland location of the tank site which more closely resembles the historic topographic setting of Boring GW-4, located approximately 1,800 feet to the northwest. Given the topographic similarities of Boring GW-4 and Tank TD23-CLA, the profile exposed within the boring is assumed to be a close representation to the profile within the tank site. Therefore, in light of the previously discussed potential for a favorable prehistoric environment evidenced by the profile of Boring GW-4, Tank TD23-CLA is considered sensitive for prehistoric deposits at depths greater than 15 feet below the surface.

Historic development within Tank TD23-CLA consisted of the mid-nineteenth century extension of Clinton and 6th streets, late-nineteenth to early-twentieth century extension of a sewer line within Clinton Street, an early-twentieth century trolley line along Clinton Street, and the early to mid-twentieth century installation of water lines within Clinton and 6th streets.

Based on the cartographic data and the available utility information, it appears that the brick sewer along Clinton Street was installed sometime between 1880 and 1909. This late-nineteenth to early-twentieth century sewer line within Clinton Street was a component within the early sewer system of Hoboken and reflects the expansion of the city and the extension of municipal services to the ever-expanding population. As such, this sewer line is considered a potentially significant historic resource. Therefore, Tank TD23-CLA is considered sensitive for historic deposits associated with the Clinton Street sewer. Archaeological deposits associated with the sewer might include the

[810] Sanborn Library, LLC 1937-2006; NETR 1931-2013.

sewer line, a builder's trench associated with utility installation, and/or wood planks and other support features for the pipe. The As-Built plans indicate that the circular brick sewer was installed at a depth of 5 to 8.5 feet below the surface. Therefore, sewer deposits within the tank site are anticipated at depths greater than five feet below the surface.

The 1909 Hopkins map indicates the presence of water lines within Clinton and 6th streets in the vicinity of the tank site. Tank TD23-CLA is located in the vicinity of the Clinton Street water line. Given the twentieth century date of the Clinton Street water lines, the water lines are not considered significant historic resources associated with the early municipal development of Hoboken. Therefore, Tank TD23-CLA is not considered sensitive for significant historic deposits associated with municipal water resources.

An early-twentieth century trolley line also operated along Clinton Street in the immediate vicinity of Tank TD23-CLA. By 1937, the trolley tracks were no longer extant. This trolley line was not an elevated track, therefore, archaeological deposits associated with the trolley line would most likely consist of the rail tracks. Such tracks would be anticipated near the surface. Given that the route of the early-twentieth century trolley lines are known through cartographic and documentary records, any track remnants would provide little additional information regarding the history or nature of this resource. As such, any deposits associated with the trolley line would not constitute a significant resource eligible for listing in the National Register. Therefore, Tank TD23-CLA is not considered sensitive for significant historic resources associated with the early-twentieth century Clinton Street trolley line.

T2-7ST & T2-JAC (Jackson Street and south of 7th Street) (Plates 59 & 60)

Proposed Tank T2-7ST will be located on the southern frontage of 7th Street to the west of its intersection with Jackson Street. Proposed Tank T2-JAC will be located approximately 130 feet to the southwest of Tank T2-7ST on the western frontage of Jackson Street to the south of its intersection with 7th Street. The proposed tanks will be located in the public ROW and include the paved road surface and the adjacent cement sidewalk. Tank T2-7ST would be located to the immediate north of an apartment building; Tank T2-JAC would be located to the immediate east of the same apartment building. Utilities within the vicinity of the proposed tank sites include a drainage grate, wooden transmission poles, and road signs.

Tank T2-7ST will measure approximately 20 feet in length and 5 feet in width. The tank will have an overall depth of seven feet below the surface. Installation of the tank will require excavation to a depth of approximately 9.67 feet below the surface. The limit of disturbance associated with Tank T2-7ST is approximately 100 square feet to an approximate depth of 9.67 feet. Tank T2-JAC will measure approximately ten feet in length and five feet in width. The tank will have an overall depth of four feet below the surface. Installation of the tank will require excavation to a depth of approximately 6.67 feet below the surface. The limit of disturbance associated with Tank T2-JAC is approximately 50 square feet to an approximate depth of 6.67 feet. The limits of disturbance encompass the approximate footprint of the tanks. Current design plans do not include staging areas or any other areas of disturbance associated with the installation of the tanks.

Plate 60: Location of T2-JAC, Jackson Street and 7th Street. View North. (ZE 5/23/2016).

Plate 61: Location of T6-MON, Monroe Street and 7th Street. View North. (ZE 5/23/2016).

Historical Development

The 1844 U.S. Coastal Survey map indicates that the tank sites were located in undeveloped meadowlands to the east of the Palisades (see Figure 30). The G.M. Hopkins & Co.'s 1873 map indicates that Jackson and 7th streets had been proposed and the blocks surrounding these streets had been proposed and allotted (see Figure 70). The lots in the vicinity of both tank sites were associated with Julia C. Ruebell. There was no development within these lots or in the vicinity of the tank sites. The Hoboken Creek and the eventual DLWRR and Junction RR lines were located to the west. The Speilmann and Brush 1880 map indicates that Jackson and 7th streets had not been extended this far north or west (see Figure 15). There were no sewer lines located in the vicinity of the tank sites; the tank sites were located in undeveloped meadowlands to the east of the Hoboken Creek.[811]

G.M. Hopkins & Co.'s 1909 map indicates that there were no pipelines located within Jackson or 7th streets (see Figure 71). The lots adjacent to the tank sites were undeveloped. The area appears to have remained relatively unchanged by 1923. By this time, the lots adjacent to the tank sites were associated with the Hoboken Manufacturers Railroad Company. The 1940 As-Built plans indicate that concrete sewer lines were installed within Jackson and 7th streets in the vicinity of the tank sites.[812]

The 1937 Sanborn Insurance map indicates that a six-inch water line was located within Jackson Street; there were no pipelines within 7th Street in the vicinity of the tank sites. A coal yard was located to the south of Tank T2-JAC along Jackson Street. There was no development in the immediate vicinity of the tank sites. By 1951, the coal yard had become a steel drum storage yard. Historic aerial imagery from 1954 onwards indicates that the lots in the immediate vicinity of the tank sites were used for vehicle storage and parking through the turn of the twenty-first century. By 1979, a ten-inch water pipe had been laid in 7th Street to the east of Jackson Street. Between 2002 and 2006, the current apartment buildings located to the southwest of the tank sites had been installed.[813]

Summary and Conclusions

The earliest historic development within the vicinity of the tank sites appear to have been the late-nineteenth to early-twentieth century extension of Jackson and 7th streets. By 1937, a six-inch water pipeline had been installed within Jackson Street in the vicinity of Tank T2-JAC. By 1979, a ten-inch water line had been laid within 7th Street to the east of Jackson Street. The area in the immediate vicinity of the tank sites consisted of relatively undeveloped vehicle storage and parking through the twenty-first century. By 1940, concrete sewer lines were located within Jackson and 7th streets.

Of the available soil boring data, Tank T2-7ST and Tank T2-JAC are in closest proximity to Boring GW-4, being located approximately 270 feet to its northwest (see Appendix D). The tank sites are also located approximately 480 feet to the southwest of Boring GW-5. Historically, the tank sites were located in a similar topographic setting to both Borings GW-4 and GW-5. Unlike Boring GW-4, Boring GW-5 contained a deeper fill deposit consisting of approximately eight feet of black and gray sand with gravel and asphalt which was underlain by a deposit of black,

[811] US Coastal Survey 1844; G.M. Hopkins & Co. 1873; Spielmann and Brush 1880.
[812] G.M. Hopkins & Co. 1909; G.M. Hopkins & Co. 1923; Whittemore 1940.
[813] Sanborn Library, LLC 1937-2006; NETR 1931-2013.

gray, and brown gravel and sand to a depth of 18 feet below the surface. The multicolored sand and gravel deposit was underlain by an organic black silt. The boring was terminated within the silt deposit at a depth of 20 feet below the surface. Beneath its deeper fill deposits, it appeared that Boring GW-5 may have had a similar soil profile to Boring GW-4 with a black organic silt underlying its fill deposits. As previously noted, this black organic silt deposit was dissimilar to the organic clayey silt documented in other meadow profiles within the city. This dissimilarity suggests that the organic matrix in borings GW-4 and GW-5 may reflect a different past environment, one which may have provided a more attractive setting for prehistoric settlement or occupation. Given the similarities between the historic topographic settings of the borings and their relative proximity to the tank sites, Tank T2-7ST and Tank T2-JAC are considered sensitive for potential prehistoric deposits. Prehistoric deposits would be anticipated at depths greater than 15 feet below the surface.

Historic development within the tank sites consisted of the extension of Jackson and 7th streets in the late-nineteenth through early-twentieth centuries, the twentieth century installation of concrete sewer lines in Jackson and 7th streets, and the installation of water lines in Jackson and 7th streets in the mid-twentieth century. Given the late date of the sewer and water utilities within Jackson and 7th streets, these pipelines are not considered significant historic resources associated with the early municipal development of Hoboken or the industrial growth of the city. Thus, Tank T2-7ST and Tank T2-JAC are not considered sensitive for historic deposits associated with water-related resources. Furthermore, given the lack of documented historic development within the vicinity of the tank sites, Tank T2-7ST and Tank T2-JAC are not considered sensitive for historic archaeological resources.

T6-MON, T7-MON, T1-7ST (Monroe Street and 7th Street) (Plates 61 and 62)

Proposed Tank T6-MON will be located on the western frontage of Monroe Street to the north of its intersection with 7th Street. Proposed Tank T1-7ST will be located at the southeast corner of the intersection of Monroe and 7th streets. Proposed Tank T7-MON will be located on the eastern frontage of Monroe Street to the south of its intersection with 7th Street. The proposed tanks will be located in the public ROW and include the paved road surface and the adjacent cement sidewalk. Tank T6-MON would be located to the east of a fenced parking area; Tank T7-MON and Tank T1-7ST would be located to the north and west of the St. Ann's Catholic Academy. Utilities within the vicinity of the proposed tank sites include drainage grates, wooden transmission poles, and road signs.

Tank T6-MON will measure approximately 20 feet in length and 5 feet in width. The tank will have an overall depth of 6.5 feet below the surface. Installation of the tank will require excavation to a depth of approximately 9.17 feet below the surface. The limit of disturbance associated with Tank T6-MON is approximately 100 square feet to an approximate depth of 9.17 feet. The tank will measure approximately 20 feet in length and 5 feet in width. Tank T1-7ST will have an overall depth of 5.5 feet below the surface. Installation of the tank will require excavation to a depth of approximately 8.17 feet below the surface. The limit of disturbance associated with Tank T1-7ST is approximately 100 square feet to an approximate depth of 8.17 feet. Tank T7-MON will measure approximately 20 feet in length and 5 feet in width. The tank will have an overall depth of seven feet below the surface. Installation of the tank will require excavation to a depth of approximately 9.67 feet below the surface. The limit of disturbance associated with Tank T7-MON is approximately 100 square feet to an approximate depth of 9.67 feet. The limits of disturbance

Plate 62: Location of T7-MON and T1-7ST, Monroe and 7th Streets. View Southeast. (DVS 3/24/2016).

Plate 63: Location of T5-GND, Grand and 7th Streets. View South. (DVS 3/30/2016).

encompass the approximate footprint of the tanks. Current design plans do not include staging areas or any other areas of disturbance associated with the installation of the tanks.

Historical Development

The 1844 U.S. Coastal Survey map indicates that the tank sites were located in undeveloped meadowlands to the east of the Palisades (see Figure 30). The G.M. Hopkins & Co.'s 1873 map indicates that Monroe and 7th streets had been proposed and the blocks surrounding these streets had been proposed and allotted (see Figure 70). The lots in the vicinity of Tank T6-MON were not associated with an owner. The lots in the vicinity of Tank T1-7ST and Tank T7-MON were associated with Julia C. Ruebell. There was no development within these lots. Sporadic settlement was located to the west and south of the tank sites. The Speilmann and Brush 1880 map indicates that Monroe and 7th streets had not been extended this far north or west (see Figure 15). There were no sewer lines located in the vicinity of the tank sites; the tank sites were located in undeveloped meadowlands to the east of the Hoboken Creek.[814]

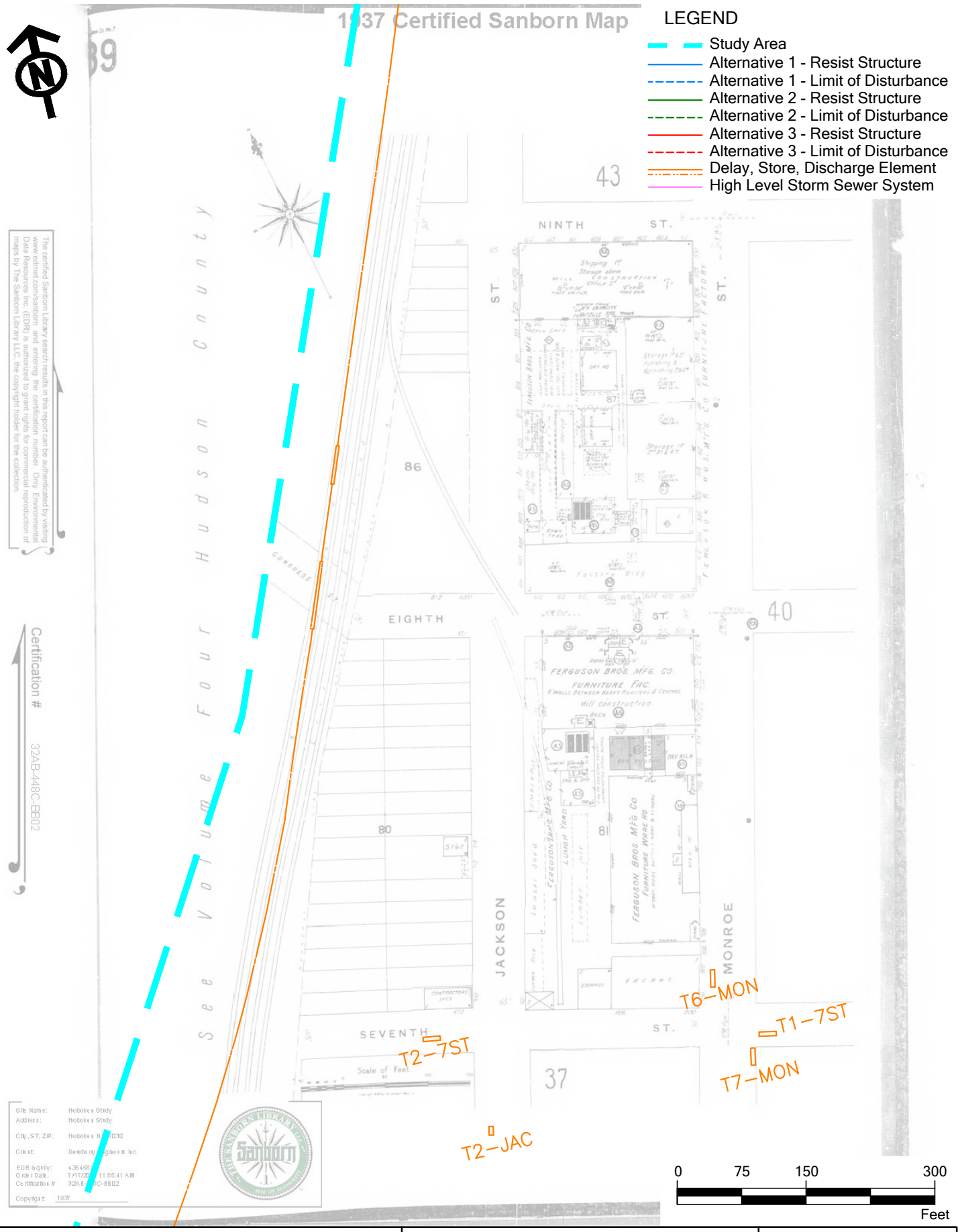
G.M. Hopkins & Co.'s 1909 map indicates that a sewer line and a six-inch pipeline were located within Monroe Street in the vicinity of the tank sites (see Figure 71). There were no pipelines located within 7th Street. The lots adjacent to Tank T6-MON contained a frame building associated with the Oltmer Iron Works. The lots adjacent to Tank T7-MON and T1-7ST contained brick buildings associated with the NY Silicate (to the south) and the Book Slate Company (to the north). The area appears to have remained relatively unchanged by 1923; the buildings at the northwest corner of 7th and Monroe streets were no longer associated with the Oltmer Iron Works. The 1940 As-Built plans indicate that a brick sewer line was located along Monroe Street from 4th to 7th streets. The plans also indicate the presence of concrete sewer lines along Monroe Street to the north of 7th Street and along 7th Street between Harrison and Adams streets.[815]

The 1937 Sanborn Insurance map indicates that a six-inch water line was located within Monroe Street (Figure 84). The New York Silicate Book Slate company had expanded its building at the southeast corner of 7th and Monroe streets and was now in the immediate vicinity of both Tank T7-MON and Tank T1-7ST. The building at the northwest corner of 7th and Monroe streets was vacant. There was no pipeline within 7th Street in the vicinity of the tank sites. By 1951, a storage facility was located to the west of Tank T6-MON at the northwest corner of 7th and Monroe streets. Between 1954 and 1966, the St. Anna's Catholic Academy, an elementary school, was established at the southeast corner of 7th and Monroe streets in the immediate vicinity of Tank T7-MON and Tank T1-7ST. By 1979, a ten-inch water pipeline had been installed within 7th Street. Around 1995 to 1997, the current parking lot at the northwest corner of 7th and Monroe streets had been established.[816]

Summary and Conclusions

The earliest historic development within the vicinity of the tank sites appear to have been the late-nineteenth to early-twentieth century extension of Monroe and 7th streets. The 1909 map indicates that a sewer line and a six-

[814]US Coastal Survey 1844; G.M. Hopkins & Co. 1873; Spielmann and Brush 1880.
[815] G.M. Hopkins & Co. 1909; G.M. Hopkins & Co. 1923; Whittemore 1940.
[816] Sanborn Library, LLC 1937-2006; NETR 1931-2013.



REBUILD BY DESIGN HUDSON RIVER ▪ RESIST ▪ DELAY ▪ STORE ▪ DISCHARGE ▪

Dewberry | State of New Jersey Department of Environmental Protection

DSD Locations in 1937
Sanborn 1937 (Plate 39)

August 2016

FIGURE 84

inch pipeline had been installed within Monroe Street. The As-Built plans indicate the presence of a brick sewer line on Monroe Street south of 7th Street in the vicinity of Tank T7-MON. Concrete sewer lines were located along Monroe Street north of 7th Street and along 7th Street in the vicinity of Tank T1-7ST by 1940. Data provided by the NHSA indicates that the brick sewer line within Monroe Street was installed before 1916. By 1979, a ten-inch water pipeline had been installed within 7th Street. The area in the immediate vicinity of the tank sites consisted of industrial and commercial buildings through the mid-twentieth century; a school building and parking lot currently occupy the lots adjacent to the proposed tank sites.

Of the available soil boring data, the proposed tank sites are located in relative proximate distance to Boring GW-4, being approximately 535 feet to its northeast, and Boring GW-5, being approximately 570 feet to its northwest (see Appendix D). Historically, the tank sites were located in a similar topographic setting to both Borings GW-4 and GW-5. As previously noted, unlike Boring GW-4, Boring GW-5 contained a deeper fill deposit which was underlain by an organic black silt. The boring was terminated within the silt deposit at a depth of 20 feet below the surface. Beneath its deeper fill deposits, it appeared that Boring GW-5 may have had a similar soil profile to Boring GW-4. As previously noted, this black organic silt deposit was dissimilar to the organic clayey silt documented in other meadow profiles within the city. This dissimilarity suggests that the organic matrix in borings GW-4 and GW-5 may reflect a different past environment, one which may have provided a more attractive setting for prehistoric settlement or occupation. Given the similarities between the historic topographic settings of the borings and their relative proximity to the tank sites, Tank T6-MON, Tank T7-MON, and Tank T1-7ST are considered sensitive for potential prehistoric deposits. Prehistoric deposits would be anticipated at depths greater than 15 feet below the surface.

Historic development within the tank sites consisted of the extension of Monroe and 7th streets in the late-nineteenth through early-twentieth centuries, the late-nineteenth to early-twentieth century sewer and water line installation within Monroe Street, and the twentieth century installation of a concrete sewer line within 7th Street. The historic research and available utility data suggest that the brick sewer line within Monroe Street south of 7th Street was installed sometime between 1880 and 1909. As such, this brick sewer line is considered a potentially significant resource associated within Hoboken's municipal sewer system and the late-nineteenth and early-twentieth century expansion and adaptations of the system to the growth of the city and its sewage problems. Given the proximity of Tank T7-MON to this sewer line, it is considered sensitive for historic sewer-related deposits. Archaeological deposits associated with the sewer might include the sewer line, a builder's trench associated with utility installation, and/or wood planks and other support features for the pipe. According to the As-Built plans, the brick sewer line was installed at a depth ranging from 5 to 11 feet below the surface. Therefore, sewer deposits within the tank site are anticipated at depths greater than five feet below the surface.

Tank T6-MON is located in the vicinity of the concrete sewer line located along Monroe Street to the north of 7th Street. Tank T1-7ST is also located in the vicinity of the concrete sewer line along 7th Street. Given the form of these sewer lines and their twentieth century installation date, Tanks T6-MON and T1-7ST are not considered sensitive for significant historic sewer-related deposits.

The 1909 Hopkins map indicates the presence of an early-twentieth century water line within Monroe Street in the vicinity of the tank sites. Given the twentieth century date of this feature and the lack of documented historic issues or concerns with the municipal water system within Hoboken, the water line is not considered a significant historic resource. Therefore, Tank T6-MON, Tank T7-MON, and Tank T1-7ST are not considered sensitive for significant historic deposits associated with municipal water resources.

T5-GND (Grand Street and 7th Street) (Plate 63)

Proposed Tank T5-GND will be located on the eastern frontage of Grand Street to the immediate south of its intersection with 7th Street. The proposed tank will be located in the public ROW and includes the paved road surface and the adjacent cement sidewalk. The tank would be located to the immediate west of the rear portion of a large supermarket. Utilities within the vicinity of the proposed tank site include drainage grates, a fire hydrant, wooden transmission poles, and road signs.

The tank will measure approximately 20 feet in length and 5 feet in width. The tank will have an overall depth of 6.5 feet below the surface. Installation of the tank will require excavation to a depth of approximately 9.17 feet below the surface. The limit of disturbance associated with Tank T5-GND is approximately 100 square feet to an approximate depth of 9.17 feet. This limit of disturbance encompasses the approximate footprint of the tank. Current design plans do not include staging areas or any other areas of disturbance associated with the tank installation.

Historical Development

The earliest development within the vicinity of the tank site appears to have occurred by the mid-nineteenth century. The 1844 U.S. Coastal Survey map indicates that the tank site was located in undeveloped meadowlands to the west of the trotting course (see Figure 30). Dripps' 1855 map indicates that the tank site was located to the north of development (see Figure 10). The G.M. Hopkins & Co.'s 1873 map indicates that lots had partially been laid out within the block to the east of the tank site (see Figure 70). The partial lots in the immediate vicinity of the tank site were associated with John M. Board; the portions of the block in the vicinity of Tank T5-GND which had not been allotted were associated within the Hoboken Land and Improvement Company. Structures were located within the block to the south of those lots adjacent to the tank site. [817]

The Speilmann and Brush 1880 map indicates that Grand and 7th streets had not yet been extended this far west or north (see Figure 15). A sewer line was located within Grand Street from 3rd to 6th streets, to the south of Tank T5-GND. Bailey and Ward's 1881 map indicates that development was located to the south of the tank site.[818]

G.M. Hopkins & Co.'s 1909 map indicates that a six-inch pipeline was located within Grand Street and a 12-inch pipeline was located within 7th Street (see Figure 75). The 7th Street pipeline appeared to service a fire hydrant at the southeast corner of Grand and 7th streets. There were no structures located in the lots adjacent to the tank site. The area appears to have remained relatively unchanged by 1923.[819]

[817]US Coastal Survey 1844; Dripps 1855; G.M. Hopkins & Co. 1873.
[818]Spielmann and Brush 1880; Bailey and Ward 1881.
[819] G.M. Hopkins & Co. 1909; G.M. Hopkins & Co. 1923.

The 1937 Sanborn Insurance map indicates that a linear structure associated with the Progressive Silk Finishing Company was located in the lot adjacent to the tank site. The larger silk finishing complex was located on the southwest corner of 7th and Clinton streets. By 1951, the silk finishing complex had expanded and additional buildings were located throughout the lots adjacent to the tank site. Between 1954 and 1966, the lots adjacent to the tank site had been cleared; between 1966 and 1979, the current store building was constructed (see Figure 83).[820]

The 1940 As-Built plans indicate that there was a brick sewer located within Grand Street between 6th and 7th streets. The plans also indicate the presence of a concrete trunk sewer line along 7th Street between Adams and Garden streets.

Summary and Conclusions

The tank site appears to have been developed by the 1880s with the extension of Grand and 7th streets. The As-Built plans indicate that a brick sewer line was located within Grand Street between 6th and 7th Streets. Data provided by the NHSA indicates that this sewer line was installed before 1916. Water lines were installed within Grand and 7th streets by 1909; the 7th Street pipeline appears to have serviced a fire hydrant in the vicinity of the tank site. Industrial development was located in the vicinity of the tank site through the early and mid-twentieth century. By 1979, the current supermarket building to the east of the tank site had been installed.

Of the available soil boring data, Tank T5-GND is in closest proximity to Boring GW-9, being located approximately 950 feet to its south (see Appendix D). However, an examination of the historic topographic location of GW-9 suggests that this boring was located within or immediately adjacent to dry uplands along the eastern portion of the city. This setting differs from the meadowland location of the tank site which more closely resemble the historic topographic setting of Borings GW-4 and GW-5, located approximately 1,500 feet to the west. Given the topographic similarities of Borings GW-4 and GW-5 to Tank T5-GND, the profile exposed within the borings is assumed to be a close representation to the profile within the tank site. Therefore, in light of the previously discussed potential for a favorable prehistoric environment evidenced by the soil profiles within the borings, Tank T5-GND is considered sensitive for prehistoric deposits at depths greater than 15 feet below the surface.

Historic development within Tank T5-GND consisted of the mid to late-nineteenth century extension of Grand and 7th streets and the late-nineteenth to early-twentieth century installation of a brick sewer line within Grand Street. Water lines and a fire hydrant were also installed in the vicinity of the tank site in the early to mid-twentieth century.

The available utility data suggests that a brick sewer line was installed within Grand Street in the vicinity of Tank T5-GND before 1916. A late-nineteenth or early-twentieth century brick sewer line within Grand Street would have been a component within the early sewer system of Hoboken and, as such, would reflect the expansion of the city and the extension of municipal services to the ever-expanding population. As such, this sewer line is considered a

[820] Sanborn Library, LLC 1937-2006; NETR 1931-2013.

potentially significant historic resource. Therefore, Tank T5-GND is considered sensitive for historic deposits associated with the possible Grand Street sewer. Archaeological deposits associated with the sewer might include the sewer line, a builder's trench associated with utility installation, and/or wood planks and other support features for the pipe. The As-Built plans indicate that the Grand Street sewer was installed at a depth of approximately 3.3 to 6.5 feet below the surface. Therefore, sewer deposits within the tank site are anticipated at depths greater than three feet below the surface.

The 1909 Hopkins map indicates the presence of water lines and a possible fire hydrant within Grand and 7th streets in the vicinity of the tank site. Currently, a fire hydrant is located at the southeast corner of 7th and Grand streets. Thus, it appears that early to mid-twentieth century water lines and a fire hydrant are extant within the immediate vicinity of the tank site. Given the twentieth century date of these features, neither the water lines nor the fire hydrant are considered significant historic resources associated with the early municipal development of Hoboken. Therefore, Tank T5-GND is not considered sensitive for significant historic deposits associated with municipal water resources. Given the lack of additional historic development within Tank T5-GND, the tank site is not considered sensitive for additional historic archaeological deposits.

T4-GND (Grand Street south of 8th Street) (Plate 64)

Proposed Tank T4-GND will be located on the eastern frontage of Grand Street to the south of its intersection with 8th Street. The proposed tank will be located in the public ROW and includes the paved road surface and the adjacent cement sidewalk. The tank would be located to the immediate west of a brick warehouse. Utilities within the vicinity of the proposed tank site include wooden transmission poles, drainage grates, a manhole, and road signs.

The tank will measure approximately 20 feet in length and 5 feet in width. The tank will have an overall depth of four feet below the surface. Installation of the tank will require excavation to a depth of approximately 6.67 feet below the surface. The limit of disturbance associated with Tank T4-GND is approximately 100 square feet to an approximate depth of 6.67 feet. This limit of disturbance encompasses the approximate footprint of the tank. Current design plans do not include staging areas or any other areas of disturbance associated with the tank installation.

Historical Development

The earliest development within the vicinity of the tank site appears to have occurred by the mid to late-nineteenth century. The 1844 U.S. Coastal Survey map indicates that the tank site was located in undeveloped meadowlands to the west of the trotting course (see Figure 30). The G.M. Hopkins & Co.'s 1873 map indicates that blocks to the east of the tank site had been divided into two lots (see Figure 70). Both lots were associated with the Hoboken Land and Improvement Company. There were no structures located on these lots.[821]

The Speilmann and Brush 1880 map indicates that Grand Street had not yet been extended this far north (see Figure 15). However, 8th Street had been extended from Hudson Street to the western boundary of the city. A sewer line was located within Grand Street from 3rd to 6th streets, to the south of Tank T4-GND; a sewer line was also

[821]US Coastal Survey 1844; G.M. Hopkins & Co. 1873.

Plate 64: Location of T4-GND, Grand and 8th Streets. View South. (DVS 3/30/2016).

Plate 65: Location of T6-ADM, Adams Street and 8th Street. View North. (ZE 5/23/2016).

located within 8th Street from Park Street to Willow Avenue, to the east of the tank site. Bailey and Ward's 1881 map indicates that Grand Street had been extended north of 8th Street. A single structure was located at the southeast intersection of Grand and 8th streets. This structure may have been within the lot to the immediate east or immediately northeast of the tank site.[822]

G.M. Hopkins & Co.'s 1909 map indicates that six-inch pipelines were located within Grand and 8th atreets (see Figure 75). Both pipelines appear to have serviced fire hydrants located on Grand and 8th streets to the south and north of the tank site. A large brick and frame building was located to the east of the tank site; the building was associated with the John Schmaltz Sons Bakery. The 7th Street pipeline appeared to service a fire hydrant at the southeast corner of Grand and 7th streets. There were no structures located in the lots adjacent to the tank site. The Shultz Bakery occupied the entire block with several brick structures by 1923. The 1940 As-Builts indicate that a concrete sewer line was located in Grand Street between 7th and 9th streets. There was no sewer line within 8th Street in the vicinity of the tank site.[823]

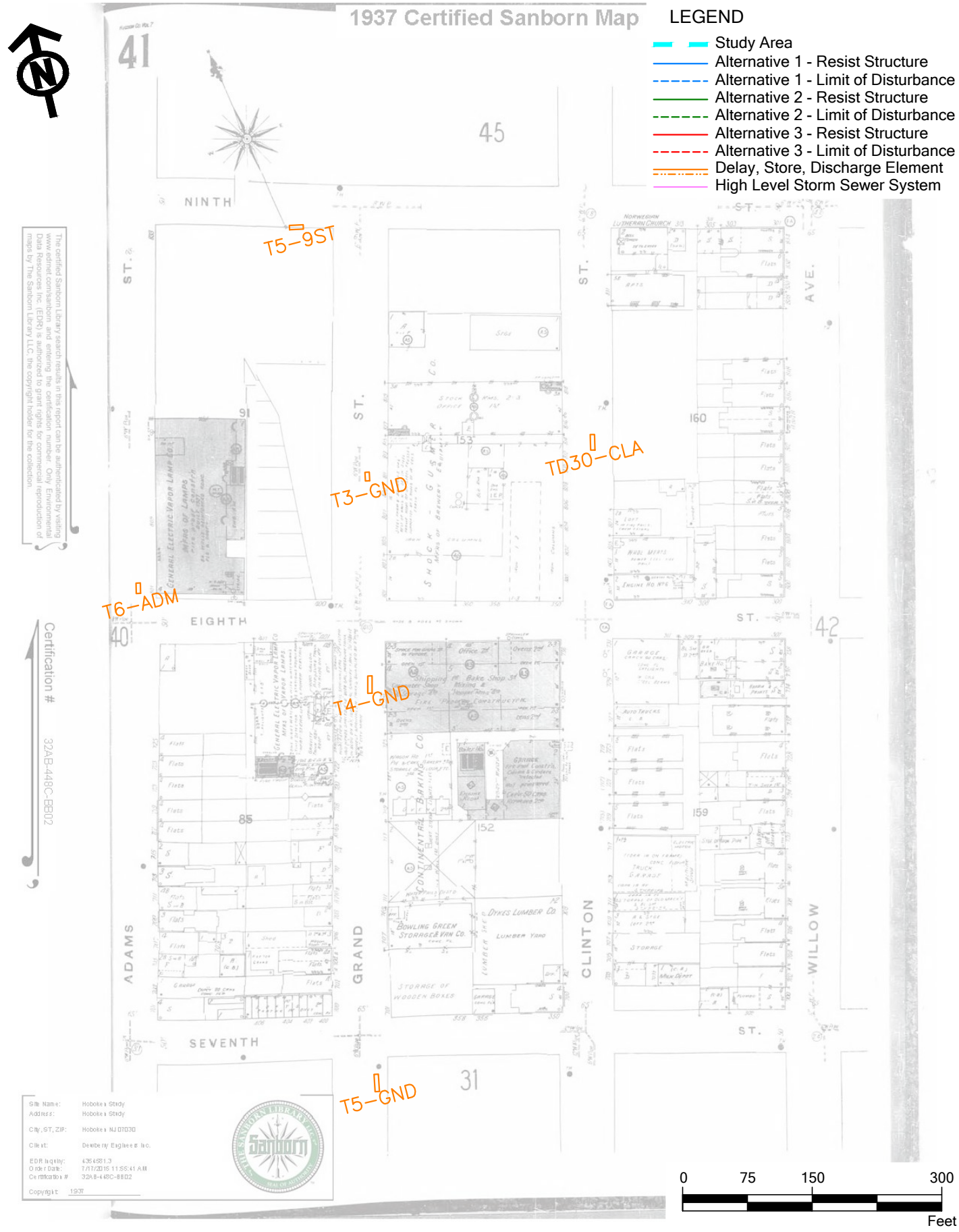
The 1937 Sanborn Insurance map indicates that several buildings associated with the Continental Baking Company were located to the east of the tank site (Figure 85). A fire hydrant appears to have been located to the immediate north of the tank site. Between 1951 and 1979, the baking facility was converted into loft space (see Figure 83). There has been little change in the vicinity of the tank site since that time.[824]

Summary and Conclusions

The tank site appears to have been developed by the 1880s with the extension of Grand Street; 8th Street was extended across the width of the city prior to 1880. The As-Built plans indicate that a concrete sewer was installed within Grand Street between 7th and 9th streets by 1940. Water lines were installed within Grand and 8th streets by 1909; the 7th Street pipeline appears to have serviced a fire hydrant in the vicinity of the tank site. Industrial development was located in the vicinity of the tank site through the early and mid-twentieth century. By 1979, the current supermarket building to the east of the tank site had been installed.

Of the available soil boring data, Tank T4-GND is in closest proximity to Boring GW-9, being located approximately 570 feet to its south (see Appendix D). However, an examination of the historic topographic location of GW-9 suggests that this boring was located within or immediately adjacent to dry uplands along the eastern portion of the city. This setting differs from the meadowland location of the tank site which more closely resembles the historic topographic setting of Boring GW-5, located approximately 1,400 feet to the west. Given the topographic similarities of Boring GW-5 to Tank T4-GND, the profile exposed within the boring is assumed to be a close representation to the profile within the tank site. Therefore, in light of the previously discussed potential for a favorable prehistoric environment evidenced by the soil profile within the boring, Tank T4-GND is considered sensitive for prehistoric deposits at depths greater than 15 feet below the surface.

[822]Spielmann and Brush 1880; Bailey and Ward 1881.
[823] G.M. Hopkins & Co. 1909; G.M. Hopkins & Co. 1923; Whittemore 1940.
[824] Sanborn Library, LLC 1937-2006; NETR 1931-2013.



REBUILD BY DESIGN HUDSON RIVER ▪ RESIST ▪ DELAY ▪ STORE ▪ DISCHARGE ▪

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DSD Locations in 1937
Sanborn 1937 (Plate 41)

August 2016

FIGURE 85

Historic development within Tank T4-GND consisted of the mid to late-nineteenth century extension of Grand and 8th streets and the early to mid-twentieth century extension of a sewer line within Grand Street. Water lines were also installed in the vicinity of the tank site in the early to mid-twentieth century.

The available utility data indicates that a concrete sewer line was installed within Grand Street in the vicinity of Tank T4-GND prior to 1940. Given the late date of this installation and the material type represented by this sewer line, the Grand Street sewer is not considered a significant historic resource. Therefore, Tank T4-GND is not considered sensitive for historic deposits associated with the Grand Street sewer. The As-Built plans indicate that the potential disturbance associated with the concrete sewer line extended to a depth of nine feet below the surface.

The 1909 Hopkins map indicates the presence of water lines within Grand and 8th streets in the vicinity of the tank site. Given the Grand Street location of Tank T4-GND, the tank site is within the immediate vicinity of the early to mid-twentieth century Grand Street water line. Given the twentieth century date of this feature, the water line is not considered a significant historic resource associated with the early municipal development of Hoboken. Therefore, Tank T4-GND is not considered sensitive for significant historic deposits associated with municipal water resources. Given the lack of historic development within Tank T4-GND the tank site is not considered sensitive for historic archaeological deposits.

T6-ADM (Adams Street and 8th Street) (Plate 65)

Proposed Tank T6-ADM will be located at the northeast corner of the intersection of Adams and 8th streets. The proposed tank will be located in the public ROW and includes the paved road surface and the adjacent cement sidewalk. The tank would be located to the immediate west of a brick storage building. Utilities within the vicinity of the proposed tank site include a wooden transmission pole, drainage grate, a manhole, and road signs.

The tank will measure approximately 12 feet in length and 5 feet in width. The tank will have an overall depth of four feet below the surface. Installation of the tank will require excavation to a depth of approximately 6.67 feet below the surface. The limit of disturbance associated with Tank T6-ADM is approximately 60 square feet to an approximate depth of 6.67 feet. This limit of disturbance encompasses the approximate footprint of the tank. Current design plans do not include staging areas or any other areas of disturbance associated with the tank installation.

Historical Development

The earliest development within the vicinity of the tank sites appears to have occurred by the mid to late-nineteenth century. The 1844 U.S. Coastal Survey map indicates that the tank site was located in undeveloped meadowlands to the west of the trotting course (see Figure 30). The G.M. Hopkins & Co.'s 1873 map indicates that the block to the east of the tank site had been partially divided into lots (see Figure 70). The lots in the immediate vicinity of the tank site were associated with H. Coster (Trustee). There were no structures located within these lots or in the vicinity of the tank site.[825]

[825]US Coastal Survey 1844; G.M. Hopkins & Co. 1873.

The Speilmann and Brush 1880 map indicates that Adams Street had not yet been extended this far north (see Figure 15). However, 8th Street had been extended from Hudson Street to the western boundary of the city. There were no sewer lines located in the vicinity of the tank site which was situated in undeveloped meadowlands. Bailey and Ward's 1881 map indicates that Adams Street had been extended north of 8th Street. The block to the east of the tank site still appears to be undeveloped meadowlands.[826]

G.M. Hopkins & Co.'s 1909 map indicates the presence of a six-inch pipeline and sewer line within Adams Street; a six-inch sewer line was also located within 8th Street (see Figure 75). The lots to the immediate east of the tank site were undeveloped at this time. The Hoboken Paper Mill was located to the immediate north of the undeveloped lots. The 1923 map indicates that a 12-inch water line was located along 8th Street (see Figure 78). Several frame buildings had developed in the lots to the immediate east of the tank site. The 1940 As-Builts indicate the presence of a brick sewer line within Adams Street between 7th and 9th streets. There is no indication of a sewer line within 8th Street in the vicinity of the tank site.[827]

The 1937 Sanborn Insurance map indicates that a large brick building associated with the General Electric Vapor Lamp Company had been built to the immediate east of the tank site (see Figure 85). By 1951, this building was associated with the Arr Jay Box Corporation. The Arr Jay Box Corporation occupied the building until 2006 at the latest; by this time the building had been converted to a self-storage facility. The building continues to function as a self-storage facility.[828]

Summary and Conclusions

The tank site appears to have been developed by the 1880s with the extension of Grand Street; 8th Street was extended across the width of the city prior to 1880. The As-Built plans indicate that a brick sewer line was installed within Adams Street between 7th and 9th streets. Data provided by the NHSA indicates that this sewer line was installed prior to 1916. The 1909 Hopkins map indicates the presence of a six-inch water line and sewer line within Adams Street; a six-inch water line was also located within 8th Street. The As-Built plans do not indicate the presence of a sewer line within 8th Street. Industrial development was located in the vicinity of the tank site through the mid and late-twentieth century. By 2006, the adjacent building had been converted to a storage facility.

Of the available soil boring data, Tank T6-ADM is in closest proximity to Boring GW-9, being located approximately 540 feet to its south (see Appendix D). However, an examination of the historic topographic location of GW-9 suggests that this boring was located within or immediately adjacent to dry uplands along the eastern portion of the city. This setting differs from the meadowland location of the tank site which more closely resembles the historic topographic setting of Boring GW-5, located approximately 1,170 feet to the west. Given the topographic similarities of Boring GW-5 to Tank T6-ADM, the profile exposed within the borings is assumed to be a close representation to the profile within the tank site. Therefore, in light of the previously discussed potential for a favorable prehistoric

[826]Spielmann and Brush 1880; Bailey and Ward 1881.
[827] G.M. Hopkins & Co. 1909; G.M. Hopkins & Co. 1923.
[828] Sanborn Library, LLC 1937-2006; NETR 1931-2013.

environment evidenced by the soil profile within the boring, Tank T6-ADM is considered sensitive for prehistoric deposits at depths greater than 15 feet below the surface.

Historic development within Tank T6-ADM consisted of the mid to late-nineteenth century extension of Grand and 8th streets and the late-nineteenth to early-twentieth century extension of a brick sewer line within Grand Street. Water lines were also installed in the vicinity of the tank site in the early to mid-twentieth century.

The cartographic record and the utility data indicate that a brick sewer line was installed within Grand Street in the vicinity of Tank T6-ADM before 1916. Such a sewer line would have been a component within Hoboken's municipal sewer system at a time within which it was trying to adapt to its growing population and industrialization alongside addressing the sewage problems within the city. As such, this sewer line is considered a potentially significant historic resource. Therefore, Tank T6-ADM is considered sensitive for historic deposits associated with the Adams Street sewer. Archaeological deposits associated with the sewer might include the sewer line, a builder's trench associated with the utility installation, and/or wood planks and other support features for the pipe. The As-Built plans indicate that the brick sewer line was located at a depth of approximately 2.5 to 6 feet below the surface. Therefore, sewer deposits within the tank site are anticipated at depths greater than 2.5 feet below the surface.

The 1909 Hopkins map indicates the presence of water lines within Adams and 8th streets in the vicinity of the tank site. Given the Adams Street location of Tank T6-ADM, the tank site is within the immediate vicinity of the early to mid-twentieth century Adams Street water line. In light of the twentieth century date of this feature, the water line is not considered a significant historic resource associated with the early municipal development of Hoboken. Therefore, Tank T6-ADM is not considered sensitive for significant historic deposits associated with municipal water resources. Given the lack of additional historic development within Tank T6-ADM the tank site is not considered sensitive for additional historic archaeological deposits.

T3-GND (Grand Street north of 8th Street) (Plate 66)

Proposed Tank T3-GND will be located on the eastern frontage of Grand Street north of its intersection with 8th Street. The proposed tank will be located in the public ROW and includes the paved road surface and the adjacent cement sidewalk. The tank would be located to the immediate west of the Hoboken High School. Utilities within the vicinity of the proposed tank site include manholes, wooden transmission poles, and road signs.

The tank will measure approximately ten feet in length and five feet in width. The tank will have an overall depth of six feet below the surface. Installation of the tank will require excavation to a depth of approximately 8.67 feet below the surface. The limit of disturbance associated with Tank T3-GND is approximately 50 square feet to an approximate depth of 8.67 feet. This limit of disturbance encompasses the approximate footprint of the tank. Current design plans do not include staging areas or any other areas of disturbance associated with the tank installation.

Historical Development

The earliest development within the vicinity of the tank site appears to have occurred by the mid to late-nineteenth century. The 1844 U.S. Coastal Survey map indicates that the tank site was located in undeveloped meadowlands

Plate 66: Location of T3-GND, Grand Street North of 8th Street. View South. (ZE 5/23/2016).

Plate 67: Location of TD30-CLA, Adjacent to Hoboken High School. View North. (DVS 3/30/2016).

to the west of the trotting course (see Figure 30). The G.M. Hopkins & Co.'s 1873 map indicates that the block to the east of the tank site was occupied by the New York Cricket Ground (see Figure 70). A structure was located to the northeast of the tank site within the block. There were no other structures located within the block or in the vicinity of the tank site.[829]

The Speilmann and Brush 1880 map indicates that Grand Street had not yet been extended this far north (see Figure 15). However, 8th Street had been extended from Hudson Street to the western boundary of the city. There were no sewer lines located in the vicinity of the tank site which was situated in undeveloped meadowlands. Bailey and Ward's 1881 map indicates that Grand Street had been extended north of 8th Street. The block to the east of the tank site contained several structures in the central portions of the block. There were no structures located in the immediate vicinity of the tank site.[830]

G.M. Hopkins & Co.'s 1909 map indicates the presence of six-inch pipelines within Grand and 8th streets (see Figure 75). The lots to the east of the tank site were occupied by several buildings, iron-clad and brick structures, associated with the Oriental Metal Bed Company. By 1923, the buildings were associated with the Federal Metal Bed Company (see Figure 78). There were no other changes within the vicinity of the tank site. The 1940 As-Built plans indicate that a concrete sewer line was installed within Grand Street between 7th and 9th streets.[831]

The 1937 Sanborn Insurance map indicates that a large building associated with the Shock-Gusmer Co., manufacturers of brewery equipment, had been built to the immediate east of the tank site (see Figure 85). Between 1954 and 1966, this building had been removed and was replaced by the Hoboken High School (Figure 86). There has been little additional development within the vicinity of the tank site.[832]

Summary and Conclusions

The tank site appears to have been developed by the 1880s with the extension of Grand Street; 8th Street was extended across the width of the city prior to 1880. The As-Built plans indicate that a concrete sewer line was installed within Grand Street between 7th and 9th streets. The 1909 Hopkins map indicates the presence of a six-inch water line along Grand and 8th streets. Industrial development was located in the vicinity of the tank site during the mid-twentieth century. Between 1954 and 1966, the Hoboken High School was established to the east of the tank site.

Of the available soil boring data, Tank T3-GND is in closest proximity to Boring GW-9, being located approximately 330 feet to its south (see Appendix D). However, an examination of the historic topographic location of GW-9 suggests that this boring was located within or immediately adjacent to dry uplands along the eastern portion of the city. This setting differs from the meadowland location of the tank site which more closely resembles the historic topographic setting of Boring GW-5, located approximately 1,450 feet to the west. Given the topographic similarities

[829]US Coastal Survey 1844; G.M. Hopkins & Co. 1873.
[830]Spielmann and Brush 1880; Bailey and Ward 1881.
[831] G.M. Hopkins & Co. 1909; G.M. Hopkins & Co. 1923; Whittemore 1940.
[832] Sanborn Library, LLC 1937-2006; NETR 1931-2013.

REBUILD BY DESIGN HUDSON RIVER ▪ RESIST ▪ DELAY ▪ STORE ▪ DISCHARGE ▪

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DSD Locations in 1979
Sanborn 1979 (Plate 41)

August 2016

FIGURE 86

of Boring GW-5 to Tank T3-GND, the profile exposed within the boring is assumed to be a close representation to the profile within the tank site. Therefore, in light of the previously discussed potential for a favorable prehistoric environment evidenced by the soil profile within the boring, Tank T3-GND is considered sensitive for prehistoric deposits at depths greater than 15 feet below the surface.

Historic development within Tank T3-GND consisted of the mid to late-nineteenth century extension of Grand and 8th streets, the twentieth century installation of a concrete sewer line within Grand Street, and the early to mid-twentieth century installation of water lines within Grand and 8th streets. Given the late date and material type of the sewer installed within Grand Street, this sewer line is not considered a significant historic resource. Thus, Tank T3-GND is not considered sensitive for historic sewer-related deposits. The As-Built plans indicate that installation of the concrete sewer line resulted in approximately nine feet of disturbance within Grand Street.

With respect to the water pipelines, given the twentieth century date of these features, the water lines are not considered significant historic resources associated with the early municipal development of Hoboken. Therefore, Tank T3-GND is not considered sensitive for significant historic deposits associated with municipal water resources. Given the lack of documented historic development within Tank T3-GND, the tank site is not considered sensitive for historic archaeological deposits.

TD30-CLA (Clinton Street north of 8th Street) (Plate 67)

Proposed Tank TD30-CLA will be located on the eastern frontage of Clinton Street to the north of its intersection with 8th Street. The proposed tank will be located in the public ROW and includes the paved road surface and the adjacent cement sidewalk. The tank would be located to the immediate east of the Hoboken High School. Utilities within the vicinity of the proposed tank site include drainage grates, manholes, and road signs.

The tank will measure approximately 18 feet in length and 5 feet in width. The tank will have an overall depth of four feet below the surface. Installation of the tank will require excavation to a depth of approximately 6.67 feet below the surface. The limit of disturbance associated with Tank TD30-CLA is approximately 90 square feet to an approximate depth of 6.67 feet. This limit of disturbance encompasses the approximate footprint of the tank. Current design plans do not include staging areas or any other areas of disturbance associated with the tank installation.

Historical Development

The earliest development within the vicinity of the tank site appears to have occurred by the mid to late-nineteenth century. The 1844 U.S. Coastal Survey map indicates that the tank site was located in undeveloped meadowlands to the west of the trotting course (see Figure 30). The G.M. Hopkins & Co.'s 1873 map indicates that the block to the west of the tank site was occupied by the New York Cricket Ground (see Figure 70). A structure was located to the northwest of the tank site within the block. There were no other structures located within the block or in the vicinity of the tank site.[833]

[833]US Coastal Survey 1844; G.M. Hopkins & Co. 1873.

The Speilmann and Brush 1880 map indicates that Clinton Street had not yet been extended this far north (see Figure 15). However, 8th Street had been extended from Hudson Street to the western boundary of the city. There were no sewer lines located in the vicinity of the tank site which was situated in undeveloped meadowlands. Bailey and Ward's 1881 map indicates that Clinton Street had been extended north of 8th Street (Figure 87). Several structures were located in the vicinity of the tank site including a building near the northwest corner of Clinton and 8th streets and a linear structure at the intersection of 9th and Clinton streets. Ninth Street had not yet been established within this portion of the city.[834]

G.M. Hopkins & Co.'s 1909 map indicates the presence of a sewer line and six-inch pipeline along Clinton Street; a six-inch pipeline was also located along 8th Street (see Figure 75). A trolley line extended along Clinton Street. The lots to the west of the tank site were occupied by several buildings, iron-clad and brick structures, associated with the Oriental Metal Bed Company. By 1923, the buildings were associated with the Federal Metal Bed Company (see Figure 78). There were no other changes within the vicinity of the tank site. The 1940 As-Built plans indicate that a concrete sewer line was located within Clinton Street from 7th through 9th streets.[835]

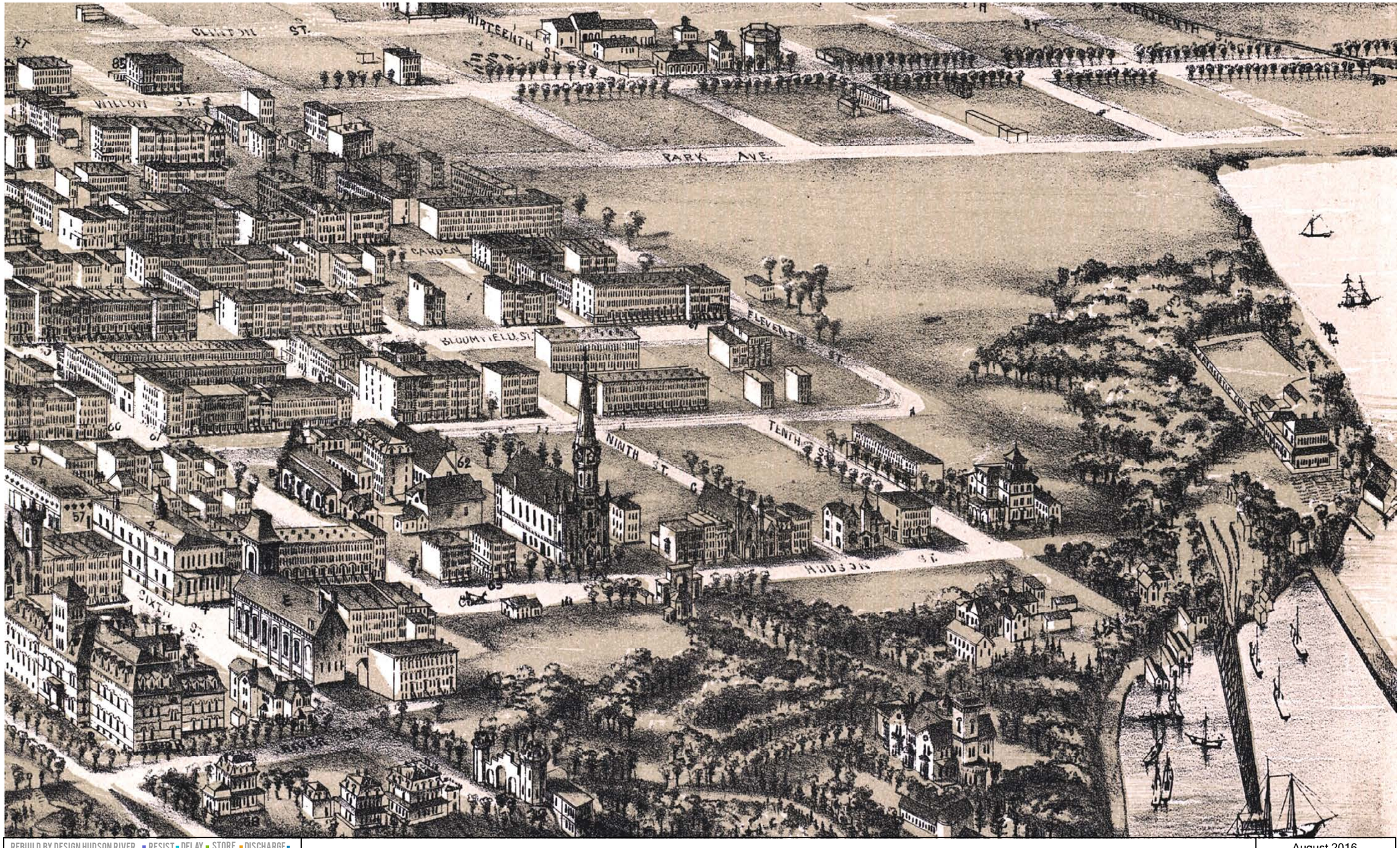
The 1937 Sanborn Insurance map indicates that a large building associated with the Shock-Gusmer Co., manufacturers of brewery equipment, had been built to the immediate west of the tank site (see Figure 85). Between 1954 and 1966, this building had been removed and was replaced by the Hoboken High School (see Figure 86). There has been little additional development within the vicinity of the tank site.[836]

Summary and Conclusions

The tank site appears to have been developed by the 1880s with the extension of Clinton Street and the presence of structures to the near south and north of the tank site. Eighth Street was extended across the width of the city prior to 1880. The As-Built plans indicate that a concrete sewer line was located within Clinton Street between 7th and 9th streets. The 1909 Hopkins map indicates the presence of six-inch water lines along Clinton and 8th streets. The 1909 map also reflects the presence of a sewer line and trolley line along Clinton Street in the vicinity of the tank site. Industrial development was located in the vicinity of the tank site during the mid-twentieth century. Between 1954 and 1966, the Hoboken High School was established to the east of the tank site.

Of the available soil boring data, Tank TD30-CLA is in closest proximity to Boring GW-9, being located approximately 320 feet to its southeast (see Appendix D). However, an examination of the historic topographic location of GW-9 suggests that this boring was located within or immediately adjacent to dry uplands along the eastern portion of the city. This setting differs from the meadowland location of the tank site which more closely resembles the historic topographic setting of Boring GW-5 and Boring GW-6, located approximately 1,700 feet to the west and 1600 feet to the northwest of the tank site, respectively. Boring GW-6 contained a soil profile similar to that exposed within Boring GW-5. Specifically, Boring GW-6 contained an overlying fill deposit of gray sand with gravel which extended below the asphalt subbase to a depth of approximately 16 feet below the surface. The fill

[834]Spielmann and Brush 1880; Bailey and Ward 1881.
[835] G.M. Hopkins & Co. 1909; G.M. Hopkins & Co. 1923; Whittemore 1940.
[836] Sanborn Library, LLC 1937-2006; NETR 1931-2013.



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Northern Portion of Hoboken - Bailey and Ward ,1881

August 2016

FIGURE 87

deposit was underlain by a black organic silt. The boring was terminated at a depth of 20 feet below the surface within the organic matrix. Given the topographic similarities of Borings GW-5 and GW-6 to Tank TD30-CLA, the profile exposed within the borings is assumed to be a close representation to the profile within the tank site. Therefore, in light of the previously discussed potential for a favorable prehistoric environment evidenced by the soil profiles within the borings, Tank TD30-CLA is considered sensitive for prehistoric deposits at depths greater than 15 feet below the surface.

Historic development within Tank TD30-CLA consisted of the mid to late-nineteenth century extension of Clinton and 8th streets, the twentieth century installation of a concrete sewer line within Clinton Street, the early to mid-twentieth century installation of water lines within Clinton and 8th streets, and an early-twentieth century trolley line on Clinton Street. Current utility information indicates that a concrete sewer line was installed within Clinton Street in the vicinity of the tank site prior to 1940. Given the late date and type of sewer line, the Clinton street sewer is not considered a significant historic resource. Therefore, Tank TD30-CLA is not considered sensitive for historic sewer-related deposits.

The 1909 Hopkins map indicates the presence of water lines within Clinton and 8th streets in the vicinity of the tank site. Given the Clinton Street location of Tank TD30-CLA, the tank site is within the immediate vicinity of the early to mid-twentieth century Clinton Street water line. In light of the twentieth century date of this feature, the water line is not considered a significant historic resource associated with the early municipal development of Hoboken. Therefore, Tank TD30-CLA is not considered sensitive for significant historic deposits associated with municipal water resources.

An early-twentieth century trolley line also operated along Clinton Street in the immediate vicinity of Tank TD30-CLA. By 1937, the trolley tracks were no longer extant. This trolley line was not an elevated track, therefore, archaeological deposits associated with the trolley line would most likely consist of the rail tracks. Such tracks would be anticipated near the surface. Given that the route of the early-twentieth century trolley lines are known through cartographic and documentary records, any track remnants would provide little additional information regarding the history or nature of this resource. As such, any deposits associated with the trolley line would not constitute a significant resource eligible for listing in the National Register. Therefore, Tank TD30-CLA is not considered sensitive for significant historic resources associated with the early-twentieth century Clinton Street trolley line. Furthermore, Tank TD30-CLA is not considered sensitive for any historic archaeological deposits.

T5-9ST (Grand Street and 9th Street) (Plate 68)

Proposed Tank T5-9ST will be located on 9th Street to the immediate west of its intersection with Grand Street. The proposed tank will be located in the public ROW and includes the paved road surface and the adjacent brick cobblestone sidewalk and ornamental tree plantings. The tank would be located to the immediate north of The Huntington, a condominium development. Utilities within the vicinity of the proposed tank site include a manhole, drainage grates, and road signs.

Plate 68: Location of T5-9ST, Grand Street and 9th Street. View East. (ZE 5/23/2016).

Plate 69: Location of T11-MAD and T10-MAD, Madison Street North of 9th. View South. (ZE 5/23/2016).

The tank will measure approximately 16 feet in length and 5 feet in width. The tank will have an overall depth of six feet below the surface. Installation of the tank will require excavation to a depth of approximately 8.67 feet below the surface. The limit of disturbance associated with Tank T5-9ST is approximately 80 square feet to an approximate depth of 8.67 feet. This limit of disturbance encompasses the approximate footprint of the tank. Current design plans do not include staging areas or any other areas of disturbance associated with the tank installation.

Historical Development

The earliest development within the vicinity of the tank site appears to have occurred by the mid to late-nineteenth century. The 1844 U.S. Coastal Survey map indicates that the tank site was located in undeveloped meadowlands to the west of the trotting course and southwest of cleared parcels (see Figure 30). The G.M. Hopkins & Co.'s 1873 map indicates that the tank site was located to the north of a partially allotted block (see Figure 70). Lots had not been defined to the immediate south of the tank site. This undefined portion of the block was associated with the Hoboken Land and Improvement Company. There were no other structures located within the block or in the vicinity of the tank site.[837]

The Speilmann and Brush 1880 map indicates that Grand and 9th streets had not yet been extended this far north or west (see Figure 15). There were no sewer lines located in the vicinity of the tank site which was situated in undeveloped meadowlands immediately adjacent to an area of dry and cleared terrain. Bailey and Ward's 1881 map indicates that Grand Street had been extended north of 8th Street; 9th Street had not yet been defined west of Garden Street (see Figure 87). The block to the south of the tank site consisted of undeveloped meadowlands.[838]

G.M. Hopkins & Co.'s 1909 map indicates the presence of a six-inch pipeline along Grand Street south of its intersection with 9th Street (see Figure 75). There were no pipelines within the vicinity of the tank site. The lots to the south of the tank site were still not defined; the area to the south of the tank site remained undeveloped. A water tower associated with the Hoboken Paper Mill was located to the southwest of the tank site. By 1923, an eight-inch pipeline was located within 9th Street (see Figure 78). The area to the south of the tank site remained undeveloped. The 1940 As-Builts indicate that there was a concrete sewer line within Grand Street between 7th and 9th streets. There is no indication of a sewer line within 9th Street in the vicinity of the tank site by 1940.[839]

By 1937, a six-inch water pipeline had been installed within Grand Street. There was still no development within the lots to the south of the tank site. Between 1954 and 1966, the area to the south of the tank site had been converted into a parking lot associated with a factory building to its south. The factory building was associated with the Interstate Shade Cloth Company. By 1988, the factory building was occupied by Triboro Hardware (Figure 88). Between 2002 and 2006, the factory building was removed and the current apartment complex was installed to the south of the tank site.[840]

[837]US Coastal Survey 1844; G.M. Hopkins & Co. 1873.
[838]Spielmann and Brush 1880; Bailey and Ward 1881.
[839] G.M. Hopkins & Co. 1909; G.M. Hopkins & Co. 1923; Whittemore 1940.
[840] Sanborn Library, LLC 1937-2006; NETR 1931-2013.

REBUILD BY DESIGN HUDSON RIVER ▪ RESIST ▪ DELAY ▪ STORE ▪ DISCHARGE ▪

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DSD Locations in 1988
Sanborn 1988 (Plate 41)

August 2016

FIGURE 88

Summary and Conclusions

The tank site appears to have been developed by the late-nineteenth to early-twentieth century with the extension of Grand and 9th streets. The As-Built plans indicate that a concrete sewer line was located within Grand Street between 7th and 9th streets. There is no indication of a sewer line within 9th Street or within the immediate vicinity of Tank T5-9ST. By 1939, water pipelines had been installed within both Grand and 9th streets. The area to the south of the tank site was converted to a parking area in the mid-twentieth century. Within the last 15 years, the current apartment complex was established to the south of the tank site.

Of the available soil boring data, Tank T5-9ST is in closest proximity to Boring GW-9, being located approximately 100 feet to its southwest (see Appendix D). As previously observed, the historic topographic location of GW-9 suggests that this boring was located within or immediately adjacent to dry uplands along the eastern portion of the city. Tank T5-9ST appears to have been in a similar position to Boring GW-9, most likely within meadowlands adjacent to drier land. Given the historic topographic similarities between Boring GW-9 and the tank site, it is assumed to be a close representation to the profile within the tank site. The profile within Boring GW-9 consisted of a shallow topsoil deposit underlain by sequential layers of dark brown, gray, and light brown sand. At a depth of 15 feet below the surface, a brown silt matrix was encountered. This stratum was approximately two feet in width and was underlain by a brown sand matrix. The boring was terminated within the brown sand at a depth of 20 feet below the surface. The profile within Boring GW-9 is unlike the many of the soil profiles exposed within the city in that it lacks a clearly organic matrix. The lack of an organic deposit may indicate that past development has removed or compromised any pre-existing organic matrices. Notably, similar sand deposits were recorded at the base of several soil borings within the city, beneath the organic deposits at depths over 35 feet below the surface. Given the lack of a clear organic layer within Boring GW-9 and its proximity to Tank T5-9ST, it is assumed that the tank site also lacks such a deposit and therefore does not have the potential for a buried prehistoric occupation surface. As such, Tank T5-9ST is not considered sensitive for prehistoric archaeological deposits.

Historic development within Tank T5-9ST consisted of the late-nineteenth to early-twentieth century extension of Grand and 9th streets, the twentieth century installation of a concrete sewer line along Grand Street, and the early to mid-twentieth century installation of water lines within Grand and 9th streets. Given the date and type of sewer line installed with Grand Street, this sewer line is not considered a potentially significant historic resource. There is no indication of an historic sewer line within 9th Street. Therefore, Tank T5-9ST is not considered sensitive for significant historic sewer-related deposits. With respect to the water pipelines, given the twentieth century date of these features, the water lines are also not considered significant historic resources associated with the early municipal development of Hoboken. Therefore, Tank T5-9ST is not considered sensitive for significant historic deposits associated with municipal water resources. Furthermore, given the lack of documented historic development within Tank T5-9ST, the tank site is not considered sensitive for historic archaeological deposits.

T11-MAD, T10-MAD (Madison Street north of 9th Street) (Plate 69)

Proposed Tank T11-MAD will be located on the western frontage of Madison Street to the north of 9th Street. Proposed Tank T10-MAD will be located approximately 220 feet to the north of Tank T11-MAD on the western

frontage of Madison Street to the immediate south of its intersection with 10th Street. The proposed tanks will be located in the public ROW and include the paved road surface, the adjacent cement and brick cobblestone sidewalk, and ornamental tree plantings. The tanks would be located to the immediate east of a brick-faced grocery store. Utilities within the vicinity of the proposed tank sites include streetlights, manholes, and road signs.

Tank T11-MAD will measure approximately ten feet in length and five feet in width. The tank will have an overall depth of 6.5 feet below the surface. Installation of the tank will require excavation to a depth of approximately 9.17 feet below the surface. The limit of disturbance associated with Tank T11-MAD is approximately 50 square feet to an approximate depth of 9.17 feet. Tank T10-MAD will measure approximately ten feet in length and five feet in width. The tank will have an overall depth of 4.5 feet below the surface. Installation of the tank will require excavation to a depth of approximately 7.17 feet below the surface. The limit of disturbance associated with Tank T10-MAD is approximately 50 square feet to an approximate depth of 7.17 feet. The limits of disturbance encompass the approximate footprint of the tanks. Current design plans do not include staging areas or any other areas of disturbance associated with the installation of the tanks.

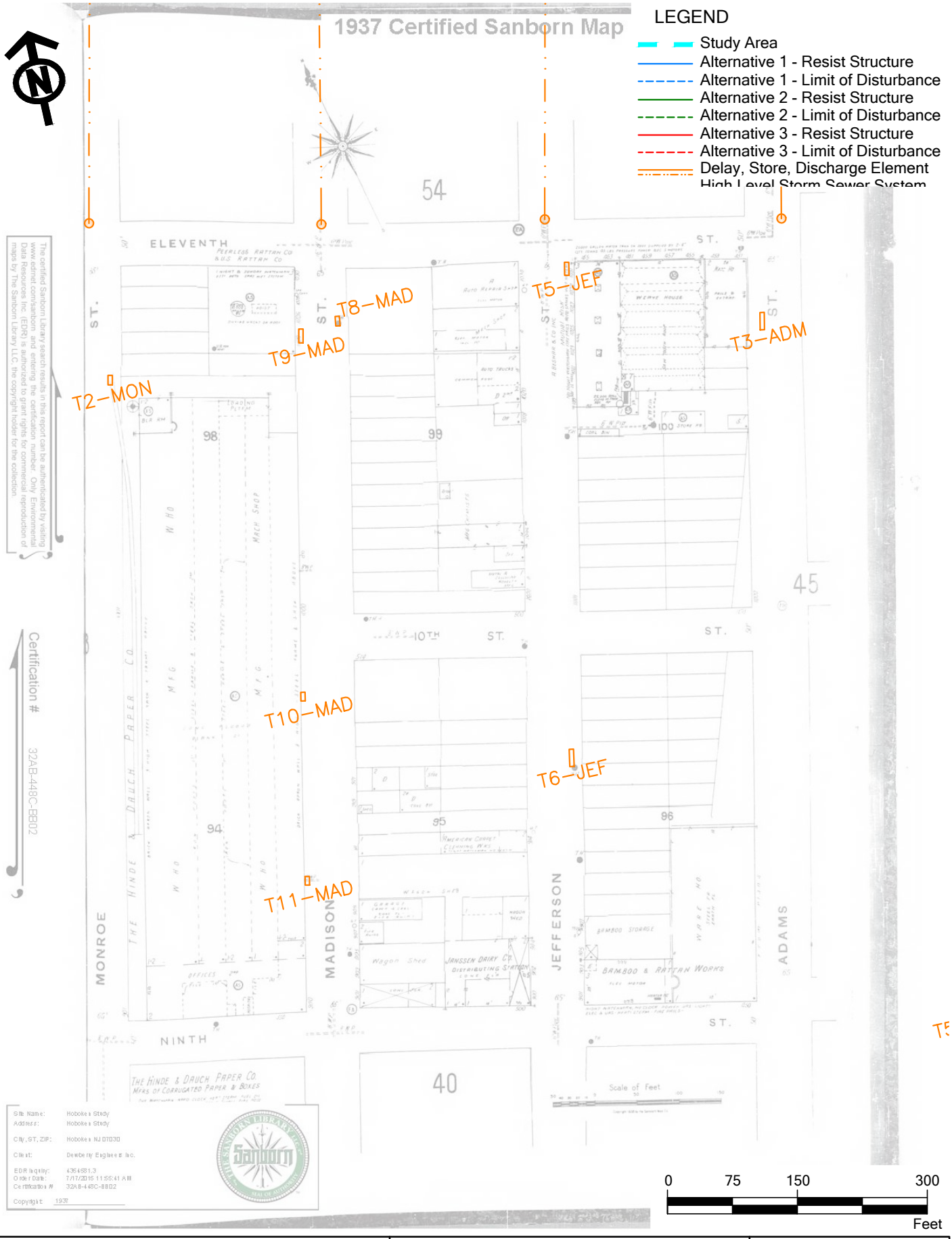
Historical Development

The 1844 U.S. Coastal Survey map indicates that the tank sites were located in undeveloped meadowlands to the east of the Palisades and west of cleared parcels (see Figure 30). The G.M. Hopkins & Co.'s 1873 map indicates that Madison, 9th and 10th streets had been proposed and the blocks surrounding these streets had been proposed and allotted (see Figure 70). The lots in the vicinity of Tank T11-MAD appear to have been associated with Lockwood Crocket & Company. The lots in the vicinity of Tank T10-MAD were associated with Syms. There was no development within these lots. The Speilmann and Brush 1880 map indicates that Madison, 9th, and 10th streets had not been extended this far north or west (see Figure 15). There were no sewer lines located in the vicinity of the tank sites; the tank sites were located in undeveloped meadowlands to the east of the Hoboken Creek.[841]

G.M. Hopkins & Co.'s 1909 map indicates that there were no sewer or water lines within the vicinity of the tank sites (see Figure 71). The block to the west of the tank sites appears to have been allotted. These lots were not associated with any owners, nor was there any development within the lots. By 1923. the lots to the west of the tank sites were associated with the Hoboken Manufacturers Railroad; they were still undeveloped (see Figure 74). A 16-inch pipeline had been installed within Madison Street in the vicinity of the tank sites; a six-inch pipeline was also located within a portion of 9th Street. The 1940 As-Built plans indicate the presence of a vitrified clay pipe within Madison Street between 9th and 10th streets.[842]

The 1937 Sanborn Insurance map indicates that a large warehouse building had been established to the west of the tank sites (Figure 89). The Hinde & Dauch Paper Company occupied the warehouse building which extended from 9th Street to a point south of 11th Street on the western frontage of Madison Street. An eight-inch water line had been installed within 9th Street. The Hinde & Dauch Paper Company appears to have vacated the factory building

[841]US Coastal Survey 1844; G.M. Hopkins & Co. 1873; Spielmann and Brush 1880.
[842] G.M. Hopkins & Co. 1909; G.M. Hopkins & Co. 1923; Whittemore 1940.



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DSD Locations in 1937
Sanborn 1937 (Plate 44)

August 2016

FIGURE 89

by 1988. Between 1997 and 2002, the factory had been removed. Between 2002 and 2006, the current grocery store was established to the west of Madison Street.[843]

Summary and Conclusions

The earliest historic development within the vicinity of the tank sites appears to have been the late-nineteenth to early-twentieth century extension of Madison, 9th, and 10th streets. The As-Built plans indicate that a vitrified clay sewer line was installed within Madison Street between 9th and 10th streets. Data provided by the NHSA indicates that a 12-inch vitrified clay pipe was installed within Madison Street sometime after 1923. By 1937, water pipelines were located within 9th and Madison streets. By the mid-twentieth century a factory building had developed to the west of the tank sites. By 2006, the current grocery store had developed.

Of the available soil boring data, the proposed tank sites are located in closest proximity to Boring GW-9, being approximately 600 feet to its northwest (see Appendix D). However, an examination of the historic topographic location of GW-9 suggests that this boring was located within or immediately adjacent to dry uplands along the eastern portion of the city. This setting differs from the meadowland location of the tank sites which more closely resembles the historic topographic setting of Boring GW-6, located approximately 800 feet to the northwest of the tank sites. As previously noted, Boring GW-6 contained a soil profile similar to that exposed within Boring GW-5 with a matrix of black organic silt underlying fill deposits. Given the topographic similarities of Borings GW-6 to Tanks T11-MAD and T10-MAD, the profile exposed within the boring is assumed to be a close representation to the profile within the tank sites. Therefore, in light of the previously discussed potential for a favorable prehistoric environment evidenced by the boring's profile, Tank T11-MAD and T10-MAD are considered sensitive for prehistoric deposits at depths greater than 15 feet below the surface.

In 2004, RGA conducted a Stage 1A cultural resources survey of a proposed sewer line replacement along Madison Avenue between 9th and 11th streets, in the immediate vicinity of the tank sites. RGA concluded that the Madison Avenue segment had little sensitivity for prehistoric or historic archaeological resources. RGA's analysis of prehistoric sensitivity was based off of known soil boring data at the time and, thus, did not include the data presented above. With respect to historic archaeological sensitivity, RGA's analysis included a cartographic review and an analysis of the sewer system in relation to the larger sewer system within Hoboken.[844]

Historic development within the tank sites consisted of the extension of Madison, 9th, and 10th streets in the late-nineteenth through early-twentieth centuries, the mid-twentieth century location of a vitrified clay pipe within Monroe Street, and the early to mid-twentieth century water line installation within Monroe and 9th streets. Given the late date of the sewer line installation and the type of sewer line which was installed, the Madison Street sewer is not considered a significant historic resource associated with the early development and expansion of the Hoboken sewer system. Therefore, Tank T11-MAD and Tank T10-MAD are not considered sensitive for historic sewer-related deposits.

[843] Sanborn Library, LLC 1937-2006; NETR 1931-2013.
[844] RGA 2004 (NHSA combined Sewer overflow).

By 1937, water lines were installed within Madison and 9th streets. Given the twentieth century date of these water lines and the lack of documented historic issues or concerns with the municipal water system within Hoboken, the water pipelines are not considered significant historic resources. Therefore, Tank T11-MAD and Tank T10-MAD are not considered sensitive for significant historic deposits associated with municipal water resources. Furthermore, given the lack of any additional historic development within the vicinity of the tank sites, Tank T11-MAD and Tank T10-MAD are not considered sensitive for any historic archaeological resources.

T6-JEF (Jefferson Street at JFK Stadium) (Plate 70)

Proposed Tank T6-JEF will be located on the eastern frontage of Jefferson Street to the south of 10th Street. The proposed tank will be located in the public ROW and includes the paved road surface and the adjacent cement sidewalk and ornamental tree plantings. The tank would be located to the immediate west of the John F. Kennedy Stadium. Utilities within the vicinity of the proposed tank site include wooden transmission poles, manholes, and road signs.

The tank will measure approximately 20 feet in length and 5 feet in width. The tank will have an overall depth of 5.5 feet below the surface. Installation of the tank will require excavation to a depth of approximately 8.17 feet below the surface. The limit of disturbance associated with Tank T6-JEF is approximately 100 square feet to an approximate depth of 8.17 feet. This limit of disturbance encompasses the approximate footprint of the tank. Current design plans do not include staging areas or any other areas of disturbance associated with the tank installation.

Historical Development

The earliest development within the vicinity of the tank site appears to have occurred by the mid to late-nineteenth century. The 1844 U.S. Coastal Survey map indicates that the tank site was located in undeveloped meadowlands to the west of the trotting course and west of cleared potentially dry land (see Figure 30). The G.M. Hopkins & Co.'s 1873 map indicates that Jefferson and 10th streets had been proposed and that the block to the east of the tank site had been proposed and allotted (see Figure 70). The lots in the immediate vicinity of the tank site were associated with W.R. Barr. There were no structures located within these lots or in the vicinity of the tank site.[845]

The Speilmann and Brush 1880 map indicates that Jefferson Street and 10th Street had not been extended this far north or west (see Figure 15). There were no sewer lines located in the vicinity of the tank site which was situated in undeveloped meadowlands to the west of dry potentially cleared land. Bailey and Ward's 1881 map indicates that Jefferson Street was in the process of being extended to the north and that 10th Street had been extended to its intersection with Jefferson Street (see Figure 87). The block to the west of the tank site consisted of undeveloped meadowlands[846]

G.M. Hopkins & Co.'s 1909 map indicates the presence of a six-inch pipeline along Jefferson Street (see Figure 71). There was no pipeline within 10th Street. The lots to the immediate east of the tank site were associated with the Hoboken Park which consisted of approximately 7.384 acres. By 1923, a pipeline had also been installed within

[845]US Coastal Survey 1844; G.M. Hopkins & Co. 1873.
[846]Spielmann and Brush 1880; Bailey and Ward 1881.

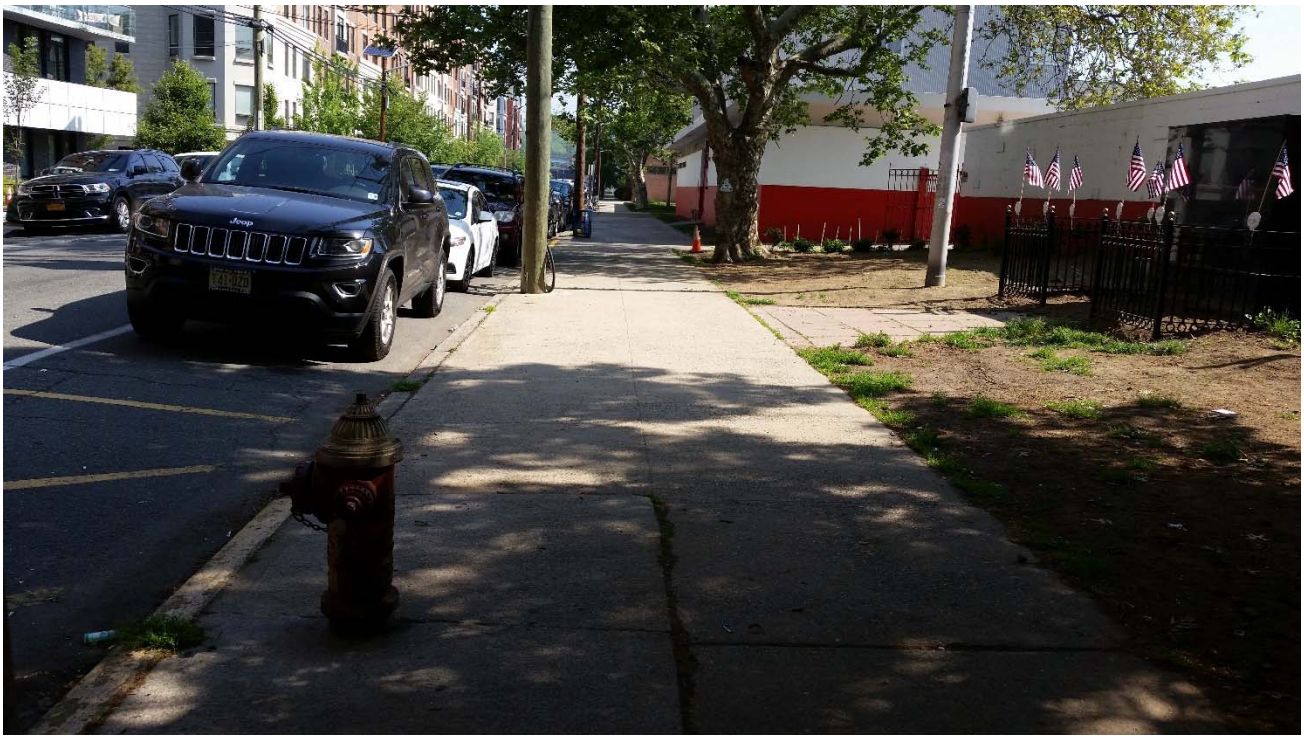


Plate 70: Location of T6-JEF, Jefferson Street North of 9th Street. View North. (ZE 5/23/2016).

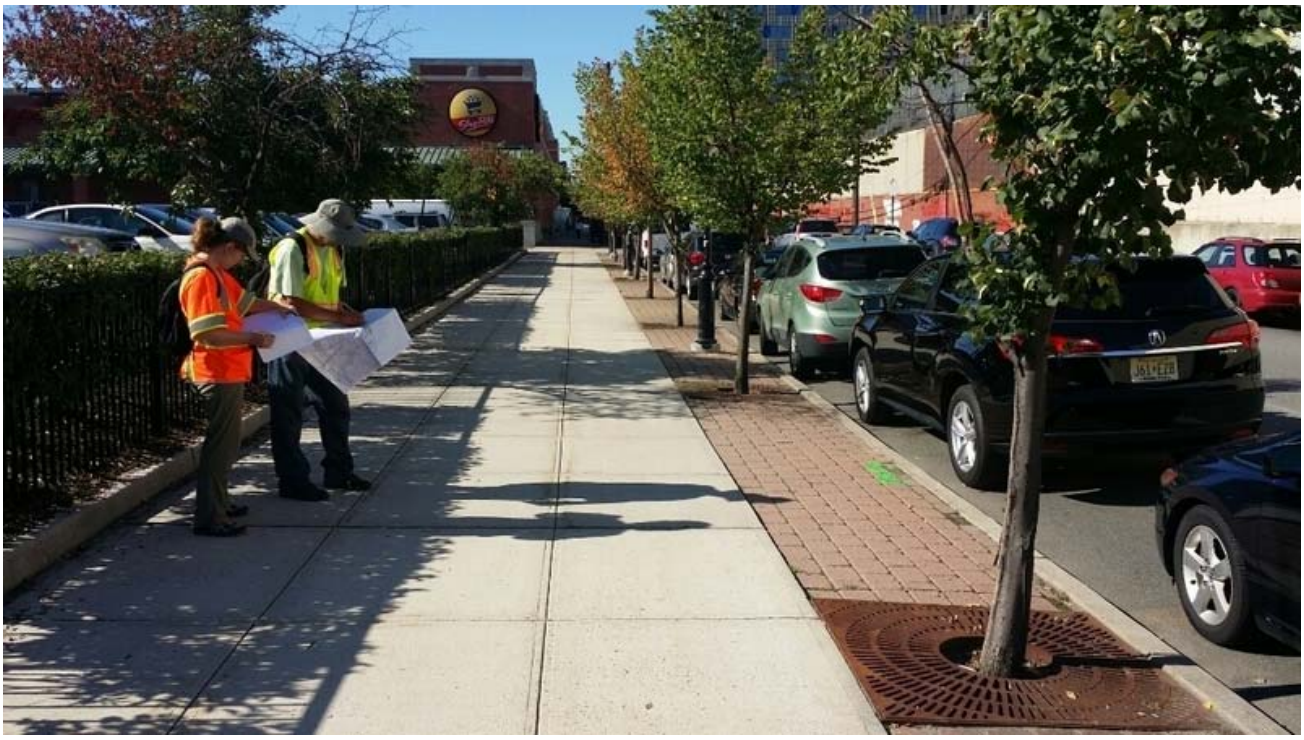


Plate 71: Location of T2-MON, Monroe Street South of 11th Street. View South. (ZE 5/23/2016).

10th Street (see Figure 74). Features had developed within the Hoboken Park including pathways and a building. The tank site was located in the vicinity of a pathway within the park which had an outlet on Jefferson Street. The 1940 As-Built plans indicate that a vitrified clay pipe was installed within Jefferson Street between 9th and 10th streets.[847]

The 1937 Sanborn Insurance map indicates that two fire hydrants had been installed on the eastern frontage of Jefferson Street (see Figure 89). Tank T6-JEF would be located to the immediate north of the northern fire hydrant. The 1954 aerial imagery indicates that the tank site was located to the west of a baseball field. Between 1954 and 1966, the Hoboken Park had been converted into the JFK Stadium and Veteran's Field. The tank site was located to the southwest of a clubhouse building (Figure 90). Between 1987 and 1994, the JFK Stadium developed into its current form.[848]

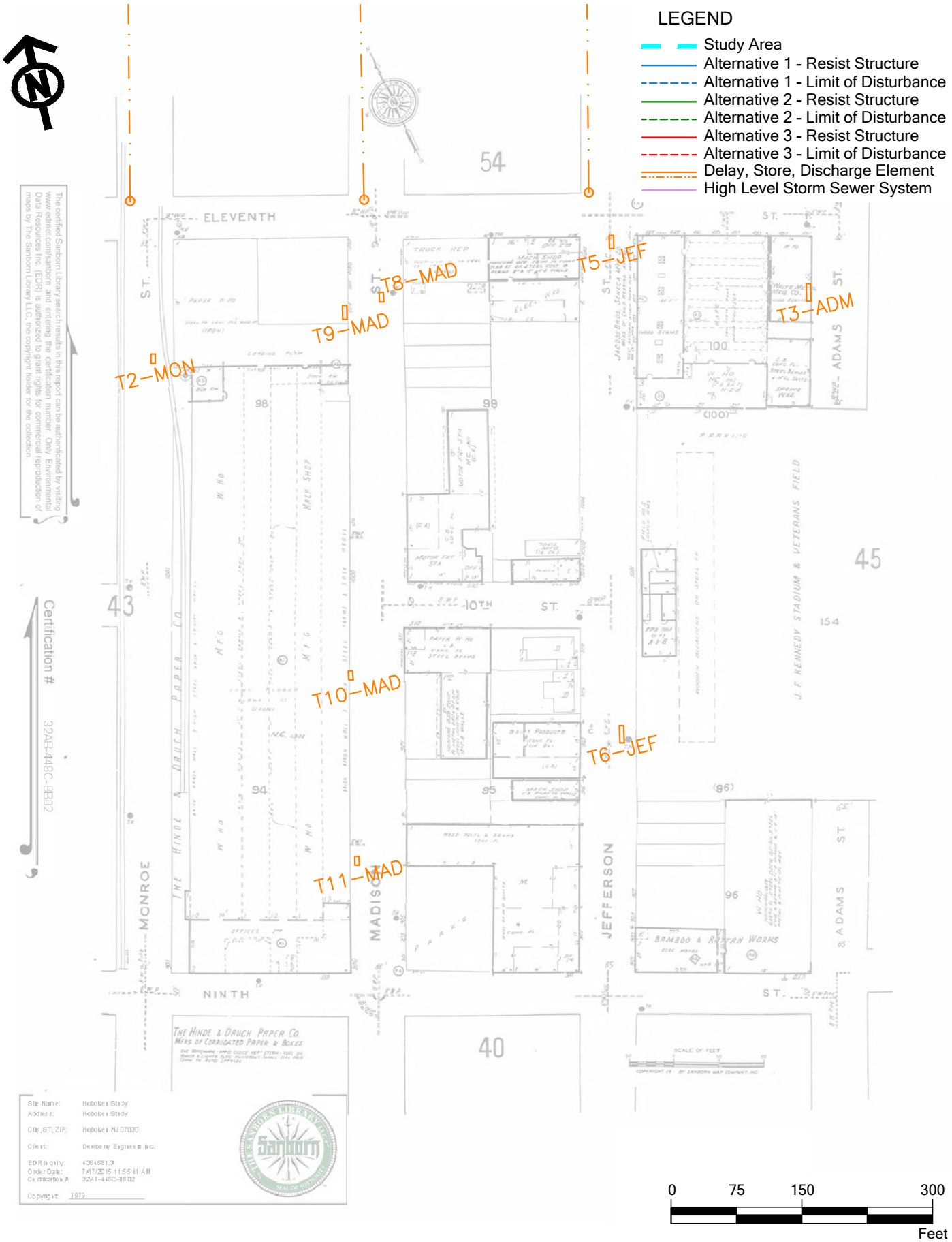
Summary and Conclusions

The tank site appears to have been developed by the late-nineteenth to early-twentieth century with the extension of Jefferson and 10th streets. The As-Built plans indicate that a vitrified clay sewer line was installed within Jefferson Street between 9th and 10th streets; data provided by the NHSA indicates that this sewer line was installed sometime after 1923. The 1909 Hopkins map indicates the presence of a six-inch water line within Jefferson Street; a water line was installed within 10th Street by 1923. The area to the east of the tank site had been parkland for the majority of the twentieth century. Between 1954 and 1966, it was converted into the JFK Stadium.

Of the available soil boring data, the proposed tank site is located in closest proximity to Boring GW-9, being approximately 520 feet to its northwest (see Appendix D). However, an examination of the historic topographic location of GW-9 suggests that this boring was located within or immediately adjacent to dry uplands along the eastern portion of the city. This setting differs from the meadowland location of the tank site which more closely resembles the historic topographic setting of Boring GW-6, located approximately 800 feet to the northwest of the tank site. As previously noted, Boring GW-6 contained a soil profile similar to that exposed within Boring GW-5 with a matrix of black organic silt underlying fill deposits. Given the topographic similarities of Borings GW-6 to Tank T6-JEF, the profile exposed within the boring is assumed to be a close representation to the profile within the tank site. Therefore, in light of the previously discussed potential for a favorable prehistoric environment evidenced by the boring's soil profile, Tank T6-JEF is considered sensitive for prehistoric deposits at depths greater than 15 feet below the surface.

Historic development within Tank T6-JEF consisted of the late-nineteenth century extension of Jefferson and 10th streets, the mid-twentieth century installation of a vitrified clay sewer pipe within Jefferson Street, and the early to mid-twentieth century water line installation within Jefferson and 10th streets. Given the late date and type of sewer line which was installed within Jefferson Street, this sewer line is not considered a significant historic resource. Therefore, Tank T6-JEF is not considered sensitive for historic sewer-related deposits.

[847] G.M. Hopkins & Co. 1909; G.M. Hopkins & Co. 1923; Whittemore 1940.
[848] Sanborn Library, LLC 1937-2006; NETR 1931-2013.



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DSD Locations in 1979
Sanborn 1979 (Plate 44)

August 2016

FIGURE 90

By 1937, water lines were installed within Jefferson and 10th streets. Given the twentieth century date of these water lines and the lack of documented historic issues or concerns with the municipal water system within Hoboken, the water pipelines are not considered significant historic resources. Therefore, Tank T6-JEF is not considered sensitive for significant historic deposits associated with municipal water resources. Furthermore, given the lack of any additional historic development within the vicinity of the tank site, Tank T6-JEF is not considered sensitive for any historic archaeological resources.

T2-MON (Monroe Street south of 11th Street) (Plate 71)

Proposed Tank T2-MON will be located on the eastern frontage of Monroe Street to the south of its intersection with 11th Street. The proposed tank will be located in the public ROW and includes the paved road surface and the adjacent cement sidewalk and ornamental tree plantings. The tank would be located to the immediate south of a storage building. Utilities within the vicinity of the proposed tank site include streetlamps and manholes.

The tank will measure approximately 11 feet in length and 5 feet in width. The tank will have an overall depth of 4.5 feet below the surface. Installation of the tank will require excavation to a depth of approximately 7.17 feet below the surface. The limit of disturbance associated with Tank T2-MON is approximately 55 square feet to an approximate depth of 7.17 feet. This limit of disturbance encompasses the approximate footprint of the tank. Current design plans do not include staging areas or any other areas of disturbance associated with the tank installation.

Historical Development

The earliest development within the vicinity of the tank sites appears to have occurred by the late-nineteenth century. The 1844 U.S. Coastal Survey map indicates that the tank site was located in undeveloped meadowlands to the east of the Palisades (see Figure 30). The G.M. Hopkins & Co.'s 1873 map indicates that Monroe and 11th streets had been proposed and that the block to the east of the tank site had been proposed and allotted (see Figure 70). The lots in the immediate vicinity of the tank site were associated with Julia C. Ruebell. There were no structures located within these lots or in the vicinity of the tank site.[849]

The Speilmann and Brush 1880 map indicates that Monroe and 11th streets had not been extended this far north or west (see Figure 15). There were no sewer lines located in the vicinity of the tank site which was situated in undeveloped meadowlands to the east of the Hoboken Creek and the DLWRR and Junction RR tracks. Bailey and Ward's 1881 map indicates that Monroe and 11th streets had yet to be extended. The tank site continued to be located in undeveloped meadowlands.[850]

G.M. Hopkins & Co.'s 1909 map indicates that there were no pipelines within Monroe Street or 11th Street in the vicinity of the tank site (Figure 91). The lots to the east and west of the tank site were undeveloped and unassociated. By 1923, the lots were associated with the Hoboken Manufacturing Railroad Company. There was still no pipeline within Monroe Street; a six-inch pipeline was located within 11th Street to the east of its intersection with Monroe

[849]US Coastal Survey 1844; G.M. Hopkins & Co. 1873.
[850]Spielmann and Brush 1880; Bailey and Ward 1881.

LEGEND

- Study Area
- Alternative 1 - Resist Structure
- Alternative 1 - Limit of Disturbance
- Alternative 2 - Resist Structure
- Alternative 2 - Limit of Disturbance
- Alternative 3 - Resist Structure
- Alternative 3 - Limit of Disturbance
- Delay, Store, Discharge Element
- High Level Storm Sewer System

T2–MON
T11–MAD
T10–MAD
T9–MAD
T8–MAD
T6–JEF
T5–JEF
T3–ADM
TD31–CLA
TP12–1ST
TD25–WIL
PS

0 150 300 600
Feet

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DSD Locations in 1909 - Hopkins 1909 (Plate 8)

August 2016

FIGURE 91

Street. The 1940 As-Built plans indicate that a concrete sewer line was installed within Monroe Street in the vicinity of the tank site.[851]

The 1937 Sanborn Insurance map indicates that the tank site was located to the northwest of the Hinde & Dauch Paper Company (see Figure 89 and Figure 92). The tank site appears to have been located in the vicinity of a rail spur line which serviced the paper company. The tank site may have been located to the west of a chimney and boiler room associated with the paper company. By 1951, a paper warehouse was located at the southeast corner of Monroe and 11th streets. An eight-inch water line had been installed within Monroe Street; a six-inch pipeline had been installed within 11th Street. By 1988, the Hinde & Dauch Paper Company appears to have vacated the buildings along Monroe Street; the rail spur lines may have been removed by this time. By 2002, the buildings along Monroe Street had been removed; between 2002 and 2006, the area to the east of the tank site had been developed into a parking area.[852]

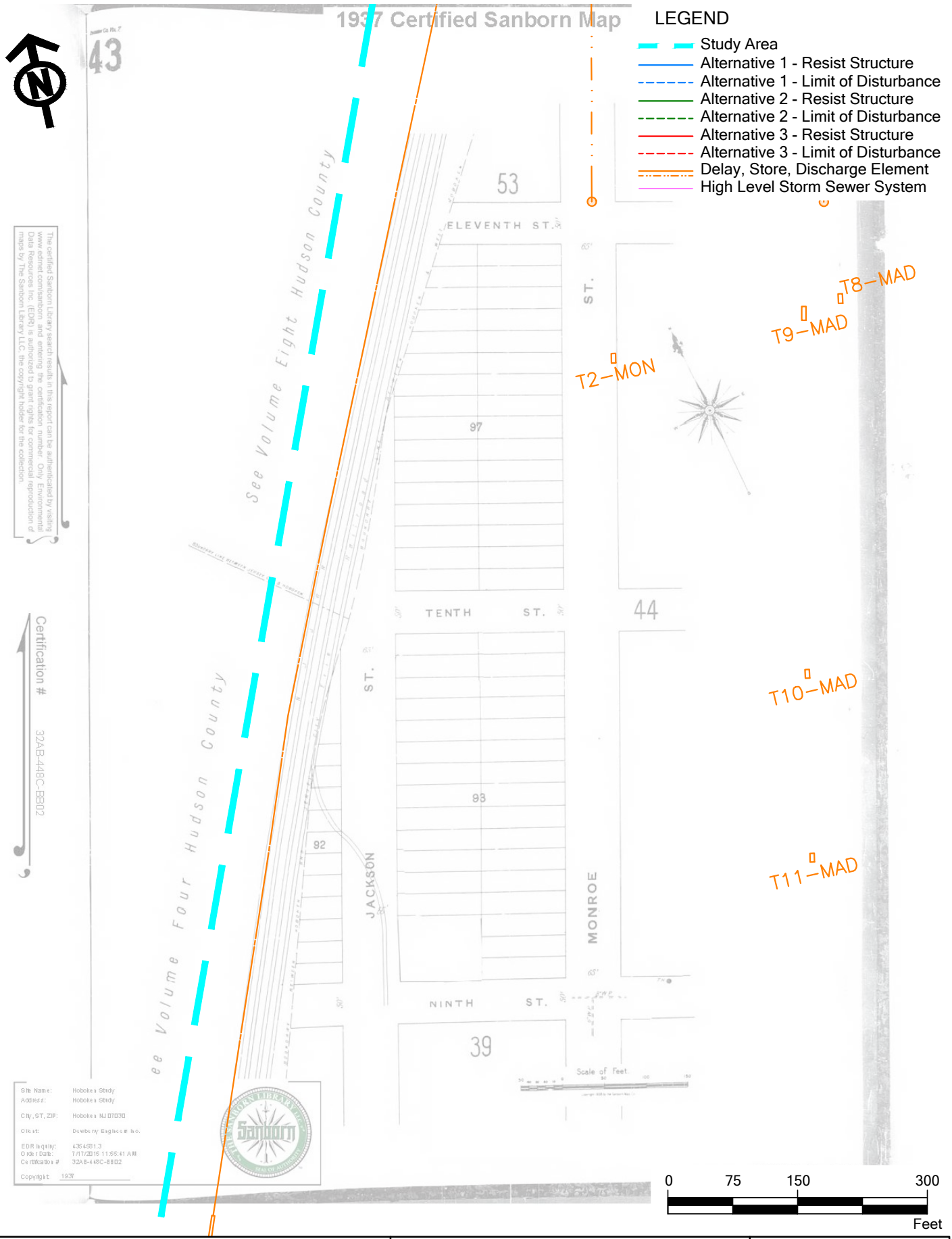
Summary and Conclusions

The tank site appears to have been developed by the late-nineteenth to early-twentieth century with the extension of Monroe and 11th streets. The As-Built plans indicate that a concrete sewer line was installed within Monroe Street in the vicinity of the tank site. By 1937, there were pipelines within both Monroe and 11th streets. Industrial development was located to the east of the tank site from the mid-twentieth to late-twentieth century. The current parking lot was installed between 2002 and 2006.

Of the available soil boring data, the proposed tank site is located in closest proximity to Boring GW-6, being approximately 170 feet to its southwest (see Appendix D). An examination of the historic topographic location of GW-6 suggests that this boring was located in a similar undeveloped meadowlands setting to the tank site. As previously noted, Boring GW-6 contained a soil profile with a matrix of black organic silt underlying fill deposits. Given the topographic similarities of Borings GW-6 to Tank T2-MON, the profile exposed within the boring is assumed to be a close representation to the profile within the tank site. Therefore, in light of the previously discussed potential for a favorable prehistoric environment evidenced by the boring's soil profile, Tank T2-MON is considered sensitive for prehistoric deposits at depths greater than 15 feet below the surface.

Historic development within Tank T2-MON consisted of the late-nineteenth to early-twentieth century extension of Monroe and 11th streets and the mid-twentieth century water line installation within Monroe and 11th streets. Rail spur lines were also located in the vicinity of the tank site in the mid-twentieth century. The As-Built plans indicate that a concrete sewer line was installed within Monroe Street in the vicinity of the tank site; data available from the NHSA indicates that this sewer line was installed sometime after 1923. Given the late date of this installation and the type of sewer line which was installed, the Monroe Street sewer is not considered a significant historic resource associated with the early development and expansion of the Hoboken sewer system. Therefore, Tank T2-MON is not considered sensitive for historic sewer-related deposits.

[851] G.M. Hopkins & Co. 1909; G.M. Hopkins & Co. 1923; Whittemore 1940.
[852] Sanborn Library, LLC 1937-2006; NETR 1931-2013.



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DSD Locations in 1937
Sanborn 1937 (Plate 43)

August 2016

FIGURE 92

By 1937, water lines were installed within Monroe and 11th streets. Given the twentieth century date of these water lines and the lack of documented historic issues or concerns with the municipal water system within Hoboken, the water pipelines are not considered significant historic resources. Therefore, Tank T2-MON is not considered sensitive for significant historic deposits associated with municipal water resources.

Rail spur lines associated with the Hinde & Dauch Paper Company were located in the immediate vicinity of Tank T2-MON during the mid-twentieth century. Archaeological deposits associated with the spur line would most likely consist of the rail track and ties and would be anticipated at shallow depths beneath the surface. As the twentieth century Sanborn Insurance maps depict the location of the rail line, and given that the archaeological signature of the spur line would most likely consist of the track and rails, any archaeological deposits associated with the spur line would provide little additional information regarding the spur line and its associated industrial occupation. Thus, these deposits would not be eligible for listing in the National Register. Furthermore, the shallow depth of such deposits suggests that they would have been removed or compromised by any utility work or other development within Monroe Street. Therefore, Tank T2-MON is not considered sensitive for significant historic deposits associated with the mid-twentieth century rail spur. Ultimately, Tank T2-MON is considered to have no historic archaeological sensitivity.

T9-MAD, T8-MAD (Madison Street south of 11th Street) (Plates 72a & 72b)

Proposed Tank T9-MAD will be located on the western frontage of Madison Street to the south of its intersection with 11th Street. Proposed Tank T8-MAD will be located approximately 34 feet to the northeast of Tank T9-MAD within the streetbed of Madison Street to the south of its intersection with 11th Street. The proposed tanks will be located in the public ROW and include the paved road surface, the adjacent cement and cobblestone sidewalk, and ornamental tree plantings. Tank T9-MAD would be located to the immediate east of a paved parking lot; Tank T8-MAD would be located in the paved roadway to the east of the parking lot. Utilities within the vicinity of the proposed tank sites include streetlights, manholes, and a fire hydrant.

Tank T9-MAD will measure approximately 16 feet in length and 5 feet in width. The tank will have an overall depth of 5 feet below the surface. Installation of the tank will require excavation to a depth of approximately 7.67 feet below the surface. The limit of disturbance associated with Tank T9-MAD is approximately 80 square feet to an approximate depth of 7.67 feet. Tank T8-MAD will measure approximately 11 feet in length and 5 feet in width. The tank will have an overall depth of 4.5 feet below the surface. Installation of the tank will require excavation to a depth of approximately 7.17 feet below the surface. The limit of disturbance associated with Tank T8-MAD is approximately 55 square feet to an approximate depth of 7.17 feet. The limits of disturbance encompass the approximate footprint of the tanks. Current design plans do not include staging areas or any other areas of disturbance associated with the installation of the tanks.

Historical Development

The 1844 U.S. Coastal Survey map indicates that the tank sites were located in undeveloped meadowlands to the east of the Palisades (see Figure 30). The G.M. Hopkins & Co.'s 1873 map indicates that Madison and 11th streets had been proposed and the blocks surrounding these streets had been proposed and allotted (see Figure 70). The

Plate 72a: Location of T9-MAD, Madison Street South of 11th Street. View North. (ZE 5/23/2016).

Plate 72b: Location of T8-MAD, Madison Street South of 11th Street. View North. (ZE 5/23/2016).

lots in the vicinity of Tank T9-MAD appear to have been associated with Thomas Foster and R.C. Crane. Tank T8-MAD would be located in Madison Street to the east of these lots. There was no development within the vicinity of the tank sites. The Speilmann and Brush 1880 map indicates that Madison and 11th streets had not been extended this far north or west (see Figure 15). There were no sewer lines located in the vicinity of the tank sites; the tank sites were located in undeveloped meadowlands to the east of the Hoboken Creek.[853]

G.M. Hopkins & Co.'s 1909 map indicates that there were no sewer or water lines within the vicinity of the tank sites (see Figure 91). The block to the west of the tank sites appears to have been allotted. The tank sites were in the near vicinity of lots associated with the U.S. Rattan Company; a large frame building occupied these lots. A six-inch water line was located within 11th Street to the east of its intersection with Madison Street. By 1923, a 16-inch pipeline was located within Madison Street and a six-inch pipeline was located in 11th Street to its intersection with Monroe. The remaining lots within the block to the west of the tank sites were associated with the Hoboken Manufacturing Railroad Company. These lots were undeveloped. The 1940 As-Built plans indicate that a concrete sewer line was installed within Madison Street between 10th and 13th streets.[854]

The 1937 Sanborn Insurance map indicates that a building associated with the Peerless Rattan Company and U.S. Rattan Company was located at the southwest corner of Madison and 11th streets (see Figure 89). The remaining portion of the block to the west of the tank sites was occupied by a large warehouse building. The Hinde & Dauch Paper Company occupied the warehouse building which extended from 9th Street to a point south of 11th Street on the eastern frontage of Madison Street. Between 1954 and 1979, the Rattan building had been removed and the southwest corner of Madison and 11th streets was vacant (see Figure 90). The Hinde & Dauch Paper Company appears to have vacated their factory building by 1988. Between 1997 and 2002, the factory had been removed. Between 2002 and 2006, the current parking lot was established to the west of the tank sites.[855]

Summary and Conclusions

The earliest historic development within the vicinity of the tank sites appears to have been the late-nineteenth to early-twentieth century extension of Madison and 11th streets. The As-Built plans indicate that a concrete sewer line was installed within Madison Street in the vicinity of the tank site; additional data provided by the NHSA indicates that this sewer was installed sometime after 1923. By 1937, water pipelines were located within 11th and Madison streets. By the early-twentieth century an industrial occupation was located at the southwest corner of Madison and 11th streets; during the mid-twentieth century a factory building had developed in the block to the west of the tank sites. By 2006, the current parking lot had developed.

Of the available soil boring data, the proposed tank site is located in closest proximity to Boring GW-6, being approximately 220 feet to its southeast (see Appendix D). An examination of the historic topographic location of GW-6 suggests that this boring was located in a similar undeveloped meadowlands setting to the tank sites. As previously noted, Boring GW-6 contained a soil profile with a matrix of black organic silt underlying fill deposits.

[853]US Coastal Survey 1844; G.M. Hopkins & Co. 1873; Spielmann and Brush 1880.
[854] G.M. Hopkins & Co. 1909; G.M. Hopkins & Co. 1923; Whittemore 1940.
[855] Sanborn Library, LLC 1937-2006; NETR 1931-2013.

Given the topographic similarities of Boring GW-6 to Tank T9-MAD and Tank T8-MAD, the profile exposed within the boring is assumed to be a close representation to the profile within the tank sites. Therefore, in light of the previously discussed potential for a favorable prehistoric environment evidenced by the boring's soil profile, Tank T9-MAD and T8-MAD are considered sensitive for prehistoric deposits at depths greater than 15 feet below the surface.

In 2004, RGA conducted a Stage 1A cultural resources survey of a proposed sewer line replacement along Madison Avenue between 9th and 11th streets, in the immediate vicinity of the tank sites. RGA concluded that the Madison Avenue segment had little sensitivity for prehistoric or historic archaeological resources. RGA's analysis of prehistoric sensitivity was based off of known soil boring data at the time and, thus, did not include the data presented above. With respect to historic archaeological sensitivity, RGA's analysis included a cartographic review and an analysis of the sewer system in relation to the larger sewer system within Hoboken.[856]

Historic development within Tank T9-MAD and T8-MAD consisted of the late-nineteenth to early-twentieth century extension of Madison and 11th streets, the twentieth century installation of a concrete sewer line within Madison Street, and the mid-twentieth century water line installation within Madison and 11th streets. The available utility data indicates that a concrete sewer line was installed within Madison Street in the vicinity of the tank sites sometime after 1923. Given the late date of this installation and the type of sewer line which was installed, the Madison Street sewer is not considered a significant historic resource associated with the early development and expansion of the Hoboken sewer system. Therefore, Tank T9-MAD and Tank T8-MAD are not considered sensitive for historic sewer-related deposits.

By 1937, water lines were installed within Madison and 11th streets. Given the twentieth century date of these water lines and the lack of documented historic issues or concerns with the municipal water system within Hoboken, the water pipelines are not considered significant historic resources. Therefore, Tank T9-MAD and Tank T8-MAD are not considered sensitive for significant historic deposits associated with municipal water resources. Furthermore, given the lack of additional historic development within the tank sites they are not considered sensitive for historic archaeological deposits.

T5-JEF (Jefferson Street and 11th Street) (Plate 73)

Proposed Tank T5-JEF will be located on the eastern frontage of Jefferson Street to the south of its intersection with 11th Street. The proposed tank will be located in the public ROW and includes the paved road surface and the adjacent cement sidewalk and ornamental tree plantings. The tank would be located to the immediate east of a converted brick warehouse. Utilities within the vicinity of the proposed tank site include drainage grates, manholes, and wooden transmission poles.

The tank will measure approximately 15 feet in length and 5 feet in width. The tank will have an overall depth of 6.5 feet below the surface. Installation of the tank will require excavation to a depth of approximately 9.17 feet below

[856] RGA 2004 (NHSA combined Sewer overflow).

Plate 73: Location of T5-JEF, Jefferson and 11th Streets. View Southeast. (DVS 3/30/2016).

Plate 74: Location of T3-ADM, Adams Street South of 11th Street. View North. (ZE 5/23/2016).

the surface. The limit of disturbance associated with Tank T5-JEF is approximately 75 square feet to an approximate depth of 9.17 feet. This limit of disturbance encompasses the approximate footprint of the tank. Current design plans do not include staging areas or any other areas of disturbance associated with the tank installation.

Historical Development

The earliest development within the vicinity of the tank site appears to have occurred by the mid to late-nineteenth century. The 1844 U.S. Coastal Survey map indicates that the tank site was located in undeveloped meadowlands to the northwest of the trotting course and west of cleared potentially dry land (see Figure 30). The G.M. Hopkins & Co.'s 1873 map indicates that Jefferson and 11th streets had been proposed and that the block to the east of the tank site had been proposed and allotted. The lots in the immediate vicinity of the tank site were associated with Georgina L. Hecksher (see Figure 70). There were no structures located within these lots or in the vicinity of the tank site.[857]

The Speilmann and Brush 1880 map indicates that Jefferson and 11th streets had not been extended this far north or west (see Figure 15). There were no sewer lines located in the vicinity of the tank site which was situated in undeveloped meadowlands to the west of dry potentially cleared land. Bailey and Ward's 1881 map indicates that Jefferson Street was being extended to the north and that 11th Street had been extended to its intersection with Jefferson Street. The block to the west of the tank site consisted of undeveloped meadowlands.[858]

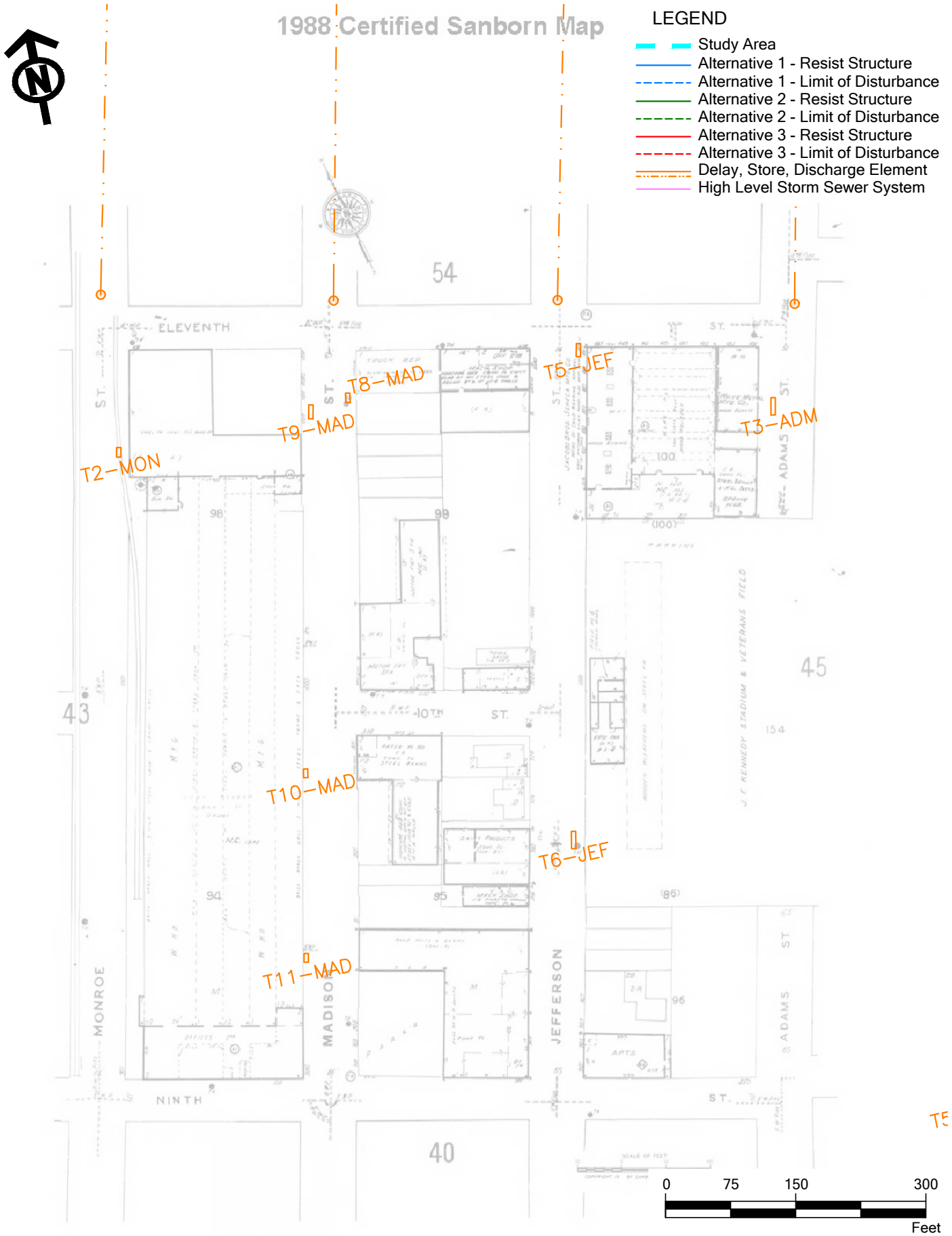
G.M. Hopkins & Co.'s 1909 map indicates the presence of six-inch pipelines within Jefferson and 11th streets (see Figure 91). A brick building associated with the Hoboken Ribbon Company was located at the southeast corner of Jefferson and 11th streets to the east of the tank site. The area appeared to be unchanged by 1923. The 1940 As-Built plans indicate that concrete sewer pipes were located within Jefferson Street between 10th and 11th streets and also within 11th Street from Madison to Washington streets. The 11th Street sewer line was a concrete trunk line.[859]

The 1937 Sanborn Insurance map indicates that A. Beschar & Co., Inc. occupied the brick building to the west of the tank site (see Figure 89). This occupation included a weave house in the central portion of the block. By 1951, Jacobs Brothers Seneca Manufacturing Company, manufacturers of children's apparel, occupied the factory building at the southeast corner of Jefferson and 11th streets. Jacobs Brothers continued to occupy the factory space through 1988 (Figure 93). Between 1997 and 2002, the weave house had been removed and the central portion of the lot became a parking area.[860]

Summary and Conclusions

The tank site appears to have been developed by the late-nineteenth to early-twentieth century with the extension of Jefferson and 11th streets. The As-Built plans indicate the presence of concrete sewer lines within the vicinity of the tank site on Jefferson and 11th streets; data provided by the NHSA indicates that these lines were installed

[857]US Coastal Survey 1844; G.M. Hopkins & Co. 1873.
[858]Spielmann and Brush 1880; Bailey and Ward 1881.
[859] G.M. Hopkins & Co. 1909; G.M. Hopkins & Co. 1923; Whittemore 1940.
[860] Sanborn Library, LLC 1937-2006; NETR 1931-2013.



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Location of Tank T5-JEF, 1988
Sanborn 1988 (Plate 44)

August 2016

FIGURE 93

sometime after 1923. The 1909 Hopkins map indicates the presence of six-inch water lines within Jefferson and 11th streets. The area to the east of the tank site consisted of an industrial factory through the twentieth century. In the last few decades, the factory was converted into an apartment complex.

Of the available soil boring data, the proposed tank site is located in closest proximity to Boring GW-6, being approximately 460 feet to its east (see Appendix D). An examination of the historic topographic location of GW-6 suggests that this boring was located in a similar undeveloped meadowlands setting to the tank site. As previously noted, Boring GW-6 contained a soil profile with a matrix of black organic silt underlying fill deposits. Given the topographic similarities of Boring GW-6 to Tank T5-JEF the profile exposed within the boring is assumed to be a close representation to the profile within the tank site. Therefore, in light of the previously discussed potential for a favorable prehistoric environment evidenced by the boring's soil profile, Tank T5-JEF is considered sensitive for prehistoric deposits at depths greater than 15 feet below the surface.

Historic development within Tank T5-JEF consisted of the late-nineteenth to early-twentieth century extension of Jefferson and 11th streets, the twentieth century installation of concrete sewer lines within Jefferson and 11th streets, and the early-twentieth century water line installation within Jefferson and 11th streets. Available utility data indicates that concrete sewer lines were installed within Jefferson and 11th streets in the vicinity of the tank site sometime after 1923. Given the late date of these installations and the types of sewer lines which were installed, the Jefferson and 11th street sewers are not considered significant historic resources associated with the early development and expansion of the Hoboken sewer system. Therefore, Tank T5-JEF is not considered sensitive for historic sewer-related deposits.

By 1909, water lines were installed within Jefferson and 11th streets. Given the twentieth century date of these water lines and the lack of documented historic issues or concerns with the municipal water system within Hoboken, the water pipelines are not considered significant historic resources. Therefore, Tank T5-JEF is not considered sensitive for significant historic deposits associated with municipal water resources. Furthermore, given the lack of any additional historic development within the vicinity of the tank site, Tank T5-JEF is not considered sensitive for any historic archaeological resources.

T3-ADM (Adams Street south of 11th Street) (Plate 74)

Proposed Tank T3-ADM will be located on the western frontage of Adams Street to the south of its intersection with 11th Street. The proposed tank will be located in the public ROW and includes the paved road surface and the adjacent cement sidewalk. The tank would be located to the immediate east of a multi-storied brick building. Utilities within the vicinity of the proposed tank site include manholes and road signs.

The tank will measure approximately 20 feet in length and 5 feet in width. The tank will have an overall depth of five feet below the surface. Installation of the tank will require excavation to a depth of approximately 7.67 feet below the surface. The limit of disturbance associated with Tank T3-ADM is approximately 100 square feet to an approximate depth of 7.67 feet. This limit of disturbance encompasses the approximate footprint of the tank. Current design plans do not include staging areas or any other areas of disturbance associated with the tank installation.

Historical Development

The earliest development within the vicinity of the tank site appears to have occurred by the mid to late-nineteenth century. The 1844 U.S. Coastal Survey map indicates that the tank site was located in undeveloped meadowlands to the immediate west of cleared potentially dry land (see Figure 30). The G.M. Hopkins & Co.'s 1873 map indicates that Adams and 11th streets had been proposed and that the block to the west of the tank site had been proposed and allotted (see Figure 70). The lots in the immediate vicinity of the tank site were associated with the Estate of John R. Syms. There were no structures located within these lots or in the vicinity of the tank site.[861]

The Speilmann and Brush 1880 map indicates that Adams and 11th streets had not been extended this far north or west (see Figure 15). There were no sewer lines located in the vicinity of the tank site which was situated in undeveloped meadowlands to the west of dry potentially cleared land. Bailey and Ward's 1881 map indicates that Adams and 11th streets had been extended to their intersection; there were no structures within the vicinity (see Figure 87). The block to the west of the tank site consisted of undeveloped meadowlands.[862]

G.M. Hopkins & Co.'s 1909 map indicates the presence of a six-inch pipeline within 11th Street; there was no pipeline within Adams Street (see Figure 91). A brick building associated with the Automatic Hook & Eye Company was located to the west of the tank site at the southwest corner of Adams and 11th streets. The Hoboken Park had developed to the south of the tank site. By 1923, a six-inch pipeline was located within Adams Street. The brick building to the west of the tank site was occupied by Robert Mayer & Company. The 1940 As-Built plans indicate that a vitrified clay sewer pipe was located within Adams Street between JFK Stadium and 11th Street.[863]

The 1937 Sanborn Insurance map indicates that a warehouse was located at the southwest corner of Adams and 11th streets (see Figure 89). By 1979, The White Metal Manufacturing Company occupied the structure at the southwest corner of Adams and 11th streets (see Figure 90). The business continued to occupy the building through 2006.[864]

Summary and Conclusions

The tank site appears to have been developed by the late-nineteenth to early-twentieth century with the extension of Adams and 11th streets. The As-Built plans indicate the presence of a vitrified clay sewer pipe within Adams Street; additional data provided by the NHSA indicates that this sewer line was installed sometime after 1923. The 1909 Hopkins map indicates the presence of six-inch water lines within 11th Street; by 1923, a pipeline was also located within Adams Street. Industrial development was located to the immediate west of the tank site throughout the majority of the twentieth century.

[861] US Coastal Survey 1844; G.M. Hopkins & Co. 1873.
[862] Spielmann and Brush 1880; Bailey and Ward 1881.
[863] G.M. Hopkins & Co. 1909; G.M. Hopkins & Co. 1923; Whittemore 1940.
[864] Sanborn Library, LLC 1937-2006; NETR 1931-2013.

Of the available soil boring data, the proposed tank site is located in closest proximity to Boring GW-6, being approximately 700 feet to its east (see Appendix D). An examination of the historic topographic location of GW-6 suggests that this boring was located in a similar undeveloped meadowlands setting to the tank site. As previously noted, Boring GW-6 contained a soil profile with a matrix of black organic silt underlying fill deposits. Given the topographic similarities of Boring GW-6 to Tank T3-ADM, the profile exposed within the boring is assumed to be a close representation to the profile within the tank site. Therefore, in light of the previously discussed potential for a favorable prehistoric environment evidenced by the boring's soil profile, Tank T3-ADM is considered sensitive for prehistoric deposits at depths greater than 15 feet below the surface.

Historic development within Tank T3-ADM consisted of the late-nineteenth to early-twentieth century extension of Adams and 11th streets, the twentieth century installation of a vitrified clay pipe within Adams Street, and the early to mid-twentieth century water line installation within Adams and 11th streets. The available utility data indicates that a vitrified clay sewer line was installed within Adams Street in the vicinity of the tank site sometime after 1923. Given the late date of this installation and the type of sewer line which was installed, the Adams Street sewer is not considered a significant historic resource associated with the early development and expansion of the Hoboken sewer system. Therefore, Tank T3-ADM is not considered sensitive for historic sewer-related deposits.

By 1923, water lines had been installed within Adams and 11th streets. Given the twentieth century date of these water lines and the lack of documented historic issues or concerns with the municipal water system within Hoboken, the water pipelines are not considered significant historic resources. Therefore, Tank T3-ADM is not considered sensitive for significant historic deposits associated with municipal water resources. Furthermore, given the lack of any additional historic development within the vicinity of the tank site, Tank T3-ADM is not considered sensitive for any historic archaeological resources.

TD31-CLA (Clinton Street and 12th Street) (Plate 75)

Proposed Tank TD31-CLA will be located on the western frontage of Clinton Street to the south of its intersection with 12th Street. The proposed tank will be located in the public ROW and includes the paved road surface and the adjacent cement sidewalk. The tank would be located to the immediate west of The Rivington Hoboken, an apartment complex. Utilities within the vicinity of the proposed tank site include drainage grates, manholes, and road signs.

The tank will measure approximately 12 feet in length and 5 feet in width. The tank will have an overall depth of 5.5 feet below the surface. Installation of the tank will require excavation to a depth of approximately 8.17 feet below the surface. The limit of disturbance associated with Tank TD31-CLA is approximately 60 square feet to an approximate depth of 8.17 feet. This limit of disturbance encompasses the approximate footprint of the tank. Current design plans do not include staging areas or any other areas of disturbance associated with the tank installation.

Historical Development

The earliest development within the vicinity of the tank site appears to have occurred by the mid to late-nineteenth century. The 1844 U.S. Coastal Survey map indicates that the tank site was located in the northern extent of a

Plate 75: Location of TD31-CLA, Clinton Street South of 12th Street. View North. (ZE 5/23/2016).

Plate 76: Location of TD12-13ST, Clinton Street South of 13th Street. View North. (ZE 5/23/2016).

cleared parcel of potentially dry land to the northwest of the trotting course (see Figure 30). The G.M. Hopkins & Co.'s 1873 map indicates that the block to the southwest of the tank site had been divided into two lots and was associated with the Hoboken Land and Improvement Company (Figure 94). The block to the northwest of the tank site was associated with the Gas Light Company. There was no development within the block to the west of the tank site.[865]

The Speilmann and Brush 1880 map indicates that Clinton Street had not yet been extended this far north (see Figure 15). However, 12th Street had been extended from Park Avenue to the western boundary of the city. There were no sewer lines located in the vicinity of the tank site which was situated in a cleared potentially dry location. Bailey and Ward's 1881 map indicates that Clinton Street had been extended north of 12th Street (see Figure 87). There were no structures located within the block to the west of the tank site; however, the block was cleared. A tank associated with the Gas Light Company was located on the block north of the tank site.[866]

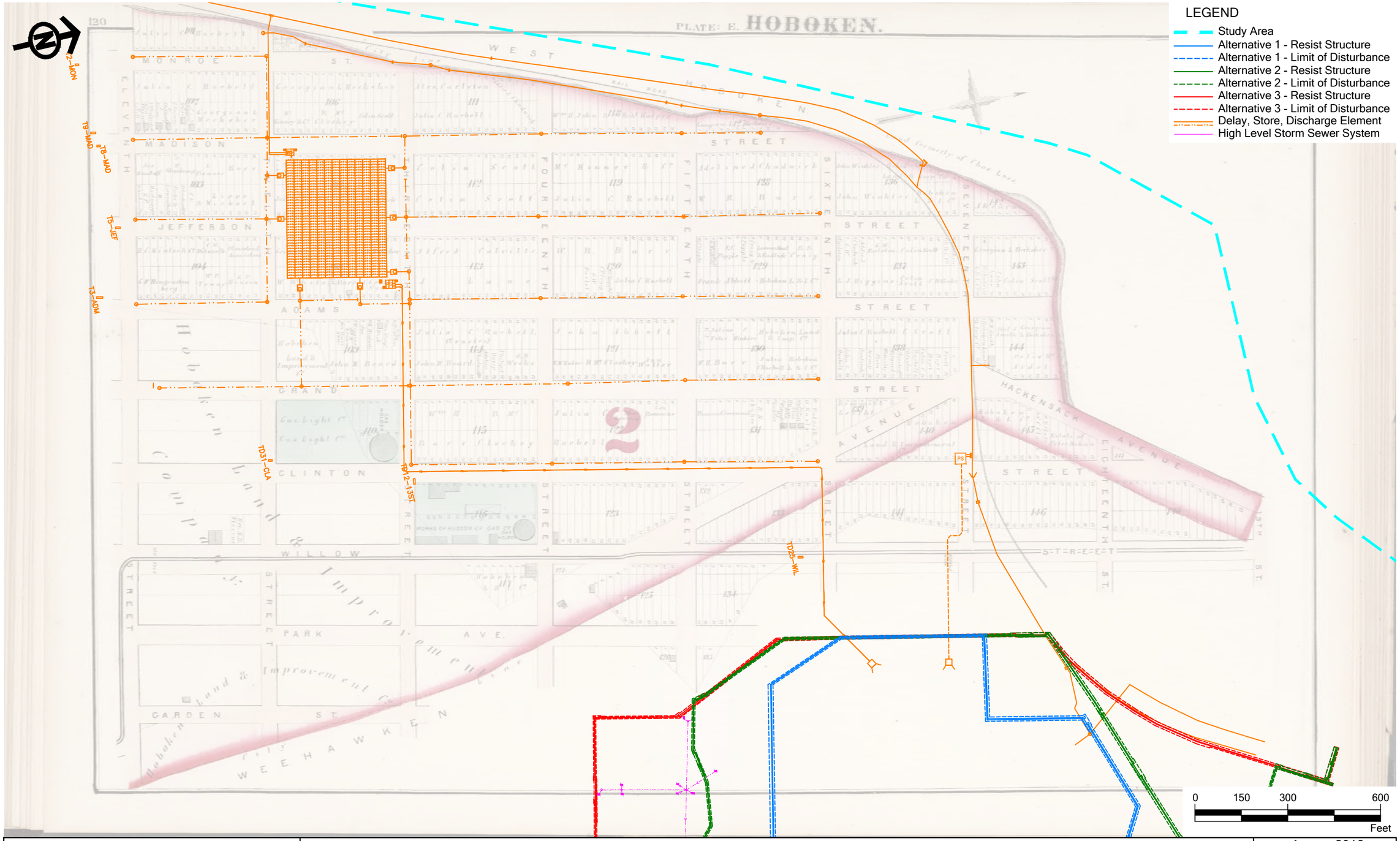
G.M. Hopkins & Co.'s 1909 map indicates the presence of a sewer line and a six-inch pipeline along Clinton Street; there were no pipelines within 12th Street. A trolley line extended along Clinton Street (see Figure 91). The lots to the west of the tank site at the southwest corner of Clinton and 12th streets were occupied by frame buildings. A brick structure associated with the Fox Hill Foundry occupied lots four through six. By 1923, a 12-inch pipeline had been installed within 12th Street (Figure 95). An adobe structure was located in the lots at the southwest corner of Clinton and 12th streets; the Fox Hill Foundry was still extant within lots four through six and was identified as the F. Ferguson & Son Fox Hill Foundry. A trolley line was still present within Clinton Street. The 1940 As-Built plans indicate the presence of two sewer lines within Clinton Street between 11th and 12th streets. A 24-inch old brick sewer line was located within Clinton Street between 11th and 12th streets. A concrete sewer line was located to the east of the brick sewer and extended from 11th to 13th streets.[867]

The 1937 Sanborn Insurance map indicates that F. Ferguson & Son Fox Hill Foundry had expanded to the north with a foundry complex that encompassed the entire northern portion of the block to the west of the tank site (Figure 96). The trolley line was no longer present within Clinton Street. The foundry buildings remained in place until ca. 1997. At this time, the lot was cleared. Between 1997 and 2002, the current apartment complex was installed to the west of the tank site.[868]

Summary and Conclusions

The tank site appears to have been cleared by the mid-nineteenth century; however, Clinton Street was not extended to 12th Street until the late-nineteenth century. Twelfth (12th) Street was extended across the width of the city prior to 1880. The As-Built plans indicate the presence of both an old brick sewer and a concrete sewer line within Clinton Street in the vicinity of the tank site. Data provided by the NHSA indicates that the brick sewer line was installed ca. 1916. The 1909 Hopkins map indicates the presence of a sewer line and a six-inch water line along

[865]US Coastal Survey 1844; G.M. Hopkins & Co. 1873.
[866]Spielmann and Brush 1880; Bailey and Ward 1881.
[867] G.M. Hopkins & Co. 1909; G.M. Hopkins & Co. 1923; Whittemore 1940.
[868] Sanborn Library, LLC 1937-2006; NETR 1931-2013.



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Project Locations in 1873 - Hopkins 1873 (Plate E)

August 2016

FIGURE 94

LEGEND

- Study Area
- Alternative 1 - Resist Structure
- Alternative 1 - Limit of Disturbance
- Alternative 2 - Resist Structure
- Alternative 2 - Limit of Disturbance
- Alternative 3 - Resist Structure
- Alternative 3 - Limit of Disturbance
- Delay, Store, Discharge Element
- High Level Storm Sewer System

T11–MAD
T10–MAD
T9–MAD
T8–MAD
T2–UNION
T6–JEF
T5–JEF
T3–ADM
T01–CLA
T01-2–1ST
TD25–WIL

0 150 300 600
Feet

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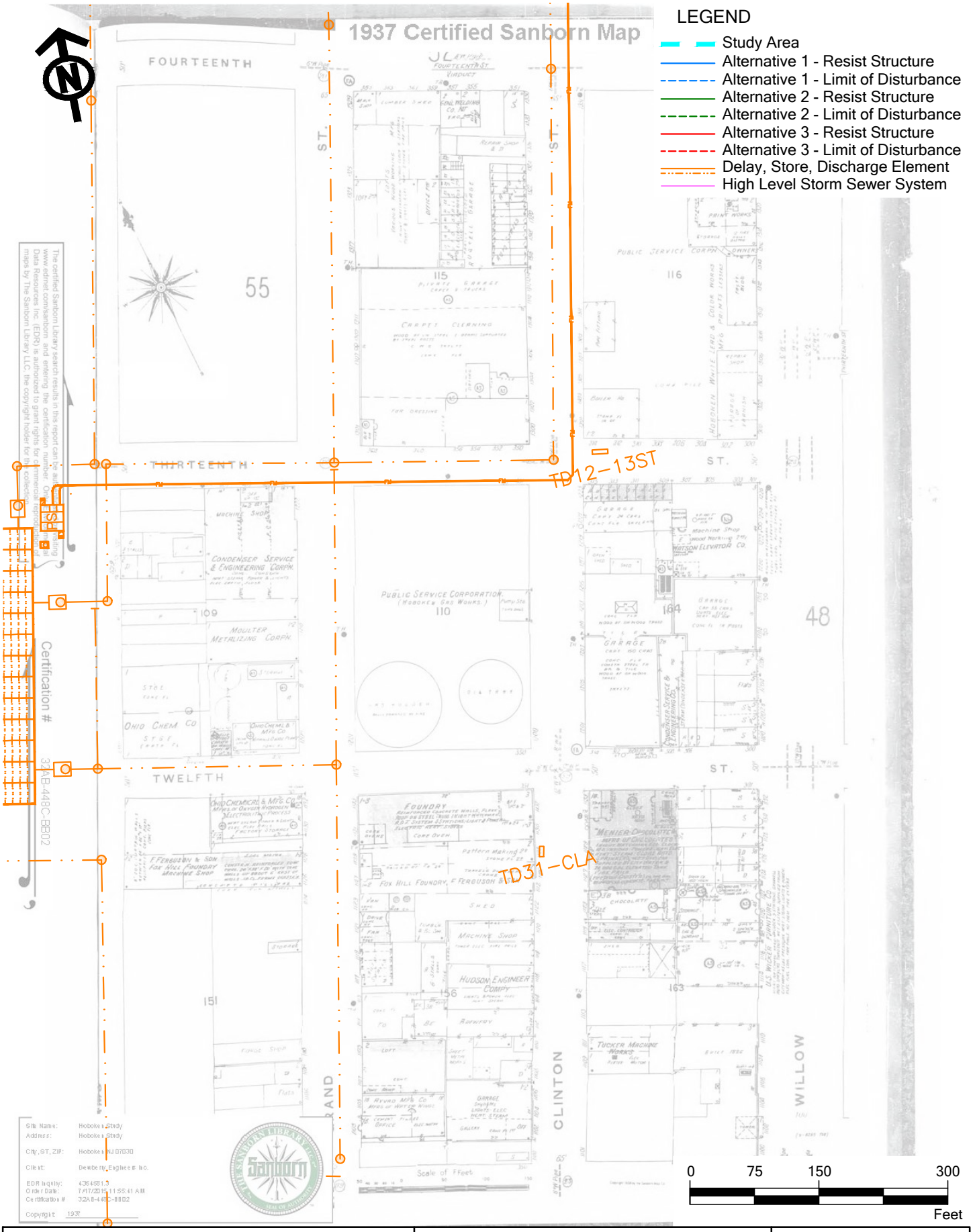
DSD Locations in 1923 - Hopkins 1923 (Plate 8)

August 2016

FIGURE 95



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DSD Locations in 1937
Sanborn 1937 (Plate 46)

August 2016

FIGURE 96

Clinton Street. A trolley line was also located on Clinton Street. By 1923, a water line had also been established within 12th Street. Industrial development was located in the vicinity of the tank site throughout the majority of the twentieth century.

Of the available soil boring data, Tank TD31-CLA is in closest proximity to Boring GW-6, being located approximately 800 feet to its northeast (see Appendix D). However, an examination of the historic topographic location of Boring GW-6 suggests that this boring was located within undeveloped meadowlands. This setting differs from the potentially dry upland location of the tank site which more closely resembles the historic topographic setting of Boring GW-8, located approximately 1,000 feet to the northwest of the tank site. Boring GW-8 contained a soil profile consisting of sequential layers of gray and brown sand below the overlying asphalt and subbase. At a depth of 17 feet below the surface, a brown sand was encountered. At a depth of approximately 19 feet below the surface, decomposing shale was observed within the brown sand matrix. The boring was terminated within this matrix at a depth of 20 feet below the surface. There was no indication of an organic surface within the soil profile. It is unclear whether past subsurface disturbance may have removed any pre-existing organic deposits within the area. Additionally, the presence of decomposing shale within the lower depths of the profile suggest that the boring may have terminated near glacial deposits. Given the historic and present topographic similarities between Boring GW-8 and Tank TD31-CLA, it is assumed that the tank site would reflect a similar stratigraphic profile lacking an organic deposit and with potentially glacial deposits at a depth near 20 feet below the surface. Such a profile suggests that there is little likelihood for a former prehistoric occupation surface within this portion of the city. Therefore, in light of the soil profile within Boring GW-8, Tank TD31-CLA is considered to possess little to no potential for prehistoric archaeological resources.

Historic development within Tank TD31-CLA consisted of the mid to late-nineteenth century extension of Clinton and 12th streets, the early-twentieth century installation of a brick sewer line within Clinton Street, the twentieth century installation of a concrete sewer line within Clinton Street, the early to mid-twentieth century installation of water lines within Clinton and 12th streets, and an early-twentieth century trolley line on Clinton Street. The As-Built plans indicate the presence of two sewer lines within Clinton Street—an old brick sewer and a concrete sewer. The plans do not indicate the depths at which the brick sewer had been installed; however, the plans suggest that disturbance associated with the concrete sewer may have extended to a depth of nine feet below the surface. Given that it does not appear that the old sewer was disturbed or removed during the installation of the concrete sewer, this sewer line may remain extant underneath the concrete sewer line. Alternatively, the disturbance associated with the concrete sewer may have been confined to the west of the brick sewer line. Regardless, it appears that the former brick sewer line has remained intact within Clinton Street.

Historic cartographic data indicates that the brick sewer line was installed between 1880 and 1909. This brick sewer would have been a component within Hoboken's municipal sewer system at a time within which it was trying to adapt to its growing population and industrialization alongside addressing the sewage problems within the city. As such, this sewer line is considered a potentially significant historic resource. Therefore, Tank TD31-CLA is considered sensitive for historic deposits associated with the old brick sewer line within Clinton Street. Archaeological deposits associated with the sewer might include the sewer line, a builder's trench associated with

utility installation, and/or wood planks and other support features for the pipe. Sewer deposits within Hoboken have previously been exposed at depths ranging from four to eight feet below the surface. As previously noted, the depth of the old brick sewer is unclear; the pipeline may underlie the concrete sewer pipe. Given this lack of clarity, sewer deposits within the tank site may be encountered at depths greater than four feet below the surface.

By 1923, water lines were located within Clinton and 12th streets in the vicinity of the tank site. In light of the twentieth century date of these features, the water lines are not considered significant historic resources associated with the early municipal development of Hoboken. Therefore, Tank TD31-CLA is not considered sensitive for significant historic deposits associated with municipal water resources.

An early-twentieth century trolley line also operated along Clinton Street in the immediate vicinity of Tank TD31-CLA. By 1937, the trolley tracks were no longer extant. This trolley line was not an elevated track, therefore, archaeological deposits associated with the trolley line would most likely consist of the rail tracks and ties. Such tracks would be anticipated near the surface. Given that the route of the early-twentieth century trolley lines are known through cartographic and documentary records, any track remnants would provide little additional information regarding the history or nature of this resource. As such, any deposits associated with the trolley line would not constitute a significant resource eligible for listing in the National Register. Therefore, Tank TD31-CLA is not considered sensitive for significant historic resources associated with the early-twentieth century Clinton Street trolley line.

TD12-13ST (Grand Street and 13th Street) (Plate 76)

Proposed Tank TD12-13ST will be located at the northeast corner of the intersection of Clinton and 13th streets. The proposed tank will be located in the public ROW and includes the paved road surface and the adjacent cement sidewalk. The tank would be located to the immediate southwest of a brick commercial building. Utilities within the vicinity of the proposed tank site include drainage grates, wooden transmission poles, a fire hydrant, manholes, and road signs.

The tank will measure approximately 18 feet in length and 5 feet in width. The tank will have an overall depth of seven feet below the surface. Installation of the tank will require excavation to a depth of approximately 9.67 feet below the surface. The limit of disturbance associated with Tank TD12-13ST is approximately 90 square feet to an approximate depth of 9.67 feet. This limit of disturbance encompasses the approximate footprint of the tank. Current design plans do not include staging areas or any other areas of disturbance associated with the tank installation.

Historical Development

The earliest development within the vicinity of the tank site appears to have occurred by the mid to late-nineteenth century. The 1844 U.S. Coastal Survey map indicates that the tank site was located in undeveloped meadowlands to the immediate north of an historic east-westerly roadway, possibly historic 13th Street (see Figure 30). The G.M. Hopkins & Co.'s 1873 map indicates that the block to the northeast of the tank site had been divided into two lots and was occupied by the Works of Hudson County Gas Company (see Figure 94). Structures associated with the

gas works were located to the north of the tank site along the eastern extent of Clinton Street and the western extent of Willow Avenue.[869]

The Speilmann and Brush 1880 map indicates that Clinton Street had not yet been extended this far north (see Figure 15). However, 13th Street had been extended from Willow Street to the western boundary of the city. There were no sewer lines located in the vicinity of the tank site which was situated in meadowlands to the north of a potentially dry cleared area. Bailey and Ward's 1881 map indicates that Clinton Street had been extended to 13th Street. The block to the north of the tank site was densely occupied by several structures and a tank associated with the gasworks.[870]

G.M. Hopkins & Co.'s 1909 map indicates the presence of a six-inch water line within Clinton Street between 13th and 14th streets, to the northeast of the tank site (see Figure 87). A fire hydrant was located to the north of the intersection of 13th and Clinton streets. The lots to the north of the tank site were occupied by the Gas Works of the Public Service Corporation. Several brick and frame buildings were located to the north of the tank site. Tanks were situated on the northern extent of the block. By 1923, the pipeline within Clinton Street had been extended to the south (see Figure 95). There was no pipeline within 13th Street in the vicinity of the tank site. There were no other evident changes within the vicinity of the tank site. The 1940 As-Built plans indicate that there were no sewer lines within 13th Street in the vicinity of the tank site.[871]

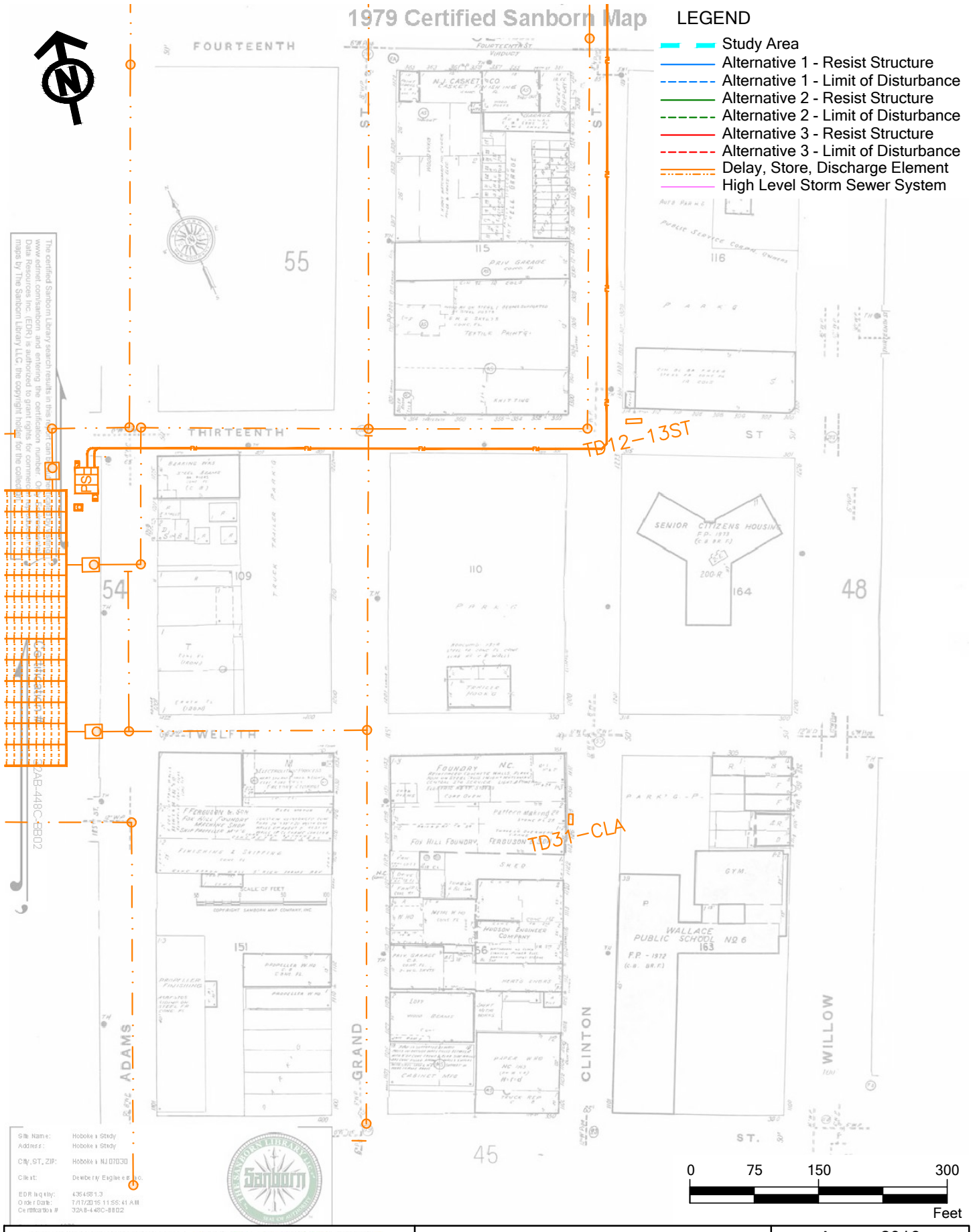
Between 1937 and 1951, the structures to the immediate north of the tank site had been replaced by the current cinder-block and brick-faced building (see Figure 96). Between 1966 and 1979, senior housing was established to the south of the tank site (Figure 97). There has been limited additional development within the vicinity of the tank site since the installation of the senior housing.[872]

Summary and Conclusions

The tank site may have been cleared by the mid-nineteenth century; however, Clinton Street was not extended to 13th Street until the late-nineteenth century. Thirteenth (13th) Street was extended across the width of the city prior to 1880. The As-Built plans indicate that there a sewer line was not installed within 13th Street in the vicinity of the tank site prior to 1940. By 1923, a water line was located along Clinton Street in the vicinity of the tank site. Industrial development was located in the vicinity of the tank site from the mid to late-nineteenth century through the mid-twentieth century. From the mid-twentieth century to the present day, commercial development has been located to the north of Tank TD12-13ST.

Of the available soil boring data, Tank TD12-13ST is in closest proximity to Boring GW-8, being located approximately 235 feet to its southwest (see Appendix D). An examination of the historic topographic location of Boring GW-8 suggests that this boring was located in a potentially dry upland location or in the immediate vicinity

[869]US Coastal Survey 1844; G.M. Hopkins & Co. 1873.
[870]Spielmann and Brush 1880; Bailey and Ward 1881.
[871] G.M. Hopkins & Co. 1909; G.M. Hopkins & Co. 1923; Whittemore 1940.
[872] Sanborn Library, LLC 1937-2006; NETR 1931-2013.



REBUILD BY DESIGN HUDSON RIVER ▪ RESIST ▪ DELAY ▪ STORE ▪ DISCHARGE ▪

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DSD Locations in 1979
Sanborn 1979 (Plate 46)

August 2016

FIGURE 97

of a drier upland location. While TD12-13 appears to have been in undeveloped meadowlands it was similarly located within the vicinity of drier uplands. Given the relative proximity of the boring and the tank site and the potential historic topographic similarities between the two, it is assumed that the profile within Boring GW-8 is representative of the soil profile within the tank site. As previously noted, Boring GW-8 contained a soil profile consisting of sequential layers of gray and brown sand below the overlying asphalt and subbase. At a depth of approximately 19 feet below the surface decomposing shale was observed within the brown sand matrix. There was no indication of an organic surface within the soil profile. It is unclear whether past subsurface disturbance may have removed any pre-existing organic deposits within the area. Additionally, the presence of decomposing shale within the lower depths of the profile suggest that the boring may have terminated near glacial deposits. This profile suggests that there is little likelihood for a former prehistoric occupation surface within this portion of the city. Therefore, in light of the soil profile within Boring GW-8, Tank TD12-13ST is considered to possess little to no potential for prehistoric archaeological resources.

Historic development within Tank TD12-13ST consisted of the mid to late-nineteenth century extension of Clinton and 13th Streets and the early to mid-twentieth century installation of water lines within Clinton Street. The As-Built plans indicate that there was no sewer line within 13th Street in the vicinity of Tank TD12-13ST by 1940. Therefore, Tank TD12-13ST is not considered sensitive for historic sewer-related deposits. By 1923, a water line had been installed within Clinton Street. This water line was located to the west of the tank site. The water line is located outside the limits of potential disturbance associated with the tank site. In light of the lack of any additional historic development within the vicinity of the tank site, Tank TD12-13ST is not considered sensitive for any historic archaeological resources.

TD25-WIL (Willow Street and 16th Street) (Plate 77)

Proposed Tank TD25-WIL will be located on the eastern frontage of Willow Street to the south of its intersection with 16th Street. The proposed tank will be located in the public ROW and includes the paved road surface and the adjacent cement sidewalk. The tank would be located to the immediate west of a fenced vacant lot. Utilities within the vicinity of the proposed tank site include drainage grates, wooden transmission poles, a fire hydrant, and road signs.

The tank will measure approximately 16 feet in length and 5 feet in width. The tank will have an overall depth of four feet below the surface. Installation of the tank will require excavation to a depth of approximately 6.67 feet below the surface. The limit of disturbance associated with Tank TD25-WIL is approximately 80 square feet to an approximate depth of 6.67 feet. This limit of disturbance encompasses the approximate footprint of the tank. Current design plans do not include staging areas or any other areas of disturbance associated with the tank installation.

Historical Development

The earliest development within the vicinity of the tank site appears to have occurred by the early to mid-nineteenth century. The 1844 U.S. Coastal Survey map indicates that the tank site was located in the immediate vicinity of an historic seawall and a portion of the Bergen Turnpike/Hackensack Plank Road (see Figure 30). The seawall may have been constructed by Samuel and Robert Swartout around 1814 to 1819 in order to drain and reclaim the

Plate 77: Location of TD25-WIL, Willow Street South of 16th Street. View North. (ZE 5/23/2016).

Plate 78: Block 10. View Northwest. (TF 4/5/2016).

meadows. The G.M. Hopkins & Co.'s 1873 map indicates that the tank site was located to the north and east of Hackensack Avenue (the former Hackensack Plank Road) (see Figure 94). Lots had been defined within the block to the southeast of the tank site and east of Hackensack Avenue. These lots were not associated with any owners; there were no structures or other development within the lots.[873]

The Speilmann and Brush 1880 map indicates that Hackensack Avenue may have been removed in the vicinity of Tank T25-WIL (see Figure 15). Willow Avenue had been extended this far north; 16th Street had not yet been established. It appears that the tank site may have been located within the Willow Avenue streetbed. There were no sewer lines within the vicinity of the tank site which was located in undeveloped meadowlands. Bailey and Ward's 1881 map indicates that Willow Avenue and 16th Street had been established in the vicinity of the tank site. The block to the east of the tank site had been cleared and was lined with trees; there were no structures within the block.[874]

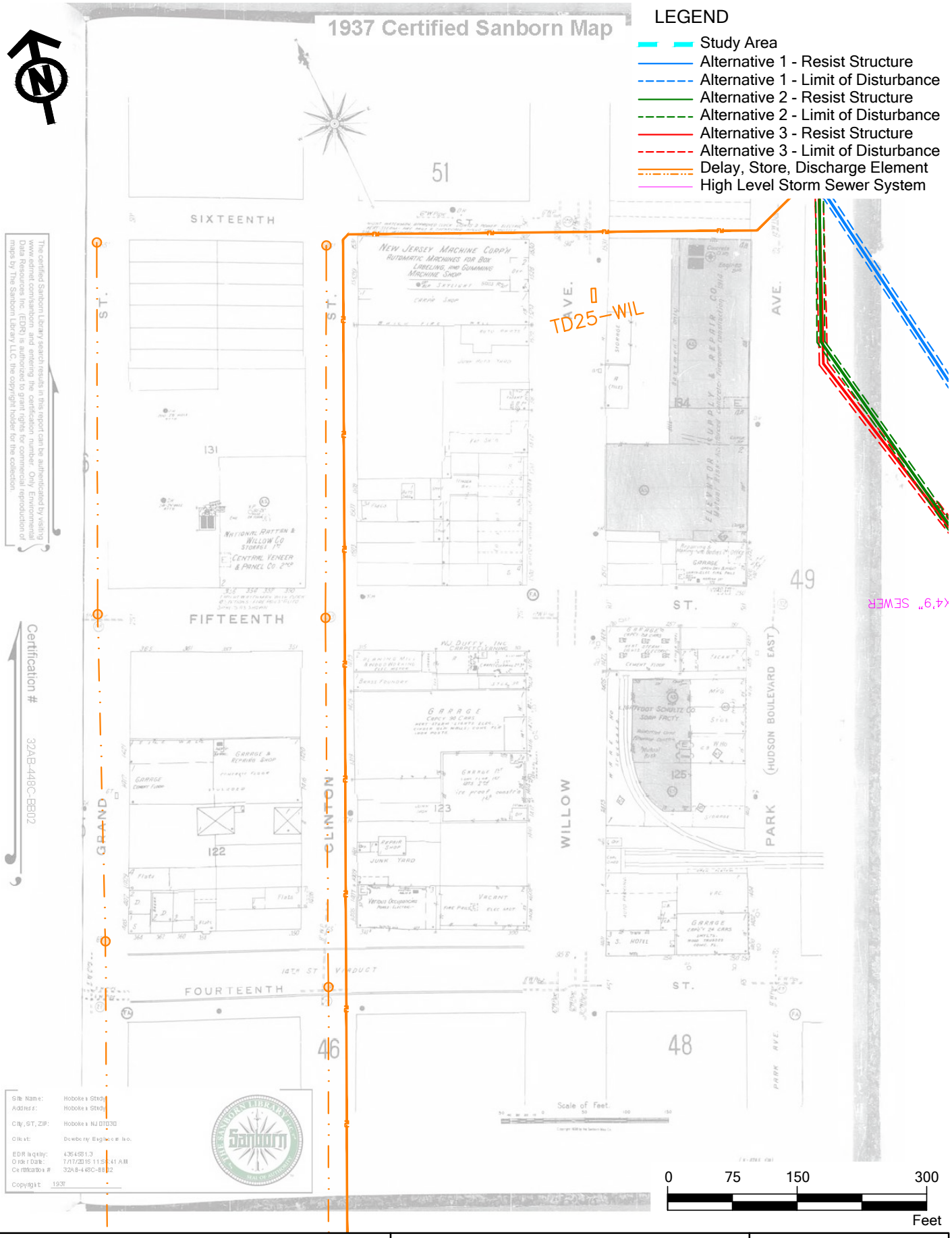
G.M. Hopkins & Co.'s 1909 map indicates the presence of a 12-inch, a 16-inch, and a 30-inch pipeline within Willow Avenue (see Figure 91). The 30-inch water line appears to have serviced two fire hydrants along the eastern frontage of Willow Avenue. A trolley line was also located along Willow Avenue. A small water line was located within 16th Street to the north of the tank site. A Stone Yard and associated frame building were located in the lot at the northeast corner of 16th Street and Willow Avenue, to the east of the tank site. No other structures were located within the block to the east of the tank site. By 1923, additional development had occurred within the block to the east of TD25-WIL (see Figure 95). A small structure was located to the southeast of the tank site. A larger building and rail line associated with the Elevator Supply & Repair Company were located within the eastern portion of the block. The 1940 As-Built plans indicate that a vitrified clay sewer pipe had been installed within Willow Avenue in the vicinity of the tank site.[875]

The 1937 Sanborn Insurance map indicates the presence of two structures, one a storage building, associated with the Elevator Supply & Repair Co. to the east of the tank site (Figure 98). The trolley track was no longer extant along Willow Avenue. Between 1937 and 1951, a warehouse complex associated with the Sweet Co. of America, Inc. had developed. By 1979, the factory space had been converted to lofts. The apartment buildings remained in place until 2013. At this time, the block was cleared; it has remained vacant.[876]

Summary and Conclusions

The earliest historic development within the tank site consisted of the early to mid-nineteenth century seawall and the early-nineteenth century Bergen Turnpike, subsequent Hackensack Plank Road. Willow Avenue and 16th Street had been extended by the late-nineteenth century; the Hackensack Plank Road to the south and west of the tank site was no longer extant by the 1880s. Water lines had been installed within Willow Avenue in the vicinity of the tank site in the early-twentieth century. An early to mid-twentieth century trolley line also operated along Willow

[873]US Coastal Survey 1844; G.M. Hopkins & Co. 1873.
[874]Spielmann and Brush 1880; Bailey and Ward 1881.
[875] G.M. Hopkins & Co. 1909; G.M. Hopkins & Co. 1923; Whittemore 1940.
[876] Sanborn Library, LLC 1937-2006; NETR 1931-2013.



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DSD Locations in 1937
Sanborn 1937 (Plate 52)

August 2016

FIGURE 98

Avenue. The As-Built plans indicate that a vitrified clay pipe was located within Willow Avenue in the vicinity of the tank site; additional data provided by the NHSA indicates that this sewer line was installed after 1923. Industrial development was located in the vicinity of the tank site from the early-nineteenth century through the mid-twentieth century. Residential development was located to the east of the tank site from the mid to late-twentieth century.

Of the available soil boring data, Tank TD25-WIL is in closest proximity to Boring B-10, being located approximately 450 feet to its northwest (see Appendix D). An examination of the historic topographic location of Boring B-10 suggests that this boring was located in undeveloped meadowlands to the east of the seawall along the eastern shoreline of Hoboken. Boring B-10 contained an overlying deposit of sequential brown and tan sand layers which extended to a depth of 12 feet below the surface. At a depth of 15 feet below the surface, a layer of black sand with a petroleum odor was encountered. The black sand terminated at a depth of 23 feet below the surface overlying a gray clay and silt. Brown sand with decomposing rock was encountered at a depth of approximately 28 feet below the surface. Boring B-10 was terminated within this matrix at a depth of 45 feet below the surface. There was no indication of an organic surface within the soil profile. It is unclear whether past subsurface disturbance may have removed any pre-existing organic deposits within the area. Additionally, the presence of decomposing shale within the lower depths of the profile suggests that the boring may have terminated near glacial deposits.

In 2009, THE Partnership also analyzed a soil boring along Grand and 17th streets, Boring EPE-NJ-016, approximately 800 feet to the northwest of the tank site. Within this boring, a stratum of red clayey silt and sand was encountered at a depth of 15 to 17 feet below grade. Beneath the red clayey silt stratum the soil boring exposed a layer of dark gray marine clay with traces of sand which extended from 20 feet to 106 feet below surface.[877]

Both Boring B-10 and Boring EPE-NJ-016 lacked organic deposits suggestive of a preserved prehistoric occupation surface. Given the relative proximity of the borings to the tank site and the relative historic topographic setting of the borings and tank site, it is assumed that Tank TD25-WIL would have a similar soil profile lacking organic deposits. The lack of distinguishable organic deposits suggests that there is little likelihood for an intact prehistoric occupation surface within the area. As such, Tank TD25-WIL is considered to possess little to no prehistoric archaeological sensitivity.

With respect to historic archaeological sensitivity, the earliest development within the vicinity of the tank site consists of a seawall constructed in the 1810s. THE Partnership suggested that the red clayey silt matrix encountered at a depth of 15 to 17 feet below grade within Boring EPE-NJ-016 was potentially associated with the Bergen Turnpike/Hackensack Plank Road. An unusual deposit was also found at a depth of approximately 15 feet below the surface within Boring B-10, suggesting that intact historic deposits and/or an intact historic ground surface may be extant at a depth of approximately 15 feet below the surface in this area. Therefore, Tank TD25-WIL is considered sensitive for historic seawall deposits at a depth of approximately 15 feet below the surface. Given the distance between Tank TD25-WIL and the Bergen Turnpike/Hackensack Plank Road on Hopkins 1873 map, the tank site is not considered sensitive for historic deposits associated with the historic plank road.

[877] THE Partnership (Documentary Analysis), 2009.

Historic development within Tank TD25-WIL also consisted of the early-twentieth century installation of water lines and a fire hydrant along Willow Avenue, the twentieth century installation of a vitrified clay sewer pipe along Willow Avenue, and an early-twentieth century trolley line along Willow Avenue. The available utility data indicates that a vitrified clay sewer line was installed within Willow Avenue in the vicinity of the tank site sometime after 1923. Given the late date of this installation and the type of sewer line which was installed, the Willow Avenue sewer is not considered a significant historic resource associated with the early development and expansion of the Hoboken sewer system. Therefore, Tank TD25-WIL is not considered sensitive for historic sewer-related deposits. The As-Built plans indicate that disturbance associated with the sewer installation may have extended to a depth of approximately eight feet below the surface.

By 1923, water lines were located within Willow Avenue in the vicinity of the tank site. In light of the twentieth century date of these features, the water lines are not considered significant historic resources associated with the early municipal development of Hoboken. Therefore, Tank TD25-WIL is not considered sensitive for significant historic deposits associated with municipal water resources.

An early-twentieth century trolley line also operated along Willow Avenue in the immediate vicinity of Tank TD25-WIL. By 1937, the trolley tracks were no longer extant. This trolley line was not an elevated track, therefore, archaeological deposits associated with the trolley line would most likely consist of the rail tracks and ties. Such tracks would be anticipated near the surface. Given that the route of the early-twentieth century trolley lines are known through cartographic and documentary records, any track remnants would provide little additional information regarding the history or nature of this resource. As such any deposits associated with the trolley line would not constitute a significant resource eligible for listing in the National Register. Therefore, Tank TD25-WIL is not considered sensitive for significant historic resources associated with the early-twentieth century Willow Avenue trolley line.

9.1.8 Block 10

Block 10 is located in the southwestern corner of Hoboken. The site is located at the northwestern corner of Harrison Street and Observer Highway. The site will include the location of a stormwater underground detention system in the southern portion of the block and piping associated with the detention system. The detention system will measure approximately 140 feet in length (north to south) and approximately 220 feet in width (east to west). Piping associated with the stormwater underground detention system will be located on Marshall Street between Observer Highway and Paterson Avenue, on Paterson Avenue between Marshall Street and Harrison Street, on Harrison Street from Paterson Avenue to Newark Avenue, and on Observer Highway from Harrison Street to the HBLR. Block 10 consists of a paved asphalt parking lot bordered to the south, west, and east by a chain-link and barbed-wire fence (Plate 78). A black metal fence borders the chain-link fence to the west. The adjacent sidewalk consists of a wide paved cement surface with manholes and utility poles. The western extent of Block 10 also consists of a paved parking area which is bordered by a black retracting fence to the north (Plate 79). Block 10 is bordered to the west by a pedestrian path associated with the adjacent light rail.

Plate 79: Block 10. View South. (TF4/5/2016).

Plate 80: Andrew Jackson Gardens. View North. (DVS 3/24/16).

Historical Development

Block 10 does not appear to have been developed until the mid to late-nineteenth century. The 1844 U.S. Coastal Survey indicates that Block 10 was located in undeveloped meadowlands to the north of historic Newark Turnpike; the far southern extent of Block 10 on Harrison Street may have terminated at the turnpike (see Figure 30).[878] In 1856 the Paterson Plank Road was opened. A portion of this road was located to the immediate north of Block 10. At its opening the Paterson Plank Road was the longest plank road in New Jersey extending from Paterson to Hoboken. The Paterson Plank Road consisted of 3-5 inch thick planks laid crosswise and had an overall width greater than eight feet. Plank roads fell into disfavor by the 1860s.[879]

G.M. Hopkins and Co.'s 1873 map indicates that Ferry Street, Marshall Street, and Harrison Street had been proposed and that lots had been designated within Block 10 (see Figure 35). However, it is unclear whether these streets had been laid out. According to the 1873 map, the western portion of Block 10 was owned by G.H. Coster. The eastern portion of the block was owned by M. Shannon. Three structures were located to the north of Block 10 on the southern frontage of Paterson Road, the former Paterson Plank Road. This settlement may have developed in association with the historic plank road.[880]

Speilmann and Brush's 1880 and Bien's 1891 Topographical map suggest that the majority of Block 10 had not been laid out and that it may have remained unimproved marshland through the late-nineteenth century (see Figure 15). The Speilmann and Brush map indicates that a sewer line was located within Ferry Street (historic Observer Highway). Marshall and Harrison Streets appear to have been proposed but not established. Both the Paterson Plank Road on the northern extent of Block 10 and Ferry Street on the southern extent had been established.[881]

Hughes and Bailey's 1904 Birdseye view of the city suggests that Block 10 may have been filled but undeveloped by the turn of the twentieth century (see Figure 14). The DLWRR elevated rail lines were located to the south and an elevated rail line is depicted to the northwest along Paterson Avenue.[882] The Junction RR was also located to the west.

G.M. Hopkins & Co.'s 1909 map indicates that Marshall and Harrison streets had been established (see Figure 37). The majority of Block 10 was located in undeveloped lots to the south of a driveway through the larger block and south of a coal yard and feed store adjacent to the driveway. A rail track associated with the NHCR elevated trolley extended through the proposed stormwater detention area. The location of the elevated line suggests that footings for the elevated rail line may have been located within Block 10. The 1909 map also indicates that there was a six-inch pipeline within Harrison Street from Paterson Street to Newark Avenue. The map also suggests that a six-inch pipeline within Ferry Street terminated at Harrison Street and did not extend to Marshall Street or into Block 10.[883]

[878] U.S. Coastal Survey 1844.
[879] Sypko 1980, 9-10; Lane 1939.
[880] G.M. Hopkins & Co. 1873.
[881] Speilmann and Brush 1880; Bien 1891.
[882] Hughes and Bailey 1904.
[883] G.M. Hopkins & Co. 1909.

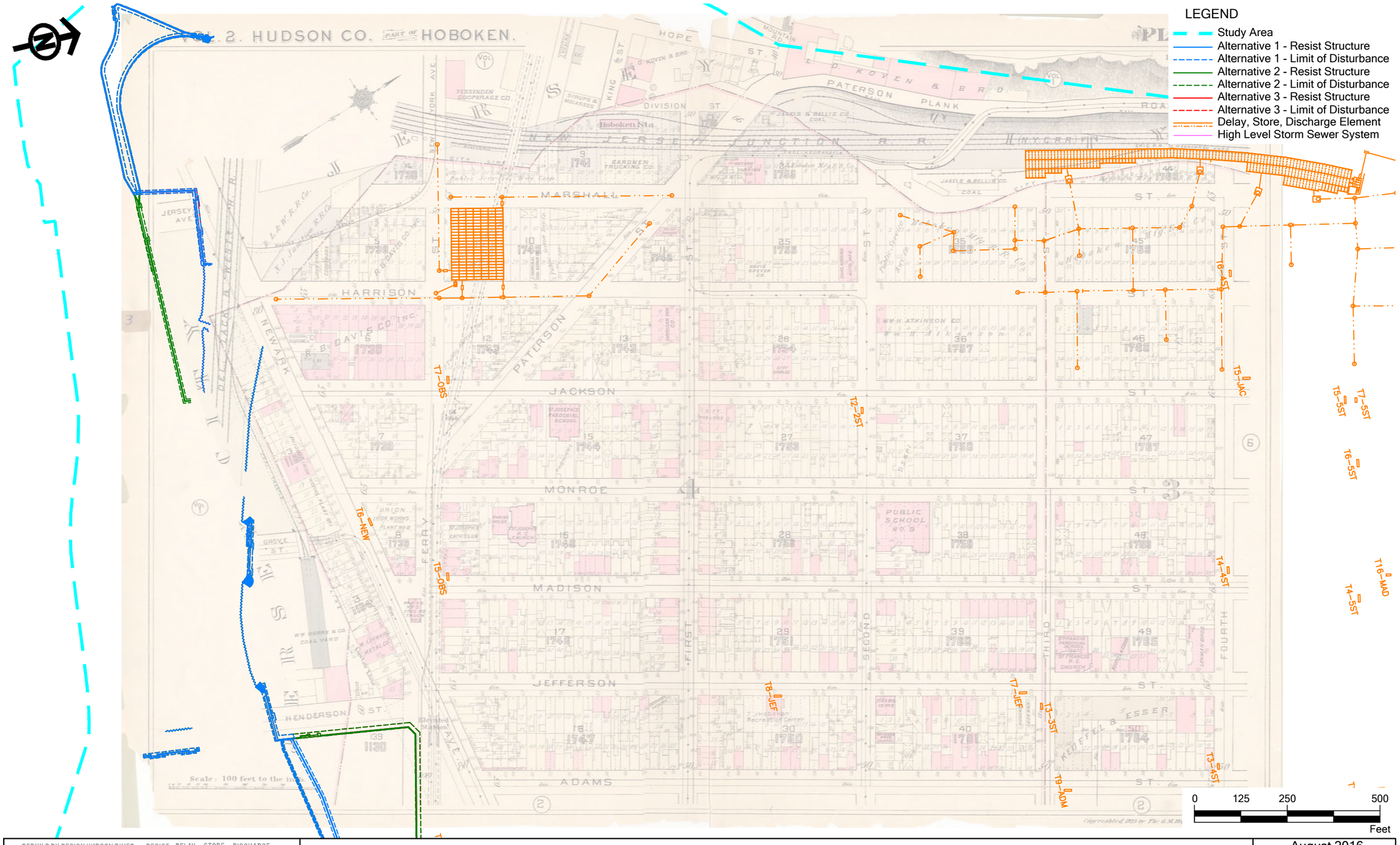
G.M. Hopkins & Co.'s 1923 map reflects little additional development within Block 10 (Figure 99). The elevated rail line is still extant, but is now associated with Public Service. Two frame buildings were located to the north of the stormwater detention system—a frame garage on the eastern frontage of Marshall Street and a building associated with J. Hannibal Coal & Grain Company on the western frontage of Harrison Street. A six-inch pipeline had also been installed within Paterson Street. There was no other additional development within Block 10. The 1940 As-Built plans indicate that vitrified clay pipes were located within Observer Highway, Paterson Avenue, and the northern portion of Harrison Street. The southern portion of Harrison Street between Observer Highway and Newark Avenue did not have a sewer line by 1940. There was also no sewer line within Marshall Street between Observer Highway and Paterson Avenue.[884]

Historic aerial imagery from 1931 indicates that the NHCR elevated lines still extended over the southern portion of Block 10. It is difficult to discern whether any features associated with the rail line were located within the block.[885] The 1937 Sanborn Insurance Map also indicates the presence of the railway (Figure 100). According to the 1937 Sanborn map, a tile and concrete floored unidentified structure was located to the immediate north of the northwestern extent of Block 10. A driveway extended in an east-west direction to the north of this structure between Ferry and 1st streets. To the immediate north of the driveway, there were two linear buildings with associated smaller buildings. These buildings consisted of two crate storage buildings and a grain building; the occupation was associated with the N.Y. Live Poultry Trucking Co, Inc. The Sanborn map also indicates the presence of six-inch water lines within Harrison Street and Paterson Plank Road; the pipeline along Harrison Street extended to Newark Avenue.[886]

The 1951 Sanborn Insurance map still reflects the presence of the elevated NHCR line. The 1937 structure was still extant and was identified as a meat packing building. A parcel with a gas tank was located to the west of the meat packing building and north of the northeastern extent of Block 10. A driveway was still present; structures associated with a motor freight station including a repair shop and office were located to the north of the driveway. Historic aerial imagery from 1954 indicates that the elevated rail line had been removed. Block 10 appears to have been used for storage; there were no structures within this area.[887]

The 1979 Sanborn Insurance map indicates that a transportation related structure had developed in the southwestern corner of Block 10 (Figure 101). The remaining southern portion of Block 10 was a parking area. The driveway was no longer present. Several motor-related structures were located to the north of Block 10 on the eastern frontage of Marshall Street. The historic aerial imagery from 1979 suggests that Marshall Street had been incorporated into the parking and storage area north of Observer Highway. By 1987, a larger transportation-related building was located within the southern portion of Block 10. Former Marshall Street continued to be used for parking and storage. By 1997, the building in the southwestern corner of Block 10 had been removed and the entire southern

[884] G.M. Hopkins 1923; Whittemore 1940.
[885] NETR 1931.
[886] Sanborn Library, LLC. 1937.
[887] Sanborn Library, LLC 1951; NETR 1954.



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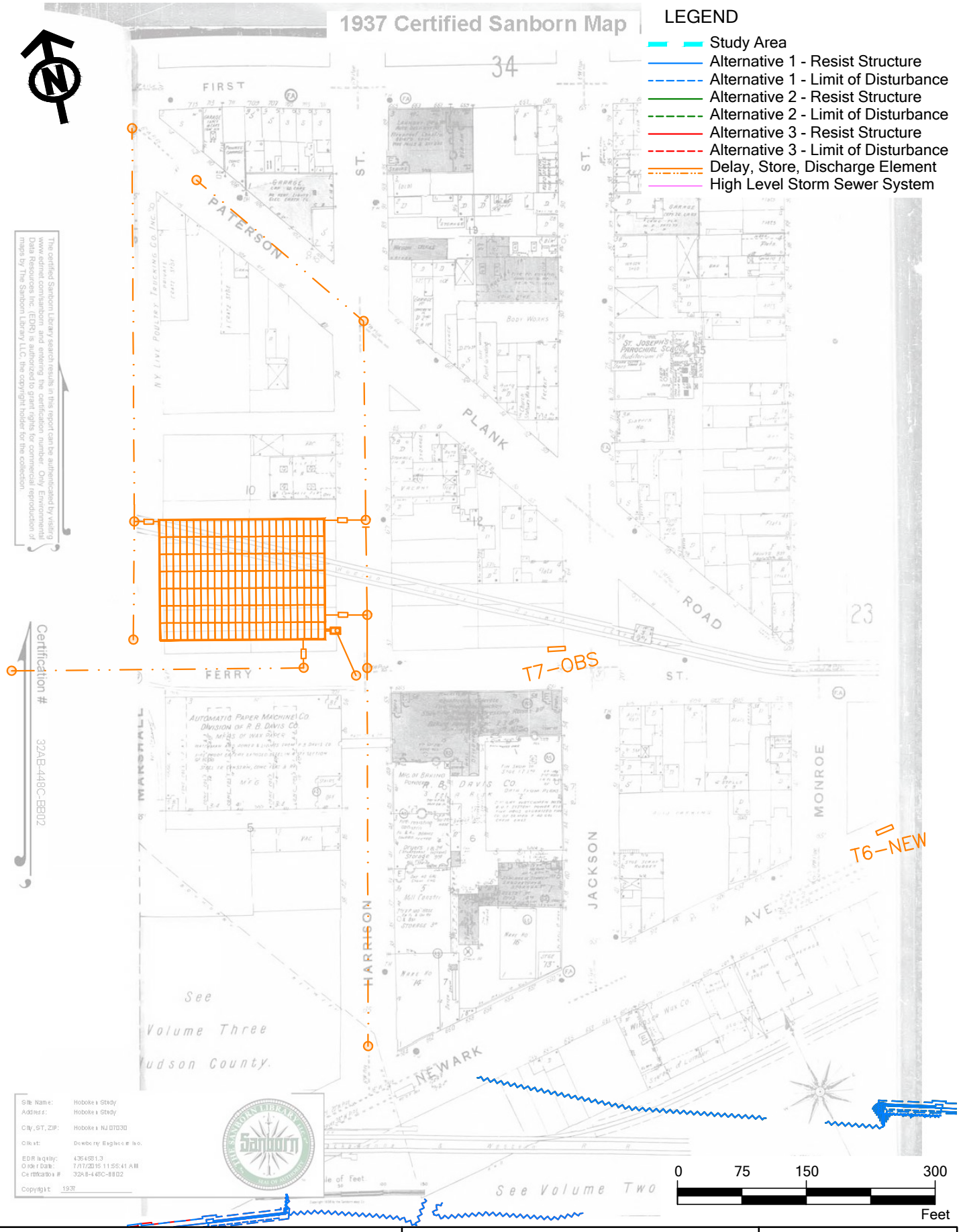
DSD Locations in 1923 - Hopkins 1923 (Plate 3)

August 2016

FIGURE 99



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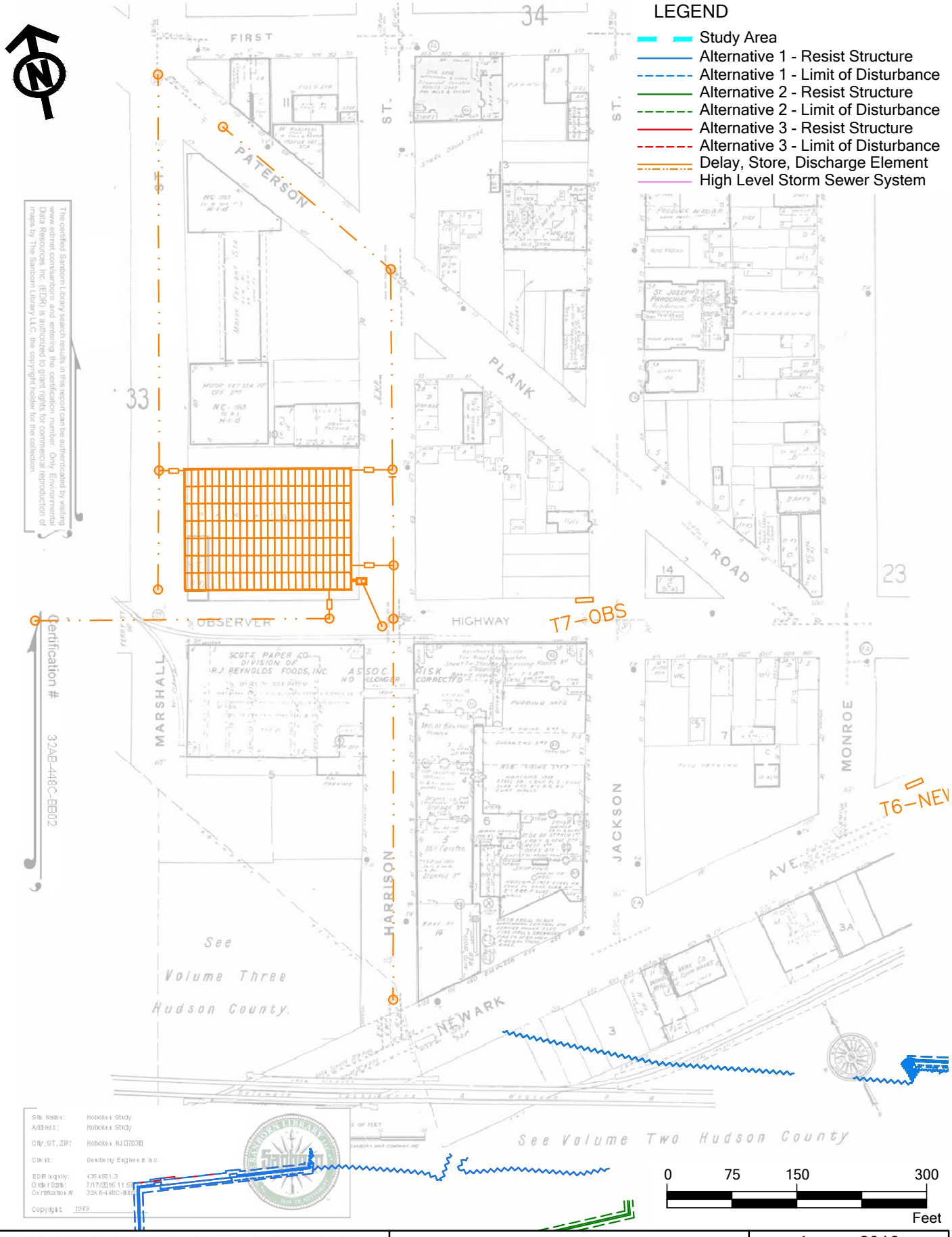
Location of Block 10, 1937 Sanborn 1937 (Plate 22)

August 2016

FIGURE 100



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Location of Block 10, 1979
Sanborn 1979 (Plate 22)

August 2016

FIGURE 101

portion of the block had been converted to paved parking areas (Figure 102). Block 10 has remained relatively unchanged from 1997 to the present day.

Summary and Conclusions

The cartographic history of Block 10 indicates that the area was primarily undeveloped marshlands through the late-nineteenth century. The earliest development within the vicinity of Block 10 was the extension of Ferry Street in the mid-nineteenth century and the development of the Paterson Plank Road in 1856. Block 10 does not appear to have been filled and developed until the early-twentieth century and may have been associated with the development of the elevated NHCR railway. By 1909, the elevated railway extended over Block 10; footings associated with the elevated railway may have been located within the block. Marshall Street was also extended in the late-nineteenth to early-twentieth century. The elevated rail line was removed in the 1950s. From the mid-twentieth century through the present-day, Block 10 has been used primarily for parking and vehicle storage. Around 1979, Marshall Street was incorporated into the parking and storage facilities to the east and west and was no longer a vehicular thoroughfare within the city. The 1940 As-Built plans indicate that vitrified clay sewer pipes had been installed within Paterson Avenue, Observer Highway, and Harrison Street between Observer Highway and Paterson Avenue. Additional data provided by the NHSA suggests that these pipes were installed sometime after 1923. There are no other indications of sewer lines within the immediate vicinity of Block 10.

In 2004, Joan Geismar conducted mechanical archaeological investigations at the corner of Marshall Street and 2nd Street. Geismar's excavations exposed a cement-faced brick foundation pier potentially associated with an historic elevated trolley trestle. A second possible foundation pier, more irregular and flat in shape, was also found. The second feature appeared to have been flipped over making it difficult to determine whether it represented a second foundation or construction debris. Geismar documented and mapped both features and suggested that if the intact feature was a pier for the trolley line it would indicate that the elevated line was supported by cement-faced brick piers.[888]

Sypko also conducted a cultural resource survey of a portion of Paterson Plank Road to the immediate west of Block 10. This study concluded that the historic portions of Paterson Plank Road were no longer extant and had been replaced in the nineteenth and twentieth centuries by a Belgian block surface and then an asphalt/tar-macadam surface.[889]

As previously discussed, Joan Geismar also conducted archaeological monitoring of a soil boring located approximately 710 feet to the south of Block 10 in the vicinity of Jersey Avenue (see Appendix D). The soil boring was conducted so as to provide a profile of the depositional history of the area. The geomorphological analysis of the boring found no evidence for past environmental differentiation within the exposed profile. Such environmental differentiation would have provided for past conditions more favorable to prehistoric settlement than marsh conditions. Given the lack of diversification within the exposed profile, the marshland was considered to be an unattractive setting for prehistoric occupation or exploitation and determined to have little to no prehistoric

[888] Geismar 2004.
[889] Sypko 1980.

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Location of Block 10, 1995
Historic Aerial Block 10 1995

August 2016

FIGURE 102

archaeological potential.[890] Dewberry also excavated a soil boring within the immediate vicinity of Block 10. Boring GW-1 was located approximately 120 feet to the east of the site. This boring contained an overlying fill deposit of gray and black sand which extended to a depth of eight feet below the surface. The fill deposit was underlain by a black clayey silt. The boring was terminated within the clayey silt at a depth of 20 feet below the surface. While Boring GW-1 did not extend to the depths of Geismar's boring, RV15-VAR15-V4, it presented a similar profile lacking an organic or peat deposit. Given the results of the adjacent soil borings within the historic meadowlands to the east of Block 10 and the proximity of Block 10 to the location of Geismar's work, and the historic presence of meadowlands within Block 10, Block 10 is not considered sensitive for prehistoric deposits.

With respect to historic deposits, development within Block 10 was associated with the development of the Paterson Plank Road in 1865 and the late-nineteenth to early-twentieth century elevated NHCR line within the southern portion of the block. In light of Geismar's 2004 investigations which uncovered at least one intact foundation pier, the southern portion of Block 10 is considered sensitive for historic deposits associated with the elevated NHCR line. Such deposits might include foundation remains, fill deposits, and other structural components. These deposits would be anticipated at relatively shallow depths possibly as shallow as two feet below the surface.

In addition, given that archaeological investigations within Hoboken have found intact archaeological features and deposits despite modern development, the far northern extent of Block 10 is considered sensitive for deposits associated with the historic Paterson Plank Road. It is possible that historic plank road deposits may remain extant beneath the current road surface and any fill deposits associated with its installation. In the twentieth century a vitrified clay sewer was installed within Paterson Avenue from Harrison to Marshall streets. The As-Built plans do not provide a profile of this sewer line; therefore, the depth of disturbance associated with its installation is unclear. The Paterson Plank Road was established around the same time as the overall development within the area suggesting that deposits associated with the road would be located within or directly on top of the nineteenth century historic fill. Therefore, the Paterson Avenue portion of Block 10 is considered sensitive for potential Paterson Plank Road deposits at depths greater than four feet below the surface.

As there was a lack of nineteenth century development within the remaining portions of Block 10, and there is no indication of significant historic sewer lines within any of the proposed piping locations, these areas are not considered sensitive for significant historic deposits and are found to have little to no historic archaeological potential.

9.1.9 NJ Transit Site

The NJ Transit Site is located in the southwestern portion of Hoboken. The site consists of a utility substation and several apartment buildings, parking areas, and green spaces associated with the Andrew Jackson Gardens and the Harrison Gardens properties of the Hoboken Housing Authority between 2nd and 6th streets on the west side of Hoboken (Plates 80 & 81). The NJ Transit Site extends from the northwest corner of Harrison and 2nd streets to the

[890] Geismar 2006.

Plate 81: Andrew Jackson Gardens. View West. (DVS 3/24/16).

Plate 82: Utility Substation at Southern Edge of Andrew Jackson Gardens. View Northwest. (DVS 3/24/16).

east to the intersection of Marshall and 2nd streets. A utility substation is located on the northern frontage of 2nd Street (Plate 82). The NJ Transit Site extends approximately 1,790 feet to the north; the northern border of the site is located on 6th Street between Marshall Drive on the west and Jackson Street on the east. Between 2nd and 3rd streets, the NJ Transit site extends from the HBLR line to Harrison Street on the east; between 3rd and 4th streets, the NJ Transit site extends from the HBLR line to Jackson Street on the east. Between 4th and 5th streets, the site extends from the rail line to the west side of a football field; and between 5th and 6th streets, the site extends from the rail line to Jackson Street on the east. The NJ Transit Site consists of approximately 17 acres.

The NJ Transit Site will also include a linear stormwater detention area along its western extent. In addition, the NJ Transit Site will include the expansion of a pre-existing NJ Transit detention basin to the west of the HBLR tracks in-between 1st and 2nd streets. The current NJ Transit detention basin consists of a sloped and low-lying semi-saturated area of grass growth which is bordered by a cement retaining wall to the west. The basin is separated from the HBLR tracks by a metal wall (Plate 83). A former rail spur was observed within the area of grass growth. Drainage piping (DP) will be laid to the west of the housing authority property at 4th Street and to the immediate west of the HBLR. The DP will extend from the NJ Transit Detention Basin approximately 6,600 feet to the northeast, paralleling the HBLR and either terminating at a new pump station which will be installed south of 18th Street and to the north of the NHSA treatment plant in Hoboken or connecting with the proposed NJ Transit Outfall. The NJ Transit Outfall is discussed in Section 9.1.11.

Historical Development

The NJ Transit Site does not appear to have been developed until the early-twentieth century. The 1844 U.S. Coastal Survey indicates that the NJ Transit Site was located in undeveloped meadowlands in the immediate vicinity of and to the north of the Hoboken Creek and to the east of the Palisades (see Figure 30). The DP extended through the undeveloped meadowlands adjacent to the Hoboken Creek and intersected with an historic road, historic 13th Street, extending from Hoboken to West Hoboken. The DP continued through the meadowlands to the proposed pump station which was located in undeveloped meadows to the southwest of the Hackensack Plank Road.[891]

G.M. Hopkins and Co.'s 1873 map indicates that Marshall, Harrison, and Jefferson streets between 2nd and 6th streets had been proposed and that lots had been designated (see Figures 35 & 70). It is unclear, however, whether these streets had been laid out. The Hoboken Creek was located to the immediate west and may have extended into the NJ Transit Site in the vicinity of Marshall and 5th streets. While it appears that the majority of the NJ Transit Site had been divided into lots and that those lots had been acquired by individual land owners, there were only a few structures within the site. Specifically, several buildings were located on the eastern frontage of Marshall Street between 3rd and 4th streets. From south to north these buildings consisted of: C. Murphy in Lot 3, T. Foley in Lot 4, an unassociated building in Lot 10, and A. Ketier (sp?) in Lot 15. An unassociated structure was also situated on the northwest corner of Marshall Street and 4th Street to the immediate west of the Hoboken Creek. No other development was depicted within the NJ Transit Site. The M&E Railroad (subsequent Junction RR) had developed to the immediate west of the NJ Transit Site. The DP would have been located to the immediate west of the rail line

[891] U.S. Coastal Survey 1844.

Plate 83: Existing NJT Detention Basin in Location of Proposed NJT Site. View South. (CM 5/9/2016).

Plate 84: Location of Proposed Stormwater Basin within BASF. View East Southeast from 13th Street. (TF 4/5/2016).

and north of the NJ Transit detention basin. The NJ Transit detention basin was located in the vicinity of structures associated with the Hoboken Land and Improvement Company to the west of the rail line between 1st and 2nd streets. Between 4th and 16th streets, the proposed DP appears to have been located in undeveloped land to the immediate west of the railroad line. Around 16th Street, the DP would have crossed the railroad and creek; it terminated in an undeveloped block. The DP was located within Jersey City, to the immediate west of its boundary with Hoboken.[892]

Additional historic documentary research was undertaken in order to establish the time depth of the historic occupations within historic block 45. This research included an examination of federal census records from 1870 and 1880; a review of historic city directories from 1866 and from 1873 through 1890; and, historic deed research at the Hudson County Register's Office in Jersey City. The results of this research are presented in Tables 3 through 5.

Table 3: Results of Deed Research for Block 45, Lots 3, 4, 10, & 15.

DATE	BOOK/PAGE	GRANTOR	GRANTEE	BLOCK/LOT	DESCRIPTION
10/13/1950	2430/522	Mayor & Common Council of Hoboken	Housing Authority of the City of Hoboken	35/6-25, 38; 44/1-14; 45/1-39; 54/1-2; 55/1-27; 64/1-34; 65/1-34	
6/6/1939	1949/123	Mayor & Common Council of Hoboken	Port of NY Individual Develop Corp; Jagels & Bellis Realty Corp.	45/1-17	$12,886.32– foreclosed of right
7/28/1905	920/88	Louis S. Fugazzi and Carlotta, wife	Henry S. Babson	45/2	$1.00
3/2/1905	886/644	Antonio & Antonia Alesanto	Louis S. Fugazzi	45/2 & 3	$1.00
5/26/1902	805/464	Joseph and Clementina Dimartini	Antonio and Maria Caparino	45/9-11	$2350
3/31/1900	749/313	Thomas and Mary Foley; Mary and Joseph Fullam	Nicola and Rosa Romanelli	45/4	$400
7/30/1892	559/41	Paul & Philomena Demartini	Joseph Demartini	45/9-12	$1200*
8/14/1889	886/647	Michele and Anna Romano	Antonio Alesanto	45/2 & 3	½ part; $630
8/14/1889	490/31	Michele and Anna Romano	Antonio Alesanto	45/2 & 3	½ part; $630
8/1/1873	261/263	John J. Lee, Admin of Cornelius Murphy, deceased	Nicola Danari	45/3	$150; by order of orphan's court

[892] G.M. Hopkins & Co. 1873.

DATE	BOOK/PAGE	GRANTOR	GRANTEE	BLOCK/LOT	DESCRIPTION
8/1/1873	261/265	Catherine Murphy, widow of Cornelius	Nicola Danari	45/3	$1.00
7/15/1870	215/194	John and Maria Christina Winkler	Cornelius Murphy	45/3	$500
4/30/1870	310/378	John and Maria Christina Winkler	Thomas Foley	45/4	$500
8/24/1869	193/630	John and Maria Winkler	Joseph Demartini and Fu Martine	45/9-12	$2140
4/27/1868	168/183	Giles P. and Mary Glass; Emily and Benjamin Popple	John Winkler	45/1-17, 27-34	$11,1000–Mortgage given by Glass to George W. Coster 9/13/1866, Bk 40/685
12/13/1867	452/190	Nicole and Teresa Daniele Danari	Antonio Alesanto, Michele Romano	45/2 & 3	$1200
9/13/1866	140/472	George W. Coster and Elizabeth	Giles P. Glass	45/1-17	$3000

*Same premises John Winkler and wife sold to Joseph Demartini, now deceased on 8/24/1869 (193/630); at death of Joseph descended in fee to three sons and heirs the said Paul Demartini, Joseph A.F. Demartini, and Louis Demartini, subject to dower right of widow, Maria Demartini.

Table 4: Historic Occupancy of Marshall Street between 3rd and 4th Streets according to Historic Census Research

YEAR	HISTORIC ADDRESS	CENSUS
1880	Marshall Street between 3rd and 4th Streets	Nicholas Donelery, Huckster white male, 27 years old, Teresa Donelery, wife, white female, 33 years old, John Donelery, son, white male, 6 years old, Mary Donelery, daughter, white female, <1 year old
		James Ginty, laborer, white male, 38 years old, Elizabeth Ginty, wife, white female, 35 years old, Peter Ginty, son, laborer, white male, 18 years old, Mary Ginty, daughter, white female, 14 years old, Joseph Ginty, son, white male, 5 years old
		James McGrath, truck driver, white male, 42 years old, Mary McGrath, wife, white female, 43 years old, Mary McGrath, daughter, operator, white female, 19 years old, William McGrath, son, errand boy, white male, 15 years old, Margaret McGrath, daughter, white female, 13 years old, James McGrath, son, white male, 11 years old
		William Widmeyer, porter, white male, 38 years old, Ida Widmeyer, wife, white female, 36 years old, Ellen Widmeyer, daughter, white female, 10 years old, Ida Widmeyer, daughter, white female, 8 years old, William Widmeyer, son, white male, 6 years old, August Widmeyer, son, white male, 4 years old, Peter Widmeyer, son, white male, <1 years old,
		Andrew Keller (sp?), rubber factory, white male, 44 years old, Alvenia (sp?) Keller (sp?), wife, white female, 38 years old

YEAR	HISTORIC ADDRESS	CENSUS
		William Feidler, cabinetmaker, white male, 36 years old, Charlotte Feidler, wife, white female, 27 years old, Meta Feidler, daughter, white female, 10 years old, Emma Feidler, daughter, white female, 7 years old, William Feidler, son, white male, 6 years old, Charles Feidler, son, white male, 3 years old, Lulu Feidler, daughter, white female, <1 year old,
		Casper Meyster, cabinetmaker, white male, 60 years old, Annie Meyster, wife, white female, 50 years old, Lizzie Meyster, daughter, operator, white female, 23 years old, Christiana Meyster, daughter, woosted work, white female, 14 years old
		Louisa Wagner, keeping house, white female, 70 years old, Herman Wagner, son, retail milk dealer, white male, 25 years old

Table 5: Historic Occupancy of Marshall Street according to Historic City Directories from 1873 through 1890[893]

OCCUPANT	HISTORIC ADDRESS	PROPERTY DESCRIPTION	YEARS
Herman Wagner, laborer	54 Marshall Street		1879-1884
		Marshall Street near 3rd Street	1885-1886
	46 Marshall Street		1887
James Ginty, laborer; Peter Ginty, laborer	56 Marshall Street		1879-1884
		Marshall Street near 3rd Street	1885-1886
	43 Marshall Street		1887
	109 Marshall Street		1888
		Marshall Street near 4th Street	1889
James McGrath, driver	58 Marshall Street		1879-1884
		Marshall Street near 4th Street	1885-1886
	44 Marshall Street		1887
	111 Marshall Street		1888
August Keller, laborer	62 Marshall Street		1879-1880
Henry Meyster, carpenter	66 Marshall Street		1879-1880
Caspar (er) Meister, carpenter		Marshall Street corner 4th Street	1881-1886
		4th Street corner Marshall Street	1887-1888
		Marshall Street corner 4th Street	1889
William Wedemeyer, porter		Marshall Street near 2nd Street	1882
Timothy Foley, cooper		Marshall Street near 3rd Street	1884-1886
	43 Marshall Street		1887
Nicholas Donere, peddler		Marshall Street near 3rd Street	1884-1886

[893] Ancestry.com, "U.S. City Directories, 1822-1995," accessed April 18, 2016 at http://search.ancestry.com/search/db.aspx?dbid=2469.

The historic research suggests a potential mid to late-nineteenth century occupation of Lots 3, 4, and 15. It appears that Lot 3 may have been occupied by Cornelius Murphy from 1870 to 1873; and, by Nicholas Donere from 1873 to 1886. Lot 4 may have been occupied by a member of the Foley family from 1873 through 1887. Lot 15 may have been occupied by Andrew Keller from 1873 to 1880. The occupation of Lot 10 is unclear. The directory and census record research also suggest that there may have been additional occupations on Marshall Street between 3rd and 4th streets during the 1880s.

Speilmann and Brush's 1880 and Bien's 1891 topographical maps suggest that the NJ Transit Site had not been laid out and that it may have remained unimproved marshland through the late-nineteenth century (see Figure 15). The Speilmann and Brush map indicates that there were no sewer lines within the NJ Transit site. The lack of sewer lines within the NJ Transit site suggests that the structures depicted on the 1873 map were not tied into the municipal sewer system. The map also indicates that the western portions of the site were located within or in the immediate vicinity of the Hoboken Creek. The proposed DP appears to have been located to the immediate west of the creek and may have crossed portions of the West Hoboken Road and Hillside Road before crossing the railroad and creek. By 1880, the Erie & Western Railroad was located to the west of the NJ Transit site. The NJ Transit detention basin was located in meadowlands to the east of the Paterson Plank Road and west of the Hoboken Creek.[894]

The 1891 Sanborn Insurance map indicates that structures continued to be located within the lots occupied in the 1870s along Marshall Street between 3rd and 4th streets. Occupation of the lots on the eastern frontage from Marshall Street between 3rd and 4th streets consisted of:

- Lot 2: Small adobe building
- Lot 3 (305 Marshall Street): 2-story frame garage
- Lot 4 (307 Marshall Street): 2-story iron-clad shop with adobe building in rear of lot
- Lot 6 (311 Marshall Street): 2-story frame tenement building
- Lot 7 (313 Marshall Street): 1-story frame garage
- Lot 8 (315 Marshall Street): 2-story frame garage
- Lot 9: (317 Marshall Street): 1-story iron-clad tenement building
- Lot 10: (319 Marshall Street): 2-story frame tenement building with adobe building in rear of lot
- Lot 15 (329 Marshall Street): 2-story frame garage with adobe building in rear of lot
- Lot 16 (331 Marshall Street): 2-story frame garage with adobe building in rear of lot

The structures within Lots 3, 4, 10, and 15 may have been the same structures that were located in these lots in 1873. The Sanborn map also indicates that a 2 ½-story frame shop was located at the northwest corner of Marshall and 4th streets. A rectangular iron-clad building was located to its north. The Sanborn map did not indicate any development along Harrison Street between 3rd and 4th streets.[895]

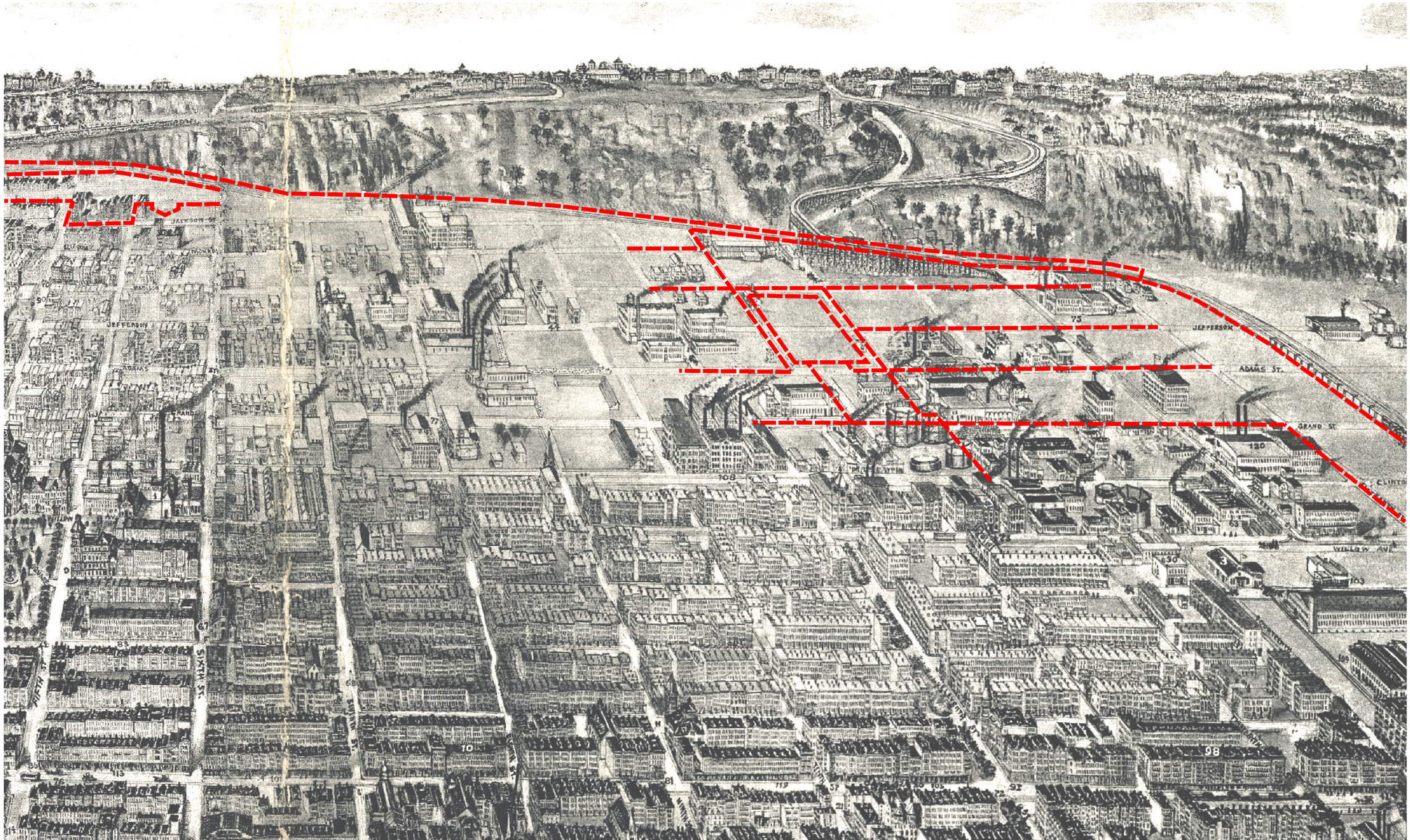
[894] Speilmann and Brush 1880; Bien 1891.
[895] Sanborn Library, LLC. 1891.

Hughes and Bailey's 1904 Birdseye view of the city suggests that portions of the NJ Transit Site had been filled and developed by the turn of the twentieth century (Figure 103). The southern extent of the NJ Transit Site along 2nd Street between Marshall and Harrison streets was laid out but there were no structures within the established block. An elevated train depot was located to the immediate west of Marshall Street and may represent the Junction RR line. Several structures had developed on the eastern frontage of Marshall Street between 3rd and 4th streets. Multiple structures were also located on the western frontage of Jackson Street in between 3rd and 4th streets. A single structure was also situated at the northwest corner of Marshall and 4th streets. Marshall Street had not been laid out north of 4th Street. A single structure was located at the northwest corner of Jackson and 5th streets. Harrison Street had not been established north of 5th Street; 5th and 6th streets had yet to be laid out west of Jackson Street. The proposed DP was located in primarily undeveloped land to the immediate west of the rail line and east of the Palisades. The far southern extent of the DP in the vicinity of 2nd and 3rd streets appears to have extended over rail spurs associated with the J.A. Egens & Belles Coal Pocket. In this area, the DP also intersected an inclined trolley line which crossed the Junction RR. The DP appears to have extended near the bottom of a long staircase leading up the Palisades into Jersey City in the vicinity of 8th Street. The DP extended to the immediate east or in the immediate vicinity of the trestle of the 15th Street elevated train line. To the north of the elevated train trestle, the DP was located near the base of another staircase up the Palisades in the vicinity of 13th Street. The DP crossed the railroad tracks in the vicinity of 16th and 17th streets and may have terminated in the vicinity of buildings associated with the New York Bottlers' Supplies Manufacturing Company.[896]

G.M. Hopkins & Co.'s 1909 map indicates the NJ Transit site had been laid out (see Figures 37 & 71). Along the southern extent of the NJT site a single structure is depicted in Block 35, Lot 30, on the western frontage of Harrison Street. A six-inch pipeline was located within 2nd Street; there were no pipelines along Harrison Street or Marshall Street between 2nd and 3rd streets. Several structures were located on Block 46 and Block 45 to the north of 3rd Street. The occupation within Block 45 from south to north consisted of:

- Lot 2: Frame building on rear of lot
- Lot 3: Frame building on rear of lot
- Lot 4: Frame building on front of lot; L-shaped garage/stable on rear of lot
- Lot 5: Frame garage/stable on rear of lot
- Lot 6: Frame building on front of lot
- Lot 7: Frame building on front of lot; smaller frame linear building on southern frontage of lot
- Lot 8: Frame building on front of lot; smaller frame linear building on northern frontage of lot; garage/stable on rear of lot
- Lot 9: Frame garage/stable on rear of lot
- Lot 10: Frame structure on front of lot
- Lot 12: Frame structure on front of lot
- Lot 15: Frame structure on front of lot; smaller frame building in center of lot

[896] Hughes and Bailey 1904.



REBUILD BY DESIGN HUDSON RIVER ▪ RESIST ▪ DELAY ▪ STORE ▪ DISCHARGE ▪

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Approximate Location of NJ Transit Site and BASF Site - Hughes and Bailey 1904

August 2016

FIGURE 103

- Lot 16: Frame structure on front of lot; smaller frame building in center of lot
- Lot 17: Iron-clad garage/stable in center of lot

With respect to the occupation of Block 45, the structures on Lots 4, 10, and 15 may have been the same structures as depicted on the 1873 map and/or the 1891 Sanborn map.

The occupation within Block 46 from southwest to northwest and then northeast to southwest consisted of:

- Lot 3 and Lot 32: Linear frame buildings within one iron-clad roof; 3 garages/stables; occupies almost the entirety of both lots; associated with Jno. Ebersberger Company
- Lot 4 and Lot 31: Linear frame building occupies both lots; associated with Jno. Ebersberger Company
- Lot 7: Frame building on front of lot
- Lot 8: Frame garage/stable on rear of lot
- Lot 11: Frame building on front of lot
- Lot 13: Frame building on front of lot; frame garage/stable on rear of lot
- Lot 14: Frame structure with attached garage/stable on rear of lot
- Lot 15: Frame building on front of lot; frame building with attached garage/stable on rear of lot
- Lot 16: Frame building on center of lot; frame garage/stable on rear of lot
- Lot 17: Frame Ironworks on front and center of lot
- Lot 18: Frame building on front of lot; frame garage/stable on rear of lot
- Lot 19: Frame building on front of lot; frame garage/stable on rear of lot
- Lot 20: Frame building on front of lot; frame garage/stable on rear of lot
- Lot 21: Frame building on front of lot; frame garage/stable on rear of lot
- Lot 22: Frame building on front of lot; frame building on rear of lot
- Lot 23: Frame garage/stable on rear of lot
- Lot 24: Frame garage/stable on front of lot; frame garage/stable on rear of lot
- Lot 25: Frame building on front of lot; frame garage/stable on rear of lot
- Lot 26: Frame building on front of lot; frame building in center of lot; frame garage/stable on rear of lot
- Lot 27 and Lot 28: Frame garage/stable on front of lots 27 and 28; frame garage/stable on rear of lot 27 and frame garage/stable on rear of lot 28
- Lot 29: Frame building on front of lot; frame C-shaped building on rear of lot

The southern extent of the NJ Transit Site piping would have extended through the occupations on lots 3, 4, and 13 within Block 46.

Pipelines were located on 3rd and 4th streets; a six-inch waterline was also located on Marshall Street between 3rd and 4th streets. A six-inch waterline and a sewer line were located within Jackson Street from Newark Avenue to 5th

Street. The only occupation within the NJ Transit site north of 4th Street consisted of three frame structures in the northwest corner of Marshall and 4th streets. There appears to be a square building in the northwest corner with a smaller frame building attached to the west and a linear frame structure to the north. This occupation may represent the same occupation as depicted on the 1873 map. There appear to be no pipelines within the NJ Transit Site north of 4th Street. The Junction RR was located to the immediate west of the site. The Junction RR owned a few lots in Block 64, Lots 6-8, within the NJ Transit Site.[897]

The 1909 map indicates that the NJ Transit detention basin was located in the immediate vicinity of a coal pocket associated with J.A. Egens & Belles. This structure was located along a rail spur line associated with the Junction RR. A small brick and frame structure was also associated with spur lines to the west of the Paterson Plank Road. The 1909 map also indicates that the proposed DP was located in undeveloped land to the west of the Junction Railroad from 4th through 12th streets. At 13th Street, the DP appears to have crossed the eastern extent of the Hillside Road and the iron trestle of the 15th Street elevated trolley line the NHCR's Old Hillside Road Trolley Horseshoe Curve. The DP was also located to the immediate east of a retaining wall associated with the Hillside Road. The northern portion of the proposed DP crossed the railroad in the vicinity of 17th Street and appears to have terminated in undeveloped lots to the south of 17th Street.[898]

An historic photograph from 1911 illustrates the sparse development along Marshall Street between 3rd and 4th streets (Figure 104). The photograph also indicates how undeveloped and sunken the land was immediately surrounding the existing structures. Marshall Streets is visibly higher in elevation to the structures located to its immediate west. The photograph indicates that there were four structures to the north of the intersection of Marshall and 3rd streets; one of these structures was set farther back from the street behind a possible garden. Signage is visible on one of the buildings indicating that it may have also held a storefront. A building is also located to the south of the intersection of Marshall and 4th streets. A rectangular wooden fence line is located to the west of the structure. The photograph indicates the denser development along Harrison Street between 3rd and 4th streets. This development, from south to north along Harrison, included the Joseph Picuri Iron Works, the James Ferreri Column Company, and the Friedrichs Iron Works at the corner of 4th Street. Several unidentified buildings were also located along Harrison Street. It is unclear from the historic photograph as to whether the 1909 Ebersberger Cooperage was still extant along Harrison Street; the James Ferreri Column Company may have been located in the former location of the cooperage. The buildings on Harrison Street appear to be flush with the elevation of Harrison Street.

G.M. Hopkins & Co.'s 1923 map reflects additional development within the NJ Transit Site (see Figures 74 & 99). Within Block 35, the southern portion of the NJ Transit Site, there was still only a single structure in Lot 30. The remaining lots within the block were undeveloped and were owned by Public Service and the Hoboken Manufacturing Railroad Company. All of the development within Block 45 had been removed; Block 44 was also undeveloped; both blocks were associated with the Hoboken Manufacturing Railroad Company. Unlike these blocks, Block 46 was extensively developed. The occupation within Block 46 from southwest to northwest and then northeast to southwest consisted of:

[897] G.M. Hopkins & Co. 1909.
[898] G.M. Hopkins & Co. 1909.

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Historic Photograph of Marshall Street between 3rd and 4th Streets circa 1911

August 2016

FIGURE 104

- Lot 1: Linear frame building occupies entire lot
- Lot 2: Linear frame building occupies entire lot
- Lot 3 and Lot 32: Linear frame buildings within one iron-clad roof; 3 garages/stables; occupies almost the entirety of both lots; iron roof over lots 3 and 4
- Lot 4 and Lot 31: Linear frame building occupies both lots; iron roof over lots 3 and 4
- Lot 5: Frame garage/stable attached to other frame building in front of lot; frame building at rear of lot
- Lot 6: Linear frame building at front and south of lot; frame building at rear of lot
- Lot 7: Frame building on front of lot; frame building at rear of lot
- Lot 8: Frame garage/stable on rear of lot
- Lot 9: Frame building at rear of lot
- Lot 11: Frame building on front of lot overlaps with lot 10
- Lot 12: L-shaped building at rear of lot
- Lot 13: Frame building on front of lot; frame garage/stable on rear of lot
- Lot 14: Frame building on front of lot; Frame structure with attached garage/stable on rear of lot
- Lot 15: Frame building on front of lot; frame building with attached garage/stable on rear of lot
- Lot 16: Frame building on center of lot with attached smaller building; frame garage/stable on rear of lot
- Lot 17: Frame building on front and center of lot
- Lot 18: Frame building on front of lot; frame garage/stable on rear of lot
- Lot 19: Frame building on front of lot; frame garage/stable on rear of lot
- Lot 20: Frame building on front of lot; frame garage/stable on rear of lot
- Lot 21: Frame building on front of lot; frame garage/stable on rear of lot
- Lot 22: Frame building on front of lot; frame building on rear of lot
- Lot 23: Frame building on rear of lot
- Lot 24: Frame garage/stable on front of lot; frame garage/stable on rear of lot
- Lot 25: Frame building on front of lot; frame garage/stable on rear of lot
- Lot 26: Frame building on front of lot; frame building in center of lot
- Lot 27: Long frame building on rear of lot with attached smaller frame building on front of lot
- Lot 28: Frame garage/stable on front of lot
- Lot 29: Frame building on front of lot; frame building on rear of lot
- Lot 33: Frame building on front of lot
- Lot 34: Long frame building on front of lot

To the north of 4th Street, the NJ Transit Site had remained relatively unchanged. The structures in Block 54 at the northwest corner of Marshall Street and 4th Street had been removed. Also, a six-inch water line had been extended

within Jackson to 6th streets. A segment of the 6th Street water line also extended to the west of Jackson Street but did not reach Harrison Street.[899]

The NJ Transit detention basin appears to have been relatively unchanged from 1909 to 1923. The Jagels & Bellis Coal Company continued to occupy the area with two structures; the larger building was located along the rail spur. The area within which the DP was located also appears to have been relatively unchanged from 1909 to 1923. By 1928, the elevated trolley lines located within the southern and northern portions of the DP were abandoned.[900]

The 1937 Sanborn Insurance map indicates minimal development within the majority of the NJ Transit Site. A single structure was located in Block 35 along the western frontage of Harrison Street between 2nd and 3rd streets. Within Block 45, two lots on the eastern frontage of Marshall Street between 3rd and 4th streets were occupied. There was a small structure in the rear portion of a lot near 3rd Street; there were two structures (one in the center and one in the rear) of a lot farther to the north. Block 46 was the only block within the NJ Transit Site containing extensive development on both the eastern frontage of Harrison Street and the western frontage of Jackson Street. The earlier industrial occupation of Lots 3 and 4 was no longer extant. The occupation within Block 46 from southwest to northwest and then northeast to southwest consisted of:

- Lot 5: Building in front of lot with two attached garages; dwelling at rear of lot
- Lot 6: Building in front of lot with two attached smaller structures; dwelling at rear of lot
- Lots 8-11: Apartment building in northwest corner of Lot 11
- Lot 12: Garage and attached structure in rear of lot
- Lot 13: Dwelling in front of lot; garage in rear of lot
- Lot 14: Dwelling in front of lot; structure with attached garage in southeast corner of lot
- Lot 15: Garage with attached building in rear of lot
- Lot 16: Iron shed with attached building in center of lot; garage in rear of lot
- Lot 17: Friedrichs Iron Works in majority of lot
- Lot 18: Store in front of lot; automobile building in rear of lot extends into Lot 19
- Lot 19: Apartment building in front of lot
- Lot 20: Building in front of lot with attached structure; garage in rear of lot extends into lot 21
- Lot 21: Building in front of lot
- Lot 22: Dwelling in front of lot; dwelling in rear of lot
- Lot 23: Dwelling and garage in rear of lot
- Lot 24: Garage in front of lot; open shed in center of lot; garage in rear of lot
- Lot 25: Dwelling in front of lot; structure with attached garage in rear of lot
- Lot 26: Dwelling in front of lot; garage and attached outbuilding in rear of lot
- Lot 27: Store in northeast corner of lot; Auto repair shop in center and rear of lot
- Lot 28: Store in front of lot; structure in rear of lot

[899] G.M. Hopkins 1923.
[900] G.M. Hopkins 1923.

- Lots 29 and 30: Dwelling in front of Lot 29; three structures in rear of lots
- Lots 31 and 32: Structure in front of lots; rear of lots for Storage of empty bottles
- Lot 33: Building in front of lot
- Lot 34: Garage in front and center of lot

The only other development within the NJ Transit Site consisted of a single structure on the western frontage of Jackson Street in Block 65.[901]

The 1937 Sanborn Insurance maps indicate that the proposed DP was located in the vicinity of steps at the base of Congress Street in Jersey City and 8th Street in Hoboken. To the immediate north of 13th Street, the DP also crossed an iron trestle associated with the former Old Hillside Road Trolley line. The DP extended under the 14th Street Viaduct. The DP would have crossed a rail spur line and the Junction RR in the vicinity of the Detroit Steel Products Company to the north of 17th Street in Hoboken.[902]

The 1940 As-Built plans for the sewer system indicate that a brick sewer line was located within Jackson Street between 2nd and 5th streets. A vitrified clay pipe was located within Jackson Street between 5th and 6th streets. A vitrified clay pipe was also located within Harrison Street from 5th to 6th streets; and along 6th Street from Harrison to Marshall streets. The As-Builts indicate that there were no sewer lines within Harrison Street south of 5th Street nor within Marshall Street in the vicinity of the NJ Transit Site.[903]

By 1951, the current public housing within the NJ Transit Site had developed (Figure 105). The transformer yard of the Public Service Electric & Gas Company (PSE&G) had also developed along the western frontage of 2nd Street. To the north of the transformer yard the Andrew Jackson Gardens Apartments had developed between 2nd and 6th streets. The apartment complex consisted of multiple X-shaped apartment buildings along the western extent of the Andrew Jackson Gardens Apartments; a series of adjacent smaller buildings were also located on the eastern extent of the apartments. An historic photograph ca. 1950 to 1951 documents the construction of the Andrew Jackson Garden Apartments (Figure 106). The photo indicates that there was little to no development between the railroad lines and the housing complex; the area appears to be cleared aside from telephone utility poles. From 1951 to the present day there has been minimal change within the NJ Transit Site. The 1951 Sanborn map indicates that historic Lot 13 within Block 46 continued to be occupied. A dwelling was located at the front of the lot; a U-shaped cinder block and concrete warehouse extended across the rear portion of Lot 13. This warehouse was associated with Baled Paper. In 1959, the Harrison Gardens Apartments had been installed between Harrison and Jackson streets, and 3rd and 4th streets; the paper warehouse and any other structures along Harrison Street were removed during construction of the Harrison Gardens Apartments. By 1979, a storage building had developed to the east of the Andrew Jackson Garden Apartments, north of the former intersection of Marshall and 4th streets. A six-inch water line had also been extended along the former line of 5th Street west of Jackson Street; a fire hydrant was serviced

[901] Sanborn Library, LLC 1937.
[902] Sanborn Library, LLC 1937.
[903] Whittemore 2014.

REBUILD BY DESIGN HUDSON RIVER ▪ RESIST ▪ DELAY ▪ STORE ▪ DISCHARGE ▪

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Location of NJ Transit Site, 1951
Sanborn 1951 (Plate 34)

August 2016

FIGURE 105

REBUILD BY DESIGN HUDSON RIVER ▪ RESIST ▪ DELAY ▪ STORE ▪ DISCHARGE ▪

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Construction of Andrew Jackson Garden Apartments between 3rd and 5th Streets, circa 1950-1951

August 2016

FIGURE 106

by this water line in-between two of the X-shaped buildings. By 2006, a community center had developed to the south of the storage building, on the northern frontage of 4th Street. [904]

The 1950 Sanborn Insurance map indicates that the Scranton Coal Company maintained a coal pocket in the former location of the Jagels & Bellis Coal Company structure within the NJ Transit detention basin. A small office building was located to the south of the coal pocket. Two rail spur lines were also located within this area. The twentieth century historic aerial imagery indicates that the NJ Transit detention basin was cleared of buildings and rail features between 1954 and 1966. By 1979, the area was used as a storage space for large containers and included a small structure. Between 1997 and 2002, the area was extensively cleared and possibly flooded. The current detention basin appears to have been created between 2002 and 2006.[905]

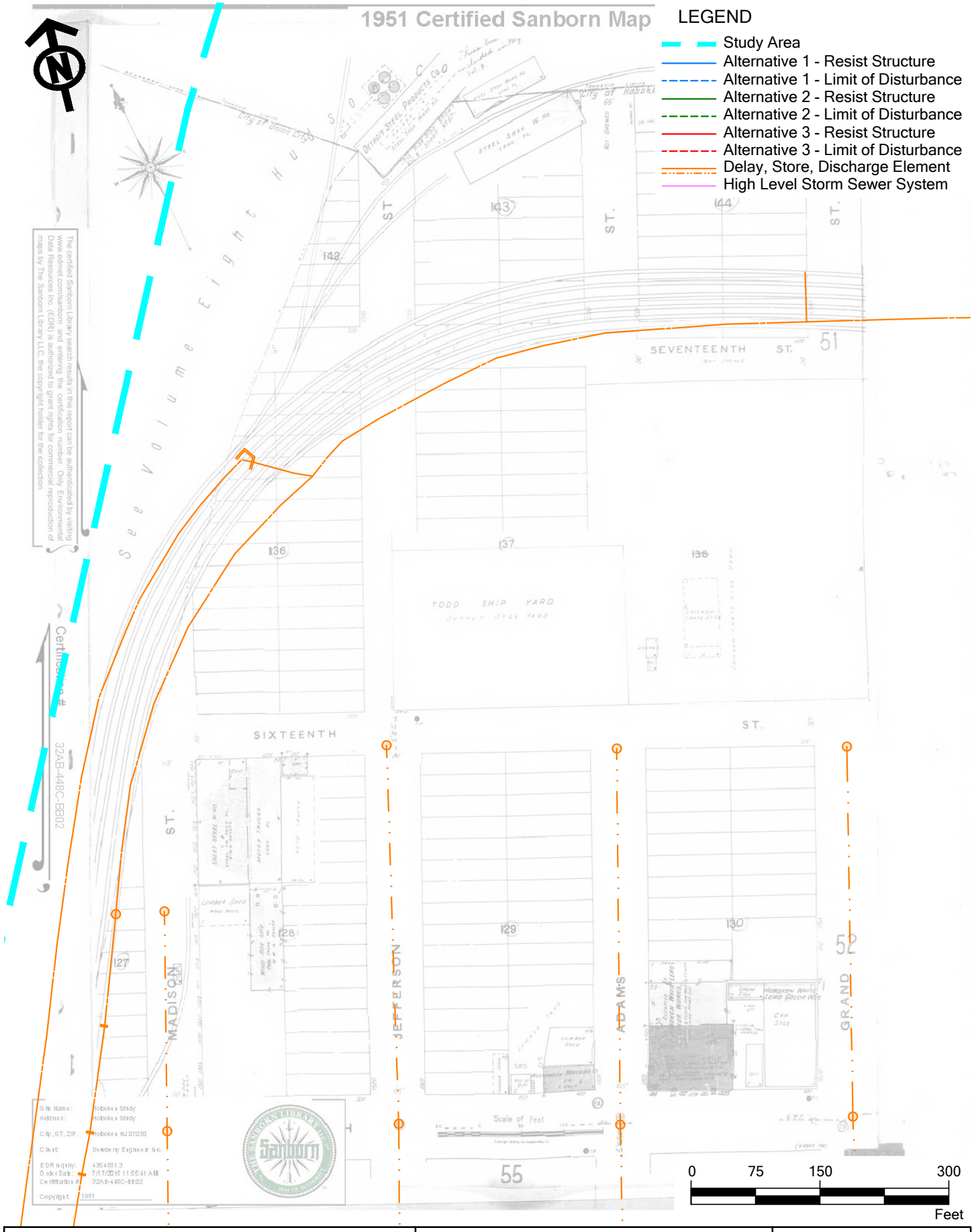
Through the twentieth century, the DP was primarily located within the Junction RR tracks (Figure 107).[906] By 1979, the iron trestle to the north of 13th Street within the proposed DP had been removed. Between 1966 and 1979, a building had been constructed in the immediate vicinity of the DP between a point to the north of 10th Street and a point to the north of 11th Street. During this time the remnants of the Old Hillside Road Trolley Curve appear to have been removed. By 1997, it appears that the steps located in the vicinity of 8th Street were no longer extant. In 2006, a station stop for the HBLR opened within the immediate vicinity of the DP between 8th and 9th streets.[907]

Summary and Conclusions

The NJ Transit Site consisted of undeveloped meadowlands in the immediate vicinity of and to the north of Hoboken Creek. The DP associated with the NJ Transit Site was also located in primarily undeveloped meadowlands aside from a small portion of the DP which crossed historic 13th Street. By 1873, there were a handful of structures within the NJ Transit Site. These structures were located on the eastern frontage of Marshall Street between 3rd and 4th streets; a single structure was also located on the northwestern corner of Marshall and 4th streets. The Junction RR had been extended to the immediate west of the NJ Transit Site and to the immediate east of the proposed DP. The historic occupations on the west side of Marshall Street spanned from 1873 to 1889. The late-nineteenth century maps suggest that there was no sewer line within the NJ Transit site during this period. By the early-twentieth century portions of the NJ Transit Site had yet to be laid out. Structures were still present on the eastern frontage of Marshall Street between 3rd and 4th streets; structures had also developed along Harrison and Jackson streets between 3rd and 4th streets. The proposed DP appeared to extend to the east of staircases leading up the Palisades at 8th Street and at 13th Street. The proposed DP was also located in the immediate vicinity of an iron trestle associated with an NHCR elevated trolley line, the Old Hillside Road Trolley Horseshoe Curve, in the vicinity of 13th Street and in the immediate vicinity of inclined trolley line in the around 2nd and 3rd streets.

Sewer lines were located in portions of the NJ Transit Site including Jackson Street and portions of Harrison Street. Twentieth century water lines were located within Jackson Street, portions of Marshall Street, and 4th Street. The

[904] Sanborn Library, LLC 1951-2006.
[905] Sanborn Library, LLC 1950; NETR 1954-2013.
[906] Sanborn Library, LLC 1951; NETR 1954.
[907] Sanborn Library, LLC 1979-2013; NETR 1979-2013; Google Earth, "Aerial Imagery," accessed April 19, 2016 at http://www.google.com/earth/.



REBUILD BY DESIGN HUDSON RIVER ▪ RESIST ▪ DELAY ▪ STORE ▪ DISCHARGE ▪

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Project Locations in 1951
Sanborn 1951 (Plate 56)

August 2016

FIGURE 107

As-Built plans indicate that a brick sewer line was located within Jackson Street between 2nd and 4th Streets, along the southeastern extent of the NJ Transit Site. The As-Builts also indicate that vitrified clay pipes were located within Jackson Street between 5th and 6th streets, Harrison Street between 5th and 6th streets, and 6th Street west of Harrison Street.

Development within the NJ Transit Site remained relatively minimal through the 1920s and 1930s. Block 46 between Harrison and Jackson streets and 3rd and 4th streets was the most developed block within the site. The structures in Block 45, including buildings on the eastern frontage of Marshall Street, were no longer extant. Two frame structures and rail spur lines associated with the Jagels & Bellis Coal Company were located within the NJ Transit Detention Basin from 1909 through 1923. Between 1923 and 1950, the Scranton Coal Company acquired this property. The parcel was cleared of all structures by 1966. The area was used for the storage of large containers through the early twenty-first century when the current detention basin was created.

Within the NJ Transit Site, the current Hoboken Housing Authority (HHA) buildings were constructed in 1950 to 1951 and in 1959. There has been minimal change with in the HHA property. The current PSE&G substation also developed ca. 1951. The iron trestle associated with the elevated trolley line was removed by 1979.

As previously noted, in 2004, Joan Geismar conducted mechanical archaeological investigations at the corner of Marshall and 2nd streets to the immediate west of the NJ Transit Site. Geismar's excavations exposed a cement-faced brick foundation pier potentially associated with an historic elevated trolley trestle. A second possible foundation pier, more irregular and flat in shape, was also found.[908] Joan Geismar also conducted archaeological monitoring of a soil boring located to the south of the NJ Transit Site in the vicinity of Jersey Avenue (see Appendix D). The soil boring was conducted so as to provide a profile of the depositional history of the area. The geomorphological analysis of the boring found no evidence for past environmental differentiation within the exposed profile. Such environmental differentiation would have provided for past conditions potentially more favorable to prehistoric settlement than marsh conditions. Given the lack of diversification within the exposed profile, the marshland was considered to be an unattractive setting for prehistoric occupation or exploitation and determined to have little to no prehistoric archaeological potential.[909]

In order to assess the prehistoric sensitivity of the NJ Transit Site and the DP, the results of the soil boring conducted by Geismar were compared with soil borings conducted by Dewberry between September and November 2015. Four of the soil borings excavated by Dewberry were located in the vicinity of the NJ Transit Site—GW-2, GW-4, GW-5, and GW-7 (see Appendix D). The soil profile within GW-2 was similar to the boring excavated by Geismar in that at a depth of around 13 feet below surface a stratum of gray clayey silt with fibers was encountered. Within Geismar's boring, a stratum of gray silt with organic material was encountered at a similar depth and extended to a depth of 60 feet below surface. GW-2 was terminated at a depth of 22 feet below surface within the gray clayey silt matrix. The similarities between the profiles exposed in Geismar's boring and in GW-2 suggest that the meadow profile in the vicinity of GW-2 is similarly uniform to that within the vicinity of the earlier boring. Thus, the southern

[908] Geismar 2004.
[909] Geismar 2006.

portion of the NJ Transit Site located south of 3rd Street is considered to possess little to no prehistoric archaeological potential.

The remaining three soil borings, GW-4, GW-5, and GW-7 revealed soil profiles similar to each other, but dissimilar to the GW-2 profile. Specifically, within these borings at a depth of approximately 16 to 18 feet below the surface, a stratum of black silt with organics was encountered. The borings which terminated at a depth of 20 to 22 feet below the surface all terminated within this organic matrix. Within GW-4, which was located to the immediate north of the NJ Transit Site on Harrison Street between 6th and 7th streets, the black silt stratum contained *significantly decomposed organics*. Although GW-4, GW-5, and GW-7 did not extend to the depth of Geismar's boring, the discrepancy within the profile beneath the overlying fill deposits suggests that the deeper profile may also be dissimilar and thus not reflective of the environmental uniformity seen within the earlier boring. Given that the NJ Transit Site was located in a relatively level area in proximity to the Hoboken Creek, and in light of the potential stable organic surface within the soil profile, portions of the NJ Transit Site are sensitive for prehistoric archaeological deposits below fill deposits. The soil borings also indicate that the NJ Transit Site was extensively filled. Given the depth of the fill deposits, there is a high likelihood that they have capped and insulated any pre-existing prehistoric deposits from the nineteenth and twentieth century urban development. Therefore, portions of the NJ Transit Site north of 3rd Street, including the DP, are considered to have prehistoric archaeological potential beneath fill deposits at a depth of 15 feet below the surface.

With respect to historic archaeological deposits, a portion of the NJ Transit Site along Marshall Street between 3rd and 4th streets contained mid to late-nineteenth century structures. These buildings appear to have predated the extension of sewage lines and, thus, were likely to be associated with privies. The majority of these structures appear to have remained in place through the early-twentieth century, being removed prior to 1923. Historic census and directory information indicate that several of the occupations may have lasted for close to ten years including the residency of Herman Wagner, James and Peter Ginty, James McGrath, and Henry and Casper Meyster. More specifically, the historic research suggests a potential mid to late-nineteenth century occupation of Lots 3, 4, and 15. It appears that Lot 3 may have been occupied by Cornelius Murphy from 1870 to 1873; and, by Nicholas Donere from 1873 to 1886. Lot 4 may have been occupied by a member of the Foley family from 1873 through 1887. Lot 15 may have been occupied by Andrew Keller from 1873 to 1880. The occupation of Lot 10 is unclear.

A water line was extended along Marshall Street between 3rd and 4th streets by 1909. A single structure was also located on the northwest corner of Marshall and 4th streets from at least 1873 through 1923. The historic research failed to identify the historic occupant of this property. The twentieth century development of the Andrew Gardens Apartments was located in the immediate vicinity of the late-nineteenth century occupation. While construction of these buildings would have resulted in extensive subsurface disturbance, the horizontal and vertical extent of this disturbance is currently unknown. Georeferencing the location of the Andrew Gardens Apartments onto the 1873 Hopkins map suggests that backyard features associated with the mid to late-nineteenth century structures would be located beyond the footprint of the apartment buildings (Figure 108). Given the uncertainty over the disturbance around the historic structures and the questions concerning the extent of fill associated with the construction of the public housing, the portion of the NJ Transit Site along the eastern frontage of Marshall Street between 3rd and 4th

LEGEND

- Study Area
- Alternative 1 - Resist Structure
- Alternative 1 - Limit of Disturbance
- Alternative 2 - Resist Structure
- Alternative 2 - Limit of Disturbance
- Alternative 3 - Resist Structure
- Alternative 3 - Limit of Disturbance
- Delay, Store, Discharge Element
- High Level Storm Sewer System

EXISTING BUILDING FOOTPRINT

T6–AST

T1–HAR

T5–JAC

T5–CST

T3–JAC

0 125 250 500 Feet

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Location of 1873 Structures in Relation to Andrew Jackson Garden Apartments and Proposed NJ Transit Site - Hopkins 1873 (Plate C)

August 2016

FIGURE 108

streets and at the northwest corner of Marshall and 4th streets is considered sensitive for late-nineteenth to early-twentieth century deposits. Such archaeological deposits might include shaft features, midden deposits, and/or other domestic activity areas. The depth of such deposits is uncertain given the ambiguous history of land development, therefore, deposits could be potentially encountered within two to three feet of the surface.

Similarly, the southern portion of the piping associated with the NJ Transit Site extended in the location of early-twentieth century development on Harrison Street between 3rd and 4th streets. Specifically, the piping appears to extend through an industrial occupation associated with the Jno. Ebersberger Cooperage in lots 3 and 4 of Block 46 in 1909 and across a frame building and associated stable/garage in Lot 13. The structures within the lots remained the same through 1923; by 1937, the industrial buildings had been removed from lots 3 and 4, which were vacant. A two-story dwelling was located at the front of Lot 13 from 1909 through at least 1954. The Baled Paper Warehouse was constructed within the rear of lots 12-15 sometime after 1937. This structure was removed sometime after 1954, with the construction of the Harrison Gardens Apartments. The degree of disturbance associated with the installation of the Harrison Garden Apartments and the removal of the historic structures within Block 46 is uncertain. Figure 108 indicates that the structures within the Harrison Gardens Apartments are not located within historic lots 3, 4, or 13. If filling occurred in association with the installation of the public housing buildings and associated paved parking areas, this fill may have capped any existing historic archaeological deposits. Therefore, there is the potential that historic deposits associated with the industrial occupation of lots 3 and 4 from 1909 through 1937 may remain extant. In addition, historic deposits associated with the residence on the front of Lot 13, which occupied the front of the lot from 1909 to at least 1954, and the industrial occupation in the rear of the lot from 1937 to at least 1954, may also remain extant.

As these historic deposits date to the twentieth century, it seems likely that they were connected to municipal sewer and water lines. Therefore, shaft features such as wells or privies are not anticipated with respect to these occupations. Archaeological deposits associated with the industrial occupation on lots 3 and 4 might include structural remains, waste products, activity areas, and mechanical remains. Within Lot 13, structural remains and foundations may be found in association with both the dwelling in the front of the lot and the industrial occupation in the rear. Activity areas associated with either the residential or industrial occupations might also be found. Historic deposits associated with these early to mid-twentieth century industrial and residential occupations may be located at shallow depths from the surface; they could also be deeply buried depending on the extent of past filling activities.

Additional development occurred along Jackson Street between 3rd and 4th streets by the early-twentieth century. It appears that this development coincided with the extension of sewer lines. As such, it is assumed that these structures were tied into the municipal sewer system. Early to mid-twentieth century development within the DP consisted primarily of transportation-related features. In particular, an elevated trolley line trestle was located around 2nd and 3rd streets; an iron trestle associated with the Old Hillside Road Trolley was located at 13th Street; potential footings associated with the 14th Street Viaduct would have been located around 14th Street; and, the Junction RR and Erie Railroad tracks around 17th Street. The DP was also located in the immediate vicinity of historic staircases at 8th and 13th streets. These portions of the DP are therefore considered sensitive for potential late-nineteenth and

early to mid-twentieth century transportation-related deposits or features associated with the historic staircases up the Palisades.

Sewer lines were located in portions of the NJ Transit Site including Jackson Street and portions of Harrison Street. The historic research and available utility data indicate that a brick sewer line was installed within Jackson Street between 2nd and 4th streets during the late-nineteenth or early-twentieth century. This brick sewer line would have been a component within the sewer system of Hoboken at a time within which the city was adapting to its nineteenth century growth and development and attempting to adapt its municipal infrastructure to this growth. As such, it is a potentially significant historic resource. The vitrified clay sewer lines within the northern portion of Jackson Street, within Harrison Street, and within 6th Street represent a later form of sewer line and, as such, are not considered a significant historic resource. Archaeological deposits associated with the brick sewer might include the sewer line, a builder's trench associated with the utility installation, and/or wood planks and other support features for the pipe. The As-Built plans indicate that the Jackson Street sewer was located approximately 7 to 14 feet below the surface. Therefore, sewer deposits within the southeastern portion of the NJ Transit Site are anticipated at depths greater than seven feet below the surface. No other portion of the NJ Transit Site is considered sensitive for significant historic sewer-related deposits.

Twentieth century water lines were located within Jackson Street, portions of Marshall Street, and 4th Street. As these water lines were installed within the twentieth century, they are not considered significant historic resources.

During the early through mid-twentieth century, the current NJ Transit detention basin was occupied by successive coal pockets and rail spurs connecting the coal sheds to the nearby Junction RR. From 1909 through 1923, the Jagels & Bellis Coal Company occupied this area; this company was succeeded by the Scranton Coal Company sometime after 1923. By 2002, the entire area had been cleared. The disturbance associated with the creation of the current detention basin is unclear. The pedestrian reconnaissance observed a shallowly buried rail spur line within the NJ Transit detention basin. No other features or structures were identified. Given the temporary nature of the early to mid-twentieth century coal structures and the extensive twentieth century mapping of these features and their associated rail spurs, it is unlikely that archaeological investigations of this site would produce significant information regarding these occupations. Therefore, in light of the existing knowledge regarding these occupations and given the ephemeral nature of the twentieth century occupation, the NJ Transit detention basin is not considered sensitive for significant historic resources associated with the early to mid-twentieth century coal pockets.

9.1.10 BASF Site

The BASF Site consists of a currently paved and impermeable lot in the northwestern portion of Hoboken. The BASF Site includes an extensive drainage network which would span from Monroe Street between 11th and 12th streets, Madison Street between 11th and 15th streets, Jefferson Street from 11th to 16th streets, Adams Street from 11th to 16th streets, Grand Street from 11th to 16th streets, and Clinton Street from 13th to 16th streets. The BASF Site would also include drainage along 13th Street from Adams to Clinton streets and along 12th Street from Monroe to Grand streets. The BASF Site also includes piping along 16th Street from Clinton Street to Park Avenue where the

piping will turn to the northeast and outlet into the Hudson River within Weehawken Cove. A storm water underground detention system would be placed within Blocks 107 and 108, between 12th and 13th streets and between Madison and Adams streets.

The BASF Site largely consists of paved asphalt/macadam road surfaces (Plate 84). The western and northern portion of the site consists of an area dominated by parking surfaces and transit-related functions, particularly bus storage (Plate 85). The eastern portion of the BASF Site consists of mixed residential and commercial space (Plate 86). The BASF Site extends under the 14th Street Viaduct. The roadway beneath the viaduct consists of ornamental cobblestones and paths, in addition to paved road surfaces. The BASF Site on Blocks 107 and 108 consists of a paved asphalt/macadam parking surface encircled by a chain link fence. Exposed semi-subsurface pipes and utilities were observed within the parking area. Signage on the fence line indicates that the parcel is the site of an environmental cleanup and investigation; the lot is currently closed.

Historical Development

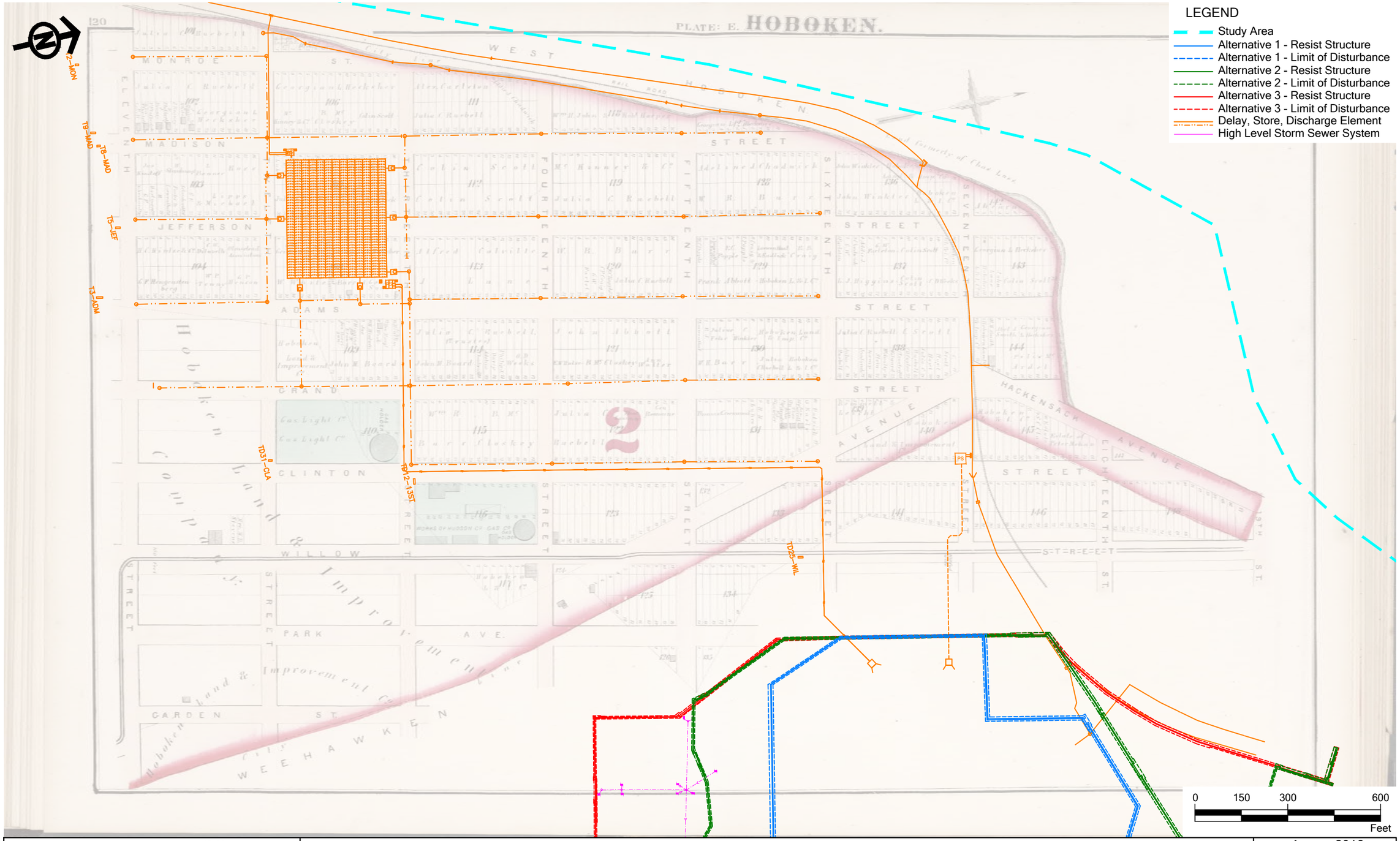
In the mid-nineteenth century the majority of the BASF Site was located within undeveloped meadowlands to the north of the Hoboken Creek (see Figure 30). Development within the site consisted of an historic roadway extending east to west, historic 13th Street; the 16th Street portion of the BASF Site crossed the historic Bergen Turnpike. This portion of the BASF Site also intersected with the early-nineteenth century seawall near the waterfront. The 1844 map indicates that the far southeastern portion of the site was located within a cleared, potentially upland parcel.[910] Around this time, the Bergen Turnpike became the Hackensack Plank Road. Plank roads fell out of use in the 1860s. A toll was collected on the Hackensack Plank Road for some years after its decommission as a plank road. [911] An 1865 *Map of the Hudson River and Bay of New York* also indicates that the BASF piping crossed the Bergen Turnpike to the east of Clinton Street (see Figure 16). The 16th Street piping crossed a railroad line which was being opened and intersected a structure associated with James Stevens to the immediate east of the railroad.[912]

G.M. Hopkins and Co.'s 1873 map indicates that streets within the BASF Site had been proposed and allotted (see Figures 53 and 94). It is unclear, however, whether these streets or lots had been laid out. There was limited development within the BASF Site. Two structures were located within the BASF Site on the western frontage of Adams Street between 12th and 13th streets. The southern structure was associated with W.R. Barr; the northern structure at the corner of 13th and Adams streets was associated with A. Gouze & Son. No other structures were located within the BASF Site. Along Clinton Street, the BASF Site would have crossed a portion of the Hackensack Plank Road between 15th and 16th streets. Along 16th Street, the BASF Site intersected with the Willow Avenue trolley line. According to the 1873 map, the remaining portions of the BASF Site may have been submerged to the east of Willow Avenue.[913] A search of the federal census records and city directories from 1860 through 1885 could

[910] U.S. Coastal Survey 1844.
[911] RGA 1998, 3-8.
[912] Bacot and Hughes 1865.
[913] G.M. Hopkins & Co. 1873.

Plate 85: Location of BASF Piping along Jefferson Street. View North. (TF 4/5/2016).

Plate 86: Location of BASF Piping along Adams Street. View North. (TF 4/5/2016).



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Project Locations in 1873 - Hopkins 1873 (Plate E)

August 2016

FIGURE 94

not identify either the Barr or Gouze occupations. The 1873 map suggests that the historic seawall and the structure associated with James Stevens in 1865 were no longer extant.[914]

Speilmann and Brush's 1880 and Bien's 1891 topographical maps suggest that the majority of the BASF Site had not been laid out and that it may have remained unimproved marshland through the late-nineteenth century (see Figure 15). The Speilmann and Brush map indicates that there were no sewer lines within the vicinity of the BASF site. The southeastern portion of the site, along Grand Street between 11th and 12th streets, appears to have been upland and may have been laid out. Bien's map indicates that Clinton Street had not been laid out north of 13th Street and that the segment of Clinton Street between 12th and 13th streets was either upland or had already been reclaimed from the meadows. Similarly, Grand Street had not been laid out north of 6th Street; from 9th to 13th streets the terrain in the vicinity of Grand Street was not meadowland. The 1880 map suggests that 12th through 15th streets may have been laid out across the width of the city; 16th Street had not yet been established. Both Willow and Park avenues had also been extended from Ferry to 18th streets. There was no indication of any sewer lines within the BASF Site.[915]

Hughes and Bailey's 1904 Birdseye view of the city suggests that the BASF Site had been filled, laid out, and partially developed by the turn of the twentieth century (see Figure 103). The 1904 map indicates that a trolley line had been extended down 15th Street; the BASF Site intersected the trolley tracks along Jefferson, Adams, Grand, and Clinton streets. Industrial development had occurred along Clinton and Grand streets from 11th to 16th streets. More limited development was also located along Jefferson, Madison, and Monroe streets from 11th through 13th streets. Development appears to have begun along Adams Street between 13th and 15th streets. Within the BASF Site, a single structure is depicted on the southern frontage of 13th Street between Adams and Jefferson streets. A structure was also located on the northern frontage of 12th Street between Madison and Jefferson streets. Along 16th Street the BASF Site crossed the Willow Avenue trolley line. The eastern extent of the BASF Site also intersected with the Hoboken Manufacturers Railroad along the waterfront before terminating along the developed southern piers at Weehawken Cove.[916]

G.M. Hopkins & Co.'s 1909 map also reflects the limited development within the western portion of the BASF Site (see Figure 91). Three structures were located within the southwestern corner of the site. Each of these structures was situated on the northern frontage of 12th Street between Madison and Jefferson streets. One of these buildings was a public pound; the other two buildings consisted of a frame structure and an adjacent frame stable/garage. The structure on the southern frontage of 13th Street in the 1904 image is not present on the 1909 map. The Madison Street portion of the BASF Site terminated to the immediate south of the trolley line on 15th Street; Jefferson, Adams, Grand, and Clinton streets continued to cross the trolley track. The northern portions of the BASF Site also extended beneath the 14th Street Viaduct which was constructed between 1909 and 1910. It is possible that footings for the

[914] Ancestry.com, "U.S. City Directories, 1822-1995," accessed April 18, 2016 at http://search.ancestry.com/search/db.aspx?dbid=2469; U.S. Federal Census, 1860-1880.
[915] Speilmann and Brush 1880; Bien 1891.
[916] Hughes and Bailey 1904.

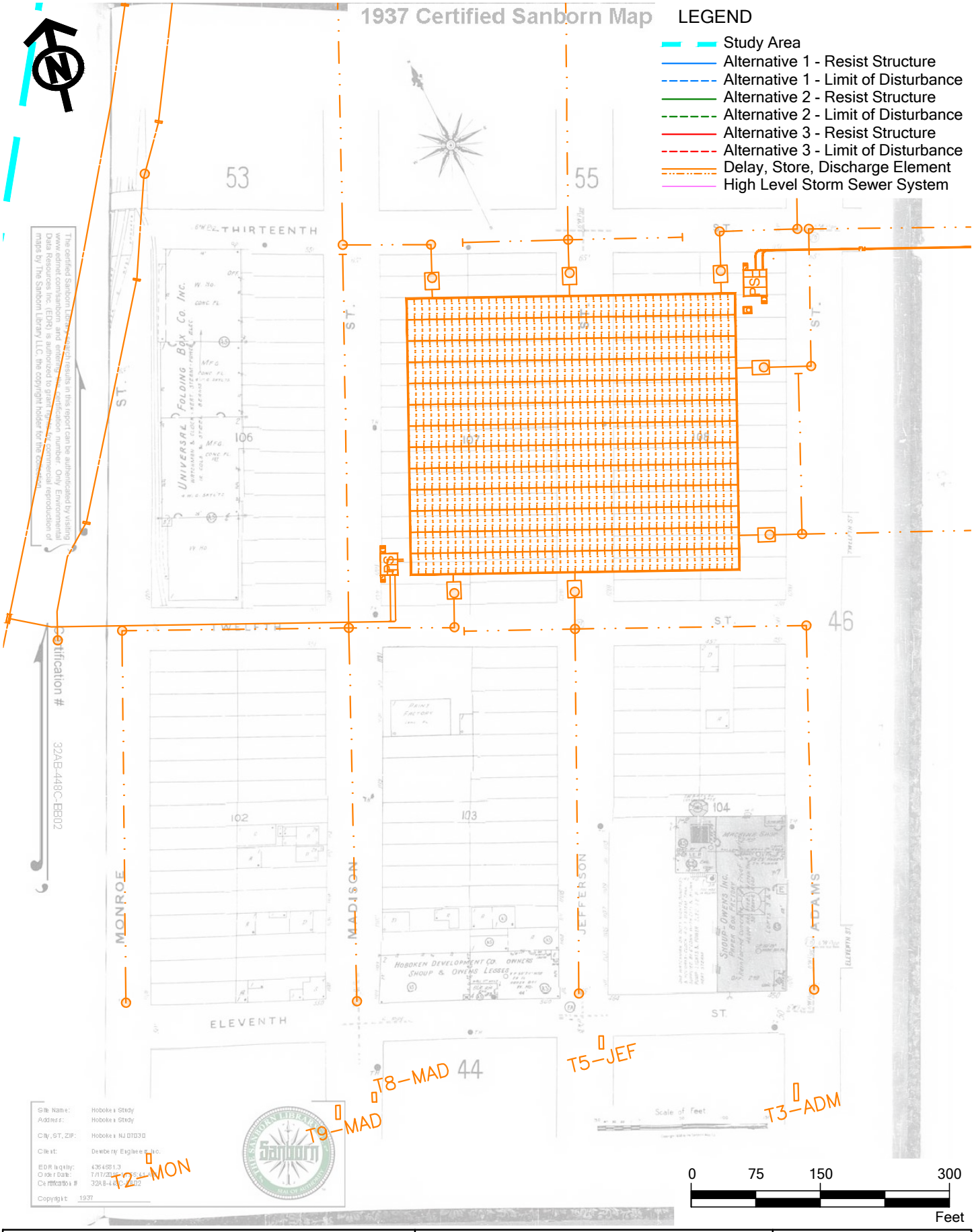
viaduct were located within the BASF Site along 14th Street. The completed 14th Street Viaduct had a steep incline and consisted of a 31-span steel deck girder and Warren deck truss bridge which could support four lanes of traffic.

On the 1909 map it appears that a portion of an office building associated with a stone yard on Adams Street fell within the BASF Site on Adams Street between 13th and 14th streets. A small frame building was also located in the Grand Street roadbed between 12th and 13th streets. In addition, along Clinton Street north of 15th Street, the BASF Site extended across a portion of the Joel H. Woodman Veneer Seating Manufacturing complex between 15th and 16th streets. The 16th Street portion of the BASF Site crossed the trolley tracks on Willow Avenue and then extended through an undeveloped portion of 16th Street onto Park Avenue. The eastern portion of the BASF site terminated within the southern dry docks of the Tietjen & Lang Corporation. Water lines were located in portions of the BASF Site. A six-inch water line was located in the 13th Street roadbed; the BASF Site also crossed pipelines within the 15th Street roadbed. A six-inch water line was located in the roadbed of Jefferson Street between 11th and 13th streets. A six-inch water line was also located in the roadbed of Clinton Street between 13th and 14th streets.[917]

G.M. Hopkins & Co.'s 1923 map reflects limited additional development within the BASF Site (see Figure 95). Three structures, including the public pound, continued to be located at the corner of Madison and 12th streets. Along Grand Street between 12th and 13th streets, the BASF Site crossed a portion of the U.S. Willon Furniture Company building which extended into the streetbed. The BASF Site also intersected the western portion of a frame structure which extended into Clinton Street in-between 15th and 16th streets. The northern portion of the BASF Site continued to cross trolley lines on 15th Street and along Willow Avenue; this portion of the BASF Site also extended under the 14th Street Viaduct. Footings for the Viaduct may have been located within a portion of the BASF Site. Additional water lines had been installed between 14th and 15th streets along Clinton Street; along Grand Street from 11th to 15th streets, along Adams from 11th to 13th streets; along Jefferson Street from 13th to 14th streets; along Madison Street from 11th to 15th streets; and along 12th Street from Madison to Adams streets and from Grand to Clinton streets. Along 16th Street, the BASF Site extended across a rail spur line between Willow and Park avenues. Sixteenth (16th) Street had also been established between Willow and Park avenues. The eastern portion of the BASF Site continued to cross the Hoboken Manufacturing rail line and extended across an iron clad building and dry docks associated with the Tietjen & Lang Plant of the Todd Shipyard Corporation.[918]

The 1937 Sanborn Insurance maps indicate minimal additional development within the BASF Site (Figure 109). Water lines were located in many of the streetbeds within the BASF Site. The mapped water lines consisted of: Clinton Street between 13th and 14th streets; 13th Street between Madison and Clinton streets; 12th Street between Grand and Clinton streets; Grand Street between 13th and 15th streets; Madison at 11th Street; Jefferson between 11th and 14th Streets; and Adams between 14th and 15th streets. The BASF Site continued to extend under the 14th Street Viaduct; the 15th Street and Willow Avenue trolley lines had been removed.[919]

[917] G.M. Hopkins & Co. 1909.
[918] G.M. Hopkins 1923.
[919] Sanborn Library, LLC 1937.



REBUILD BY DESIGN HUDSON RIVER ▪ RESIST ▪ DELAY ▪ STORE ▪ DISCHARGE ▪ Dewberry · Department of Environmental Protection	Location of Southwestern Portion of BASF Site, 1937 Sanborn 1937 (Plate 54)	August 2016 FIGURE 109

The 1940 As-Built plans for the Hoboken sewer system indicate that concrete and vitrified clay sewer pipes were located within the majority of the BASF Site. In general, concrete pipes were located on Monroe, Madison, Jefferson, Adams, and Garden streets between 11th and 12th streets and between 13th and 14th streets; a concrete pipe was also located within Clinton Street between 13th and 14th streets. The remaining portions of the BASF Site along Madison through Clinton streets contained vitrified clay sewer lines. According to the As-Built plans, disturbance associated with the concrete and vitrified clay pipes typically extended to a depth of approximately 9 to 11 feet below the surface.[920]

The 1951 Sanborn Insurance map indicates that Block 108 had been developed (Figure 110). The southern portion of the block was occupied by a motor freight station and attached office building. The northern portion of the block was occupied by Standard Chemical Products, Inc. Standard Chemical Products, Inc. (Standard Chemical) had five buildings—two warehouses, a shed, and two smaller buildings. Water lines also expanded at this time with additional lines being located along Clinton Street between 13th and 16th streets, Grand Street between 11th and 15th streets, Adams Street at 11th Street and between 13th and 15th streets, Jefferson Street between 11th and 16th streets, and Madison Street between 11th and 15th streets. The 14th Street Viaduct was still extant.[921]

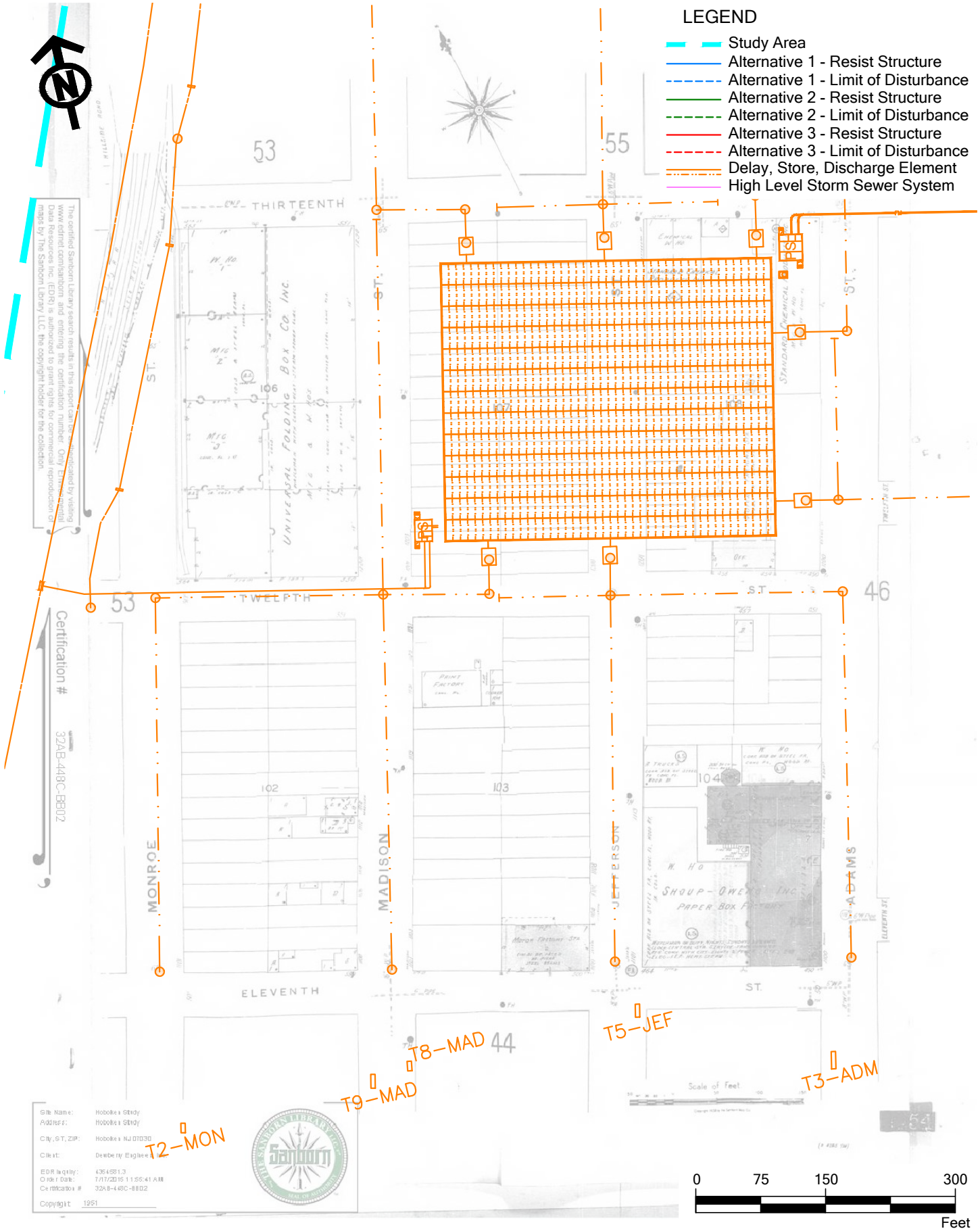
Historic aerial imagery indicates that between 1966 and 1987 the dry docks located along the eastern extent of the BASF Site were being dismantled. By 2002, the waterfront along Weehawken Cove resembled its current form.[922]

Standard Chemical's occupation of Block 108 had begun in 1922. The company was a supplier of chemicals to the textile industry. All of the wastewater produced by Standard Chemical, including sanitary and industrial waste, was discharged through former interior drains and sumps which were individually connected to the residential sewer connections. This material was ultimately discharged into the Hudson River. In 1960, the Henkel Corporation acquired Standard Chemical.[923]

By 1979, Standard Chemical had expanded its occupation into Block 107 (Figure 111). By this time, Block 107 and the northern portion of Block 108 had been combined to form an L-shaped new Block 107. Jefferson Street no longer extended from 12th to 13th streets, but rather terminated at the northern edge of the new Block 108. The Standard Chemical complex included three warehouse buildings on the northern extent of the block and four additional structures including one which housed chemical tanks. A wire fence line encircled the Standard Chemical complex. The motor freight station building within Block 108 had been acquired and was now occupied by the PANYNJ's Engineering Department. Sewer/water lines had also been extended down the 12th Street roadbed within the BASF Site. There were no other evident changes within the site.[924]

By 1988, the Henkel Corporation had also acquired the PANYNJ building within Block 108 (Figure 112). The Henkel Corporation specializes in the production of laundry and home care products, beauty products, and adhesive

[920] Whittemore 1940.
[921] Sanborn Library, LLC 1951.
[922] NETR 1954-2013.
[923] IT Corporation 2001, 33.
[924] Sanborn Library, LLC 1979.



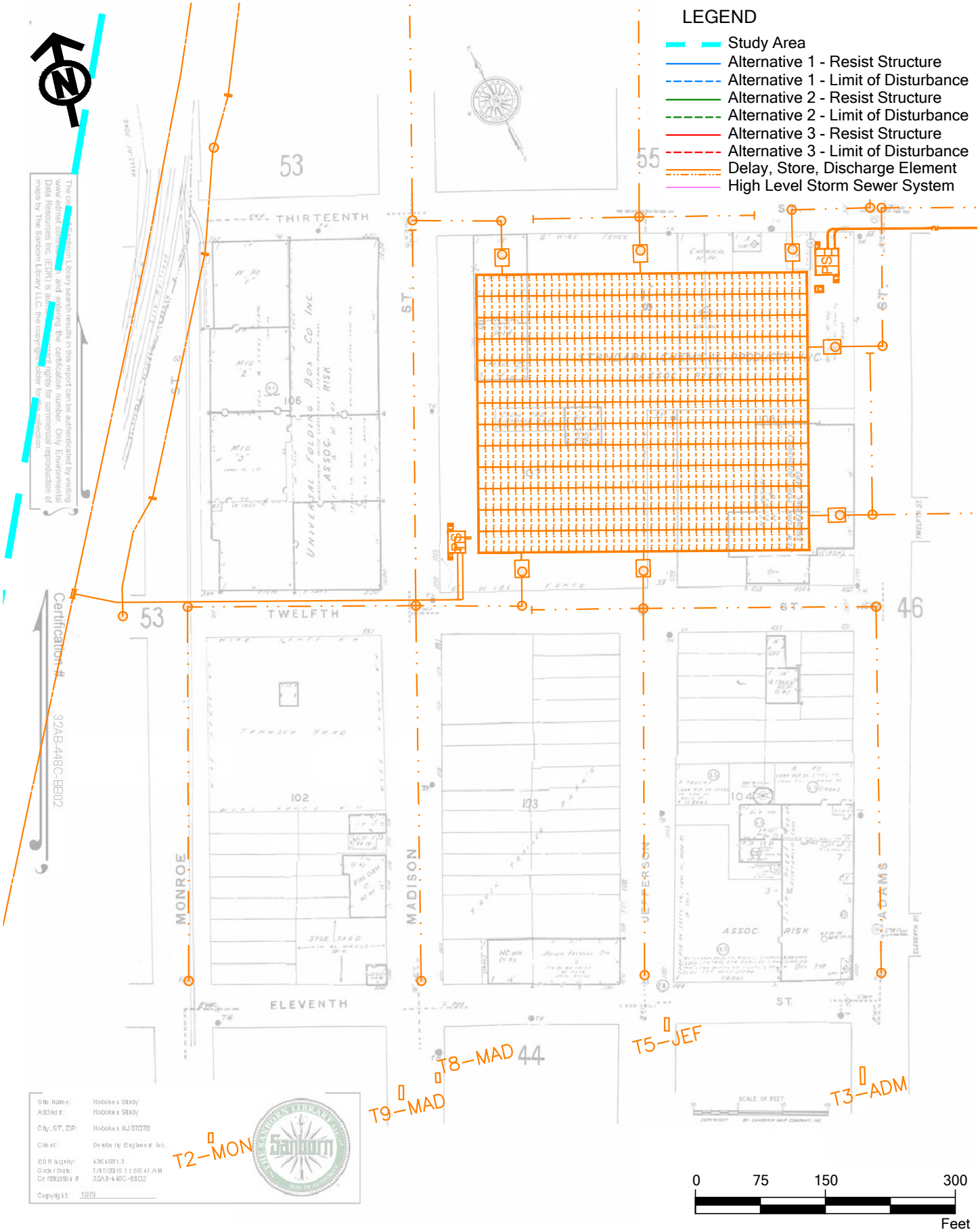
REBUILD BY DESIGN HUDSON RIVER ▪ RESIST ▪ DELAY ▪ STORE ▪ DISCHARGE ▪

Dewberry | NJ Department of Environmental Protection

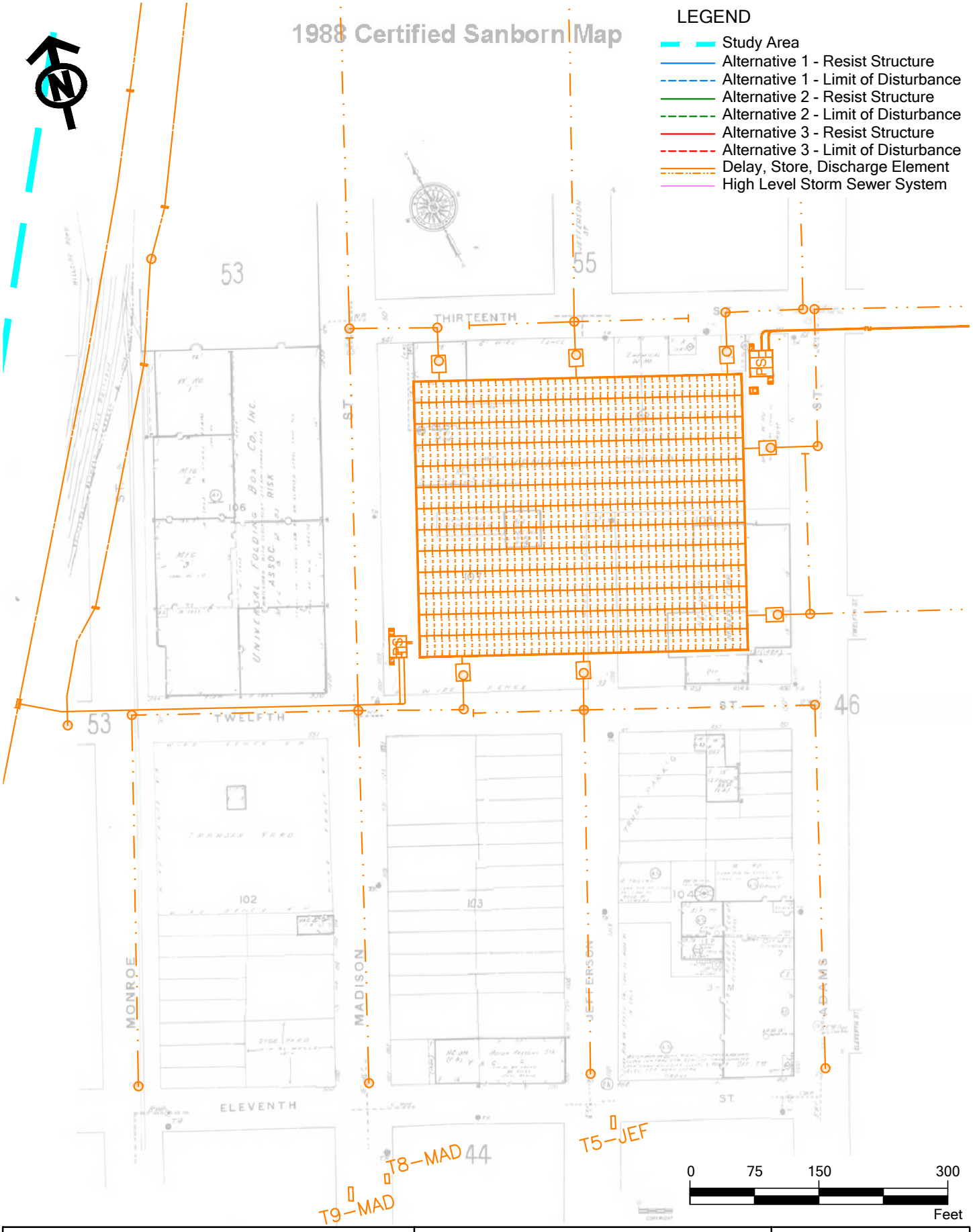
Location of Southwestern Portion of BASF Site, 1951
Sanborn 1951 (Plate 54)

August 2016

FIGURE 110



REBUILD BY DESIGN HUDSON RIVER ▪ RESIST ▪ DELAY ▪ STORE ▪ DISCHARGE ▪ Dewberry · Department of Environmental Protection	Location of Southwestern Portion of BASF Site, 1979 Sanborn 1979 (Plate 54)	August 2016 FIGURE 111



REBUILD BY DESIGN HUDSON RIVER ▪ RESIST ▪ DELAY ▪ STORE ▪ DISCHARGE ▪

Dewberry | State of New Jersey Department of Environmental Protection

Location of Southwestern Portion of BASF Site, 1988 Sanborn 1988 (Plate 54)

August 2016

FIGURE 112

technology. It was founded in 1876; at that time the company produced a laundry detergent based on sodium silicate. The Henkel Corporation also seemed to have owned Block 103 and may have used it for the storage of materials. From 1979 through 2014, the Block 103 portion of the BASF Site remained a cleared sparsely vegetated parcel. A 2001 Preliminary Assessment for Cognis Corporation, formerly Henkel Corporation, summarized previous remediation efforts undertaken by the Henkel Corporation within Block 103. These remediation efforts were undertaken in part due to the location of four USTs within Block 103, Lot 7. [925]

Between 2004 and 2006, the structures within Blocks 107 and 108 had been removed. Between 2014 and the present day, Block 103, Block 107, and Block 108 were capped with an asphalt/macadam surface. The Preliminary Assessment indicates that remedial efforts within Block 103 consisted of the removal of the USTs and the installation of a geotextile followed by a gravel cap. The Preliminary Assessment also indicates that there were four other USTs within the Cognis property. It is unclear whether these USTs had been removed. The locations of these USTs are described as follows: "Adjacent to the truck scale on the eastern border of the main plant; adjacent to the maintenance container on the western border of the main plant; sidewalk south; and sidewalk north of Building 4 laboratory." A map of the USTs locations could not be obtained during the present study.[926]

The 14th Street Viaduct underwent major alterations in 1938 and from 1990 to 1991. Additional repairs were performed in 1998 and 2002.[927] Beginning in 2003, a scoping process was undertaken for the rebuilding of the 14th Street Viaduct. A new $54 million replacement 14th Street Viaduct was opened on July 4, 2014. The new viaduct consists of an eight-span, 1,177-foot structure constructed entirely of multi-steel girders. The original viaduct was demolished in stages during the construction of the new structure—the south side of the bridge was completely demolished and rebuilt; the north side was subsequently demolished and replaced. A cobblestone streetscape with decorative sidewalks and lighting and a new park below the Viaduct on Madison Street were also installed as a part of the viaduct replacement. "The spacing pattern of the new piers supporting the Viaduct is the least disruptive possible in order to maximize public use of the area beneath."[928]

Summary and Conclusions

The cartographic history of the BASF Site indicates that the majority of the site was undeveloped meadowlands through the mid to late-nineteenth century. The southeastern portion of the BASF Site may have been the only segment of the site that was not meadowlands; this area may have been dry uplands. The early-nineteenth century historic seawall and the mid-nineteenth century Bergen Turnpike, subsequent Hackensack Plank Road, were the earliest developments within the vicinity of the BASF Site, both being intersected by the 16th Street portion of the BASF Site. A mid-nineteenth century structure associated with James Stevens was also located within the eastern extent of the 16th Street piping in the vicinity of Park Avenue. By 1873 two structures had developed within the southern portion of the BASF Site. A structure associated with W.R. Barr and a stable/garage associated with A.

[925] Sanborn Library, LLC 1988-2006; NETR 1987-2013; IT Corporation, *Preliminary Assessment Report* (Hoboken: Cognis Corporation) 2001.
[926] IT Corporation 2001, 44.
[927] Patrick Harshbarger, *Cultural Resources Identification and Effects Report for the 14th Street Viaduct*, accessed March 17, 2016, http://www.14thstviaductreplacement.com/Final%20CR%20Identification%20and%20Effects%20Report.pdf, 2007; NJHPO, "14th Street Viaduct Over Conrail River Line," Property File, (On File, Trenton: NJHPO) 1998.
[928] Replacement of the 14th Street Viaduct over Conrail and Local Streets, "News and Press," accessed April 26, 2016 at http://www.14thstviaductreplacement.com/.

Gouze & Son were located on the western frontage of Adams Street between 12th and 13th streets. While it appears that streets and blocks were proposed by this time, the majority of the streets within the BASF Site were not established prior to the 1890s.

By the early-twentieth century, trolley lines had been established in the northern portion of the BASF Site along 15th Street and Willow Avenue. Two structures may have also been located within the BASF Site—a structure on the southern frontage of 13th Street between Adams and Jefferson streets and a structure on the northern frontage of 12th Street between Madison and Jefferson streets. In 1909 three structures were located within the southwestern portion of the BASF Site. All of these structures were located near the northern frontage of 12th Street between Madison and Jefferson streets. The buildings consisted of a brick public pound and two associated frame structures including a stable/garage. There were no buildings within the BASF Site on 13th Street. The 15th Street trolley line was extant within the northern portion of the site; the BASF Site also extended underneath the 14th Street Viaduct suggesting that footings or foundational support for the Viaduct may have been located within the site. An office building appeared to extend into the Adams Street portion of the BASF Site between 13th and 14th streets; a portion of the Joel H. Woodman Veneer Seating Manufacturing complex also extended into the Clinton Street portion of the site between 15th and 16th streets. Water lines had been extended into portions of the BASF Site including the 13th and 15th Street roadbeds and a portion of Jefferson and Clinton streets.

Limited additional development occurred within the BASF Site in 1923. A portion of the U.S. Willon Furniture Company extended into the Grand Street portion of the BASF Site in-between 12th and 13th streets. Additional water lines were also installed along portions of Clinton Street, Grand Street, Adams Street, Jefferson Street, Madison Street, and 12th Street. Throughout the twentieth century, the far eastern terminus of the BASF Site was located within the dry docks and piers associated with the Tietjen & Lang Dry Docks and the subsequent Todd Shipyard Corporation. The dry docks were removed during the mid to late-twentieth century.

From the 1930s through the late-twentieth century, industrial development occurred within and in the immediate vicinity of the BASF Site. Industrial development had also occurred within Block 108 between Adams and Jefferson streets and 12th and 13th streets by 1951. This development consisted of five buildings associated with Standard Chemical on the northern frontage of the block and a motor freight station on the southern frontage of the block. The Standard Chemical occupation, subsequently the Henkel occupation, expanded to encompass Block 107 to the west, combining Block 107 with the northern portion of Block 108. By 1988, the Henkel Corporation had acquired the entirety of former Block 108. The Henkel Corporation also appears to have acquired Block 103 during the mid to late-twentieth century and to have used it for storage and dumping purposes including the installation of four USTs. These USTs were removed sometime prior to 2001. Four other USTs were also installed within the Henkel Corporation complex in Block 107. The exact location of these USTs is currently unknown. Between 2004 and 2006, all of the buildings within the BASF Site had been removed; Blocks 103, 107, and 108 were capped with an asphalt/macadam surface between 2014 and the present day. The 15th Street and Willow Avenue trolley tracks were removed by 1937. The As-Built plans indicate that vitrified clay and concrete sewers were located within the majority of the north-south oriented streets in the BASF Site.

RGA conducted a Stage 1A survey of proposed sewer repairs along Madison Street between 9th and 11th streets in 2004. RGA's project area was located to the immediate south of the BASF Site. RGA concluded that this section of Madison Street had low potential for prehistoric resources given that the area was historic meadowlands. They also found that the area had a low potential for historic resources potentially associated with nineteenth century structures which may have extended into the streetbed. RGA concluded that the sewer line within Madison Street between 9th and 11th Streets was not a significant resource as it was constructed ca. 1920 and was, therefore, most likely a vitrified clay pipe. RGA cited Kraft's 1978 study in assessing the Madison Street sewer and further contended that portions of the city located outside of its historic and industrial center were less likely to contain wooden or brick sewers.[929]

In 2007, Patrick Harshbarger also conducted a cultural resource assessment in advance of the 14th Street Viaduct reconstruction. Harshbarger concluded that all of the areas of ground disturbance associated with the viaduct reconstruction were located in areas that experienced previous ground disturbance associated with the original viaduct, roadway construction, urban development, and buried utilities. Harshbarger also found that the area had little prehistoric potential given its historic meadow conditions. Ultimately, Harshbarger concluded that there was little potential for significant archaeological deposits within the area of the 14th Street Viaduct.[930]

In 2009, THE Partnership conducted a documentary analysis of a proposed Hoboken Fan Plant/Construction Access Shaft Site C8 Palisades Tunnel. The project area for this project encompassed the northern portions of the BASF Site. With respect to the BASF Site, THE Partnership identified the potential for historic deposits associated with the Bergen Turnpike. THE Partnership analyzed a soil boring (EPE-NJ-016) excavated at Grand and 17th streets (see Appendix D). Within this boring, a stratum of red clayey silt and sand was encountered at a depth of 15 to 17 feet below grade. THE Partnership speculated that this deposit might represent the Bergen Turnpike/Hackensack Plank Road. Given the results of the soil boring, they suggested that historic deposits associated with the road would be expected at depths greater than 14 feet below the surface. Beneath the red clayey silt stratum the soil boring exposed a layer of dark gray marine clay with traces of sand which extended from 20 feet to 106 feet below surface.[931]

With respect to prehistoric sensitivity, Dewberry excavated two soil borings within the vicinity of the BASF Site—GW-6 and GW-8 (see Appendix D). Soil Boring GW-6 was located to the immediate west of the site on 11th Street near Monroe Street. Within this boring, a stratum of black silt with little fine sand and organics was encountered at a depth of 16 feet below the surface. The boring terminated at a depth of 20 feet below the surface within this matrix. Soil Boring GW-8 was located to the east of the BASF Site along 13th Street to the east of Willow Avenue. GW-8 revealed a dissimilar profile to that exposed in the GW-6. Specifically, GW-8 contained sequential sand layers beneath the overlying layer of gray sand and silt with asphalt. These sand layers consisted of gray and brown sand with silt from 5 to 7 feet, a gray sand with little silt and trace fibers from 8 to 10 feet, a gray sand with little silt from 11 to 14 feet, a gray and brown sand with little silt from 15 to 16 feet, and a brown sand with diminishing amounts

[929] RGA 2004.
[930] Harshbarger 2007.
[931] THE Partnership (Documentary Analysis), 2009.

of silt and increasing gravel from 17 to 20 feet below the surface. The boring terminated at 20 feet below the surface. Notably, both of these soil borings also differed from the profile exposed by THE Partnership around Grand and 17th streets and from the soil profile analyzed by Schuldenrein in the southwestern corner of the city.[932]

Three soil borings were also previously investigated to the west of the BASF site, west of Grand Street and south of 13th Street. These borings, MW1-P, MW2-P, and MW3-P, contained fill deposits to a depth of five to ten feet below the surface. A wet gray or brown sand was found beneath the fill in two of the borings. The sand extended to a depth of 30 feet below the surface and was underlain by weathered sandstone or multicolored sand overlying sandstone. Within Boring MW-2P, the overlying fill was underlain by a layer of wet grayish brown silty sand to a depth of ten feet below the surface. This matrix overlaid a thin lens of gray silty clay with brown peat. This layer was underlain by a tan silty clay to a depth of 25 feet below the surface. The multicolored sand and white sandstone underlain the silty clay.

The presence of differentiated soil layers within GW-6, specifically the black silt organic deposit, suggests greater diversity within this soil profile possibly reflecting past environmental diversification. Such diversification may have created attractive settings for prehistoric exploitation and settlement. Therefore, the southern portions of the BASF Site are considered sensitive for prehistoric archaeological deposits at a depth greater than 15 feet below the surface. The soil profile exposed on Grand and 17th streets displayed a uniform dark gray marine clay from 20 to 102 feet below the surface and was similar to the uniform stratigraphy exposed in the southwestern portion of the city. Analysis of this profile concluded that the uniformity of deposition reflected a stable mud/meadow surface with little to no environmental diversification over time. Such uniformity suggests an unattractive setting for prehistoric occupation. The borings excavated to the west of Grand Street further suggest that there is little potential for an organic deposit and possible prehistoric surface within this area. Thus, the portions of the BASF Site from a point midway between 12th and 13th streets to the north are considered to possess little to no prehistoric archaeological potential. The only exception to this assessment regarding the northern portion of the BASF Site is its eastern terminus at Weehawken Cove. Given that historic topographic maps reflect the existence of Weehawken Cove through perpetuity and the proximity of this cove to Castle Point, a known prehistoric site, there is the potential that the cove was used as a docking point or occupation site during the prehistoric past. As such, the eastern terminus of the BASF Site around Weehawken Cove is considered potentially sensitive for prehistoric deposits. Such deposits would be anticipated below the historic bulkhead development at depths greater than ten feet from the surface.

The earliest historic development within the BASF Site consisted of the nineteenth century seawall, the historic Bergen Turnpike/Hackensack Plank Road, and two mid to late-nineteenth century structures on Adams Street between 12th and 13th streets. Both the W.R. Barr and the A. Gouze & Son's occupations predate the extension of municipal sewer lines into the northern portion of Hoboken. This suggests that shaft features such as privies may have been associated with the historic occupations. At present, it is unclear to what extent the historic usage of this property, namely the Standard Chemical occupation may have disturbed any nineteenth century deposits. The twentieth century Sanborn Insurance maps indicate that the Standard Chemical buildings did not contain

[932] Geismar 2006, 24.

basements. However, the Preliminary Assessment of the property indicated the presence of buried USTs within Block 107. As it is currently unclear where the USTs were located within the property, the eastern extent of historic Block 108 (contemporary Blocks 107 and 108) is considered sensitive for mid to late-nineteenth century historic deposits. With respect to the historic seawall and the Bergen Turnpike, the northeastern portion of the BASF Site, 16th Street east of Clinton Street, is considered sensitive for deposits associated with the historic roadway and/or seawall; deposits associated with the seawall may be located to the east of the historic roadway. These historic deposits would be anticipated at a depth of 15 feet below the surface, the approximate depth at which the potential historic roadway was encountered in soil Boring EPE-NJ-016.

By the early-twentieth century a public pound and two associated structures were located in the southwestern corner of Block 107. There is no indication of further twentieth century development of this area although the structures were removed by 1937. It is unclear to what extent the Standard Chemical occupation may have disturbed this portion of the block. Therefore, this portion of Block 107 is considered sensitive for historic deposits associated with the early-twentieth century occupation. Such deposits would be anticipated at a relatively shallow depth, below the overlying asphalt surface.

By 1951, Standard Chemical occupied the northern portion of historic Block 108. This occupation consisted of five mapped structures including two warehouses. By 1979, the occupation had expanded to the west and southwest, having removed a portion of Jefferson Street between 12th and 13th streets. By 1988, the Henkel Corporation, having acquired Standard Chemical, occupied the building on the southeastern corner of historic Block 108. The Standard Chemical structures were removed between 2004 and 2006. It is unclear what additional disturbance may have occurred following the removal of these structures. The Preliminary Assessment report indicates that there were four USTs within Blocks 107 and 108; it is currently unclear whether these USTs were located and whether they were removed. Thus, Blocks 107 and 108 are considered sensitive for historic industrial deposits associated with the Standard Chemical occupation. These deposits could include architectural remains, laboratory features, chemical dumps/waste areas, and other industrial-related deposits. Any such materials would be anticipated at a relatively shallow depth beneath the overlying asphalt layer.

With respect to transportation-related resources, the 15th Street intersections of the BASF Site, along Jefferson, Adams, Grand, and Clinton streets and the 16th Street crossing of Willow Avenue intersected with historic nineteenth through mid-twentieth century trolley deposits. Such deposits would have post-dated the filling and establishment of 15th Street and Willow Avenue. As such, the trolley tracks would be anticipated at relatively shallow depths. Given that sewer lines were installed within these streets in the early to mid-twentieth century, and that disturbance associated with these lines may have extended to a depth of 9 to 11 feet below the surface, it is assumed that any existing trolley line deposits would have been removed or disturbed. Therefore, these portions of the BASF Site are not considered sensitive for intact trolley related deposits.

In addition, in light of the history of alterations to the 14th Street Viaduct, and the major demolition, reconstruction, and rehabilitation of the viaduct which was completed in 2014, the 14th Street intersections of the BASF Site are not

considered sensitive for deposits relating to the 14th Street Viaduct. It is assumed that any such deposits would have been destroyed and/or compromised by the recent construction activities.

With respect to the sewer system, the As-Built plans indicate that concrete or vitrified clay pipe sewers were installed within the north-south streets within the BASF Site. Data provided by the NHSA suggests these pipes were installed after 1923. Given the late date and type of sewer lines installed within the BASF Site, these sewer lines are not considered significant historic resources. Therefore, the BASF Site is not considered sensitive for significant historic sewer-related deposits.

As Weehawken Cove is an historic cove which formerly contained an inlet to the Hudson River which fed or connected with the Hoboken Creek in the interior of city, there is a high likelihood that this area was frequented or occasionally utilized as a natural docking station prior to its development by the Tietjen & Lang Dry Docks in the mid to late-twentieth century. A known shipwreck also occurred within the vicinity of Weehawken Cove in 1906.[933] As previously noted, there is the possibility for a known or unknown shipwreck or ship abandonment along the Weehawken Cove. As such, the far eastern extent of the BASF Site, around Weehawken Cove, is considered sensitive for historic deposits associated with past shipwrecks potentially dating from the seventeenth century through the early-twentieth century. Such deposits could be potentially significant as they would reflect previously undocumented historic usage of Weehawken Cove. In light of the soil borings conducted within the area, these deposits would be anticipated at depths greater than 15 feet below the surface. Furthermore, this portion of the BASF Site is also considered sensitive for historic deposits associated with the twentieth century Tietjen & Lang Dry Docks and Todd Shipyard Corporation. Archaeological deposits associated with the dry docks might include piers, historic bulkhead deposits, rail lines, cribbage, landfill, and other structural remains. Such deposits would be anticipated at relatively shallow depths.

9.1.11 Discharge Components

Five potential discharge components are also included within the Project (see Figure 66). The three pump stations have been discussed in association with the NJ Transit Site and the BASF Site as these stations fall within the boundaries of those sites. The two new outfall pipes (force mains) which constitute potential alternatives with respect to the Project have yet to be discussed. One of the outfall pipes (the NJ Transit Outfall) would drain the water stored within the stormwater detention area at the NJ Transit Site and then conveyed by the DP to the NJ Transit Site pump station. From the pump station the NJ Transit Outfall would extend along 17th Street in the vicinity of Jefferson Street to the east into the Hudson River at Weehawken Cove. The second outfall (the BASF Outfall) would extend from the BASF catchment area along Clinton Street from 16th Street to 17th Street and then extend to the east-northeast in an S-like formation around Harborside Park. The NJ Transit Outfall could not be accessed during the pedestrian reconnaissance of the Study Area. Aerial imagery of this area suggests that it consists of cleared parking areas and paved storage space adjacent to the HBLR tracks and beneath the Willow Street and Park Avenue viaducts. This outlet would also extend beneath or to the immediate north of recreational space including ball fields associated

[933]NJ Maritime Museum, "Shipwreck Database," accessed online June 2, 2016 at https://www.google.com/fusiontables/data?docid=1g5VYQlUhCX7bJU3S3DeRMXBu6VEEz6shhHQRWZnV#rows:id=1.

with Harborside Park. The potential BASF Outlet would extend within the roadbed of Clinton Street in an area of industrial development and vehicular storage areas in the northern extent of Hoboken and would parallel the HBLR tracks. The BASF Outlet would extend across Harbor Boulevard and along the northern edge of a paved parking and staging area in the northwestern corner of Weehawken Cove (see Plate 14). The BASF Outlet would drain into the Hudson to the immediate north of a slip located to the east of the parking area. The bulkhead to the west of the slip consists of an angled arrangement of large gray rip rap. The boardwalk along this segment of the waterfront consists of a floating walkway anchored in place with cement and iron footings (Plate 87).

Historical Development

The U.S. Coastal Survey map of 1844 indicates that the majority of the BASF Outfall and the NJ Transit Outfall were located in undeveloped meadowlands to the west of Weehawken Cove (see Figure 30). The only development within each of the outfalls consisted of the early-nineteenth century seawall and the Bergen Turnpike/Hackensack Plank Road. Both the BASF Outfall and the NJ Transit Outfall crossed each of these features. It appears that each outfall crossed the seawall in the vicinity of Park Avenue; the outfalls crossed the historic turnpike around Clinton Street prior to their divergence to the east. The 1865 Bacot and Hughes map also indicates that the outfalls intersected with the Bergen Turnpike and the historic seawall (see Figure 16). Both outfalls crossed a railroad line which was being opened across the Weehawken Cove.[934]

On the 1873 G.M. Hopkins and Co.'s map, it appears that the NJ Transit Outfall and the BASF Outfall paralleled and then crossed the tracks of the New York and Fort Lee Railroad (see Figures 53 and 94). Both outfalls also crossed the former Hackensack Plank Road. The outfalls separated to the west of Clinton Street. The NJ Transit Outfall extended across a trolley line located along Willow Street. The eastern extent of the NJ Transit Outfall was submerged. East of Clinton Street, the BASF Outfall paralleled the New York and Fort Lee rail lines, extending to the immediate east of the tracks. This outfall also crossed the Willow Street trolley line. The far northern portion of the BASF Outfall may have also crossed the New York and Fort Lee rail lines around the waterfront to the west of Weehawken Cove. By 1873, the early-nineteenth century seawall appears to have been removed or filled. As previously noted, it is unclear whether the streets in the northern portion of Hoboken had been laid out by this time.[935]

Speilmann and Brush's 1880 and Bien's 1891 topographical maps suggest that the majority of streets had not been extended around the two outfalls (see Figure 15). Willow Street and Park Avenue appear to be the only two streets which had been extended north of 14th Street. The majority of the area still consisted of undeveloped meadowlands. The NJ Transit Outfall appears to have been located in the immediate vicinity of a sluice creek extending from Weehawken Cove to the west and southwest. The NJ Transit Outfall may have also crossed viaducts along both Willow Avenue and Park Avenue, extending over the creek. The BASF Outfall also crossed the two streets and paralleled the train lines to the west and north. According to the Speilmann and Brush map, there were no sewer lines within the vicinity of either outfall.[936]

[934] US Coastal Survey 1844; RGA 1998, 3-8; Bacot and Hughes 1865.
[935] G.M. Hopkins & Co. 1873.
[936] Speilmann and Brush 1880; Bien 1891.

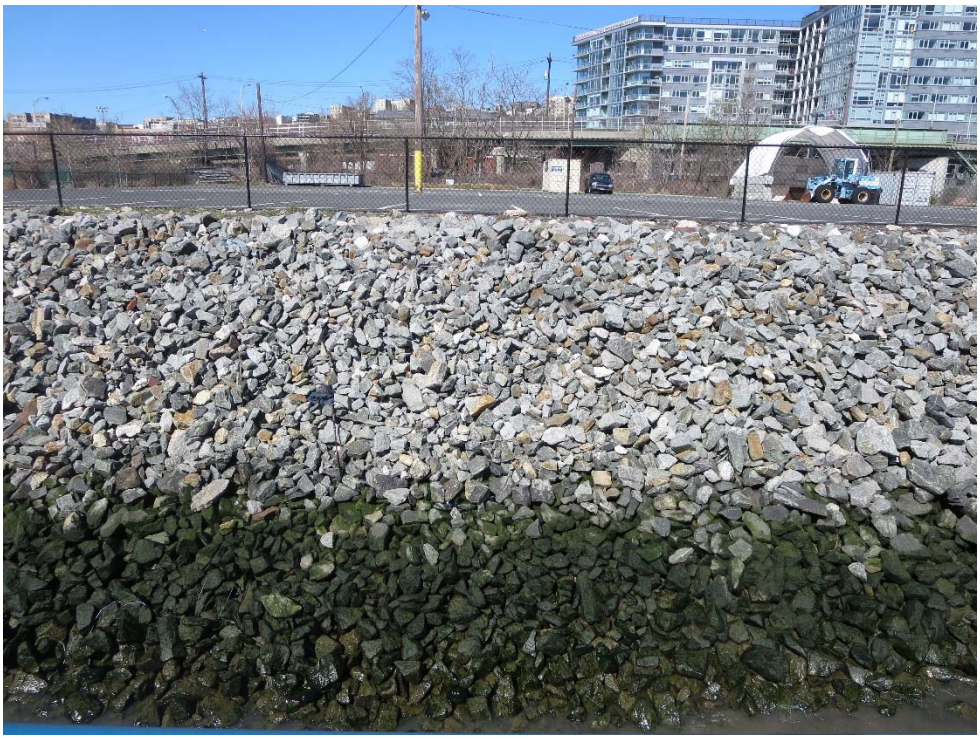


Plate 87: The Eastern Terminus of the BASF Outfall into Weehawken Cove. View West. (TF 4/5/2016).

Plate 87: The Eastern Terminus of the BASF Outfall into Weehawken Cove. View West. (TF 4/5/2016).

Hughes and Bailey's 1904 Birdseye view of the city suggests that 17th Street had yet to be laid out. The NJ Transit Outfall and the BASF Outfall would have extended from the vicinity of a building on the northern extent of Jefferson Street to the west across the railroad tracks and then parallel to the east. The NJ Transit Outfall would have extended to the immediate north of structures located along the western frontage of Willow Street. The NJ Transit Outfall would have crossed the trolley line on Willow Street and extended into a building complex on the eastern frontage of Willow Avenue. This complex appeared to include a wooden ramp. The NJ Transit Outfall would have also intersected with the footing to the Park Avenue Viaduct and then across the bulkhead into the harbor crossing the Hoboken Manufacturers Railroad. The BASF Outfall would have crossed the Junction RR tracks in the vicinity of Willow Avenue. The BASF Outfall crossed the Willow Avenue trolley tracks and may have intersected with the footings for the Park Avenue Viaduct to the west of the Red Cross Pharmacy. The BASF Outfall would have crossed the Junction RR and the Hoboken Manufacturers Railroad and extended into the Hudson River in the vicinity of the Tietjen & Lang Dry Docks.[937]

G.M. Hopkins & Co.'s 1909 map suggests that 17th Street had been laid out and that portions of the Hackensack Plank Road had been removed (see Figures 43 & 91). According to the 1909 map, the outfalls would have crossed the Erie and Junction RR rail lines and then extended down the roadbed of 17th Street. The NJ Transit Outfall would have then crossed Willow Avenue and extended into the Jagels-Bellis Coal Yard. The NJ Transit Outfall intersected rail spur lines and structures within the coal yard and then extended over a machine shop and building associated with Flynn Brothers Coppersmiths before intersecting the Park Avenue Viaduct. To the east of the viaduct, the NJ Transit Outfall would have crossed the Hoboken Shore Railroad and the bulkhead and dry docks associated with the Tietjen & Lang Dry Dock Company. The BASF Outfall would have extended along the Clinton Street roadbed between 16th and 17th streets and then extended parallel to the rail lines across Willow Avenue and to the immediate north of the Jagels-Bellis Coal Yard. The outfall crossed the rail lines and the Park Avenue Viaduct. The BASF Outfall also appears to have extended into the dry docks and buildings of the Tietjen & Lang Dry Dock Company prior to terminating at the Hudson River. There were no sewer lines within 17th Street nor within the Clinton Street portion of the BASF Outfall. Water lines were located along Willow and Park avenues.[938]

G.M. Hopkins & Co.'s 1923 map indicates that the outfalls intersected with the northern extent of a framework structure between Adams and Grand streets (see Figures 44 & 95). This structure was associated with the Lawson and McMurray Lumber Yard. Historic images from 1916 and 1927 reflect the extensive timber structure within the lumber yard (Figures 113 through 116). The frame structure depicted on the 1923 map appears to be the electrified gangway within the lumber yard which enabled the movement of lumber within the yard and over to the adjacent rail lines. A 1916 description of the Lawson & MacMurray yard indicates that the plant occupied approximately three city blocks encompassing 16th, 17th, Clinton, Grand, and Adams streets. At this time, the yard contained approximately 15 million feet of mostly Long Leaf Yellow Pine.[939]

[937] Hughes and Bailey 1904.
[938] G.M. Hopkins & Co. 1909.
[939] *Real Estate Records and Builders' Guide New York, 1916*, F.W. Dodge Corp, accessed online April 28, 2016 at http://rerecord.cul.columbia.edu/rerecord/document.php?vol=ldpd_7031148_058&page=ldpd_7031148_058_00000826&no=1.

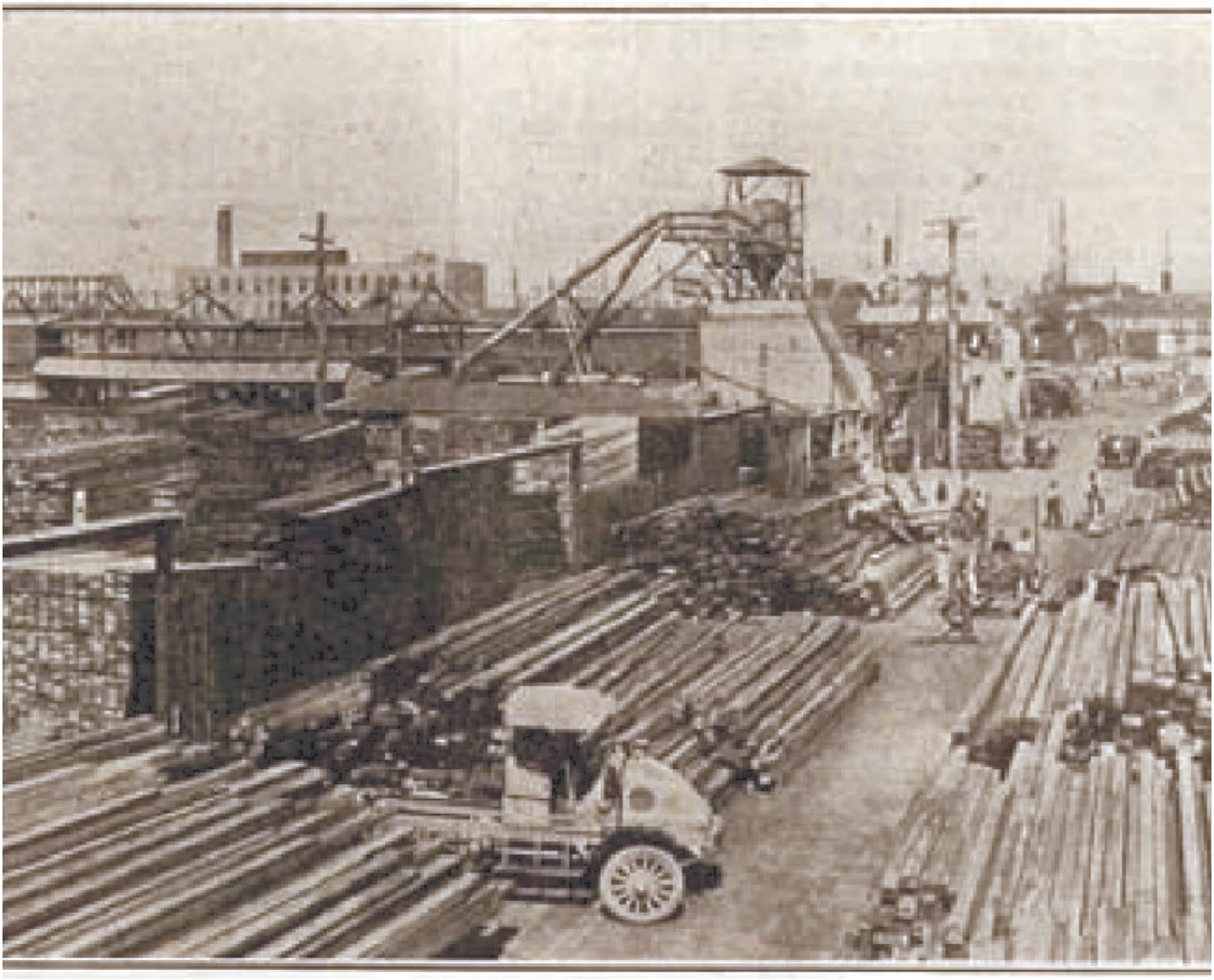
REBUILD BY DESIGN HUDSON RIVER ▪ RESIST ▪ DELAY ▪ STORE ▪ DISCHARGE ▪

Dewberry | State of New Jersey Department of Environmental Protection

Panoramic View of Lawson & MacMurray Lumber Yard, circa 1916

August 2016

FIGURE 113



REBUILD BY DESIGN HUDSON RIVER ▪ RESIST ▪ DELAY ▪ STORE ▪ DISCHARGE ▪

Dewberry | State of New Jersey Department of Environmental Protection

Gangway No. 3 within Lawson & MacMurray Lumber Yard, Looking South, circa 1916

August 2016

FIGURE 115

REBUILD BY DESIGN HUDSON RIVER ▪ RESIST ▪ DELAY ▪ STORE ▪ DISCHARGE ▪

Dewberry | State of New Jersey Department of Environmental Protection

Historic Photograph Looking West
on 17th Street from West of Willow Avenue,
circa 1927

August 2016

FIGURE 116

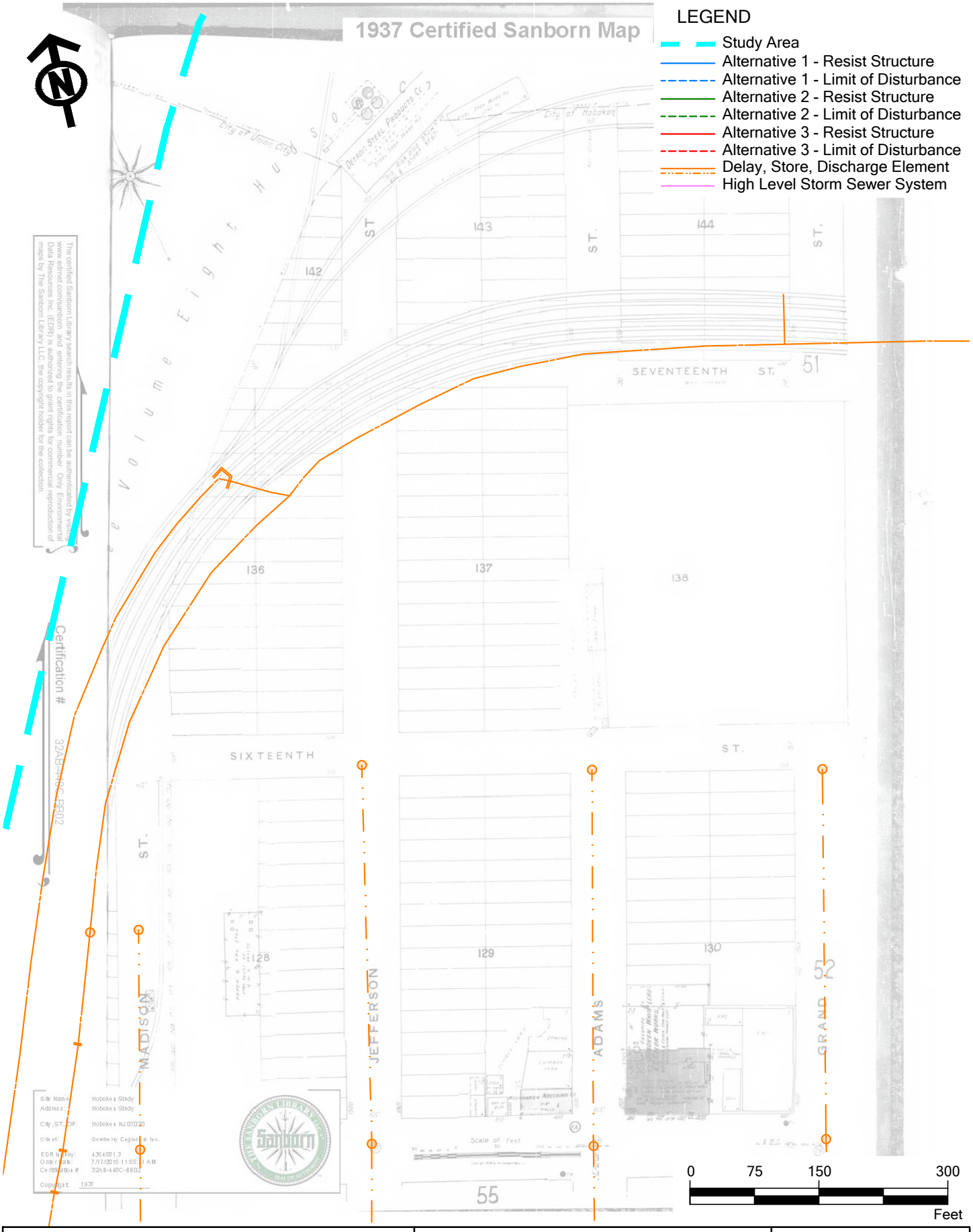
On the 1923 map, to the east of Willow Avenue, the NJ Transit Outfall would have extended through a portion of a brick structure associated with the Metropolitan Mills and across spur rail lines. To the immediate west of Park Avenue, the outfall extended through a frame building associated with the Todd Shipyard Corporation. The NJ Transit Outfall would have crossed the Park Avenue Viaduct and then extended across the Hoboken Manufacturers Railroad lines. To the east of the rail lines, the outfall would have extended to the bulkhead associated with the Tietjen & Lang Dry Dock Company, terminating near the northern edge of an iron-clad building. The BASF outfall appeared to cross two frame structures at the northwest corner of 17th Street and Willow Avenue and to the east of the Erie and Junction RR lines. The outfall crossed the Park Avenue Viaduct and the Hoboken Manufacturers rail line and then extended into the northern portion of the docks and buildings associated with the Tietjen & Lang Dry Dock Company. There were still no sewer lines within 17th Street, nor within Clinton Street between 16th and 17th streets.[940]

A search of historic business and city directories for Jersey City and Hoboken indicate that Lawson & MacMurray, lumber and coal dealers, were located at 16th and Clinton streets beginning in 1907. Lawson & McMurray were listed at this address or at 1600 Clinton Street through at least 1925. By 1936, the extensive lumber yard complex was no longer extant; Lawson and McMurray were no longer associated with the blocks on Grand and Adams streets between 16th and 17th streets. Rather, these blocks had been combined; however, there was no indication of development within them.[941]

The 1936-1937 Sanborn Insurance maps indicate that the NJ Transit Outfall extended across the unopened roadbed of 17th Street to the east across the supports of the Willow Avenue Viaduct (Figures 117 & 118). To the east of Willow Avenue, the NJ Transit Outfall extended over a building associated with Eisen Brothers Furniture Manufacturers. To the east of this building, the outfall crossed a storage building associated with the Todd Shipyard Corporation. The outfall then crossed the Park Avenue Viaduct and extended across the Hoboken Shore Railroad and terminated along the bulkhead of the Todd Shipyard Corporation–Tietjen & Lang Plant. The BASF Outfall extended in the immediate vicinity of a signal tower and associated shed building at the northwest corner of Willow Avenue and 17th Street. The outfall crossed Willow Avenue in the vicinity of its viaduct and also crossed the Park Avenue Viaduct. From Park Avenue, the BASF Outfall terminated to the immediate northwest of a saw mill painting and storage building and dry docks associated with the Todd Shipyard.[942]

By 1979, many of the buildings located along the eastern terminus of the NJ Transit Outfall had been removed though the dry docks were still extant. The City of Hoboken Sewage Works had developed to the south of the outfalls between Jefferson and Grand streets. A signal tower was no longer situated in the northwest corner of 17th Street and Willow Avenue; the smaller associated structure was still extant. The eastern terminus of the BASF Outfall fell within rail spur lines and terminated at the western edge of bulkhead associated with the dry docks. Between 1987 and 1988 the structures which had been located within the NJ Transit Outfall between Willow and Park avenues

[940] G.M. Hopkins & Co. 1923.
[941] GETNJ!, "History of Hoboken: Business Directory," accessed April 21, 2016 at http://www.welcometohoboken.com/history/bzdirectory.shtml; Ancestry.com 2016; Sanborn Library, LLC 1937.
[942] Sanborn Library, LLC 1936.



REBUILD BY DESIGN HUDSON RIVER ▪ RESIST ▪ DELAY ▪ STORE ▪ DISCHARGE ▪

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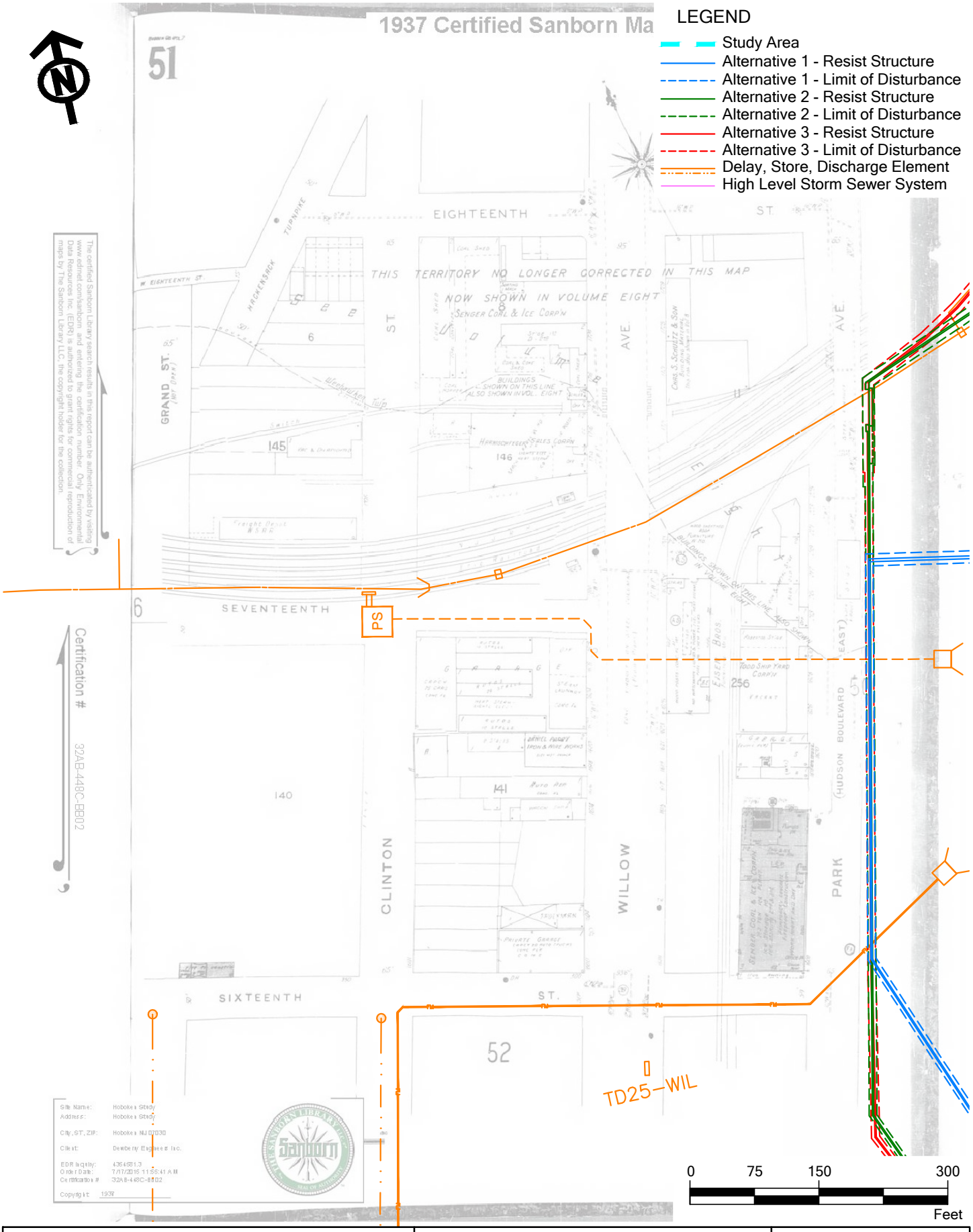
Location of Discharge Components, 1937 Sanborn 1937 (Plate 56)

August 2016

FIGURE 117



REBUILD BY DESIGN HUDSON RIVER ▪ RESIST ▪ DELAY ▪ STORE ▪ DISCHARGE ▪

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Location of Discharge Components, 1937 Sanborn 1937 (Plate 51)

August 2016

FIGURE 118

had been removed. The parcel was converted to a parking area. The dry docks at the eastern extent of the outfalls had also been removed by 1987. By 2002, a paved parking area had developed along the eastern terminus of the BASF Outfall. Between 2012 and 2014, Harborside Park had developed near the eastern terminus of the NJ Transit Outfall.[943]

Summary and Conclusions

The cartographic review for the BASF Outfall and the NJ Transit Outfall indicated that the majority of the proposed outfalls were located in undeveloped meadowlands through the mid to late-nineteenth century. The earliest historic development within the outfalls were an early-nineteenth century seawall and the Bergen Turnpike/Hackensack Plank Road. The outfalls appear to have crossed the Bergen Turnpike in the vicinity of present-day Grand and Clinton streets; they appear to have intersected the historic seawall around present-day Park Avenue. By 1873, portions of the New York and Fort Lee Railroad fell within and in the immediate vicinity of both the NJ Transit Outfall and the BASF Outfall. Both outfalls would have crossed the Willow Street trolley line. The BASF Outfall would have crossed portions of the New York and Fort Lee Railroad and the Hoboken Manufacturer's Railroad near Weehawken Cove. By 1909, the NJ Transit Outfall extended through the Jagels-Bellis Coal Yard which had developed to the east of Willow Avenue. The complex included rail spurs, several frame structures, a machine shop, and the Flynn Brothers Coppersmiths. The NJ Transit Outfall would have crossed Park Avenue to the south of the Park Avenue Viaduct and may have intersected footings associated with the bridge. The eastern terminus of the outfall was located within the bulkhead established by the Tietjen & Lang Dry Dock Company. The BASF Outfall extended in the immediate vicinity of a frame structure near the northwest corner of Willow Avenue and 17th Street. The BASF Outfall also crossed the Park Avenue Viaduct and extended into the bulkhead and western extent of the dry docks of the Tietjen & Lang Dry Dock Company. Water lines had been extended along Willow and Park avenues by 1909.

By 1916, the Lawson & MacMurray Lumber Yard had developed to the south and within both outfalls. The far northern extent of the gangway and timber frame of the yard extended into the outfalls around 17th Street between Adams and Grand streets. The NJ Transit Outfall continued to cross trolley tracks on Willow Avenue and extended across the Metropolitan Mills building and an iron building associated with the Todd Shipyard Corporation to the east of Willow Avenue. The NJ Transit Outfall also crossed several spur rail lines and the Hoboken Manufacturers Railroad. The eastern terminus of both outfalls was located in the Tietjen & Lang Plant associated with the Todd Shipyard Corporation. The BASF Outfall was also located in the vicinity of two structures at the northwest corner of Willow Avenue and 17th Street in the immediate vicinity of the rail lines.

By the 1930s, the trolley lines were no longer extant on Willow Avenue. Both the NJ Transit Outfall and the BASF Outfall were located in the vicinity of steel columns associated with the Willow Avenue Viaduct. The BASF Outfall also extended over or adjacent to a signal tower and associated structure at the northwest corner of 17th Street and Willow Avenue. To the east of Willow Avenue, the NJ Transit Outfall extended over a building associated with the Eisen Brothers Furniture Manufacturers. From 1979 through 1987, the dry docks and structures located within or adjacent to the outfalls had been removed. Paved parking areas had developed along the eastern terminus of the

[943] Sanborn Library, LLC 1951-2006; NETR 1979-2013; Google Earth 2012-2016.

BASF Outfall and along the NJ Transit Outfall between Willow and Park avenues. Between 2012 and 2014 Harborside Park also developed near the eastern terminus of the NJ Transit Outfall.

As previously discussed, in 2009 THE Partnership conducted a documentary analysis of the proposed Hoboken Fan Plant/Construction Access Shaft Site C8 Palisades Tunnel. The project area for this project encompassed both the NJ Transit Outfall and the BASF Outfall. In their study, within the vicinity of the outfalls, THE Partnership identified the potential for historic deposits associated with the Bergen Turnpike and the early-nineteenth century seawall. THE Partnership analyzed two soil borings conducted within or in the immediate vicinity of the outfalls, Boring EPE-NJ-016 excavated at Grand and 17th streets and Boring PE-223 excavated to the west of Grand and 17th streets (see Appendix D). Within Boring PE-223, fill deposits extended to a depth of 20 feet below the surface; within Boring EPE-NJ-016, fill deposits extended to a depth of 15 feet below the surface. Beneath the fill in EPE-NJ-016, a layer of red clay silt and sand was uncovered. THE Partnership suggested that this deposit may represent the Bergen Turnpike/Hackensack Plank Road. They further concluded that deposits associated with the historic seawall would be found at a similar depth, at 15 feet below the surface.[944]

Beneath the fill deposit in Boring PE-223, a layer of grey to light brown sand with silt extended from 20 to 21.5 feet below the surface. This layer overlaid a 3.5-foot thick layer of dark gray clayey silt and peat. Beneath this stratum, there was a deep deposit of gray and olive silty clay which extended from 25 to 105 feet below the surface. Within Boring EPE-NJ-016, a dark gray marine clay with sand deposit underlain the potential historic surface. The marine clay matrix extended from approximately 20 to 100 feet below the surface. Dewberry also excavated a soil boring in the vicinity of the eastern terminus of the NJ Transit Outfall—Boring B-11. Boring B-11 contained approximately 33 feet of overlying fill, consisting of layers of brown and black sand and brown gravel with sand. Beneath the fill deposits, the boring contained a gray clayey silt which extended from 33 to 53 feet below the surface. The grey silt overlain a layer of brown silt which, in turn, overlaid a deposit of brown sand with little silt and gravel. The sand matrix extended from 60 to 70.75 feet below the surface. Decomposing rock was encountered at 70.75 feet below the surface, the depth at which the boring was halted.

With respect to prehistoric sensitivity, the three soil borings excavated in the immediate vicinity of the outfalls suggest that there is little potential for prehistoric deposits within portions of the NJ Transit Outfall and the BASF Outfall. Both Boring EPE-NJ-016 and Boring B-11 exhibited soil profiles reflecting an extensive and uniform clayey silt matrix beneath overlying fill deposits and a potential historic ground surface. This uniform soil matrix suggests a lack of past environmental diversification and, thus, unattractive environmental conditions during prehistoric times. Notably, the presence of fill within Boring B-11 is approximately 20 feet deeper than the fill deposits within Boring EPE-NJ-016. This may indicate that any pre-existing organic or peat surfaces were removed or extensively disturbed by waterfront development. Furthermore, the location of Boring B-11 may have been historically submerged and subsequently filled for development. As soil boring data is not available for locations along Weehawken Cove to the south or north of Boring B-11, it is unclear to what horizontal or vertical extent the exhibited disturbance and fill may have extended. Given that the territory to the west and northwest of the boring was not

[944] THE Partnership (Documentary Analysis), 2009.

historically submerged, it cannot be assumed that the boring profile reflects the profile of these areas. Therefore, the NJ Transit Outfall from the location of Boring B-11 to a point approximately 150 feet to the west is considered to possess little to no prehistoric potential given the results of the soil boring. However, given the lack of subsurface information with respect to the areas to the west and north, and in light of the historic presence of Weehawken Cove along the Hoboken waterfront and the potential prehistoric usage of such a feature, the portions of the NJ Transit Outfall and the BASF Outfall located from Weehawken Cove (with respect to the BASF Outfall or 150 west of the eastern extent of the NJ Transit Outfall) to Willow Avenue is considered sensitive for prehistoric deposits. Such deposits would be anticipated at a depth greater than 15 feet below the surface.

The soil profile of Boring EPE-NJ-016 gives no indication of an organic layer or peat deposit suggesting that there is no buried prehistoric occupation surface within this area. In addition, it appears that a portion of the Hoboken Creek may have extended through or in the immediate vicinity of this segment of the outfalls suggesting that this area was poorly drained and possibly periodically flooded or underwater in the past. Therefore, the portions of the NJ Transit Outfall and BASF Outfall located between Grand Street and Willow Avenue are considered to possess little to no prehistoric sensitivity. However, the profile exposed by Boring EPE-NJ-016 indicated the presence of a peat deposit at approximately 21.5 to 25 feet below the surface. Such a deposit suggests that there may have been past environmental diversification within this area creating a more attractive environment for prehistoric exploitation or settlement. Given this deposit, in addition to the presence of an historic waterway to the north and west of this area, the portion of the NJ Transit Outfall from west of Grand Street to the western terminus of the outfall is considered sensitive for prehistoric deposits at a depth greater than 20 feet below the surface.

With respect to historic archaeological sensitivity, portions of each of the outfalls possess historic archaeological sensitivity for transportation-related, industrial-related, and/or waterfront-related deposits. As previously noted, the portions of the NJ Transit Outfall and the BASF Outfall in the vicinity of Willow Avenue and Park Avenue are considered sensitive for historic deposits associated with the nineteenth century seawall; the outfalls are considered sensitive for deposits associated with the Bergen Turnpike in the vicinity of Clinton Street. Such deposits would be anticipated at a depth greater than 15 feet below the surface. Portions of both outfalls also crossed the historic Erie and Junction RR lines, the Hoboken Manufacturers Railroad, and spur lines associated with industrial operations. In addition, both outfalls also intersected with the Willow Avenue trolley line. Railroad related deposits would be anticipated at relatively shallow depths, at two to four feet below the surface. The trolley line remains would most likely consist of the tracks and ties. These deposits are not considered significant historic resources as they would provide little additional information regarding the trolley lines and their operation.

The outfalls were also located in the immediate vicinity of footings associated with the Willow and Park Avenue viaducts. Wooden features associated with the Park Avenue Viaduct in particular may have been located within the NJ Transit Outfall. Therefore, in the vicinity of Willow and Park avenues the outfalls are considered sensitive for historic deposits. With respect to the viaducts, archaeological remains might include footings, truncated or intact, from the historic structures, landfill associated with the creation of the bridges and extension of the roadways, and/or features associated with the installation of the wooden framing for the Park Avenue Viaduct. Such deposits might be encountered at relatively shallow depths or in association with other potential historic deposits around 15 feet

below the surface. A signal tower and associated structures from the early to mid-twentieth century were located on the northwest corner of Willow Avenue and 17th Street. The BASF Outfall is sensitive for potential deposits associated with these structures. Such deposits would be anticipated at shallow depths, approximately two to four feet below the surface.

With respect to industrial-related resources, by the early-twentieth century, the Jagels-Bellis Coal Yard had developed between Willow and Park avenues around 17th Street. The NJ Transit Outfall was located in the vicinity of historic structures associated with this development including the coal yard buildings and rail spurs, the Flynn Brothers Coppersmiths building, and a machine shop. By 1923, the coal yard was no longer extant; the Metropolitan Mills and a building associated with the Todd Shipyard Corporation had replaced the coal yard occupation. These structures were removed by 1988. It is unclear to what extent the creation of the current Harborside Park disturbed this area. Thus, the portions of the NJ Transit Outfall between Willow and Park avenues are considered sensitive for early to mid-twentieth century historic deposits associated with these structures. Such deposits might include building foundations, rail spurs, waste products, and/or other activity areas. Archaeological remains associated with these occupations would be anticipated at relatively shallow depths beneath the existing surface. Between at least 1916 and 1936, the Lawson & MacMurray lumber yard was located along 16th, 17th, Adams, Grand, and Clinton streets. This occupation included an extensive framework gangway which extended across 17th Street to the Erie and Junction RR. Portions of the gangway or foundations for the structure may be located within both outfalls between Adams and Grand streets. Archaeological remains associated with this occupation might include posts or other foundation pieces, postholes for the timber frame, and/or mechanical deposits associated with the electrification of the gangway. Deposits associated with the lumber yard would be anticipated at relatively shallow depths, possibly within two to four feet of the surface.

With respect to waterfront-related resources, both the NJ Transit Outfall and the BASF Outfall terminate along the bulkhead and waterfront features initially created by the Tietjen & Lang Dry Docks and subsequently occupied by the Todd Shipyard Corporation. The eastern termini of both outfalls, east of Park Avenue, are considered sensitive for early to mid-twentieth century deposits associated with the development of the Tietjen & Lang Dry Docks. Such deposits might include waterfront-related fill deposits, bulkhead remains, dry dock remains, and/or structural remains associated with the operation of the dry docks. Waterfront-related deposits may be found at shallow depths; however, it is anticipated that features may also extend to relatively deep depths.

As Weehawken Cove is an historic cove which formerly contained an inlet to the Hudson River which fed or connected with the Hoboken Creek in the interior of city, there is a high likelihood that this area was frequented or occasionally utilized as a natural docking station prior to its development by the Tietjen Dry Docks in the mid to late-twentieth century. As previously noted, there is the possibility for a known or unknown shipwreck or ship abandonment along the Weehawken Cove. As such, the far eastern extent of the both the NJ Transit Outfall and the BASF Outfall, around Weehawken Cove, are considered sensitive for historic deposits associated with seventeenth or early-twentieth century past shipwrecks. Such deposits could be potentially significant as they would reflect previously undocumented historic usage of Weehawken Cove. In light of the soil borings conducted within the general area, these deposits would be anticipated at depths greater than 15 feet below the surface.

10.0 HISTORIC ARCHITECTURAL RESOURCES

10.1 Previously Identified Historic Architectural Resources

Table 6 provides a list of the 25 previously identified historic properties located within the APE for Historic Architectural Resources (Figure 119). There are seven properties listed in the National Register: Church of the Holy Innocents; Church of Our Lady of Grace; Engine Company #2 Firehouse; Engine Company #3, Truck #2 Firehouse; Erie-Lackawanna Terminal; Hoboken Land and Improvement Company; and Keuffel and Esser Manufacturing Complex. One of these, the Church of Our Lady of Grace, has a Certification of Eligibility (COE) from the NJHPO. The firehouses are listed as part of the Thematic Nomination of Hoboken Firehouses.

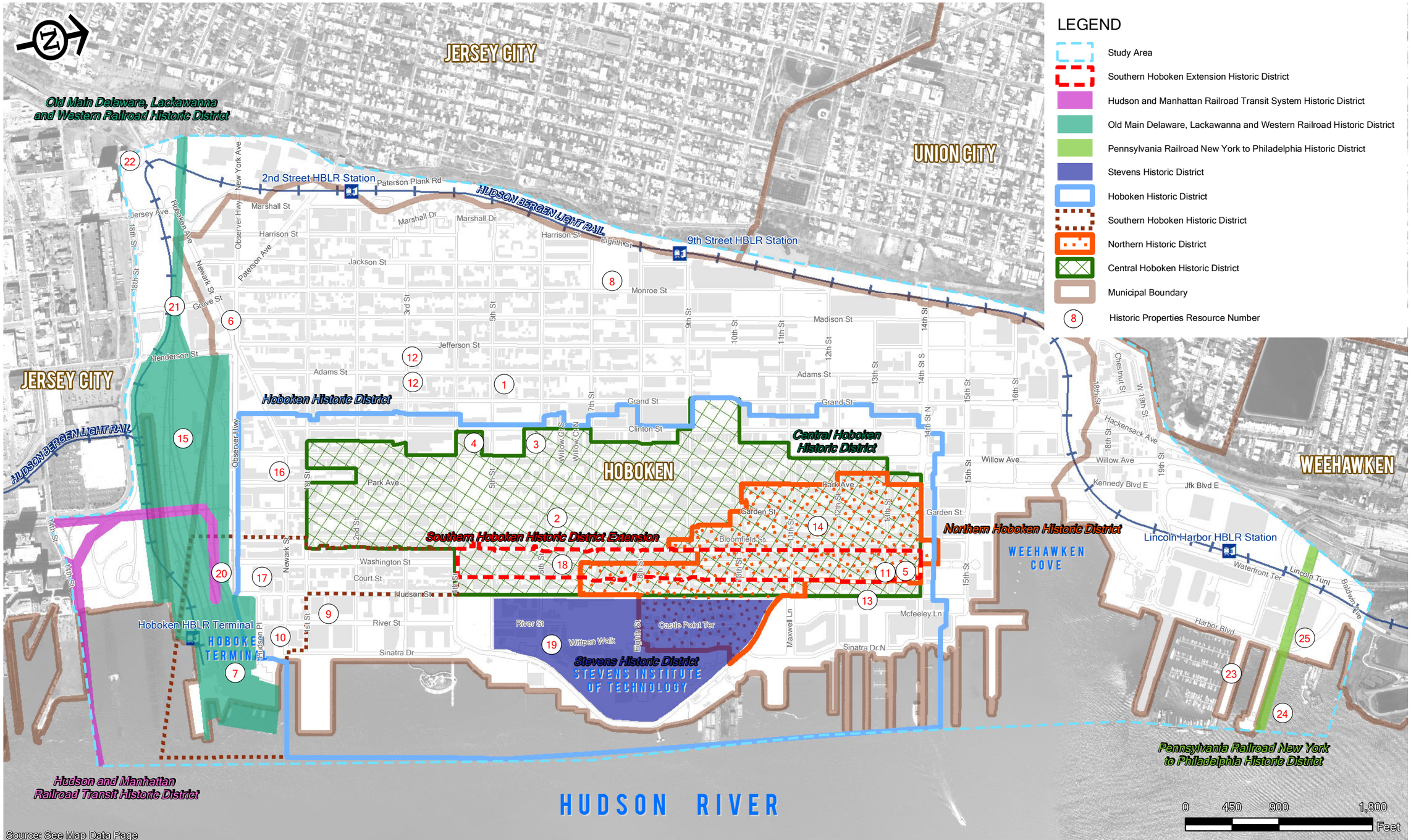
Eighteen (18) properties have SHPO Opinions of Eligibility from the NJHPO. Of these, nine are historic districts, six of which are overlapping historic districts in Hoboken: the Central Hoboken Historic District; the Hoboken Historic District; the Northern Hoboken Historic District; the Southern Hoboken Historic District; the Southern Hoboken Historic District Extension, and the Stevens Historic District. The three remaining historic districts are the Old Main Delaware, Lackawanna and Western Railroad Historic District; the Hudson and Manhattan Railroad Transit System (PATH); and the Pennsylvania Railroad New York to Philadelphia Historic District. Of the districts with SHPO Opinions, the Southern Hoboken Historic District has a Determination of Eligibility (DOE) from the Keeper of the National Register. Nine individual historic properties have SHPO Opinions of Eligibility: 501 Adams Street (Public School No. 3); Ferguson Brothers Manufacturing Company; Hoboken-North Hudson YMCA; Machine Shop (Bethlehem Steel Corp. Shipyard); Public School Number 7; Grove Street Bridge; Holbrook Manufacturing, Erie Railroad Pier D and Piershed; and the North (Hudson) River Tunnels. In 1988, the Pier D Piershed was stripped to the steel framing and a new structure built using its steel skeleton. As a result, this property has been re-evaluated as part of this study and is recommended not eligible.

In addition to the 25 previously identified historic properties, seven previously identified historic properties within the Historic Architectural APE are no longer extant either due to replacement and/or demolition. These resources are not listed in Table 6; they consist of: the 14th Street Viaduct; the Cooper Hewitt Electric Co. Factory; the Former Elevator Supply & Repair Company; Maxwell House Complex; the Port Authority Pier Headhouses; Seaman's Mission; and the USDA Plant Quarantine Building.

Table 6: Previously Identified Historic Properties

RES. #	RESOURCE	ADDRESS	ELIGIBILITY
	Hoboken City		
1	501 Adams Street (Public School No. 3)	501 Adams Street	SHPO Opinion
2	Central Hoboken Historic District	Hudson Place, 1st Street, Willow Street, Clinton and 14th Streets	SHPO Opinion
3	Church of the Holy Innocents	Willow Avenue & 6th Street	S/NR Listed

RES. #	RESOURCE	ADDRESS	ELIGIBILITY
4	Church of Our Lady of Grace, Hoboken	400 Willow Avenue	S/NR Listed COE
5	Engine Company #2 Firehouse (Thematic Nomination of Hoboken Firehouses)	1313 Washington Street	S/NR Listed
6	Engine Company #3, Truck #2 Firehouse (Thematic Nomination of Hoboken Firehouses)	501 Observer Highway	S/NR Listed
7	Erie-Lackawanna Terminal	Hudson Plaza	S/NR Listed
8	Ferguson Brothers Manufacturing Company	730-732 Monroe Street	SHPO Opinion
9	Hoboken Historic District	Observer Hwy, Hudson River, 14th and Clinton Streets	SHPO Opinion
10	Hoboken Land and Improvement Company Building	1 Newark Street	S/NR Listed
11	Hoboken-North Hudson YMCA	1301 Washington Street	SHPO Opinion
12	Keuffel and Esser Manufacturing Complex	3rd, Adams & Grand Streets	S/NR Listed
13	Machine Shop (Bethlehem Steel Corp. Shipyard)	1201-1321 Hudson Street	SHPO Opinion
14	Northern Hoboken Historic District	14th, 7th, Hudson Streets, Castle Point Terrace and Park Ave	SHPO Opinion
15	Old Main Delaware, Lackawanna and Western Railroad Historic District (Hoboken and Jersey City)	Morris & Essex Railroad Right-of-Way to Delaware River	SHPO Opinion
16	Public School Number 7	80 Park Avenue	SHPO Opinion
17	Southern Hoboken Historic District	Bloomfield, Hudson, Newark, River, Washington, 1st, 2nd, 3rd, 4th Streets, Observer Hwy	DOE SHPO Opinion
18	Southern Hoboken Historic District Extension	Washington Street, 4th to 14th Streets	SHPO Opinion
19	Stevens Historic District	Castle Point	SHPO Opinion
20	Hudson and Manhattan Railroad Transit System (PATH) Hoboken and Jersey City	Connects Exchange Place and Hoboken to New York City	SHPO Opinion
	Jersey City		
21	Grove Street Bridge (Old Main Delaware, Lackawanna and Western Railroad Historic District)	NJ Transit Morristown Line, M.P. 0.66 over Grove Street	SHPO Opinion
22	Holbrook Manufacturing Company	315 Coles Street	SHPO Opinion
	Weehawken Township		
23	Erie Railroad Pier D and Piershed	Hudson River at Harbor Boulevard	SHPO Opinion; See revised survey in Appendix C
24	North (Hudson) River Tunnels	Amtrak Northeast Corridor under Hudson River	SHPO Opinion
25	Pennsylvania Railroad New York to Philadelphia Historic District		SHPO Opinion; Recommended not eligible (this study)



Source: See Map Data Page

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Previously Identified Historic Properties

August 2016

FIGURE 119

10.2 Survey Results

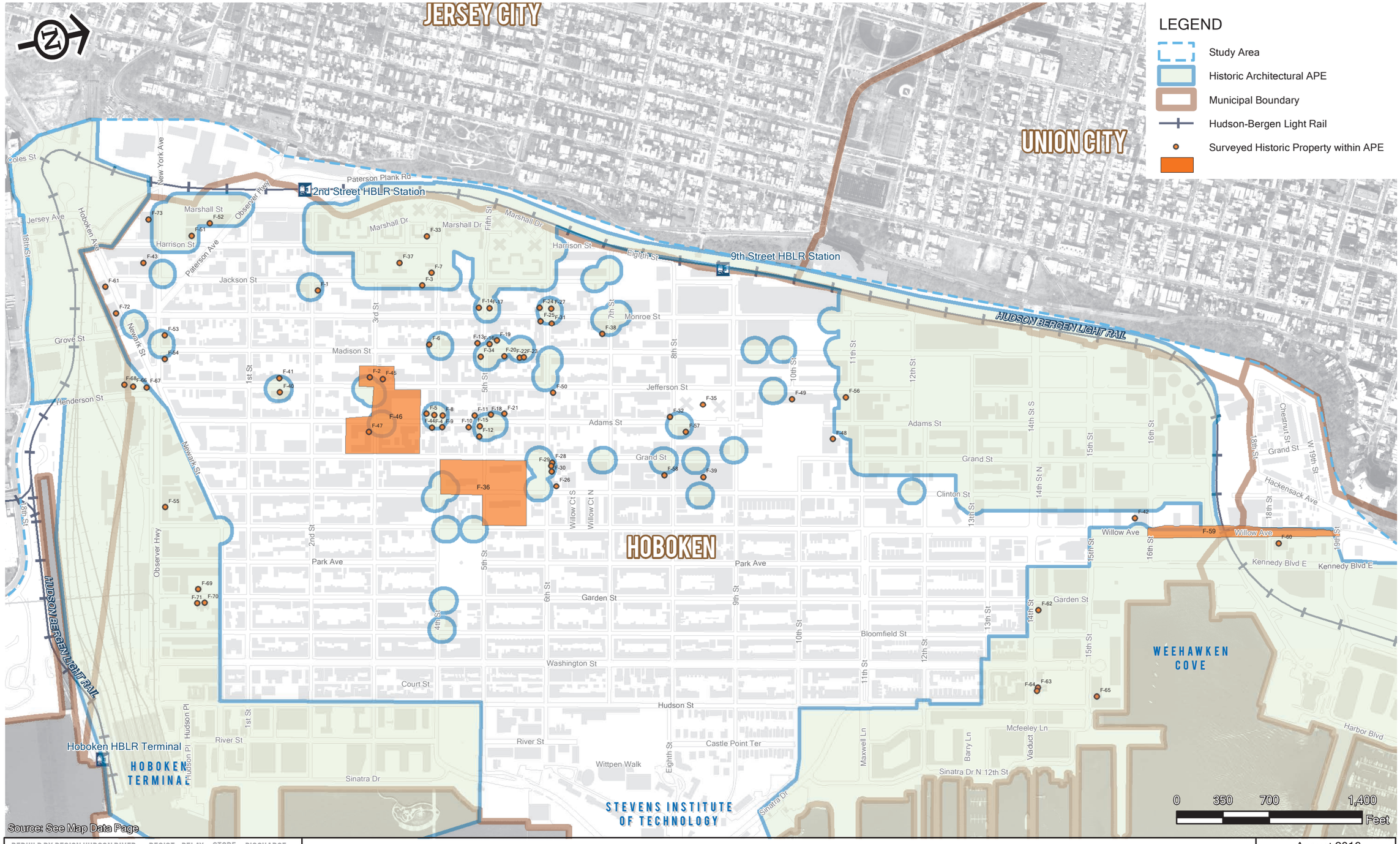
The architectural survey recorded 136 resources 50 years old or older within the APE, including properties previously contained in the Historic Sites Inventory of Hoboken, as contained in the report titled, Hoboken, New Jersey, A Physical and Social History, conducted in 1978-1979 (Tables 7 & 8; Figures 120 & 121).[945] These resources also include historic properties within a known historic district. The survey recorded individual properties, streetscapes, and historic districts that are within the APE. Intensive-level survey was conducted for newly surveyed and/or evaluated properties within the APE (Table 7; Figure 120). Properties surveyed and located within a historic district were reviewed to determine whether the resource was extant and whether the property continued to contribute to the district (Table 8; Figure 121). Survey forms were only generated for those properties surveyed on the intensive level. A cultural resource report for the Hoboken Yard Major Electrical Repairs, conducted concurrently with this study and submitted to NJHPO for review in August 2016, evaluated several properties contained in this study.[946]

Based on the results of the intensive-level architectural survey, 11 additional historic properties were identified: 224-232 Jefferson Street; 401 and 403 Adams Street; 509 Madison Street; the R.B. Davis Company Manufacturing Complex; the R. Neumann & Co. Complex; Standard Brands & Lipton Tea Plant; Society Madonna dei Martiri (332 Adams Street); St. Francis Italian Catholic Church; Chappell, Chase, Maxwell Coffin & Casket Factory (aka National Casket Company); 77-79 Garden Street (all in Hoboken); and the 3rd Street Historic District, a new historic district, which includes 224-232 Jefferson Street, St. Francis Church, and the Chappell, Chase, Maxwell Coffin & Casket Factory, as well as the State and National Register-listed Keuffel and Esser Manufacturing Complex. The buildings at 77-79 Garden Street are located in the Hoboken Historic District, however, this block has been extensively altered and new residential buildings introduced, such that the Hoboken Historic District boundaries should be updated.

Hoboken has several historic districts principally in the eastern portion of the city. In many instances, these overlap so that a property can be in multiple historic districts. Properties located in the various historic districts were identified as contributing and non-contributing properties. At the Stevens Historic District, the concrete retaining wall at Elysian Field Park is located within the APE and is recommended eligible a as contributing resource to the historic district.

Twenty-one (21) individual properties surveyed within the APE are in the Central Hoboken Historic District and the Hoboken Historic District. Of these, three properties were recommended not contributing, 17 were recommended eligible as contributing, and the A.J. Demarest School was recommended individually eligible in addition to contributing to the historic districts. Two properties were surveyed and evaluated as contributing to only the Hoboken Historic District. Four of the 21 properties are also in the Southern Hoboken Extension. Although most have received alterations and do not appear to be individually eligible for listing in the National Register, they appear to be contributing resources to the historic district because they were constructed during the district's period of

[945] Zingman.
[946] RGA, Inc., *Hoboken Yard Major Electrical Repairs* (March 2016).



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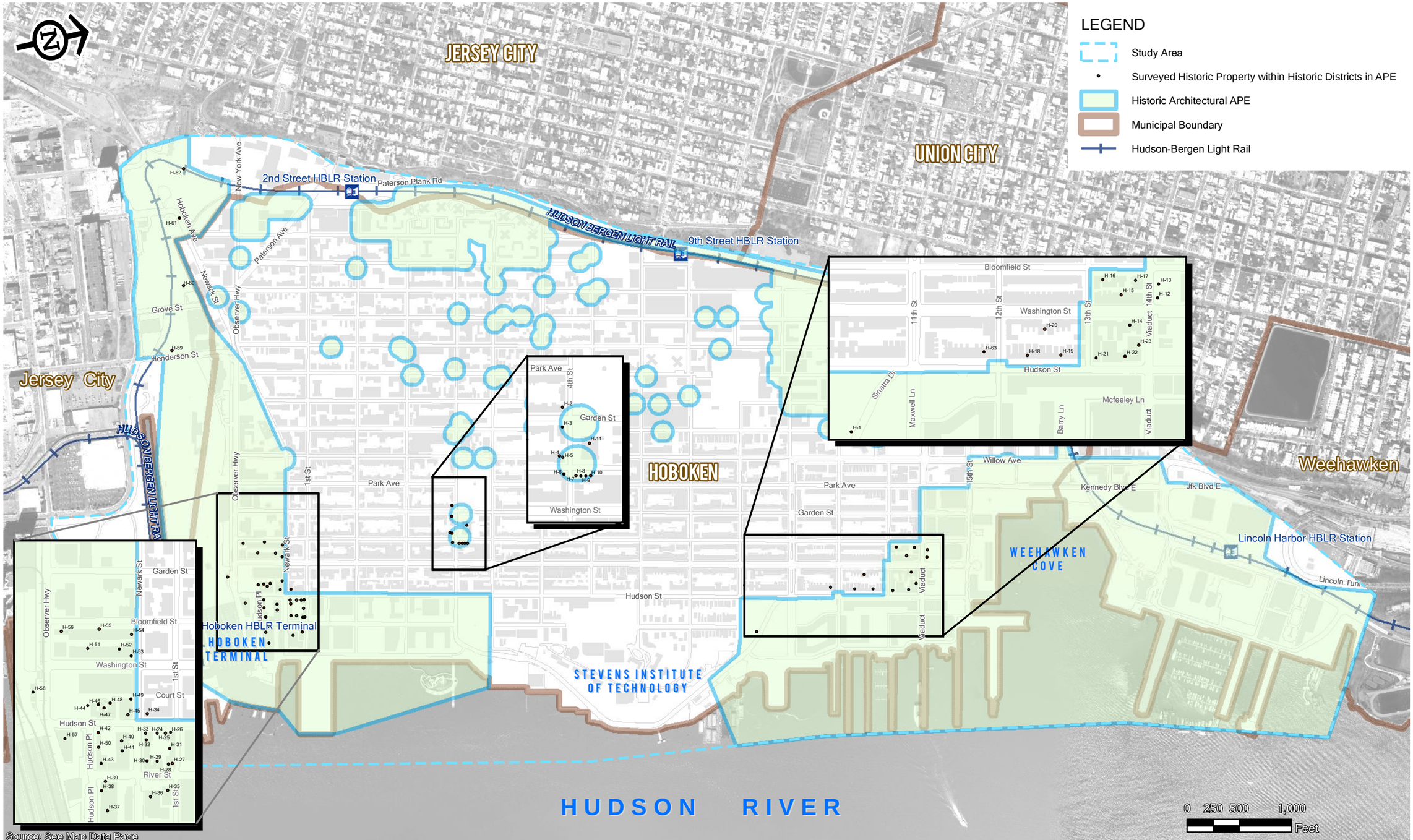
Surveyed Historic Properties within Historic Architectural APE

August 2016

FIGURE 120



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Surveyed Historic Properties within Existing Historic Districts in Historic Architectural APE

August 2016

FIGURE 121

significance and, when combined, they represent a significant and distinguishable entity whose components lack individual distinction.

Six individual properties and/or streetscapes were identified in the Northern Hoboken Historic District/Hoboken Historic District/Central Hoboken Historic District as contributing to the historic districts. Although most have received alterations and do not appear to be individually eligible for listing in the National Register, they appear to be contributing resources to the historic district because they were constructed during the district's period of significance and, when combined, they represent a significant and distinguishable entity whose components lack individual distinction.

A total of 37 properties were identified within the Southern Hoboken Historic District. Of these, 27 were identified as contributing resources to the Southern Hoboken Historic District. All but two of the properties are also within the Hoboken Historic District. Although most have received alterations and do not appear to be individually eligible for listing in the National Register, they appear to be contributing resources to the historic district because they were constructed during the district's period of significance and, when combined, they represent a significant and distinguishable entity whose components lack individual distinction.
Additionally, five resources were identified as contributing to the Old Main Delaware, Lackawanna and Western Railroad Historic District. These resources appear to have been previously surveyed, but not individually mapped as historic properties.[947]

For more detailed information on the surveyed properties, refer to the individual survey forms included in Appendix C. Properties recorded as part of the survey are listed in Table 7 below and mapped in Figure 120. Contributing and Non-Contributing Properties within the APE (No Survey Form Generated) are listed in Table 8 below and mapped in Figure 121.

Table 7: Historic Architectural Survey

INTENSIVE-LEVEL SURVEY (SEE SURVEY FORMS IN APPENDIX C)			
REF. NO.	PROPERTY NAME	ADDRESS	ELIGIBILITY RECOMMENDATION
F-1	608-614 2nd Street	608-614 2nd Street, Hoboken City	Not Eligible
F-2	224-232 Jefferson Street	224-232 Jefferson Street, Hoboken City	Recommended Eligible as contributing to the 3rd Street Historic District
F-3	327 Jackson Street	327 Jackson Street, Hoboken City	Not Eligible
F-4	327-333 Adams Street	327-333 Adams Street, Hoboken City	Not Eligible

[947] NJDEP

INTENSIVE-LEVEL SURVEY (SEE SURVEY FORMS IN APPENDIX C)			
REF. NO.	PROPERTY NAME	ADDRESS	ELIGIBILITY RECOMMENDATION
F-5	328-330 Adams Street	328-330 Adams Street, Hoboken City	Not Eligible
F-6	328-332 Madison Street	328-332 Madison Street, Hoboken City	Not Eligible
F-7	330-332 Jackson Street	330-332 Jackson Street, Hoboken City	Not Eligible
F-8	400 Adams Street	400 Adams Street, Hoboken City	Not Eligible
F-9	Albini Pharmacy and the Francisco Crozetti House	401 and 403 Adams Street, Hoboken City	Recommended Eligible
F-10	417 Adams Street	417 Adams Street, Hoboken City	Not Eligible
F-11	418-422 Adams Street	418-422 Adams Street, Hoboken City	Not Eligible
F-12	419 5th Street	419 5th Street, Hoboken City	Not Eligible
F-13	420-422 Madison Street	420-422 Madison Street, Hoboken City	Not Eligible
F-14	420-422 Monroe Street	420-422 Monroe Street, Hoboken City	Not Eligible
F-15	423 Adams Street	423 Adams Street, Hoboken City	Not Eligible
F-16	500 Madison Street	500 Madison Street, Hoboken City	Not Eligible
F-17	500 Monroe Street	500 Monroe Street, Hoboken City	Not Eligible
F-18	500-508 Adams Street	500-508 Adams Street, Hoboken City	Not Eligible
F-19	502-504 Madison Street (a.k.a. 502-510 Madison Street)	502-504 Madison Street, Hoboken City	Not Eligible
F-20	509 Madison Street	509 Madison Street, Hoboken City	Recommended Eligible
F-21	510-512 Adams Street	510-512 Adams Street, Hoboken City	Not Eligible
F-22	519 Madison Street	519 Madison Street, Hoboken City	Not Eligible
F-23	521 Madison Street	521 Madison Street, Hoboken City	Not Eligible
F-24	530 Monroe Street	530 Monroe Street, Hoboken City	Not Eligible
F-25	533 Monroe Street	533 Monroe Street, Hoboken City	Not Eligible

INTENSIVE-LEVEL SURVEY (SEE SURVEY FORMS IN APPENDIX C)			
REF. NO.	PROPERTY NAME	ADDRESS	ELIGIBILITY RECOMMENDATION
F-26	600 - 602 Clinton Street	600 - 602 Clinton Street, Hoboken City	Recommended Eligible as contributing to the Hoboken Historic District
F-27	600 Monroe Street	600 Monroe Street, Hoboken City	Not Eligible
F-28	601 Grand (aka 364 6th) Street	601 Grand Street, Hoboken City	Not Eligible
F-29	362 6th Street	362 6th Street, Hoboken City	Not Eligible
F-30	356-360 6th Street	356-360 6th Street, Hoboken City	Not Eligible
F-31	601 Monroe Street	601 Monroe Street, Hoboken City	Not Eligible
F-32	734 Adams Street	734 Adams Street, Hoboken City	Not Eligible
F-33	Andrew Jackson Gardens	400 Harrison Street, Hoboken City	Not Eligible
F-34	Chickie's Luncheonette	423 Madison Street, Hoboken City	Not Eligible
F-35	Christopher Columbus Gardens	460 8th Street and 455 9th Street, Hoboken City	Not Eligible
F-36	Church Towers	5 Church Towers, 10 church Towers, 15 Church Towers, Hoboken City	Not Eligible
F-37	Harrison Gardens	400 Harrison Street, Hoboken City	Not Eligible
F-38	Hoboken Catholic Academy	555 7th Street, Hoboken City	Not Eligible
F-39	Hoboken High School	9th and Clinton Streets, Hoboken City	Not Eligible
F-40	Jerry Molloy Youth center (a.k.a. Hoboken Recreation Center)	123 Jefferson Street, Hoboken City	Not Eligible
F-41	112-120 Jefferson Street	112-120 Jefferson Street, Hoboken City	Not Eligible
F-42	Former New Jersey Machine Corporation	1516-1530 Willow Avenue, Hoboken City	Not Eligible
F-43	R.B. Davis Company Manufacturing Complex (and the My-T-Fine Building)	38-56 Jackson Street, Hoboken City	Recommended Eligible
F-44	Society Madonna dei Martiri	332 Adams Street, Hoboken City	Recommended Eligible
F-45	St. Francis Italian Catholic Church Complex	300-314 Jefferson Street, Hoboken City	Recommended Eligible as contributing to the 3rd Street Historic District
F-46	3rd Street Historic District	3rd Street area, Grand to Jefferson	Recommended Eligible

INTENSIVE-LEVEL SURVEY (SEE SURVEY FORMS IN APPENDIX C)			
REF. NO.	PROPERTY NAME	ADDRESS	ELIGIBILITY RECOMMENDATION
F-47	Chappell, Chase, Maxwell Coffin & Casket Factory (a.k.a. National Casket Company)	223-233 Adams Street and 222-232 Grand Street, Hoboken City	Recommended Eligible as contributing to the 3rd Street Historic District
F-48	White Metal Manufacturing Company (a.k.a. 1015 Adams Street; 1012-22 Grand Street)	1015 Adams Street, Hoboken City	Not Eligible
F-49	JF Kennedy Stadium - Veterans Field	917-1105 Jefferson Street, Hoboken City	Not Eligible
F-50	601 Jefferson Street aka 460 6th Street	601 Jefferson Street, Hoboken City	Not Eligible
F-51	64-68 Harrison Street	64-68 Harrison Street, Hoboken City	Not Eligible
F-52	Academy Bus Company	111 Patterson Avenue, Hoboken City	Not Eligible
F-53	554 Observer Highway	554 Observer Highway, Hoboken City	Not Eligible
F-54	510-514 Observer Highway	510-514 Observer Highway, Hoboken City	Not Eligible
F-55	R. Neumann & Co. Complex	300 Observer Highway, Hoboken City	Recommended Eligible
F-56	1017-1031 Jefferson Street	1017-1031 Jefferson Street, Hoboken City	Not Eligible
F-57	General Electric Vapor Lamp Company (a.k.a. 410 8th Street; aka 801-809 Adams Street)	410 8th Street (801-809 Adams), Hoboken City	Not Eligible
F-58	Mayburn Knitting Mills (a.k.a. 720 Clinton Street; 351 8th Street; 715 Grand Street)	715 Grand Street, Hoboken City	Not Eligible
F-59	Willow Avenue over Conrail River Line (Hudson-Bergen Light Rail)	Willow Avenue between 16th and 19th streets, Hoboken City	Not Eligible
F-60	Benton, Heath & Co.	1801 -1803 Willow Avenue & 1806 Park Avenue, Weehawken	Not Eligible
F-61	Windsor Wax Co.	617 Newark Street, Hoboken City	Not Eligible
F-62	Philippines Desiccated Coconut	158-166 14th Street, Hoboken City	Not Eligible
F-63	City Bistro (a.k.a. 56 14th Street)	56 14th Street, Hoboken City	Not Eligible
F-64	Uptown Pizzeria (a.k.a. 54 14th Street)	54 14th Street, Hoboken City	Not Eligible

INTENSIVE-LEVEL SURVEY (SEE SURVEY FORMS IN APPENDIX C)			
REF. NO.	PROPERTY NAME	ADDRESS	ELIGIBILITY RECOMMENDATION
F-65	Standard Brands & Lipton Tea Plant	Hudson at 15th Street, Hoboken City	Recommended Eligible
F-66	Burns Brothers Coal Yard Office (a.k.a. 3-5 Henderson Street)	3-5 Henderson Street, Hoboken City	Not Eligible
F-67	497-499 Observer Highway	497-499 Observer Highway, Hoboken City	Not Eligible
F-68	Wilson & Co. Meat Storage House (a.k.a. Kobrick Coffee Co., 693 Marin Blvd.)	693 Marin Boulevard, Jersey City	Not Eligible
F-69	72-74 Garden Street	72-74 Garden Street, Hoboken City	Not Eligible (Recommend that the boundary of the Hoboken Historic District be updated)
F-70	77-79 Garden Street	77-79 Garden Street, Hoboken City	Recommended Eligible Contributing Hoboken Historic District
F-71	73 Garden Street	73 Garden Street, Hoboken City	Not Eligible (Recommend that the boundary of the Hoboken Historic District be updated)
F-72	Hudson Electric Light Works	601 Newark Street Hoboken City	Not Eligible (RGA08)[948]
F-73	Hoboken Business Center	50 Harrison Street Hoboken City	Not Eligible (RGA11)[949]

Table 8: Summary of Historic Properties in Historic Districts

CONTRIBUTING AND NON-CONTRIBUTING PROPERTIES WITHIN THE APE (NO SURVEY FORM GENERATED)			
H-1	Retaining Wall, Elysian Field Stevens Historic District	Elysian Field Park, FSD, Hoboken City	Eligible as Contributing to the Stevens Historic District
H-2	7 Stars Pizza, 342 Garden Street	342 Garden Street, Hoboken City	Not Eligible, not contributing to the Central Hoboken Historic District or the Hoboken Historic District
H-3	Sweet, 343 Garden; Best Dry Cleaners 167 4th Street	343 Garden, 167 4th Street, Hoboken City	Eligible as Contributing to the Central Hoboken Historic District / the Hoboken Historic District
H-4	Empire Coffee & Tea, 338 Bloomfield	338 Bloomfield Street, Hoboken City	Eligible as Contributing to the Central Hoboken Historic District / the Hoboken Historic District

[948] RGA, Inc. 601 Newark Street in Hoboken Yard Major Electrical Repairs, RGA08 (March 2016).
[949] RGA, Inc. Hoboken Business Center, RGA11.

CONTRIBUTING AND NON-CONTRIBUTING PROPERTIES WITHIN THE APE (NO SURVEY FORM GENERATED)			
H-5	336 Bloomfield Street	336 Bloomfield Street, Hoboken City	Eligible as Contributing to the Central Hoboken Historic District / the Hoboken Historic District
H-6	The Tux Shop 341 Bloomfield at 4th Street	341 Bloomfield Street, Hoboken City	Eligible as Contributing to the Central Hoboken Historic District / the Hoboken Historic District
H-7	Cartridge World 401 Bloomfield at 4th Street	401 Bloomfield Street, Hoboken City	Eligible as Contributing to the Central Hoboken Historic District / the Hoboken Historic District
H-8	403 Bloomfield Street	403 Bloomfield Street, Hoboken City	Eligible as Contributing to the Central Hoboken Historic District / the Hoboken Historic District
H-9	405 Bloomfield Street	405 Bloomfield Street, Hoboken City	Eligible as Contributing to the Central Hoboken Historic District / the Hoboken Historic District
H-10	407 Bloomfield Street	407 Bloomfield Street, Hoboken City	Eligible as Contributing to the Central Hoboken Historic District / the Hoboken Historic District
H-11	A.J. Demarest Jr High	150-164 Fourth Street (404-414 Bloomfield Street), Hoboken City	Individually Eligible; Eligible as Contributing to the Central Hoboken Historic District / the Hoboken Historic District
H-12	Up-Town Bank-Hudson Reporter	1400 Washington Street (100-102 14th Street), Hoboken City	Eligible as Contributing to the Northern Hoboken Historic District / Hoboken Historic District
H-13	104-118 14th Street	104-118 14th Street, Hoboken City	Eligible as Contributing to the Northern Hoboken Historic District / Hoboken Historic District
H-14	1315-1317, 1319, 1321 Washington Street	1315-1317, 1319, 1321 Washington Street, Hoboken City	Eligible as Contributing to the Northern Hoboken Historic District / the Hoboken Historic District / the Central Hoboken Historic District / Southern Hoboken Extension
H-15	1300-1318 Washington (west side)	1300-1318 Washington Street, Hoboken City	Eligible as Contributing to the Northern Hoboken Historic District / the Hoboken Historic District / the Central Hoboken Historic District / Southern Hoboken Extension
H-16	1301-1309 Bloomfield Street	1301-1309 Bloomfield Street, Hoboken City	Eligible as Contributing to the Northern Hoboken Historic District / the Hoboken Historic District / the Central Hoboken Historic District /Southern Hoboken Extension
H-17	109-111, 113 14th Street	109-111, 113 14th Street Hoboken City	Eligible as Contributing to the Northern Hoboken Historic District / the Hoboken Historic District / the Central Hoboken Historic District

CONTRIBUTING AND NON-CONTRIBUTING PROPERTIES WITHIN THE APE (NO SURVEY FORM GENERATED)			
H-18	1200-1208 Hudson Street	1200-1208 Hudson Street, Hoboken City	Eligible as Contributing to the Hoboken Historic District / the Central Hoboken Historic District
H-19	1210-1222 Hudson Street	1210-1222 Hudson Street, Hoboken City	Eligible as Contributing to the Hoboken Historic District / the Central Hoboken Historic District
H-20	Yellow Flats (East side Washington, 12th to 13th streets)	1201-1221 Washington Street, Hoboken City	Eligible as Contributing to the Northern Hoboken Historic District / the Hoboken Historic District / the Central Hoboken Historic District /Southern Hoboken Extension
H-21	1300 Hudson Street	1300 Hudson Street, Hoboken City	Eligible as Contributing to the Hoboken Historic District / the Central Hoboken Historic District
H-22	1314 Hudson Street	1314 Hudson Street, Hoboken City	Not Eligible, not contributing to the Hoboken Historic District / the Central Hoboken Historic District
H-23	55-63 Washington Street	55-63 Washington Street, Hoboken City	Not Eligible, not contributing to the Hoboken Historic District / the Central Hoboken Historic District / Northern Hoboken Historic District
H-24	93-95 Hudson Street	93-95 Hudson Street, Hoboken City	Not Eligible, not contributing to Southern Hoboken Historic District / Hoboken Historic District
H-25	97 Hudson Street	97 Hudson Street, Hoboken City	Eligible as Contributing to the Southern Hoboken Historic District / Hoboken Historic District
H-26	Hudson Hotel	99 Hudson Street, Hoboken City	Eligible as Contributing to the Southern Hoboken Historic District / Hoboken Historic District
H-27	96 River Street	96 River Street, Hoboken City	Not Eligible, not contributing to Southern Hoboken Historic District / Hoboken Historic District
H-28	94 River Street	94 River Street, Hoboken City	Eligible as Contributing to the Southern Hoboken Historic District / Hoboken Historic District
H-29	Clam Broth House (Luna Lounge), 90-92 River Street (Rebuilt/renovated 2012)	90-92 River Street, Hoboken City	Not Eligible, not contributing to the Southern Hoboken Historic District / Hoboken Historic District
H-30	34-30 Newark (Luna Lounge) (Renovated 2012)	34-30 Newark Street, Hoboken City	Not Eligible, not contributing to the Southern Hoboken Historic District / Hoboken Historic District

CONTRIBUTING AND NON-CONTRIBUTING PROPERTIES WITHIN THE APE (NO SURVEY FORM GENERATED)			
H-31	41-43 1st Street	41-43 1st Street, Hoboken City	Eligible as Contributing to the Southern Hoboken Historic District / Hoboken Historic District
H-32	44A Newark Street	44A Newark Street, Hoboken City	Eligible as Contributing to the Southern Hoboken Historic District / Hoboken Historic District
H-33	89-91 Hudson Street (44-46 Newark Street)	89-91 Hudson Street, Hoboken City	Eligible as Contributing to the Southern Hoboken Historic District / Hoboken Historic District
H-34	50 Newark Street	50 Newark Street, Hoboken City	Eligible as Contributing to the Southern Hoboken Historic District / Hoboken Historic District
H-35	Seaboard Building	95 River Street, Hoboken City	Eligible as Contributing to the Southern Hoboken Historic District / Hoboken Historic District
H-36	US Post Office	89 River Street, Hoboken City	Eligible as Contributing to the Southern Hoboken Historic District / Hoboken Historic District
H-37	Energy House/Trust Company of New Jersey	12-14 Hudson Place, Hoboken City	Eligible as Contributing to the Southern Hoboken Historic District
H-38	Hoboken Evening News	22 Hudson Place, Hoboken City	Eligible as Contributing to the Southern Hoboken Historic District / Hoboken Historic District
H-39	Second National Bank	77 River Street, Hoboken City	Not Eligible, not contributing to Southern Hoboken Historic District / Hoboken Historic District
H-40	First National Bank	43-45 Newark Street, Hoboken City	Eligible as Contributing to the Southern Hoboken Historic District / Hoboken Historic District
H-41	31-41 Newark Street	31-41 Newark Street, Hoboken City	Not Eligible, not contributing to Southern Hoboken Historic District / Hoboken Historic District
H-42	Hotel Victor	77 Hudson Street (44 Hudson Place), Hoboken City	Eligible as Contributing to the Southern Hoboken Historic District / Hoboken Historic District
H-43	American Hotel	76-82 River Street, Hoboken City	Eligible as Contributing to the Southern Hoboken Historic District / Hoboken Historic District

CONTRIBUTING AND NON-CONTRIBUTING PROPERTIES WITHIN THE APE (NO SURVEY FORM GENERATED)			
H-44	Hudson Terrace, 66 Hudson Street	66 Hudson Street, Hoboken City	Eligible as Contributing to the Southern Hoboken Historic District
H-45	Hudson Trust Co.	80-84 Hudson Street. Hoboken City	Eligible as Contributing to the Southern Hoboken Historic District / Hoboken Historic District
H-46	Terminal Office Building	68-70 Hudson Street, Hoboken City	Eligible as Contributing to the Southern Hoboken Historic District / Hoboken Historic District
H-47	Martha Apartments/Hotel Edwards	72 Hudson Street, Hoboken City	Eligible as Contributing to the Southern Hoboken Historic District / Hoboken Historic District
H-48	Hudson Terrace, 74 Hudson Street	74 Hudson Street, Hoboken City	Eligible as Contributing to the Southern Hoboken Historic District / Hoboken Historic District
H-49	Hudson Terrace, 55-57 Newark	55-57 Newark Street, Hoboken City	Eligible as Contributing to the Southern Hoboken Historic District / Hoboken Historic District
H-50	Bucino Building	40-42 Hudson Place, Hoboken City	Eligible as Contributing to the Southern Hoboken Historic District / Hoboken Historic District
H-51	Eastview	58-68, 72 Washington Street, Hoboken City	Eligible as Contributing to the Southern Hoboken Historic District / Hoboken Historic District
H-52	76, 80 Washington Street	76, 80 Washington Street, Hoboken City	Eligible as Contributing to the Southern Hoboken Historic District / Hoboken Historic District
H-53	Hoboken Bank for Savings	82-84 Washington Street, Hoboken City	Eligible as Contributing to the Southern Hoboken Historic District / Hoboken Historic District
H-54	Hudson Observer Building	77 Bloomfield Street (111 Newark Street), Hoboken City	Eligible as Contributing to the Southern Hoboken Historic District / Hoboken Historic District
H-55	59-73 Bloomfield Street	59-73 Bloomfield Street, Hoboken City	Eligible as Contributing to the Southern Hoboken Historic District / Hoboken Historic District
H-56	Freight Office Building	110 Observer Highway, Hoboken City	Eligible as Contributing to the Southern Hoboken Historic District and the Hoboken Historic District

CONTRIBUTING AND NON-CONTRIBUTING PROPERTIES WITHIN THE APE (NO SURVEY FORM GENERATED)			
H-57	Hudson and Manhattan Railroad Repair Shops	55 Hudson Street, Hoboken City	Eligible as Contributing to the Hudson and Manhattan Railroad Transit System (PATH)
H-58	DLWRR Records Building	Hoboken City	Eligible as Contributing to Old Main Delaware, Lackawanna and Western Historic District
H-59	Henderson Street (Marin Boulevard) Bridge (NJ Transit Morristown Line M.P 0.57)	Jersey City	Eligible as Contributing to Old Main Delaware, Lackawanna and Western Historic District
H-60	Grove Street Tie Station	Jersey City	Eligible as Contributing to Old Main Delaware, Lackawanna and Western Historic District
H-61	Hoboken Avenue (Jersey Avenue) Bridge (NJ Transit Morristown Line M.P. 0.80)	Jersey City	Eligible as Contributing to Old Main Delaware, Lackawanna and Western Historic District
H-62	DLWRR Bridge over Conrail Riverline (NJ Transit Morristown Line M.P. 0.91 over Hudson-Bergen Light Rail)	Jersey City	Eligible as Contributing to Old Main Delaware, Lackawanna and Western Historic District
H-63	1120 – 1126 Hudson Street	Hoboken City	Eligible as Contributing to the Central Hoboken Historic District and the Hoboken Historic District

A brief description of those properties that are listed in the State and/or National Registers, have SHPO Opinions of Eligibility from the NJHPO, or have been evaluated and recommended as eligible for listing in the National Register by this study are given below.

10.2.1 501 Adams Street (Public School No. 3)

The building at 501 Adams Street, former Public School No. 3, is a Gothic Revival/Collegiate Gothic style public school of buff color brick and cast concrete. The building occupies seven blocks at the northeast corner of 5th Street, has four stories and a central bay of five stories with battlements and turrets. The property received a SHPO Opinion of Eligibility (8/20/1999) under Criterion C for its distinctive characteristics of a Gothic Revival public school building. By 1999, a fifth story addition had been constructed, partially concealed from street view by the parapet and setback. Communication equipment was also added, in a manner that does not detract from the stylistic features of the building and is not visible from the street.[950]

10.2.2 Central Hoboken Historic District

[950] Dorothy P. Guzzo, Deputy State Historic Preservation Officer, Correspondence to Kevin Edwards, O'Brien & Gere Engineers, Inc., NJHPO Consultation Comments for Colocation Communication Equipment at 501 Adams Street (July 20, 1999)

The Central Hoboken Historic District contains a collection of intact nineteenth century to early-twentieth century urban residential dwellings and commercial buildings that are similar in size, scale, and setback from the street. While there is a variety of ages and architectural styles, the buildings form a cohesive collection that reflects the development of Hoboken. The district is roughly bounded by Hudson Place, 1st Street, Willow Street, Clinton Street and 14th Street. While the area within the Central Hoboken Historic District recognizably conveys the cohesive character that is representative of the growth of Hoboken during the nineteenth and early-twentieth centuries, it is one of several historic districts that include in part or whole these same boundaries. The Central Hoboken Historic District overlaps with the Hoboken Historic District, the Northern Hoboken Historic District, and the Southern Hoboken Historic District. The Central Hoboken Historic District received a SHPO Opinion of Eligibility (2/28/1991) under Criterion C for its distinctive characteristics (see Figure 119 for the historic district boundary).[951]

10.2.3 Church of the Holy Innocents

The Church of the Holy Innocents was entered in the State and National Registers for its high architectural qualities and characteristics and as a noteworthy example of the work of ecclesiastical architect, Edward Tuckerman Potter. Under the criteria for evaluation "a church cannot be considered eligible for listing because of its importance as a religious institution, but must also derive 'primary significance from architectural or artistic distinctions or historical importance.'"[952] The property was listed in the State Register (2/4/1977) and the National Register (5/24/1977) under Criteria Consideration a, for its distinctive High Victorian Gothic architectural characteristics. The designation includes the church, parish house, and rectory.

10.2.4 Church of Our Lady of Grace

The church property occupies the block bounded by 4th Street, Clinton Street, 5th Street, and Willow Avenue. This church complex has a New Jersey Certificate of Eligibility (12/15/1994), was listed in the State Register (4/10/1996) and listed in the National Register (5/31/1996) under Criteria A and C and Criteria Consideration a in the areas of religion and architecture. In emulation of cathedrals in Europe, the Church of Our Lady of Grace created a towering presence that reflected the "hopes and aspirations of the poor immigrant [Catholic] population of the City of Hoboken."[953] The nomination includes the church, parochial residence, convent, and parochial school.

10.2.5 Engine Company No. 2 Firehouse

Engine Company No. 2 Firehouse is located near the top of Washington Street within three of Hoboken's overlapping historic districts. The firehouse is located mid-block, has distinctive Romanesque Revival qualities, and is the work of French Dixon and DeSaldern. The Engine Company No. 2 Firehouse was entered in the State Register (2/9/1984) and the National Register (3/30/1984) as part of the Thematic Nomination of Hoboken Firehouses as

[951] Sullebarger Associates, New Jersey Transit Hudson River Waterfront AA/DEIS Historic Architectural Resources Background Study (Draft October 14, 1991).
[952] Gregory A. Marshall, Director New Jersey Department of Environmental Protection Division of Parks and Forestry, correspondence to John J. Heaney (February 14, 1997).
[953] Rev. Richard Carrington, and Helen Manogue, The Church of Our Lady of Grace National Register of Historic Place Registration Form (1995).

representative of a specific type of municipal structure that evolved from the 1870s to 1915. The firehouse is representative of design characteristics from 1890-1892.[954]

10.2.6 Engine Company No. 3, Truck No. 2 Firehouse

Engine Company No. 3, Truck No. 2 occupies a triangular lot bounded by Madison Street, Observer Highway, and Newark Street at the southern terminus of Jefferson Street. Representative of distinctive Romanesque Revival characteristics, the building was designed by noted Hoboken architect Charles Fall. The Engine Company No. 3, Truck No. 2 Firehouse was entered in the State Register (2/9/1984) and the National Register (3/30/1984) as part of the Thematic Nomination of Hoboken Firehouses as representative of a specific type of municipal structure that evolved from the 1870s to 1915. The firehouse is representative of design characteristics from 1890-1892.[955]

10.2.7 Erie-Lackawanna Terminal

Sited at the Hudson River, south of Hudson Place, at the southern boundary of Hoboken with Jersey City, the Erie-Lackawanna Terminal embodies distinctive design and construction characteristics. The property consists of the Ferry and Railroad Terminal, the Train Shed, the Baggage/YMCA Building, and the former Pullman Building and Immigrant Station. Significant in the areas of architecture, commerce, community planning and development, engineering, and transportation, the Terminal was entered in the State Register (6/16/1973, 12/7/2004) and the National Register (7/24/1973, 2/17/2005) for its architectural and historical importance. The terminal played a central role in rail and ferry transportation in the metropolitan region throughout the early decades of the twentieth century. This copper-sheathed steel and concrete structure and its train sheds became a model for later transportation terminals.[956]

10.2.8 Ferguson Brothers Manufacturing Company

A survivor from Hoboken's rich industrial past, the Ferguson Brothers Manufacturing Company is at the western fringes of the city. The facility consists of two, five-story industrial buildings that date from the early-twentieth century. The building at 732 Monroe Street is brick with casement windows and brick piers separating each bay; 720 Monroe has six-story tower ends with some Art Deco detailing. The property received a SHPO Opinion of Eligibility (10/16/1998) under Criterion C as excellent and intact examples of early-twentieth century industrial buildings.[957]

10.2.9 Hoboken Historic District

The Hoboken Historic District contains a collection of intact nineteenth century to early-twentieth century urban residential dwellings and commercial buildings that are similar in size, scale, and setback from the street. While there is a variety of ages and architectural styles, the buildings form a cohesive collection that reflects the

[954] Patricia Florio, Engine Co. #2 Individual Structure Survey Form (February 1983); Patricia Florio, Hoboken Firehouses & Firemen's Monument National Register of Historic Places Inventory Nomination Form (1983), 7-2.
[955] Patricia Florio, Engine House #3, Truck #2 Individual Structure Survey Form (February 1983), Florio, Hoboken Firehouses, 7-2.
[956] Terry Karschner, Erie-Lackawanna Railroad Terminal at Hoboken National Register of Historic Places Inventory Nomination Form (1973); Julie P. Carmelich and Stacy Spies, ARCH^2, Erie-Lackawanna Terminal National Register of Historic Places Registration Form (2005).
[957] Dorothy P. Guzzo, Deputy State Historic Preservation Officer, Correspondence to Chitra Radin, NJ Transit, regarding the Hudson-Bergen Light Rail Transit System (October 16, 1998), 2.

development of Hoboken. The district is roughly bounded by Observer Highway, the Hudson River, Clinton Street and 14th Street. While the area within the Hoboken Historic District recognizably conveys the cohesive character that is representative of the growth of Hoboken during the nineteenth and early-twentieth centuries, it is but one of several districts that include either a portion or the entirety of these same boundaries. The Hoboken Historic District includes within its boundaries all of the Central Hoboken Historic District and the Northern Hoboken Historic District; it encompasses all of the Southern Hoboken Historic District except for the Hoboken Terminal. The district received a SHPO Opinion of Eligibility (3/5/1982; 5/12/1983) under Criterion C for its distinctive characteristics (see Figure 119 for the historic district boundary).[958]

10.2.10 Hoboken Land and Improvement Company Building

The Hoboken Land and Improvement Company Building is a three-story granite building of unique design and excellent craftsmanship and detailing that defies stylistic classification. Significant primarily for its historic association with the commercial development of Hoboken and enterprises involving the development and expansion of transportation facilities, the Hoboken Land and Improvement Company Building was entered in the State Register (3/29/1979) and the National Register (7/3/1979) for its architectural and historical importance.[959] The building is a key contributing feature to the Southern Hoboken Historic District.

10.2.11 Hoboken-North Hudson YMCA

Rising four stories on a basement, the YMCA occupies a corner site and anchors the streetscape at the northern reaches of 14th Street. This red brick building has limestone details and flourishes, entrances read “Men’s Department,” “Women’s Department,” and “Boys Department.” The property received a SHPO Opinion of Eligibility (4/20/2007) under Criterion A for its community services and for the role it played in the education of the community’s citizens; it was also determined eligible under Criterion C for its architectural details which are representative of a Georgian Revival style characteristic of many YMCA buildings constructed during the early-twentieth century.[960]

10.2.12 Keuffel and Esser Manufacturing Complex

The complex fronts on the northern side of 3rd Street, dominating the blocks from Jefferson Street to Grand Street. The earlier plant is located between Adams and Grand streets and forms a continuous red brick wall four stories high. This group of buildings has brick details and corbeling, oriel windows, brick segmental arches (east portion) and brownstone lintels and sills (west portion). Rising full height beginning at the second story above the corner entrance facing Grand Street, the projecting corner bay forms a tower with round-head windows. The plant known as the “Clock Tower Building” occupies most of the full block between Adams and Jefferson streets and is a reinforced concrete daylight building, five stories tall with an L-plan. This early-twentieth century industrial building has bays demarcated by piers; its recognizable clock tower is located at the southeast corner of the building. The

[958] New Jersey Historic Preservation Office, New Jersey and National Registers of Historic Places, Hudson County (4/26/2016), 4; the Hoboken Historic District NJHPO file could not be located.
[959] Alane Guitian, Hoboken Land and Improvement Company Building National Register of Historic Places Inventory Nomination Form (1978).
[960] Dorothy P. Guzzo, Deputy State Historic Preservation Officer, Correspondence to Tammy Wetzel, Triad Associates, regarding Hoboken-North Hudson YMCA (April 20, 2007).

buildings were among the early examples of adaptive use of industrial buildings and have been converted to residential use. The Keuffel and Esser Manufacturing Complex was entered in the State Register (7/31/1985) and the National Register (9/12/1985) for its architectural importance and in terms of the architect/engineering profession. As framed by the National Register Nomination, the complex is significant architecturally as one of Hoboken's finest examples of nineteenth and early-twentieth century industrial architecture. The buildings are also important historically to the professions of architects and engineers because of the Keuffel and Esser association with the development of blueprint paper, precision instruments, and slide rules; these technological advancements revolutionized both the architectural and engineering professions.[961]

10.2.13 Machine Shop (Bethlehem Steel Corp. Shipyard)

The Machine Shop is a long and narrow, two-story red brick building approximately 500 feet in length located along the east side of Hudson Street. The property received a SHPO Opinion of Eligibility (5/2/1997) for its historical importance in the development of steam engines and ship building. Originally the North River Iron Works and later the W. & A. Fletcher Company, this company was one of the most respected American builders of steamboats. The company was early in the adoption of the steam turbine when it was introduced in England. The Bethlehem Steel Company was the largest ship builder in the world during World War II. Battle-damaged ships were retrofitted and repaired and destroyer escorts were built at the Hoboken Yard. This building is the only remaining component of the former Hoboken facility.[962]

10.2.14 Northern Hoboken Historic District

The Northern Hoboken Historic District contains a collection of intact nineteenth century to early-twentieth century urban residential dwellings and commercial buildings that are similar in size, scale, and setback from the street. While there is a variety of ages and architectural styles, the buildings form a cohesive collection that reflects the development of Hoboken. The district is roughly bounded by Hudson Street, and Castle Point Terrace, 7th Street, Park Avenue, and 14th Street, including buildings at 100-188 14th Street.[963] While the area within the Northern Hoboken Historic District recognizably conveys the cohesive character that is representative of the growth of Hoboken during the nineteenth and early-twentieth centuries, it is but one of several districts that encompass either a portion or the entirety of these same boundaries. The Northern Hoboken Historic District overlaps with the Central Hoboken Historic District and the Hoboken Historic District, being almost entirely within their boundaries. It also overlaps with the Stevens Historic District. The district received a SHPO Opinion of Eligibility (5/20/1985) under Criterion C for its distinctive characteristics (see Figure 119 for the historic district boundary).[964]

[961] Charles Wyatt, Keuffel and Esser Manufacturing Complex National Register of Historic Places Inventory Nomination Form (December 1984), 8-1.
[962] Dorothy P. Guzzo, Deputy State Historic Preservation Officer, Correspondence to Encarnacion Loukatos, Directory Multifamily Housing Division, U.S. Department of Housing and Urban Development, regarding the Shipyards at Hoboken, 1201-1321 Hudson Street (May 2, 1997); C. Terry Pfoutz, Supervisor Technical Review Section, Historic Preservation Office, Correspondence to John Weingart, Assistant Commissioner for Environmental Regulation (November 16, 1993).
[963] Patricia Florio, Northern Hoboken Historic District National Register of Historic Places Inventory Nomination Form (November 1984), the nomination was not put forward due to owner opposition. Subsequent reference to the district excludes contributing buildings as outlined in the nomination.
[964] NJHPO

10.2.15 Old Main Delaware, Lackawanna and Western Railroad Historic District

The Old Main Delaware, Lackawanna and Western Railroad Historic District is located in the southern portion of the Study Area at the southern extent of Hoboken and at the boundary with Jersey City. The historic district extends from its terminus at the Hoboken Terminal (historically the Erie-Lackawanna Railroad and Ferry Terminal) in a westerly direction across the state to the Delaware River. The historic district received a SHPO Opinion of Eligibility (9/24/1996) under Criteria A and C and is eligible for its association with suburbanization, commuter and passenger traffic, freight traffic, engineering and architecture.[965]

10.2.16 Public School No. 7

Occupying a prominent corner location, this former public school building has the distinctive qualities of late-nineteenth century school buildings as well as characteristics of Italian Renaissance Revival. An early example of a public school designed to be both imposing and monumental, expressed architecturally through a revival style, the building stands four stories, has a central five-story Palladium motif tower, yellow roman brick, and windows with round arch transoms. The terra cotta relief and world globes above engaged pilasters at the entrance are most impressive. Public School No. 7 received a SHPO Opinion of Eligibility (9/24/1996) under Criterion C as an excellent example of the Italian Renaissance Revival Style.[966]

10.2.17 Southern Hoboken Historic District

The Southern Hoboken Historic District is a cohesive neighborhood of late-nineteenth century commercial, residential, and institutional buildings. The district includes portions of Bloomfield, Hudson, Newark, River, Washington, 1st, 2nd, 3rd, and 4th streets and Observer Highway. Characterized by uniformly-scaled three and four-story streetscapes of row houses and commercial structures, the district reflects the peak period of Hoboken's prosperity. Included are excellent examples of Greek Revival, Italianate, Victorian Gothic, Beaux Arts Classicism and Art Moderne styles. The Southern Hoboken Historic District received a SHPO Opinion of Eligibility (1/3/1980; 2/28/1991) and a Determination of Eligibility from the Keeper of the National Register (DOE 4/25/1980). The district is eligible under Criteria A and C for its collection of distinctive nineteenth century urban buildings (see Figure 119 for the historic district boundary). The district is also a Certified Local District (12/19/1981) subject to review by the Hoboken Preservation Commission. Key contributing resources to the district include the Hoboken Land and Improvement Company Building, the Erie-Lackawanna Terminal, and a portion of the Old Main Delaware, Lackawanna and Western Railroad Historic District.[967]

10.2.18 Southern Hoboken Historic District Extension

[965] Dorothy P. Guzzo, Deputy State Historic Preservation Officer, Correspondence to Andras Fekete, New Jersey Department of Transportation regarding Rockaway Road Bridge over NJ Transit Morristown Line (September 24, 1996); "Attachment A," Old Main Delaware, Lackawanna and Western Railroad File (on file NJHPO, Trenton).
[966] Lynn Drobbin & Associates, *NJ Transit Hudson-Bergen Light Rail Transit System Request for a Determination of Effect* (December 18, 1995), 65.
[967] Lynn Drobbin & Associates, NJ Transit Long Slip Habitat Creation Project Request for a Determination of Eligibility for Long Slip (March 1997), 5.

The Southern Hoboken Historic District Extension is reflective of Hoboken's late-nineteenth and early-twentieth century history through its built environment. The extent of Washington Street from 4th to 14th streets is Hoboken's main commercial thoroughfare. This urban corridor is characterized by groupings of nineteenth century commercial buildings, residential buildings, and early-twentieth century transportation facilities. "The district displays a clear sense of architectural and historic cohesiveness created by the unique combination of Hoboken's waterfront, industrial and transportation needs." This remarkable collection of buildings is typical of building in Hoboken during its most prosperous period. The district received a SHPO Opinion of Eligibility (4/26/1999) under Criteria A and C for its collection of distinctive nineteenth century urban buildings (see Table 8 and Figures 119 & 121 for the historic district boundary and buildings contributing to the district in the APE).[968]

10.2.19 Stevens Historic District

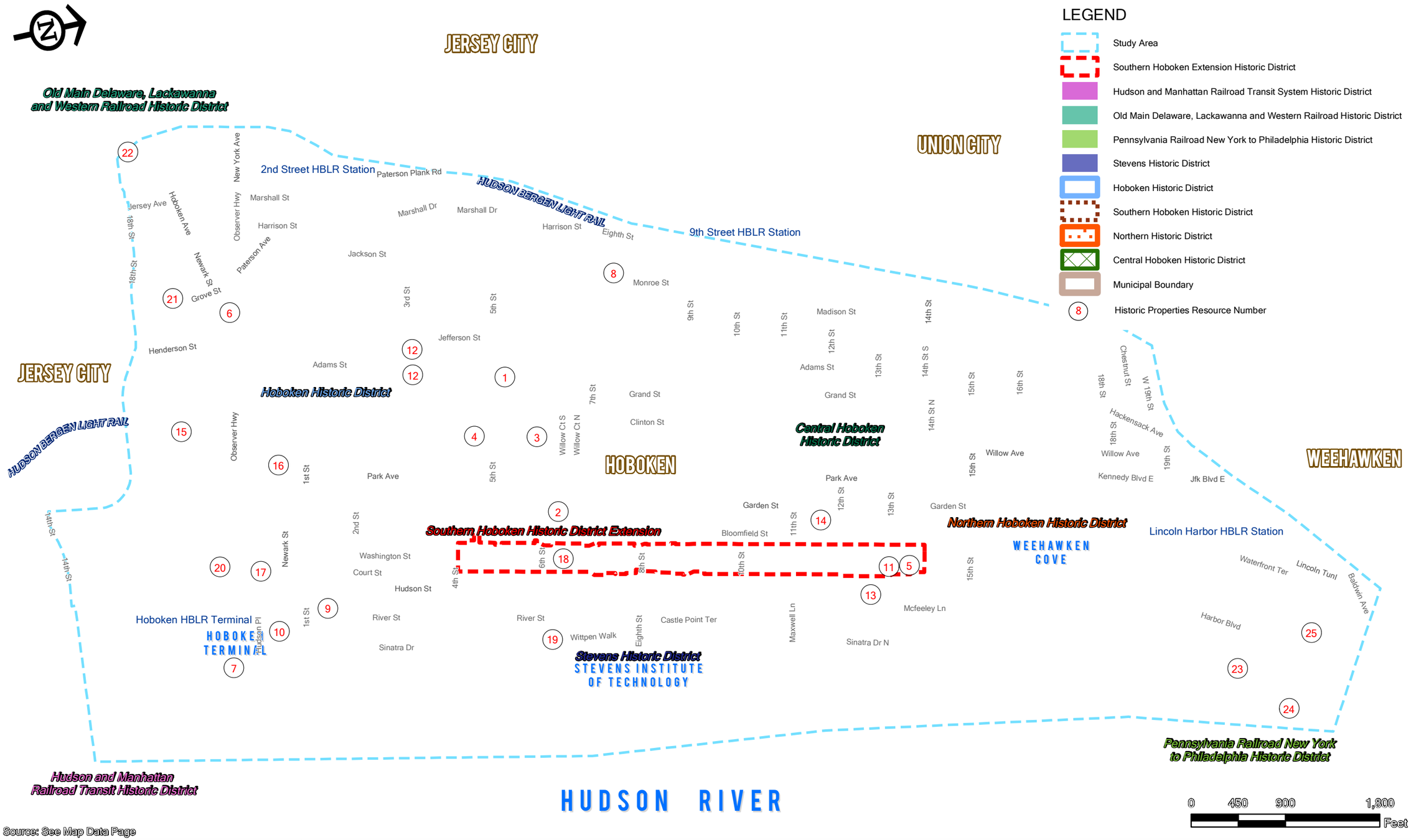
The Stevens Historic District occupies the high ground developed by Col. John Stevens, the area within which his associates built their splendid homes. His son, Edwin provided for the establishment of a school in his will, the Stevens Institute, which is contained within the district. The district also includes the Elysian Fields, the location associated with the start of baseball. The district received a SHPO Opinion of Eligibility (2/28/1991) under Criteria A, B, and C for associations with the Stevens Institute, with members of the Stevens family, and for its intact turn-of-the-century mansions and academic buildings (see Figure 119 for the historic district boundary). The character defining features include, but are not limited to, red brick academic buildings ca. 1870 to 1940, mansions along Hudson Street (many now fraternity houses), the Stevens estate entrance gate with Tudor arch and castellated towers, and a Victorian Gothic brownstone designed by Richard Upjohn.[969] The district is also characterized by its setting on the campus of the original Stevens estate on a bluff overlooking the Hudson River. The river side is characterized by a fairly steep rise, rock outcroppings, mature foliage, and a retaining wall at Elysian Field Park. The east portion of the district is defined by FSD and the River Walk.

10.2.20 Hudson and Manhattan Railroad Transit System (PATH)

The Hudson and Manhattan (H&M) Railroad Transit System connects Exchange Place (Jersey City) and Hoboken to New York City. The district received a SHPO Opinion of Eligibility (3/4/2002) under Criterion A for the system's historic associations with early-twentieth century urban and commercial development in New York and Jersey City; under Criterion B for its associations with H&M president, William Gibbs McAdoo, who spearheaded the construction of the tunnel and later served as Secretary of the Treasury under President Woodrow Wilson; and under Criterion C for the system's significance as an ambitious engineering accomplishment in the early-twentieth century.[970]

10.2.21 Grove Street Bridge

[968] Dorothy P. Guzzo, Deputy State Historic Preservation Officer, Correspondence to Robin Schroeder, Federal Highway Administration (April 26, 1999), 4.
[969] Lynn Drobbin & Associates, NJ Transit Hudson-Bergen Light Rail (December 18, 1995), 40-41.
[970] Robert Tranter, FEMA Regional Environmental Officer, Correspondence to Dorothy Guzzo, Deputy State Historic Preservation Officer, regarding Proposed Restoration of PATH Service to World Trade Center Site (February 27, 2002); NJHPO concurrence by Dorothy P. Guzzo (March 4,2002).



Source: See Map Data Page

REBUILD BY DESIGN HUDSON RIVER ▪ RESIST ▪ DELAY ▪ STORE ▪ DISCHARGE ▪

Previously Identified Historic Properties

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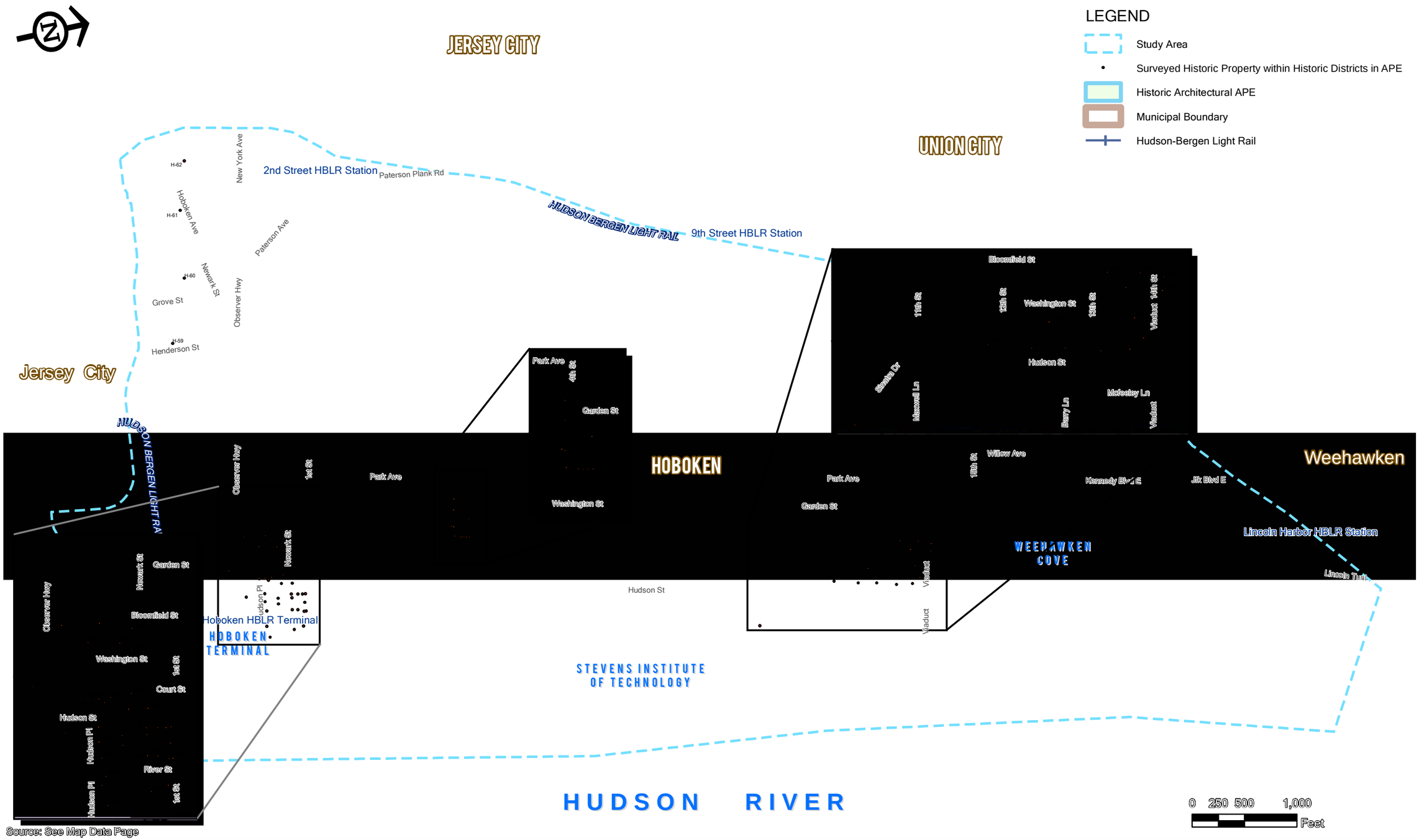
FIGURE 119



Source: See Map Data Page

REBUILD BY DESIGN HUDSON RIVER ▪ RESIST ▪ DELAY ▪ STORE ▪ DISCHARGE ▪

Surveyed Historic Properties within Existing Historic Districts in Historic Architectural APE

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FIGURE 121

The Grove Street Bridge, NJ Transit Morristown Line, Milepost 0.66 over Grove Street (Manila Boulevard) is a single-span, through-girder and floor-beam bridge that carries seven tracks of the Morristown Line over Grove Street. The bridge has a SHPO Opinion of Eligibility (1/20/1999) as a contributing resource to the eligible Old Main Delaware, Lackawanna and Western Railroad Historic District.[971]

10.2.22 Holbrook Manufacturing Company

Located in the northernmost area of Jersey City near its boundary with Hoboken, the Holbrook Manufacturing Company is representative of industrial buildings of the early twentieth century. This factory received a SHPO Opinion of Eligibility (2/28/1991); however, the conversion of the building into a storage facility and infill of all of the windows suggest that the building may no longer retain sufficient integrity.[972]

10.2.23 Erie Railroad Pier D and Piershed

The Erie Railroad Pier D and Piershed received a SHPO Opinion of Eligibility (9/12/1984) for listing in the National Register under Criteria A and C in the areas of engineering and transportation due to their unique and innovative material, design, and adaptive characteristics. The contributing elements include the three-story concrete and steel-covered pier.[973] This structure has been stripped to the steel frame and a new structure built.[974] See updated survey in Appendix C.

10.2.24 North Hudson Tunnels

The North (Hudson) River Tunnels, Milepost 3.0, Bergen Portal, Weehawken Township, to 10th Avenue Portal, Pennsylvania Station, New York City, New York, carry the Amtrak Northeast Corridor rail lines under the Hudson River between New Jersey and New York City. The North (Hudson) River Tunnels received a SHPO Opinion of Eligibility (11/12/1998) for listing in the National Register under Criterion C as intact and significant early-twentieth century railroad engineering structures, which combined advances in tunneling technology with developments in railroad electrification to form the first major direct railroad connection between New York and New Jersey. The tunnels are also eligible under Criterion A for their association with the Pennsylvania Railroad's New York Extension representing the continued expansion of the railroad, a component of overall improvements to the New York metropolitan corridor.[975]

[971] Guzzo, Correspondence to Radin regarding the Hudson-Bergen Light Rail, 2.
[972] Dorothy P. Guzzo, Deputy State Historic Preservation Officer, Correspondence to Chitra R. Radin, New Jersey Transit, regarding Hudson River Waterfront Corridor Alternatives Analysis Draft EIS (February 28, 1991).
[973] Russell W. Meyers, Deputy State Historic Preservation Officer, Correspondence and attached comments regarding Weehawken to Edgewater Reach [aka Hoboken to North Bergen Reach] New York Harbor Collection and Removal of Drift to Colonel F.H. Griffis, District Engineer, U.S. Army Corps of Engineers, September 12, 1984.
[974] Raber Associates, *Supplementary Assessment of Cultural Resources in the Lincoln Harbor Development Site, Township of Weehawken, Hudson County, New Jersey*, July 1988; Shawn G. Kennedy, About Real Estate: Jersey Riverside Plan Gains Momentum, *The New York Times*, November 19, 1986.
[975] Dorothy P. Guzzo, Deputy State Historic Preservation Officer, Correspondence to Paul McGinley, McGinley Hart & Associates LLP, regarding Amtrak Signal Towers and Vent Shafts – Consolidation and Life Safety Improvements (North (Hudson) River Tunnels – Life Safety and Vent Shaft Improvements), (November 12, 1998).

10.2.25 Pennsylvania Railroad New York to Philadelphia Historic District

The Pennsylvania Railroad New York to Philadelphia Historic District received a SHPO Opinion of Eligibility (10/2/2002) and is eligible for listing in the National Register under Criteria A and C for its significance in the areas of transportation and engineering. The district is significant because it forms a major transportation conduit connecting New York and Philadelphia and for providing an elevated (grade-separated) and electrified ROW between these two major cities. The contributing features of this historic district include the railroad ROW, the tracks and track bed, and all associated structures.[976]

10.2.26 3rd Street Historic District

The 3rd Street Historic District roughly includes the west side of Jefferson Street at 3rd Street and continues to Clinton Street. The district, which has been evaluated and recommended eligible for listing in the National Register as part of this report (see NJHPO Survey Form in Appendix C), contains the industrial plant associated with the National Register-listed Keuffel and Esser Manufacturing Complex; the industrial complex of the Chappell, Chase, Maxwell Coffin & Casket Factory (a.k.a. National Casket Company); St. Francis Italian Catholic Church; and the row of brick tenements at 224-232 Jefferson Street. The district is recommended eligible for listing in the National Register under Criteria A and C in the context of Immigration, Agricultural, Industrial, Commercial and Urban Expansion, and Architecture. During the later nineteenth century, a shift in immigration patterns resulted in greater numbers of Italian immigrants settling in Hoboken. Coincident with the increased immigration, Hoboken witnessed considerable growth in manufacturing and development that continued into the early-twentieth century. The new immigrants provided a ready supply of workers for the expanding manufacturing plants. St. Francis was the first Italian Catholic Church in Hoboken. It anchored the growing Italian community, who resided on the blocks surrounding the area's factories. The massing, scale, and alignment of the buildings with the street are defining characteristics. The buildings are predominantly brick construction, but also include concrete, glass and brick curtain walls. In addition to materials, features such as towers, oriel windows, hoods, cornices and other decorative features are characteristics of the district.

10.2.27 224-232 Jefferson Street

This row of five, five-story brick tenements are recommended eligible as contributing resources to the proposed 3rd Street Historic District. The first four buildings were built by 1891 and housed a community of immigrants that worked in factories in the area. Although the buildings have had some alterations to the first story, such as the addition of a storefront and subsequent infill, and changes to an entrance, these buildings are, nevertheless, representative of housing constructed during the late-nineteenth century. The scale, massing, and siting of the buildings on the block and their relationship to the street form a cohesive and readable streetscape. Characteristics of the buildings also include the materials, iron railings, hoods, and cornices.

[976] Dorothy P. Guzzo, Deputy State Historic Preservation Officer, Correspondence to Jack McQuillan, New Jersey Department of Transportation, regarding the *Penns Neck Area Environmental Impact Statement (EIS), Historic Architectural Survey Revised Draft Report* (October 2, 2002).

10.2.28 St. Francis Italian Catholic Church

St. Francis Italian Catholic Church is recommended eligible as a contributing resource to the proposed 3rd Street Historic District. The church complex consists of four buildings: the Church, the Parochial School, the Parish House, and the Parish Youth Center. As the first Italian church in Hoboken, St. Francis is historically important in the development and immigrant history of the city. This complex served the needs of its population beginning in the late-nineteenth century and is characteristic of a church and facilities associated with a working-class immigrant community, whose pride and commitment is demonstrated by its church. Less ostentatious than other churches in Hoboken, its Gothic over door and tracery window, tower, contrasting brick and stonework, and accompanying buildings are characteristics that define the church and complex. The relationship of the buildings to the street, massing, scale, and materials are important characteristics.

10.2.29 Chappell, Chase, Maxwell Coffin & Casket Factory (National Casket Company)

The Chappell, Chase, Maxwell complex occupies the north end of the block opposite the older of the Keuffel and Esser factory buildings between Adams and Grand streets and is recommended eligible as a contributing resource to the proposed 3rd Street Historic District. Together with the Keuffel and Esser Manufacturing buildings, the Chappell, Chase, Maxwell plant consists of late-nineteenth century buildings that form a cohesive streetscape characterized by the multi-story brick factories, rhythmic fenestration, cornices, and brickwork. The scale, massing, materials, and relationship of the complex to the street and to the Keuffel and Esser factory contribute to its overall character.

10.2.30 Albini Pharmacy and the Francisco Crozetti House

The Albini Pharmacy and the Francisco Crozetti House are recommended eligible for listing in the National Register as part of the survey (see NJHPO Survey Form in Appendix C). These buildings, one wood and one brick, are significant under Criterion A and C in the areas of Immigration, Agricultural, Industrial, Commercial and Urban Expansion and Architecture. Relatively unchanged since their construction at the turn of the twentieth century, these buildings were developed and constructed by an Italian immigrant family, who retained the property through two world wars and the Great Depression. The buildings were a home and business that contributed to the Italian community of the 3rd Ward. The Albini Pharmacy is a highly intact building and store; although the adjacent house has synthetic siding, it continues to convey the characteristics of a late-nineteenth century frame house in Hoboken.

10.2.31 509 Madison Street

The building at 509 Madison Street is recommended eligible (see NJHPO Survey Form in Appendix C) under Criterion C as a highly intact brick tenement that dates to the turn of the twentieth century. In addition to the typical characteristics associated with a five-story building with heavy metal cornice, this building is also characterized by the highly intact and very good example of sheet metal façade at the first story. This appears to be one of the best examples of metal work in Hoboken.

10.2.32 R.B. Davis Co. Manufacturing Complex (and the My-T-Fine Building)

The R.B. Davis Manufacturing Complex occupies the block bounded by Harrison, Newark and Jackson streets and Observer Highway. The complex is recommended eligible under Criterion A and C in the context of Immigration, Agricultural, Industrial, Commercial and Urban Expansion and Architecture (see NJHPO Survey Form in Appendix C). The company produced Davis OK Baking Powder, Davis Corn Starch Cocomalt, and My-T-Fine pudding. The complex is representative of industrial development at the turn of the twentieth century through the 1950s with its brick mill construction, concrete daylight factory, and post-World War II curtain wall buildings.

10.2.33 Society Madonna dei Martiri, 332 Adams Street

The building owned and occupied by the Society Madonna dei Martiri is a legacy to Hoboken's cultural history. The Society Madonna dei Martiri is a religious affiliated organization that reflects European traditions practiced by the Italian immigrants. The Society Madonna dei Martiri, 332 Adams Street, is recommended eligible under Criteria A and C in the context of Immigration, Agricultural, Industrial, Commercial and Urban Expansion and Architecture (see NJHPO Survey Form in Appendix C). In addition to its cultural affiliations, the Society Madonna dei Martiri has been a diligent caretaker of its building, retaining the cast iron columns, unpainted red brick, cornice and overall fenestration.

10.2.34 R. Neumann & Co. Complex

The R. Neumann & Co. Complex occupies a substantial portion of the block bounded by Observer Highway, Willow Avenue and Newark Street. The property is recommended eligible under Criteria A and C in the context of Immigration, Agricultural, Industrial, Commercial and Urban Expansion and Architecture (see NJHPO Survey Form in Appendix C). This late-nineteenth and early-twentieth century complex is characterized by scale, massing, setback, and materials that define this industrial streetscape. The complex is located in the Hoboken Historic District.

10.2.35 Standard Brands & Lipton Tea Plant

The Standard Brands & Lipton Tea Building is recommended eligible under Criteria A and C for its association with the context of Immigration, Agricultural, Industrial, Commercial and Urban Expansion and Architecture (see NJHPO Survey Form in Appendix C). A project of the Hoboken Land and Improvement Company, the buildings were designed as the Factory Terminal Buildings and sited on the Hoboken Shore Railroad and at Weehawken Cove. Rising ten-stories, this group of buildings is a major industrial complex built as a speculative venture to attract factories and factory storage business to Hoboken; it is also considered one of the earliest uses in Hoboken of concrete on a large scale.[977] Daylight factory design, reinforced concrete construction, scale, and massing, and waterfront location characterize this resource.

10.2.36 77-79 Garden Street

[977] J.P. Sholeen, Standard Brands & Lipton Tea Plant Historic Sites Inventory Form, in Zingman (1979).

These two buildings are relatively intact and good examples of brick residential buildings of the early-twentieth century in Hoboken. Four stories on a basement, these dwellings are characterized by raised stoops, high basements with intact window and door openings, bracketed flat hoods at the entrance, prominent sills and hood molds at the windows, and elaborate cornices. The buildings are recommended eligible under Criterion C in the Area of architecture as surviving examples in a formerly mixed-use area (see NJHPO Survey Form in Appendix C). The buildings are located within the Hoboken Historic District.

11.0 ASSESSMENT OF EFFECTS: ARCHAEOLOGICAL RESOURCES

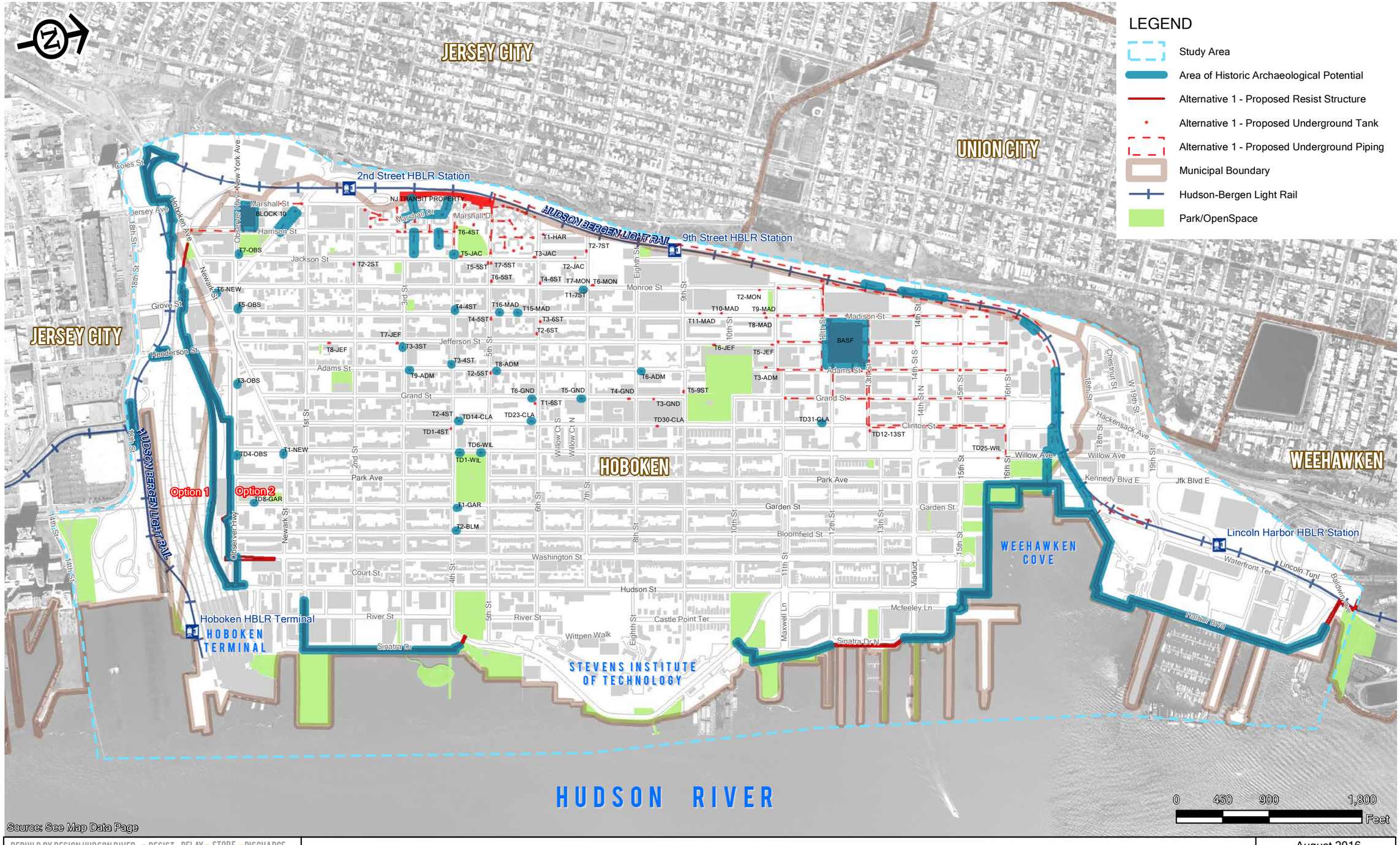
As a function of the EIS for the proposed Project, in addition to the sensitivity assessment for archaeological resources, an assessment of the potential effects which the Project could have upon extant cultural resources was also undertaken. The assessment of effects entailed an examination of the proposed vertical and horizontal limits of potential disturbance in light of the results of the sensitivity assessment.

The following discussion will first present the archaeological assessment of effects for the three Resist alignments using the sections as defined by the sensitivity assessment. The discussion of the DSD locations will be presented thereafter and will also follow the narrative organization presented in the preceding discussion. The assessment of effects will also include recommendations for the Project with respect to archaeological resources.

11.1 Resist Alignments

As previously discussed, the proposed Project consists of three potential Resist structures which would be located on the southern, eastern, and northern extent of the Study Area with portions in Jersey City, Hoboken, and Weehawken. These structures will include a combination of hard infrastructure (such as bulkheads, floodwalls and seawalls) and soft landscaping features (such as berms and/or levees which could be used as parks) that act as barriers along the coast during exceptionally high tide and/or storm surge events. Design plans have yet to be finalized for the proposed Resist structures. There is the potential for the installation of linear surfaces which could extend to a maximum height of approximately 16 feet above the ground surface; there is also the potential for the installation of sloping green spaces. Given that the designs are not yet finalized and that the installation of the potential Resist structure feature types would most likely require excavation to bedrock, it is assumed that all of the proposed Resist structures will require excavation to bedrock. It is also assumed that the sheeting associated with each of the Resist structures will also require excavation to bedrock. The HLSS component of Alternatives 2 and 3 will most likely consist of more limited excavations given the nature of this piping system. However, the potential vertical depth of disturbance associated with the proposed HLSS is currently unknown. Therefore, for the three proposed Resist structures, the limit of potential disturbance associated with the Project has been defined as the horizontal APE for all of the components of each alignment from the current ground surface to a depth to bedrock.

Table 9 presents the results of the archaeological sensitivity assessment and recommendations regarding the Project's potential effects to archaeological resources in association with the proposed Resist structures. As previously discussed, it is assumed that the Resist structures will require excavation and/or other ground-disturbing activities to bedrock. Figures 122a-c and 123a-c present the archaeological sensitivity for each of the proposed alternatives. Figures 124a-c presents the areas of archaeological potential that may be affected by the Project as it is currently designed.



REBUILD BY DESIGN HUDSON RIVER ▪ RESIST ▪ DELAY ▪ STORE ▪ DISCHARGE ▪

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Area of Archaeological Potential witnin the APE - Alternative 1

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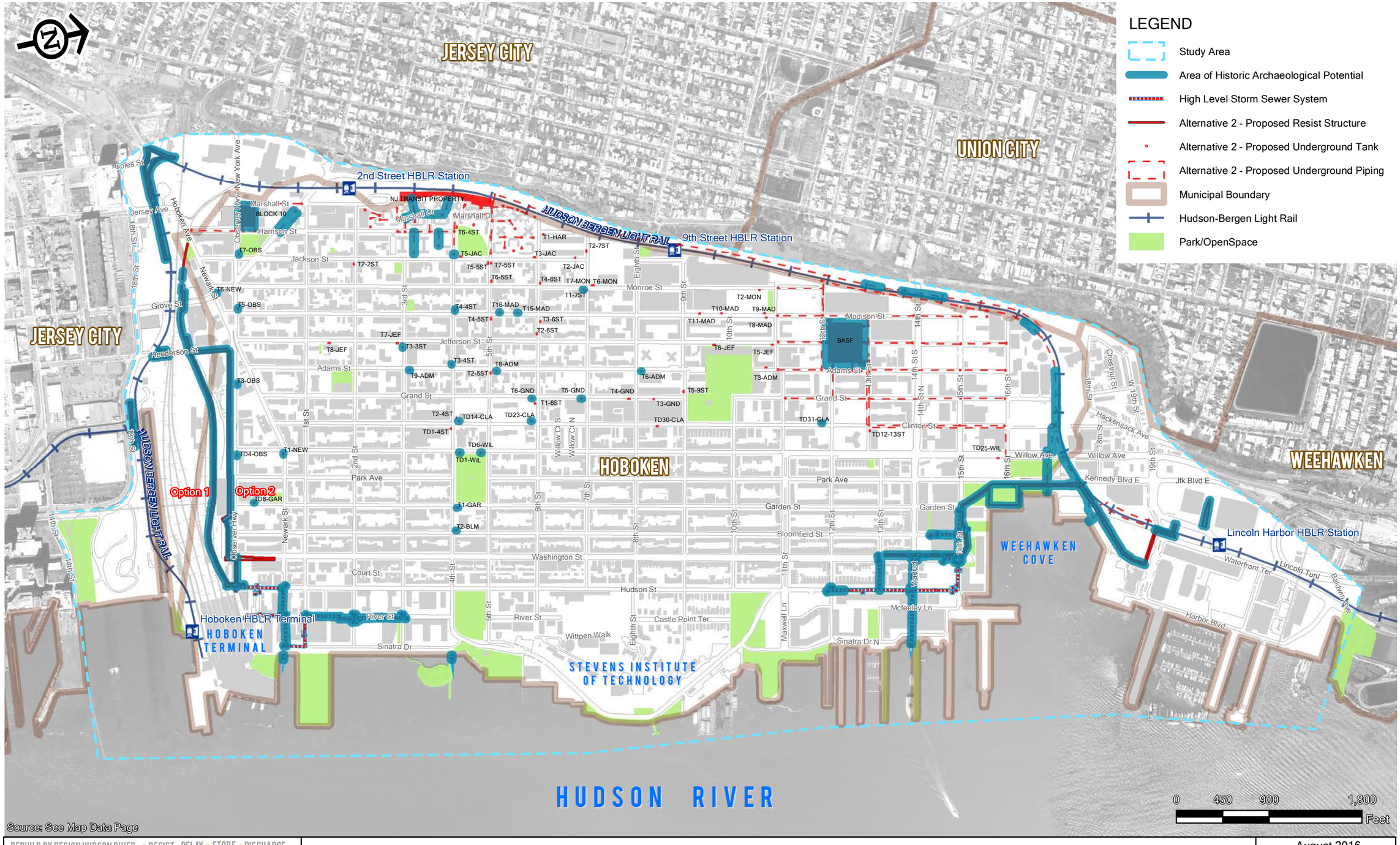
FIGURE 122a



REBUILD BY DESIGN HUDSON RIVER ▪ RESIST ▪ DELAY ▪ STORE ▪ DISCHARGE ▪

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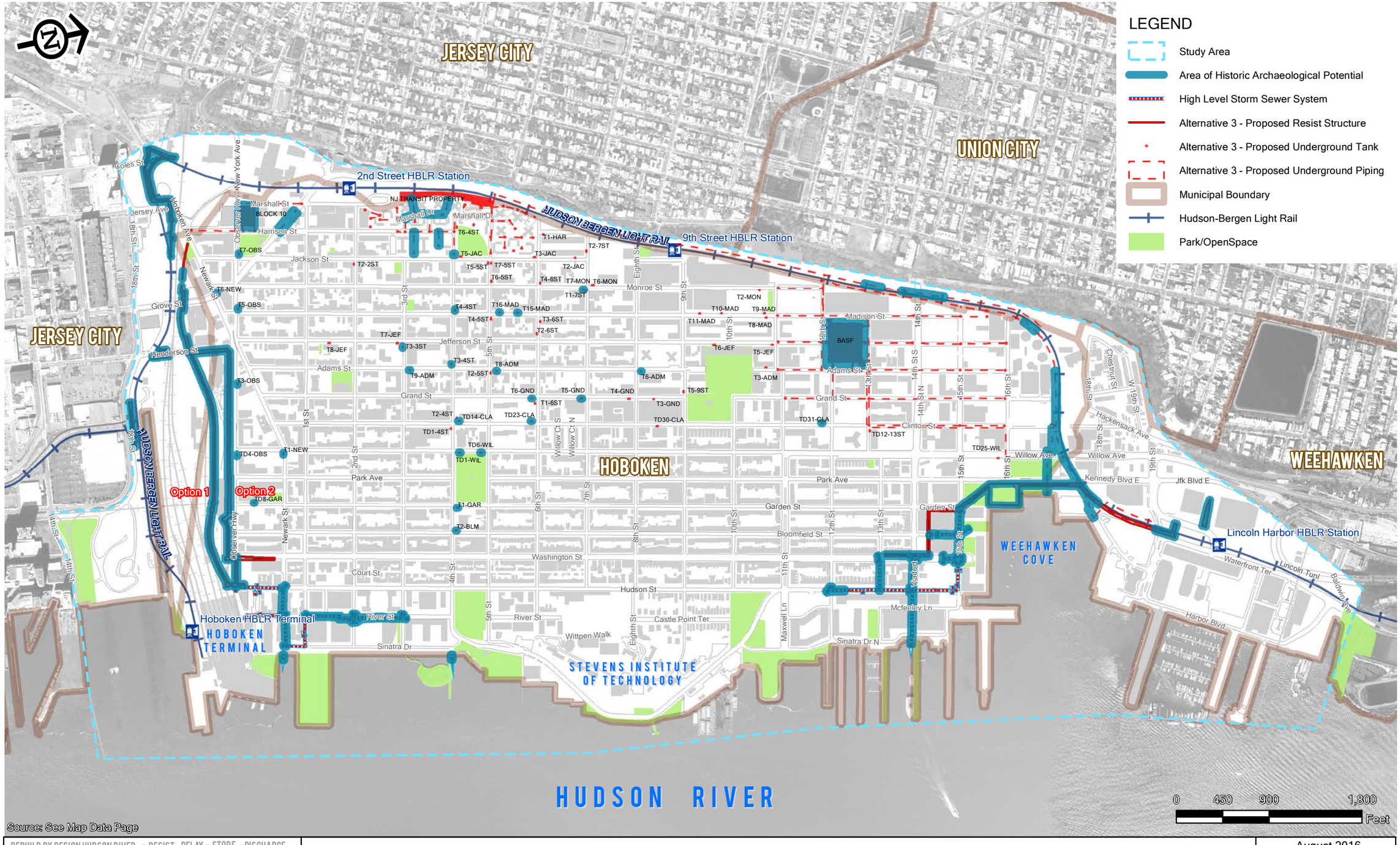
Area of Historic Archaeological Potential within the APE - Alternative 2

August 2016

FIGURE 122b



REBUILD BY DESIGN HUDSON RIVER ▪ RESIST ▪ DELAY ▪ STORE ▪ DISCHARGE ▪

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Area of Historic Archaeological Potential within the APE - Alternative 3

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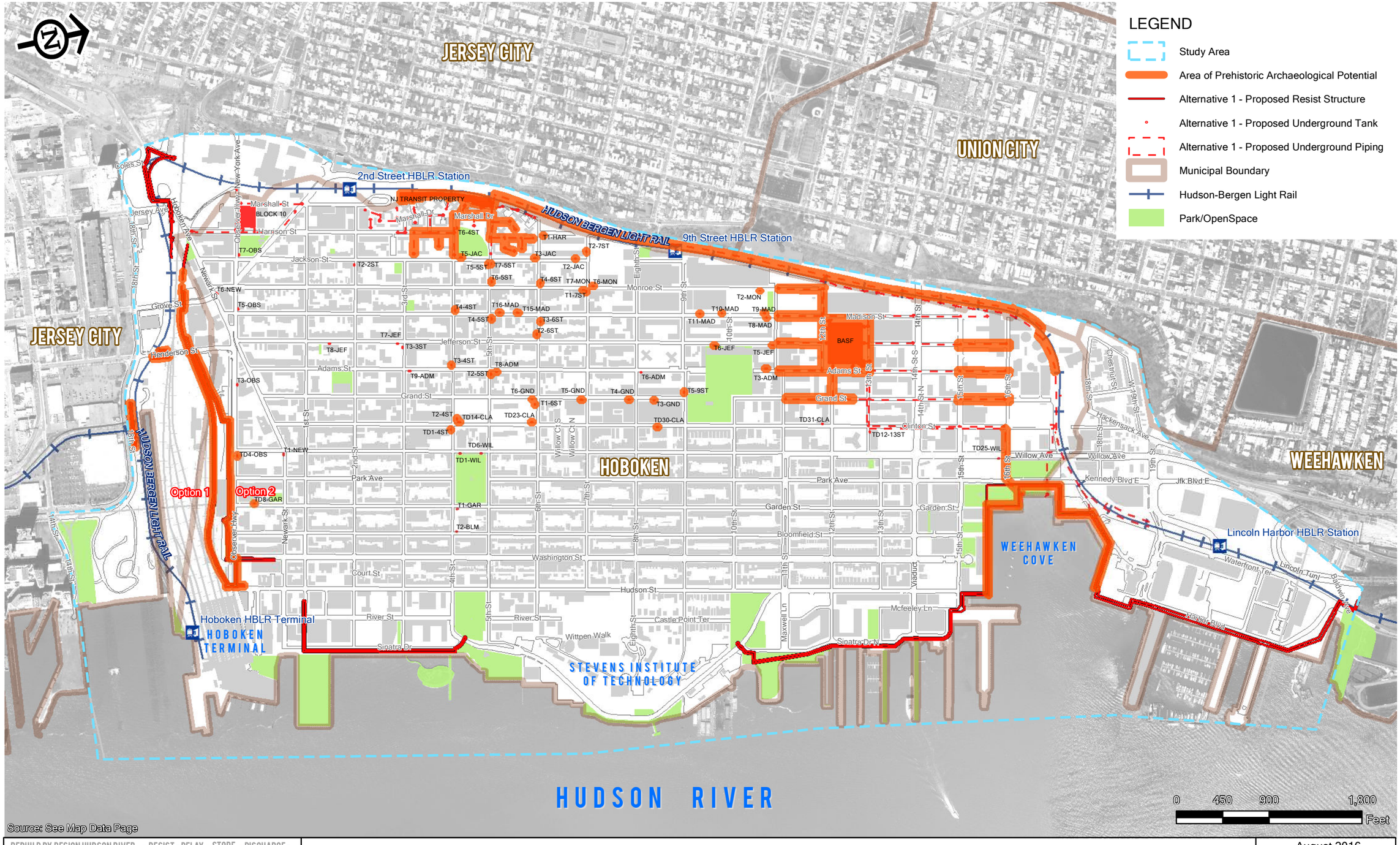
FIGURE 122c



Source: See Map Data Page

REBUILD BY DESIGN HUDSON RIVER ▪ RESIST ▪ DELAY ▪ STORE ▪ DISCHARGE ▪

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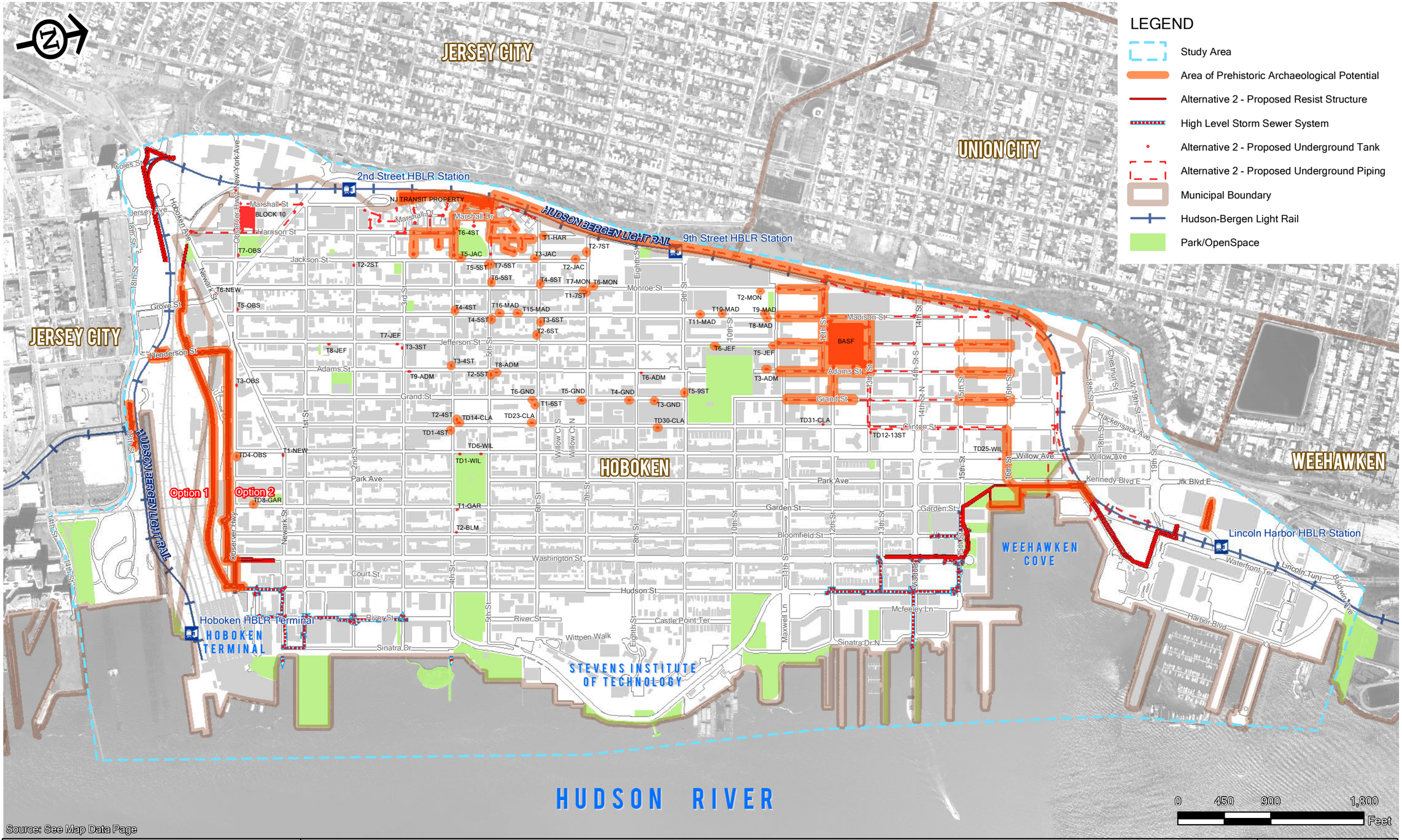
Area of Prehistoric Archaeological Potential within the APE - Alternative 1

August 2016

FIGURE 123a



REBUILD BY DESIGN HUDSON RIVER ▪ RESIST ▪ DELAY ▪ STORE ▪ DISCHARGE ▪

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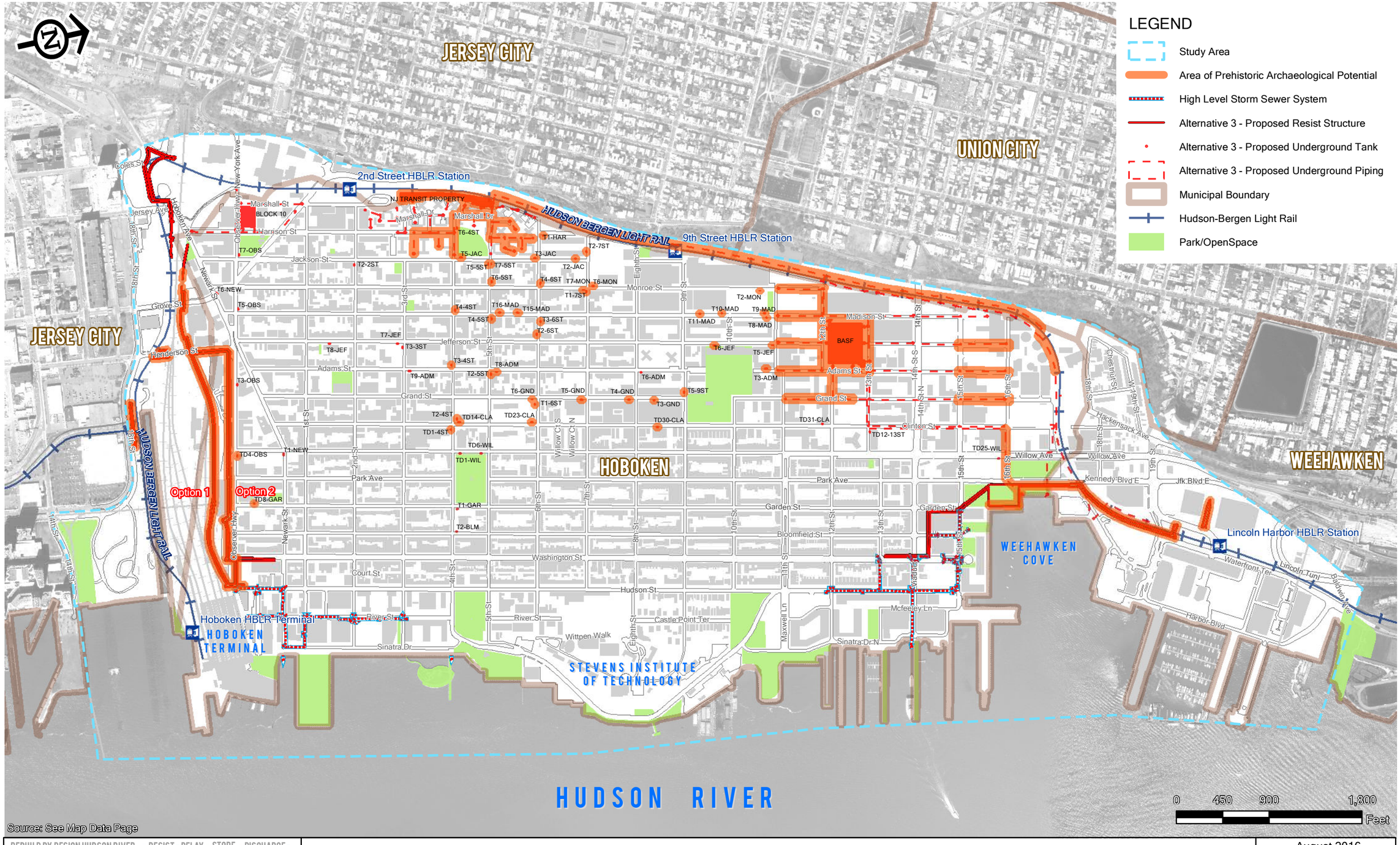
Area of Prehistoric Archaeological Potential within the APE - Alternative 2

August 2016

FIGURE 123b



REBUILD BY DESIGN HUDSON RIVER ▪ RESIST ▪ DELAY ▪ STORE ▪ DISCHARGE ▪

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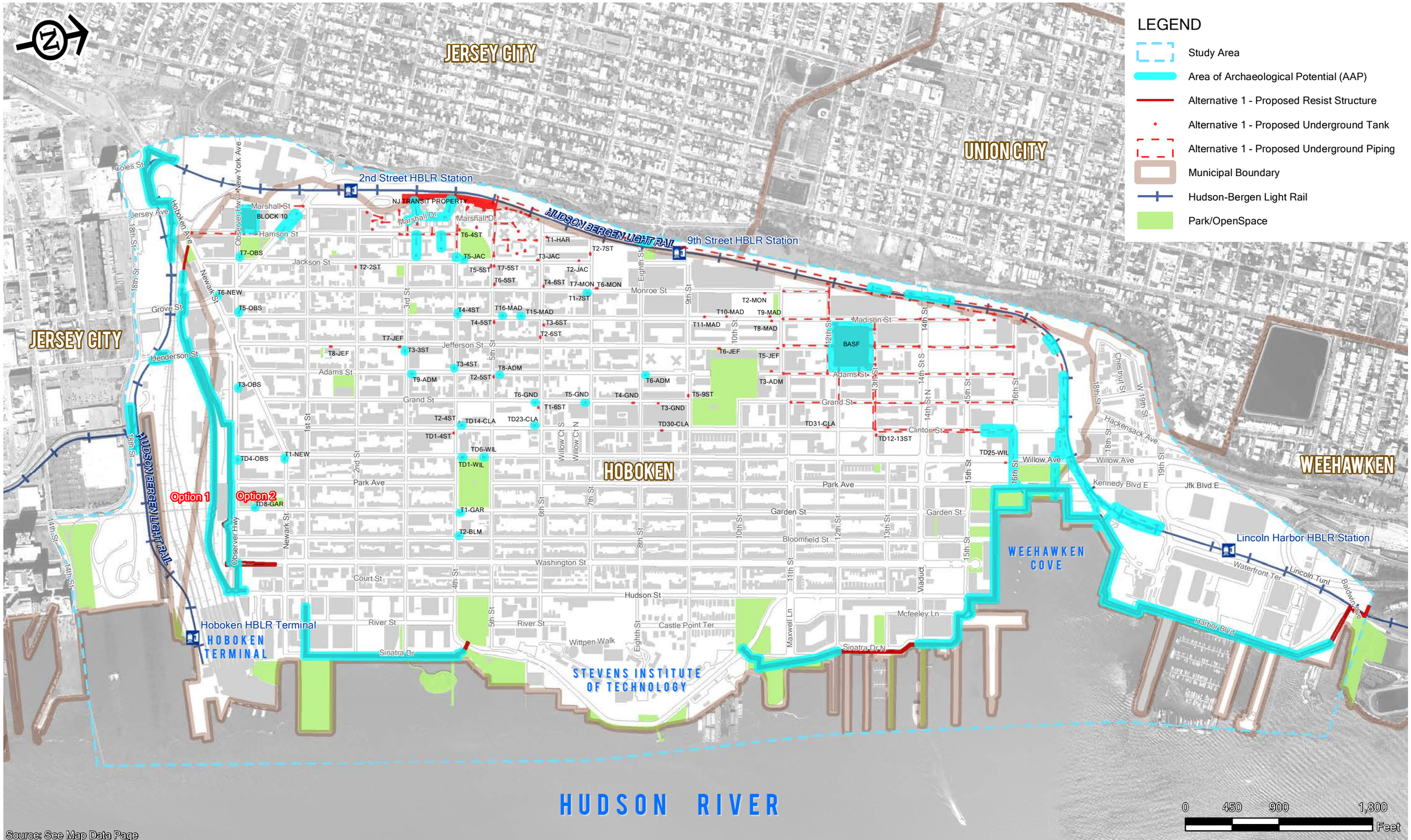
Area of Prehistoric Archaeological Potential within the APE - Alternative 3

August 2016

FIGURE 123c



REBUILD BY DESIGN HUDSON RIVER ▪ RESIST ▪ DELAY ▪ STORE ▪ DISCHARGE ▪

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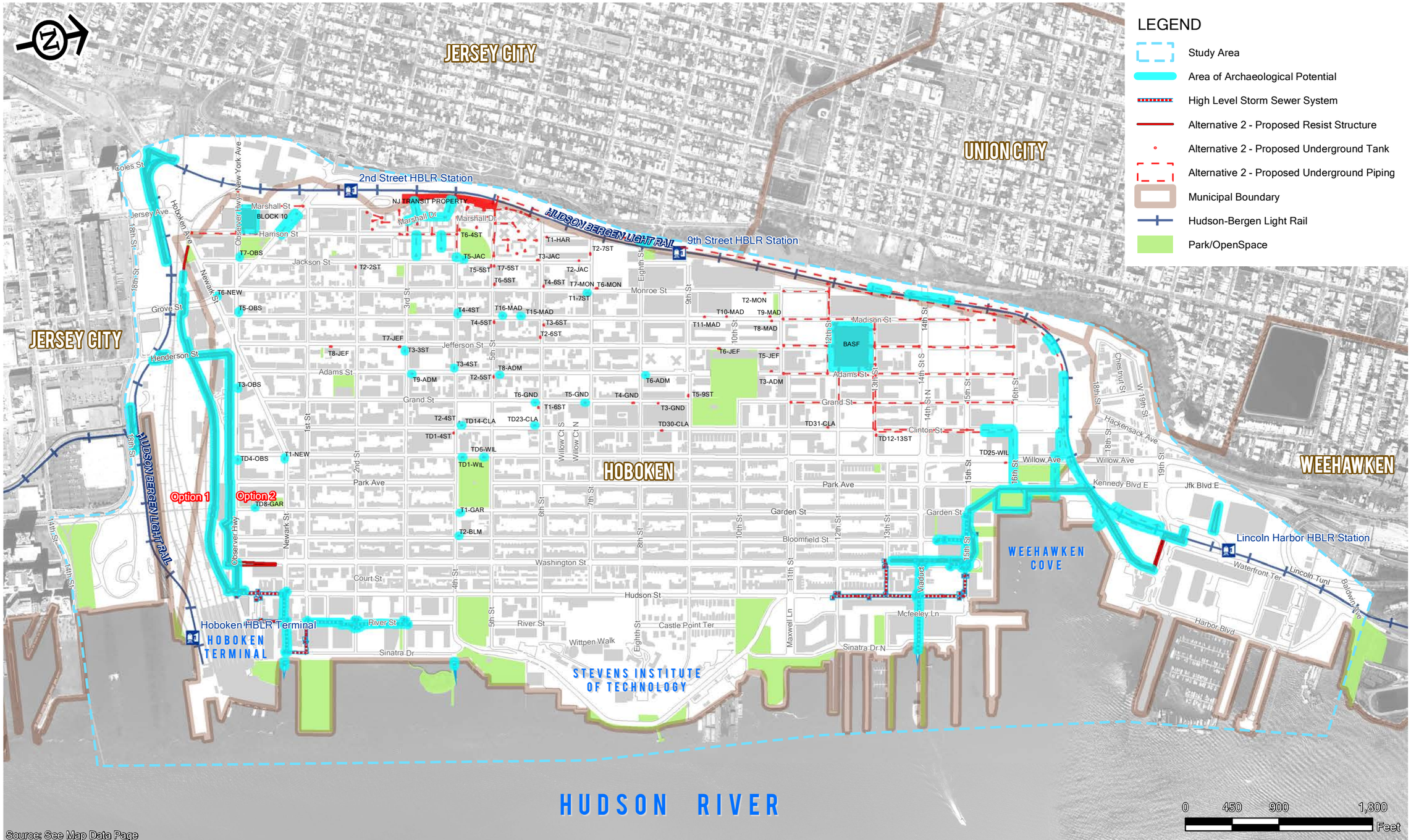
Area of Archaeological Potential to be Affected by the Project - Alternative 1

August 2016

FIGURE 124a



REBUILD BY DESIGN HUDSON RIVER ▪ RESIST ▪ DELAY ▪ STORE ▪ DISCHARGE ▪

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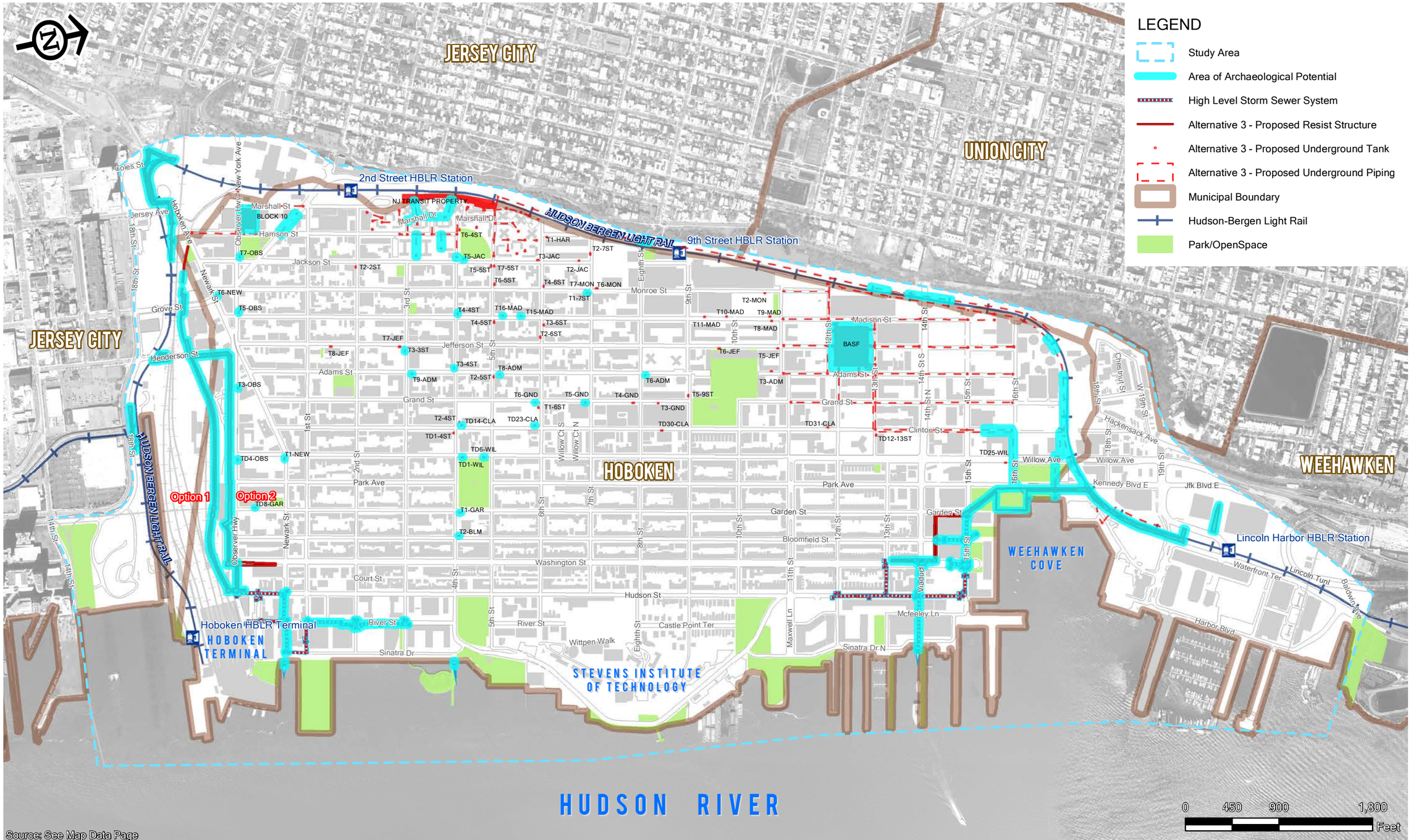
Area of Archaeological Potential to be Affected by the Project - Alternative 2

August 2016

FIGURE 124b



REBUILD BY DESIGN HUDSON RIVER ▪ RESIST ▪ DELAY ▪ STORE ▪ DISCHARGE ▪

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Area of Archaeological Potential to be Affected by the Project - Alternative 3

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FIGURE 124c

Table 9: Assessment of Archaeological Sensitivity and Recommendations for Proposed Resist Structures Based on Current Design Plans

ALT.	SEGMENT	ARCHAEOLOGICAL SENSITIVITY (feet below surface (fbs))	RECOMMENDATIONS
1	Southwestern	Mid to late 19th-early 20th Century DLWRR Railroad and Industrial Deposits; early-20th Century Freight House and structure associated with Standard Oil Company (0-14 fbs)	Archaeological monitoring of all ground disturbing activities.
1	Southern	Prehistoric deposits (15-35 fbs); Option 1: mid to late 19th-early 20th Century DLWRR Railroad & Erie-Lackawanna Terminal Deposits; Deposits associated with Long Slip Canal and railroad-related landfill (0-14 fbs); Option 2–19th century Elevated train-related deposits (0-14 fbs), late 19th-early 20th century sewer-related deposits (>3.5fbs); Portions of Options 1 & 2 sensitive for deposits associated with National Register eligible PATH Tunnel (>60fbs)	Geomorphological soil borings to further refine prehistoric sensitivity; archaeological monitoring for historic resources within Option 1 and Option 2.
1	Southeastern	Mid to late 19th century residential remains; late 19th to early 20th century waterfront and landfill remains; late 19th-early 20th century sewer-related deposits; early 20th century stone retaining wall (>4 fbs)	Archaeological monitoring of all ground disturbing activities.
1	Northern	Weehawken Cove sensitive for prehistoric deposits (>15fbs); mid to late 19th-early 20th century waterfront development between 10th and 12th Streets (0-15 fbs); 11th and 14th Street late 19th-early 20th century sewer line (4-8 fbs); waterfront/dry docks development around Weehawken Cove (0-15 fbs); potential for 17th-early 20th century shipwrecks within Weehawken Cove (>15 fbs)	Geomorphological soil borings to further refine prehistoric sensitivity; archaeological monitoring of ground disturbing activities in areas of historic potential.
1	Weehawken	Weehawken Cove and far northern portion sensitive for prehistoric remains (>15 fbs); potential 18th-early 19th century Weehawken Ferry (>15 fbs); mid-19th to early 20th century waterfront development associated with Erie Freight Terminal (0-15 fbs); and potential for 17th-early 20th century shipwrecks within Weehawken Cove (>15 fbs); possible 19th Street outlet sewer (4-8 fbs)	Geomorphological soil borings to further refine prehistoric sensitivity; archaeological monitoring of ground disturbing activities in areas of historic potential.
2	Southwestern	Portions overlap with Alternative 1: mid to late 19th-early 20th Century DLWRR Railroad and Industrial Deposits (0-14 fbs); Eastern portion early to mid-20th century deposits associated with freight station and early 20th century poultry platform (4-10 fbs)	Archaeological monitoring of all ground disturbing activities.
2	Southern	Portions overlap with Alternative 1: Prehistoric deposits (15-35 fbs); Option 1: mid to late 19th-early 20th Century DLWRR Railroad & Erie-Lackawanna Terminal Deposits; Deposits associated with Long Slip Canal and railroad-related landfill (0-14 fbs); Western portion of Option 2–late 19th century brick sewer deposits (3-5 fbs); Portions of Options 1 & 2 sensitive for deposits associated with National Register eligible PATH Tunnel (>60 fbs)	Geomorphological soil borings to further refine prehistoric sensitivity; archaeological monitoring of ground disturbing activities in areas of historic potential.

2	Northern	Early 19th century seawall and mid-19th century historic structure (15-17 fbs); late 19th-early 20th century waterfront development and industrial development (>10 fbs); late 19th-early 20th century sewer line (5-8.5fbs) along Washington Street around 14th Street; around Weehawken Cove sensitive for prehistoric deposits below 9 fbs; potential for 17th-early 20th century shipwrecks within Weehawken Cove at depths greater than 15 fbs	Archaeological monitoring of all ground sditurbing activities.
2	Weehawken	Weehawken Cove and northern portion of segment sensitive for prehistoric deposits (>9 fbs); potential for 17th-early 20th century shipwrecks within Weehawken Cove (>15 fbs); mid-19th to early 20th century waterfront development associated with Erie Freight Terminal; possible 19th Street outlet sewer (4-8 fbs)	Geomorphological soil borings to further refine prehistoric sensitivity; archaeological monitoring of ground disturbing activities in areas of historic potential.
3	Southwestern	Alternative 1: mid to late 19th-early 20th Century DLWRR Railroad and Industrial Deposits (0-14 fbs)	Archaeological monitoring of all ground disturbing activities.
3	Southern	Alternative 2: Portions overlap with Alternative 1: Prehistoric deposits (15-35 fbs); Option 1: mid to late 19th-early 20th Century DLWRR Railroad & Erie-Lackawanna Terminal Deposits; Deposits associated with Long Slip Canal and railroad-related landfill (0-14 fbs); Western portion of Option 2–late 19th century brick sewer deposits (3-5 fbs); Portions of Options 1 & 2 sensitive for deposits associated with National Register eligible PATH Tunnel (>60 fbs)	Geomorphological soil borings to further refine prehistoric sensitivity; archaeological monitoring of ground disturbing activities in areas of historic potential.
3	Northern	Early 19th century seawall (15-17 fbs); mid to late 19th century structures (15-17 fbs); late 19th-early 20th century waterfront development and industrial development (>10 fbs); late 19th-early 20th century sewer line around 14th Street (5-8.5 fbs); around Weehawken Cove sensitive for prehistoric deposits (>9 fbs); potential for 17th-early 20th century shipwrecks within Weehawken Cove at depths (>15 fbs)	Archaeological monitoring of all ground disturbing activities.
3	Weehawken	Majority of segment sensitive for prehistoric remains (>12 fbs); mid-19th to early 20th century waterfront development associated with Erie Freight Terminal; portion of segment sensitive for potential mid to late-nineteenth century historic structures associated with Hoboken Land & Improvement Company; possible 19th Street outlet sewer (4-8 fbs)	Geomorphological soil borings to further refine prehistoric sensitivity; archaeological monitoring of ground disturbing activities in areas of historic potential.
HLSS	South	Mid to late-19th century slip/basin along River Street between 1st and 3rd Streets (8-18 fbs); possible late-19th to early-20th century brick sewer along Newark Street in vicinity of 3rd Street and River Street (~5fbs)	Archaeological monitoring of all ground disturbing activities.

HLSS	North	Early-19th century seawall at Hudson Street around 13th Street and at the intersection of Washington and 14th streets (15-17 fbs); mid to late-19th century structures in vicinity of Washington and 13th streets (15-17 fbs); early to mid-20th century waterfront development and industrial development, including Vanderbilt & Schill Lumber Yard and the Jagels & Bellis Coal Company, along northern portion of Washington and Bloomfield streets, north of 14th Street, and the 14th Street DLWRR Ferry House and pier (<10 fbs); late 19th-early 20th century sewer line around 14th Street (5-8.5 fbs)	Archaeological monitoring of all ground disturbing activities.
Sheeting		Prehistoric deposits within portions of the eastern sheeting (15-35 fbs); early to mid-20th century structures associated with meat packing industry, early-20th century Grain and Straw building, early to mid-20th century ice platform and ice house, railroad-related landfill within western sheeting (0-15 fbs); Early to late-20th century DLWRR signal tower in eastern sheeting (0-15 fbs)	Archaeological monitoring of all ground disturbing activities.

Portions of the Resist structure associated with Alternative 1 are considered sensitive for prehistoric and/or historic archaeological resources. The southern portion of Alternative 1, including the Southwestern and Southern segments, are considered sensitive for mid to late-nineteenth and early-twentieth century deposits associated with the development of the DLWRR railroad and the Long Slip Canal. Such deposits might include foundation remains, landfill, and/or rail ties and tracks. The eastern portion of Options 1 and 2 are also considered sensitive for historic deposits associated with the National Register-listed Erie-Lackawanna Terminal. These deposits could potentially include foundational piers, bulkhead remains, cribbage, landfill, structural elements, and/or other infrastructure associated with the terminal operations. Within Option 2 the Alternative is also considered sensitive for deposits associated with the NHCR elevated train and with the mid to late-nineteenth to early-twentieth century sewer line along Observer Highway. The eastern portions of Option 2 and a segment of Option 1 between Garden and Bloomfield streets are also sensitive for historic deposits associated with the H&M/PATH Tunnel. This system has been determined eligible for listing in the National Register by the NJHPO. Deposits associated with the historic district would include the tunnel itself and any features or artifacts deposited in association with its construction. As the PATH Tunnel is situated at least 60 feet below the surface, deposits associated with the tunnel are anticipated at depths greater than 60 feet below the surface. The Southern segment of Alternative 1 is also considered sensitive for potential prehistoric deposits. Soil borings excavated in the vicinity of this segment suggest that organic deposits including a peat layer are present at depths ranging from 15 to 35 feet below the surface (see Appendix D).

The Southeastern segment of Alternative 1 is considered sensitive for a potential mid to late-nineteenth century structure. Deposits associated with this structure could include shaft features, foundation remains, and/or middens. The 1st Street portion of this segment is also considered sensitive for historic sewer deposits. The majority of the Southeastern segment is considered sensitive for historic waterfront and landfill remains associated with the expansion of the waterfront and the nineteenth and twentieth century oceanliner and transatlantic shipping developments. The northern portions of this segment are also sensitive for an early-twentieth century stone retaining wall.

The Northern segment of Alternative 1 is also considered sensitive for historic waterfront and landfill deposits and features associated with the industrial and oceanliner development. Within the northern portion of this segment, there is the potential for an historic sewer line along 14th Street. Within the vicinity of Weehawken Cove, the Alternative is considered to possess prehistoric archaeological sensitivity as well as the potential for shipwrecks from the seventeenth through the early-twentieth century. This area is also considered sensitive for bulkhead deposits, foundation piers, and structural remains associated with the Tietjen & Lang Dry Docks dating from the early-twentieth century. The northern portion of the Weehawken segment is also sensitive for historic deposits associated with the Erie Freight Terminal. Such deposits could include landfill, cribbage, bulkhead deposits, piers, and infrastructure remains associated with the terminal's operation. A portion of this segment is sensitive for historic deposits associated with the 19th Street outlet sewer within Weehawken. The far northern extent of Alternative 1, which was historically situated along an upland hillside is also considered sensitive for potential prehistoric deposits.

Portions of the Southwestern segment of Alternative 2 overlap with the Southwestern segment of Alternative 1. In addition to the previously noted historic railroad sensitivity within this area, the eastern portion of the Southwestern segment in Alternative 2 is potentially sensitive for deposits associated with an early-twentieth century poultry platform and an early to mid-twentieth century freight station. The majority of the Southern segment within Alternative 2 also overlaps within Alternative 1. The Southern segment is considered sensitive for historic deposits associated with the DLWRR railroad and the Long Slip Canal, the Erie Lackawanna Terminal, the NHCR-elevated train track, and a late-nineteenth to early-twentieth century brick sewer line located along Observer Highway. Portions of both Option 1, between Garden and Bloomfield streets, and Option 2, Observer Highway east of Bloomfield Street, are also considered sensitive for historic deposits associated with the PATH Tunnel. As previously noted, this area is also considered sensitive for prehistoric deposits at depths ranging from 15 to 35 feet below the surface. The Northern and Weehawken sections of Alternative 2 are considered sensitive for historic waterfront and landfill deposits and features associated with the expansion and extension of the waterfront. Within the vicinity of Washington Street and between Garden and Park avenues from 15th to 16th streets, there is the potential for historic seawall deposits at depths of approximately 15-17 feet below the surface. There is also the potential for deposits associated with a mid-nineteenth century structure in the southern extent of the Northern segment. There is also the potential for late-nineteenth to early-twentieth century historic sewer deposits along Washington Street around 14th Street.

Within the vicinity of Weehawken Cove, the Resist structure in Alternative 2 is considered to possess prehistoric archaeological sensitivity as well as the potential for shipwrecks dating from the seventeenth through the early-twentieth century. This area is also considered sensitive for bulkhead deposits, foundation piers, and structural remains associated with the Tietjen & Lang Dry Docks dating from the early-twentieth century. The northern portion of the Weehawken segment is also sensitive for historic deposits associated with the Erie Freight Terminal. Such deposits could include landfill, cribbage, bulkhead deposits, piers, and infrastructure remains associated with the terminal's operation. The far northern extent of the Weehawken segment is also considered sensitive for prehistoric deposits at depths below nine feet from the surface. This portion of Alternative 2 may also intersect with the historic 19th Street sewer outlet.

The southern portions of the Resist structure in Alternative 3 are identical to portions of both Alternatives 1 and 2. Thus, the Southwestern and Southern segments within Alternative 3 have the same historic archaeological sensitivity and prehistoric archaeological sensitivity as discussed for Alternative 1 (Southwestern segment) and Alternative 2 (Southern segment). Within the Northern segment of Alternative 3, there is the potential for early-nineteenth century seawall and mid-nineteenth century deposits associated with three potential structures at depths of 15 to 17 feet below the surface. Within this same area, there is also the potential for late-nineteenth to early-twentieth century historic sewer deposits around 14th Street. The Northern segment of Alternative 3 is also considered sensitive for historic waterfront and landfill deposits and features associated with the expansion and extension of the waterfront in the late-nineteenth through early-twentieth centuries.

Within the vicinity of Weehawken Cove, the Resist structure in Alternative 3 is considered to possess prehistoric archaeological sensitivity as well as the potential for shipwrecks dating to the seventeenth through early-twentieth century. This area is also considered sensitive for bulkhead deposits, foundation piers, and structural remains associated with the Tietjen & Lang Dry Docks dating from the mid to late-nineteenth century into the mid to late-twentieth century. The northern portion of the Weehawken segment is also sensitive for historic deposits associated with the Erie Freight Terminal. The far northern extent of this segment is considered sensitive for prehistoric deposits at depths below nine feet from the surface. This portion of Alternative 3 may also intersect with the historic 19th Street sewer outlet. The far northern extent is also considered sensitive for deposits associated with two mid to late-nineteenth century historic structures associated with the Hoboken Land and Improvement Company.

The sheeting proposed in association with each of the alternatives is considered sensitive for both prehistoric and historic archaeological deposits. The eastern portion of the sheeting is considered sensitive for prehistoric deposits at depth ranging from 15 to 35 feet below the surface. The western portion of the sheeting is considered sensitive for early to mid-twentieth century structures associated with the meat packing industry, for an early-twentieth century Grain and Straw building, and for early to mid-twentieth century ice-related structures. The eastern portion of the sheeting is also considered sensitive for an early to late-twentieth century DLWRR signal tower.

Portions of the HLSS are also considered sensitive for historic archaeological resources. The HLSS along River Street between 1st and 3rd streets is consisted sensitive for archaeological deposits associated with a mid to late-nineteenth century slip. The HLSS within the vicinity of Washington and 13th streets is sensitive for historic deposits associated with mid to late-nineteenth century structures. The northern portion of the HLSS is also sensitive for historic deposits associated with early to mid-twentieth century waterfront and industrial development including the Vanderbilt & Schill Lumber Yard, the Jagels-Bellis Coal Company, and the 14th Street DLWRR Ferry House and pier. The HLSS is also sensitive for late-nineteenth to early-twentieth century sewer lines along Newark Street in the vicinity of 3rd Street and River Street, and along 14th Street. The HLSS is not considered sensitive for potential prehistoric archaeological resources.

11.2 DSD Locations

Table 10 presents the results of the archaeological sensitivity assessment and recommendations regarding the Project's potential effects to archaeological resources in association with the proposed DSD sites. The depth of potential disturbance for each individual DSD location varies on the type and size of that particular structure. Current design plans indicate that the underground detention basin and piping to be installed within Block 10 will extend to a maximum depth of four feet below the surface. With respect to the NJ Transit Site, piping and structures will be installed to a maximum depth of 6.5 to 8 feet below surface. The current design for the underground stormwater basin within the BASF site indicates that the maximum depth of the structure will be approximately 9.5 feet below the surface. Piping associated with the BASF site will extend to a depth of six feet below the surface. The drainage components (the NJ Transit Outfall and the BASF Outfall) will have a maximum depth of four feet below the surface. Figures 122a-c and 123a-c present the archaeological sensitivity for each of the DSD locations. Figures 124a-c present the areas of archaeological potential with respect to the DSD locations that may be affected by the Project in light of the current proposed limits of potential disturbance.

Of the approximately 61individual DSD sites, only five sites were found to possess no archaeological sensitivity—Tank T8-JEF, Tank T2-2ST, Tank T6-4ST, Tank T5-9ST, and Tank TD12-13ST. A total of 42 of the individual tank sites were determined to possess potential prehistoric archaeological sensitivity. This assessment was based on topographic factors as well as soil borings which were previously excavated in the vicinity of and in similar historic topographic conditions to the respective tank sites. In each case, potential prehistoric deposits are anticipated at depths greater than 15 feet below the surface as fill deposits within the city generally extended to this depth. The maximum excavation depth for the proposed tank sites ranges from 6.67 to 11.17 feet below the surface. As such, the limit of disturbance associated with the individual DSD locations is not anticipated to impact potential prehistoric cultural-bearing soils. Therefore, no additional archaeological investigations are recommended in association with the potential prehistoric deposits at the individual tank sites. The sensitivity assessment determined that tank sites T2-4ST, TD1-4ST, T5-5ST, T7-5ST, T6-5ST, T4-5ST, T2-5ST, T1-HAR, T3-JAC, T4-6ST, T3-6ST, T2-6ST, T1-6ST, T2-JAC, T2-7ST, T6-MON, T1-7ST, T4-GND, T3-GND, TD30-CLA, T11-MAD, T6-JEF, T10-MAD, T2-MON, T8-MAD, T9-MAD, T5-JEF, and T3-ADM were only potentially sensitive for prehistoric deposits. Thus, in light of the current design plans, no further archaeological investigations are recommended in association with any of these DSD locations.

Table 10: Assessment of Archaeological Sensitivity and Recommendations for DSD Locations

DSD SITE	DEPTH OF DISTURBANCE	ARCHAEOLOGICAL SENSITIVITY	RECOMMENDATIONS
T6-NEW	7.17 Feet	Late 18th-Early 19th Century Newark Turnpike (10-15 fbs)	Archaeological monitoring
T7-OBS	7.17 Feet	Mid-Late 19th Century Brick Sewer Line within Observer Highway (3-7.5fbs)	Archaeological monitoring

DSD SITE	DEPTH OF DISTURBANCE	ARCHAEOLOGICAL SENSITIVITY	RECOMMENDATIONS
T5-OBS	8.17 Feet	Mid-Late 19th Century Brick Sewer Line within Observer Highway (2.5-8fbs); Late 19th-Early 20th Century Elevated Trolley Line deposits (0-8fbs)	Archaeological monitoring
T3-OBS	7.17 Feet	Mid-Late 19th Century Brick Sewer Line within Observer Highway (3.5-9fbs); Late 19th-Early 20th Century Elevated Trolley Line deposits (0-8fbs)	Archaeological monitoring
TD4-OBS	9.67 Feet	Potential for prehistoric deposits (10-30 fbs); Mid-Late 19th Century Brick Sewer Line within Observer Highway (7-12fbs); Late 19th-Early 20th Century Elevated Trolley Line deposits (0-8fbs)	Archaeological monitoring
TD8-GAR	7.67 Feet	Potential for prehistoric deposits (10-30 fbs); Mid-Late 19th Century Circular Brick Sewer Line within Observer Highway (4-7fbs)	Archaeological monitoring
T1-NEW	8.67 Feet	Late 18th-Early 19th Century Newark (10-15 fbs) Turnpike; Mid-Late 19th Century Wood Sewer Line within Newark Avenue and Egg-Shaped Brick Sewer within Willow Avenue(2.5-8.5fbs)	Archaeological monitoring
T8-JEF	7.17 Feet	Not sensitive	No further investigations
T2-2ST	10.67 Feet	Not sensitive	No further investigations
T3-3ST	9.17 Feet	Mid-Late 19th-Early 20th Century Wooden Sewer Line within 3rd Street (5.5-11fbs)	Archaeological monitoring
T7-JEF	8.67 Feet	Not sensitive	No further investigations
T9-ADM	9.67 Feet	Late 19th-Early 20th Century Brick Sewer Line within Adams Street (3.7-5fbs)	Archaeological monitoring
T6-4ST	7.17 Feet	Not sensitive	No further investigations
T5-JAC	10.17 Feet	Potential for prehistoric deposits (15fbs); Late 19th-Early 20th Century Brick Sewer Line within Jackson Street (8-17fbs)	Archaeological monitoring
T4-4ST	11.17 Feet	Potential for prehistoric deposits (15fbs); Late 19th-Early 20th Century Brick Sewer Line within Madison Street (3.5-9fbs)	Archaeological monitoring
T3-4ST	7.17 Feet	Potential for prehistoric deposits (15fbs); Late 19th-Early 20th Century Brick Sewer Line within Adams Street (3-7fbs)	Archaeological monitoring
T2-4ST	6.67 Feet	Potential for prehistoric deposits (15fbs)	No further investigations
TD14-CLA	7.67 Feet	Potential for prehistoric deposits (15fbs); Mid-Late 19th Century Wood Sewer Line within Clinton Street (5-8.5fbs)	Archaeological monitoring
TD1-4ST	6.67 Feet	Potential for prehistoric deposits (15fbs)	No additional archaeological investigations
TD1-WIL	7.17 Feet	Mid-Late 19th Century Brick Sewer Line within Willow Avenue (2.5-8.5fbs)	Archaeological monitoring
TD6-WIL	7.17 Feet	Mid-Late 19th Century Brick Sewer Line within Willow Avenue (2.5-8.5fbs)	Archaeological monitoring

DSD SITE	DEPTH OF DISTURBANCE	ARCHAEOLOGICAL SENSITIVITY	RECOMMENDATIONS
T1-GAR	9.67 Feet	Mid-Late 19th Century Brick Sewer Line within Garden Street (5-9.5fbs)	Archaeological monitoring
T2-BLM	9.17 Feet	Mid-Late 19th Century Brick Sewer Line within Bloomfield Street (4-6fbs)	Archaeological monitoring
T5-5ST	10.17 Feet	Potential for prehistoric deposits (15fbs)	No further investigations
T7-5ST	10.17 Feet	Potential for prehistoric deposits (15fbs)	No further investigations
T6-5ST	12.17 Feet	Potential for prehistoric deposits (15fbs)	No further investigations
T16-MAD	8.67 Feet	Potential for prehistoric deposits (15fbs); Late 19th-Early 20th Century Brick Sewer Line within Madison Street (3.5-9fbs)	Archaeological monitoring
T4-5ST	8.17 Feet	Potential for prehistoric deposits (15fbs)	No further investigations
T15-MAD	9.67 Feet	Potential for prehistoric deposits (15fbs) ; Late 19th-Early 20th Century Sewer Line within Madison Street (3.5-9fbs)	Archaeological monitoring
T2-5ST	7.17 Feet	Potential for prehistoric deposits (15fbs)	No further investigations
T8-ADM	7.67 Feet	Potential for prehistoric deposits (15fbs) ; Late 19th-Early 20th Century Sewer Line within Adams Street (3-7fbs)	Archaeological monitoring
T1-HAR	6.67 Feet	Potential for prehistoric deposits (15fbs)	No further investigations
T3-JAC	8.67 Feet	Potential for prehistoric deposits (15fbs)	No further investigations
T4-6ST	11.67 Feet	Potential for prehistoric deposits (15fbs)	No further investigations
T3-6ST	8.17 Feet	Potential for prehistoric deposits (15fbs)	No further investigations
T2-6ST	7.17 Feet	Potential for prehistoric deposits (15fbs)	No further investigations
T6-GND	7.67 Feet	Potential for prehistoric deposits (15fbs) ; Late 19th-early 20th Century wooden sewer line within Grand Street (3-7.5 fbs)	Archaeological monitoring
T1-6ST	9.17 Feet	Potential for prehistoric deposits (15fbs)	No further investigations
TD23-CLA	7.17 Feet	Potential for prehistoric deposits (15fbs); Late 19th-Early 20th Century Brick Sewer Line within Clinton Street (5-8.5fbs)	Archaeological monitoring
T2-JAC	6.67 Feet	Potential for prehistoric deposits (15fbs)	No further investigations
T2-7ST	9.67 Feet	Potential for prehistoric deposits (15fbs)	No further investigations
T6-MON	9.17 Feet	Potential for prehistoric deposits (15fbs)	No further investigations
T7-MON	9.67 Feet	Potential for prehistoric deposits (15fbs); Late 19th-Early 20th Century Brick Sewer Line within Monroe Street (5-11fbs)	Archaeological monitoring

DSD SITE	DEPTH OF DISTURBANCE	ARCHAEOLOGICAL SENSITIVITY	RECOMMENDATIONS
T1-7ST	8.17 Feet	Potential for prehistoric deposits (15fbs)	No further investigations
T5-GND	9.17 Feet	Potential for prehistoric deposits (15fbs); Late 19th-Early 20th Century Brick Sewer Line within Grand Street (3.3-6.5fbs)	Archaeological monitoring
T4-GND	6.67 Feet	Potential for prehistoric deposits (15fbs)	No further investigations
T6-ADM	6.67 Feet	Potential for prehistoric deposits (15fbs); Early 20th Century Brick Sewer Line within Adams Street (2.5-6fbs)	Archaeological monitoring
T3-GND	8.67 Feet	Potential for prehistoric deposits (15fbs)	No further investigations
TD30-CLA	6.67 Feet	Potential for prehistoric deposits (15fbs)	No further investigations
T5-9ST	8.67 Feet	Not sensitive	No further investigations
T11-MAD	9.17 Feet	Potential for prehistoric deposits (15fbs)	No further investigations
T6-JEF	8.17 Feet	Potential for prehistoric deposits (15fbs)	No further investigations
T10-MAD	7.17 Feet	Potential for prehistoric deposits (15fbs)	No further investigations
T2-MON	7.17 Feet	Potential for prehistoric deposits (15fbs)	No further investigations
T8-MAD	7.17 Feet	Potential for prehistoric deposits (15fbs)	No further investigations
T9-MAD	7.67 Feet	Potential for prehistoric deposits (15fbs)	No further investigations
T5-JEF	9.17 Feet	Potential for prehistoric deposits (15fbs)	No further investigations
T3-ADM	7.67 Feet	Potential for prehistoric deposits (15fbs)	No further investigations
TD31-CLA	8.17 Feet	Late 19th-Early 20th Century Brick Sewer Line within Clinton Street (4-8fbs)	Archaeological monitoring
TD12-13ST	9.67 Feet	Not sensitive	No further investigations
TD25-WIL	6.67 Feet	Early 19th Century historic seawall(15-17fbs); 19th Century Bergen Turnpike/Hackensack Plank Road (15-17fbs)	No further investigations
Block 10	4 Feet	Mid-19th Century Paterson Plank Road (>4fbs); Late 19th-early 20th Century Elevated NHCR rail line (0-8 fbs)	Archaeological monitoring
NJ Transit Site	8 Feet	Potential prehistoric deposits north of 3rd Street (below 15 fbs); 19th century residential deposits along Marshall Street between 3rd and 4th Streets and northwest corner of Marshall and 4th Streets (0-15 fbs); early-20th century residential and industrial deposits in historic lots 3, 4, and 13 along Harrison Street between 3rd and 4th Streets (0-15fbs); late 19th-early 20th century Jackson Street brick sewer line between 2nd and 4th Streets (below 7 fbs)	Archaeological monitoring

DSD SITE	DEPTH OF DISTURBANCE	ARCHAEOLOGICAL SENSITIVITY	RECOMMENDATIONS
DP	6.5 Feet	Potential prehistoric deposits north of 3rd Street (below 15 fbs); 19th to 20th century trolley and railroad related deposits between 2nd and 3rd, 13th, 14th, and 17th Streets; historic staircases at 8th and 13th Streets (0-15 fbs)	Archaeological monitoring
NJ Transit Detention Basin	Existing–No Disturbance	No sensitivity	No further investigations
BASF Site (storage)	9.5 Feet	Portions of site with potential for prehistoric deposits (below 15fbs); historic Block 108 sensitive for mid to late 19th Century residential/commercial deposits (0-15 fbs); historic Blocks 107 and 108 sensitive for 20th Century industrial deposits	Archaeological monitoring
BASF Site (Pipe)	6 Feet	Portions of piping between 11th and mid-way between 12th and 13th Streets potential for prehistoric deposits; also eastern terminus around 16th Street sensitive for prehistoric deposits (below 15fbs); 16th Street east of Clinton Street sensitive for early 19th century historic seawall and mid-19th Century Bergen Turnpike/Hackensack Plank Road (below 15fbs); sensitive for mid-19th century James Stevens building around Park Avenue; potential for 17th-early 20th century shipwrecks along Weehawken Cove (below 15 fbs); early-mid 20th century dry docks development along Weehawken Cove (shallow depth)	Archaeological monitoring at eastern terminus around waterfront
NJ Transit Outfall	6 Feet	Portions from eastern extent to Willow Avenue sensitive for prehistoric deposits (below 15 fbs); west of Grand Street to the western terminus of the outfall also sensitive for prehistoric deposits (below 20 fbs); 19th Century footings for Park Avenue Viaduct; early 19th Century seawall and early-mid 20th Century industrial deposits around Willow and Park Avenues; Bergen Turnpike around Clinton Street; 20th Century lumber yard around 16, 17th, Adams, Grand, and Clinton Streets (2-4fbs); historic sewer deposits along Willow and Park Avenues (4-8 fbs); far eastern extent, sensitivity for historic deposits associated with waterfront development and Tietjen & Lang Dry Docks; potential for 17th-early 20th century shipwrecks along Weehawken Cove (below 15 fbs)	Archaeological monitoring
BASF Outfall	6 Feet	Portions from Weehawken Cove to Willow Avenue sensitive for prehistoric deposits (below 15 fbs); 19th Century footings for Park and Willow Avenue Viaducts; early 19th Century seawall around Park and Willow Avenues; Bergen Turnpike around 16th Street; signal tower and associated structures at Willow Avenue and 17th Street; historic sewer deposits along Willow and Park Avenues (4-8 fbs); far eastern extent, sensitivity for historic deposits associated with waterfront development and Tietjen & Lang Dry Docks; potential for 17th-early 20th century shipwrecks along Weehawken Cove (below 15 fbs)	Archaeological monitoring

A total of 25 tank sites were determined to be sensitive for historic sewer deposits dating from the mid-nineteenth to the early-twentieth century. It is anticipated that the majority of these sewers consist of brick sewer lines. Four of these sewer lines have been identified as wooden–within Newark Avenue (Tank T1-NEW), within 3rd Street (Tank

T3-3ST), within Clinton Street (Tank T14-CLA), and within Grand Street (Tank T6-GND). On the basis of the available utility data, including the 1940 As-Built designs and additional data from the NHSA, Tank sites T7-OBS, T5-OBS, T3- OBS, TD4-OBS, TD8-GAR, T1-NEW, T3-3ST, T9-ADM, T5-JAC, T4-4ST, T3-4ST, TD14-CLA, TD1-WIL, TD6-WIL, T1-GAR, T2-BLM, T16-MAD, T15-MAD, T8-ADM, T6-GND, TD23-CLA, T7-MON, T5-GND, T6-ADM, and TD31-CLA are considered sensitive for historic sewer deposits. On the basis of past archaeological investigations of the sewer system within Hoboken and on information provided by the As-Builts, sewer-related deposits are anticipated at depths ranging from approximately 2.5 to 11 feet below the surface. Given the limits of disturbance associated within the individual DSD sites, each tank site determined eligible for potential sewer deposits could potentially impact those deposits. It should be noted that past archaeological investigations of exposed brick and wooden sewer lines have photo documented and recorded these resources; none of these features has thus far been recommended eligible for listing in the National Register.

Three of the tank sites—T6-NEW, T1-NEW, and TD25-WIL—have also been determined sensitive for late-eighteenth to mid-nineteenth century historic road deposits. With respect to Tank T6-NEW and Tank T1-NEW, both sites are sensitive for historic deposits associated with the late-eighteenth to early-nineteenth century Newark Turnpike. This early roadway was extended over the historic meadowlands within the southwestern portion of Hoboken prior to the filling or development of the meadows. The early roadway included planks and/or other wooden features in order to traverse the saturated land. As the Newark Turnpike would have predated the filling of this area, deposits associated with the roadway would be anticipated beneath the fill at depths greater than 10 to 15 feet below the surface. Given that the limits of disturbance associated with these tanks are shallower than 10 feet below the surface, construction activities as they are currently designed are not anticipated to impact any extant deposits associated with the historic Newark Turnpike.

Similarly, Tank TD25-WIL is considered sensitive for historic deposits associated with the mid-nineteenth century Bergen Turnpike/Hackensack Plank Road. A previous cultural resource investigation identified potential Bergen Turnpike-related deposits at a depth of 15 to 17 feet below the surface. Therefore, deposits associated with the roadway are anticipated at a similar depth within Tank TD25-WIL. Given that the limit of disturbance associated with the tank is 6.67 feet, the proposed Project actions will not impact any extant roadway deposits. Additionally, Tank TD25-WIL is also considered sensitive for early-nineteenth century seawall deposits. The historic seawall was installed by Samuel Swartout in an attempt to drain the meadowlands. A previous cultural resource investigation suggested that historic seawall deposits would most likely be encountered at a depth of 15 to 17 feet below the surface. In light of the limit of disturbance associated with the tank site, Tank TD25-WIL, as it is currently designed, will not impact any existing historic seawall deposits.

Three tank sites are also considered sensitive for historic deposits associated with the late-nineteenth to early-twentieth century NHCR elevated train line along Observer Highway. These tank sites consist of Tank T5-OBS, Tank T3-OBS, and Tank TD4-OBS. Archaeological remains associated with the elevated train line could include foundational supports, landfill, and/or features associated with elevated train platforms and stops. As the elevated train line was installed after Observer Highway had been filled, remains associated with the line are anticipated at relatively shallow depths less than ten feet below the surface. Given that the limit of disturbance associated with the

three tank sites ranges from 7.17 to 9.17 feet below the surface, each site has the potential to disturb existing elevated train-related deposits.

An analysis of the historic development of Block 10 determined that the Paterson Avenue portion of this site is potentially eligible for historic deposits associated with the mid-nineteenth century Paterson Plank Road. The site is also considered sensitive for late-nineteenth to early-twentieth century deposits associated with the NHCR elevated train line. These features were installed coincident with or following the development of the meadowlands. Thus, deposits associated with the plank road and with the elevated train are considered to be above or within the landfill and are anticipated at depths shallower than ten feet below the surface. Archaeological deposits associated with the elevated train line might include foundational supports, landfill, and/or other structural supports or infrastructure associated with the railway. Given that the excavation associated with the installation of the underground detention basin and piping within Block 10 would extend to a maximum depth of four feet below the surface, there is the potential that existing historic deposits would be impacted. Therefore, archaeological monitoring of ground disturbing activities within Block 10 is recommended.

With respect to the NJ Transit Site, areas north of 3rd Street are considered potentially sensitive for prehistoric remains at depths greater than 15 feet below the surface. Portions of the NJ Transit Site along Marshall Street between 3rd and 4th streets and at the northwest corner of Marshall and 4th streets are also considered sensitive for mid to late-nineteenth century residential deposits; the southern portions of the NJ Transit Site along to the south of Harrison Street are considered sensitive for early to mid-twentieth century residential and industrial deposits.. Several of the lots along Marshall Street, specifically Lots 3, 4, and 15, contained historic occupations which extended from at least the 1870s through the 1880s. These occupations predated the extension of sewer lines along Marshall Street suggesting that there is the potential for shaft features in the rear portions of the historic lots. The extent of past disturbance within the site is currently unknown. Therefore, these portions of the NJ Transit Site are considered sensitive for mid to late-nineteenth century residential deposits, or early to mid-twentieth century residential and industrial deposits at depths less than 15 feet below the surface. The Jackson Street portion of the NJ Transit Site from 2nd through 4th streets is also considered sensitive for late-nineteenth to early-twentieth century brick sewer-related deposits. These deposits are anticipated at depths greater than seven feet below the surface. Given that the maximum depth of excavation within the NJ Transit Site is eight feet, there is the potential that the Project may impact historic residential and/or historic sewer-related deposits. As the limit of disturbance is shallower than the depth associated with potential prehistoric remains, no additional archaeological investigations are recommended in association with potential prehistoric deposits within the NJ Transit Site.

The DP associated with the NJ Transit Site is also considered potentially sensitive for prehistoric deposits north of 3rd Street. The piping is considered sensitive for historic deposits associated with the late-nineteenth to early-twentieth century trolley line and railroads along the western extent of Hoboken, particularly the Old Horseshoe Curve. Deposits associated with the trolley and railroad lines are anticipated between 2nd and 3rd streets, and at 13th, 14th, and 17th streets. Around 8th and 13th streets, the DP is also considered sensitive for deposits associated with late-nineteenth century staircases leading up the Palisades. The historic deposits within the DP are anticipated at depths less than 15 feet below the surface. As the limit of disturbance associated with the DP is approximately

6.5 feet, the proposed DP has the potential to impact the historic railroad and trolley deposits, as well as deposits associated with the early-twentieth century structure. Therefore, archaeological monitoring is recommended of any ground disturbing activities within the DP between 2nd and 3rd streets, at 8th, 13th, 14th, and 17th streets.

As current designs indicate that the Project will utilize an existing NJ Transit detention basin as a component within the NJ Transit Site, no archaeological investigations are recommended in association with the proposed NJ Transit Site detention basin.

Portions of the stormwater storage basin at the BASF Site are considered potentially sensitive for prehistoric archaeological deposits at depths greater than 15 feet below the surface. Similarly portions of the proposed BASF piping between 11th Street and a point midway between 12th and 13th streets area also considered sensitive for potential prehistoric deposits. Historic Block 108 within the BASF Site is considered sensitive for mid to late-nineteenth century residential or commercial deposits. Historic Blocks 107 and 108 are also considered sensitive for twentieth century industrial remains associated with the Henkel Company's occupation. The nineteenth and twentieth century deposits are anticipated at depths less than 15 feet below the surface. Given that the maximum depth of excavation associated with the stormwater basin is 9.5 feet below the surface, the BASF Site has the potential to impact extant historic deposits associated with the nineteenth century residential/commercial occupation and the twentieth century industrial occupations. The proposed Project activities within the site will not impact any extant prehistoric deposits.

The BASF piping is considered sensitive for deposits associated with the early-nineteenth century seawall and the mid-nineteenth century Bergen Turnpike/Hackensack Plank Road along 16th Street to the east of Clinton Street, and with a mid-nineteenth structure associated with James Stevens around 16th Street and Park Avenue. Deposits associated with the seawall, the plank road, and the historic structure are anticipated at depths of 15 to 17 feet below the surface. Thus, given the anticipated depth of the piping, approximately six feet below the surface, the piping will not impact any potentially extant deposits associated with the historic seawall, roadway, and/or mid-nineteenth century structure.

The easternmost extent of the BASF piping along 16th Street is considered sensitive for prehistoric and historic deposits around Weehawken Cove. Prehistoric deposits in the vicinity of Weehawken Cove are anticipated at depths greater than nine feet below the surface. As the disturbance associated with the piping is shallower than this depth, the BASF piping will not impact any extant prehistoric deposits in the vicinity of Weehawken Cove. This portion of the BASF piping is also considered sensitive for potential seventeenth to early-twentieth century shipwrecks along Weehawken Cove. Such deposits would be anticipated at depths below historic fill and land use, approximately 15 feet below the surface. Thus, the proposed piping will not impact any potential shipwreck deposits. The eastern terminus of the piping is also considered sensitive for historic deposits associated with the early to mid-twentieth century Tietjen & Lang Dry Docks. As this occupation included development of the bulkhead and piers around Weehawken Cove, there is the potential for relatively shallow historic waterfront deposits within this area. As such, the eastern terminus of the BASF piping could pose an impact to any extant waterfront-related deposits around Weehawken Cove.

Portions of both the NJ Transit Outfall and the BASF Outfall are considered potentially sensitive for prehistoric deposits. Specifically, the eastern terminus of both outfalls in the vicinity of Weehawken Cove and the portion of the NJ Transit Outfall west of Grand Street are considered sensitive for prehistoric deposits at depths greater than 15 feet below the surface. Both of the outfalls are also considered sensitive for deposits associated with the early-nineteenth century seawall around Willow and Park avenues and the mid-nineteenth century Bergen Turnpike/Hackensack Plank Road around Clinton Street. The outfalls were also considered sensitive for early to mid-twentieth century industrial deposits in the vicinity of Willow and Park avenues. The NJ Transit Outfall is considered sensitive for deposits associated with the nineteenth century footings of the Park Avenue Viaduct; the BASF Outfall is sensitive for footings associated with both the Park and Willow Avenue Viaducts. The outfalls are also considered sensitive for historic sewer lines along both Park and Willow avenues. The BASF Outfall is located in the vicinity of a twentieth century signal tower and associated structures at Willow Avenue and 17th Street. Both outfalls are located in the vicinity of an early-twentieth century lumber yard around 16th, 17th, Adams, Grand, and Clinton streets. A gangway superstructure associated with the lumber yard was located within the outfalls and, therefore, foundation remains and/or postholes associated with the frame feature may be located within the NJ Transit and BASF outfalls. The eastern extent of both outfalls is also considered sensitive for mid-nineteenth through twentieth century waterfront deposits associated with the Tietjen & Lang Dry Docks.

Aside from the seawall and Bergen Turnpike, potential historic deposits within the NJ Transit Outfall and the BASF Outfall would be located within or above the historic landfill as these developments occurred after the filling. Therefore, these historic deposits are anticipated at depths less than 15 feet from the surface. It is assumed that the installation of the outfalls would result in a disturbance of approximately six feet from the surface. Thus, construction and installation of the outfalls has the potential to disturb multiple historic deposits including twentieth century industrial and commercial remains, waterfront features, sewer lines, and bridge and railroad-related infrastructure and structures.

11.3 Mitigation Measures and Best Management Practices

As a result of the Phase IA archaeological assessment of the Study Area, each of the proposed alternatives was evaluated in terms of their potential impact to cultural resources. Table 11 presents a tabulation of the square footage/acreage within each of the proposed alternatives in terms of prehistoric and historic archaeological sensitivity. The table also includes a measurement of the approximate acreage of archaeological sensitivity which may be effected by the Project. For the purposes of this tabulation, each alternative was further divided in terms of Option 1 and Option 2 of the southern segment in each alternative.

Mitigation measures for the Project will be defined in consultation with the NJHPO and other consulting parties to the Project following the completion of this study and NJHPO review. The following discussion presents preliminary recommendations for mitigation measures. Such recommendations will be further refined and amended in ongoing consultation with the NJHPO.

Table 11: Areas of Prehistoric and Historic Archaeological Sensitivity and Areas of Archaeological Sensitivity which May Be Affected by the Project per Alternative

ALTERNATIVE/ OPTION	AREA OF PREHISTORIC ARCHAEOLOGICAL POTENTIAL (ft^2/acres)	AREA OF HISTORIC ARCHAEOLOGICAL POTENTIAL (ft^2/acres)	AREA OF ARCHAEOLOGICAL SENSITIVITY WHICH MAY BE AFFECTED BY THE PROJECT (ft^2/acres)
Alternative 1, Option 1	812, 016.6 / 18.641	699,884.5 / 16.067	735,410.8 / 16.883
Alternative 1, Option 2	810,543.4 / 18.608	698,411.3 / 16.033	733,937.6 / 16.033
Alternative 2, Option 1	768,778.4 / 17.649	657,072.1 / 15.084	657,072.1 / 15.084
Alternative 2, Option 2	773,855.8 / 17. 765	662,150.3 / 15.201	662,150.3 / 15.201
Alternative 3, Option 1	797,775.3 / 18.314	629,063.1 / 14.441	629,063.1 / 14.441
Alternative 3, Option 2	802,852.0 / 18.431	634,139.8 / 14.558	634,139.8 / 14.558

With respect to potential Project effects upon archaeological resources within the three Resist alignments, the following mitigation measures are recommended:

- With respect to the potential historic archaeological deposits within the Resist alignments, given the urban development throughout the Study Area and the potential for deeply buried cultural deposits, it is recommended that archaeological monitoring be conducted in those areas of proposed ground disturbance. Archaeological monitoring might include observation and recording of all mechanically excavated soils for features and archaeological deposits, including photo recordation and documentation of soil types and color. If any such features or deposits were observed, mechanical excavation would be temporarily halted to allow for recordation, measurement, and potential hand excavation of the potential resource in order to determine the nature, type, and potential integrity of the deposit. Depending on the nature and integrity of any exposed deposit, further controlled investigation of the area and/or consultation with the NJHPO may be required. If deposits are determined in the field to possess little integrity, the archaeological monitor may recommend continuation of the Project activity. The scope and extent of archaeological monitoring will be further defined in consultation with the NJHPO and other consulting parties.
- Archeological monitoring would include mechanical and/or manual excavation and exposure of historic deposits when the following conditions are met: potentially intact historic period deposits are exposed. Such deposits may include historic landfill; waterfront-related deposits including cribbage, bulkhead features, foundational supports, and structural remains; intact wooden or brick sewer deposits; transportation-related features including foundational supports; potential shipwrecks; and historic residential or commercial-related deposits including building remains, shaft features, and midden deposits.
- Given the evident past industrial occupation of the portions of the APE, protocols associated with hazardous waste and contaminated soils will have to be undertaken during archaeological investigations of any areas determined to contain potentially hazardous soil.
- With respect to the areas of prehistoric sensitivity identified within the Southern segment, the Northern segment, and the Weehawken Cove segment, it is recommended that a series of geomorphological borings

be excavated prior to any ground disturbing activities. The results of these borings should be analyzed to further refine the prehistoric sensitivity assessment and to guide any further archaeological investigations. A geomorphological assessment of the soil borings will determine whether there is a likelihood for an intact and stable prehistoric occupation surface within the area. If there is no evidence of a potentially intact or stable prehistoric surface, no further archaeological investigations would be warranted with respect to prehistoric archaeological resources. If evidence of a potential buried prehistoric ground surface was uncovered, additional archaeological investigations including archaeological monitoring, mechanical excavation, and/or manual excavation of any exposed potential cultural-bearing prehistoric surface may be warranted.

With respect to potential Project effects upon potential archaeological resources within the DSD locations, the following mitigation measures are recommended:

- A total of 25 DSD tank locations are sensitive for historic sewer-related deposits. These Tank sites consist of: T7-OBS, T5-OBS, T3- OBS, TD4-OBS, TD8-GAR, T1-NEW, T3-3ST, T9-ADM, T5-JAC, T4-4ST, T3-4ST, TD14-CLA, TD1-WIL, TD6-WIL, T1-GAR, T2-BLM, T16-MAD, T15-MAD, T8-ADM, T6-GND, TD23-CLA, T7-MON, T5-GND, T6-ADM, and TD31-CLA. Archaeological monitoring is recommended at each of these 25 tank sites. Archaeological monitoring might include observation and recording of all mechanically excavated soils for features and archaeological deposits, including photo recordation and documentation of soil types and color. If any such features or deposits were observed, mechanical excavation would be temporarily halted to allow for recordation, measurement, and potential hand excavation of the potential resource in order to determine the nature, type, and potential integrity of the deposit. Depending on the nature and integrity of any exposed deposit, further controlled investigation of the area and/or consultation with the NJHPO may be required. If deposits are determined in the field to possess little integrity, the archaeological monitor may recommend continuation of the Project activity. The scope and extent of archaeological monitoring will be further defined in consultation with the NJHPO and other consulting parties.
- Three DSD locations—Tank T5-OBS, Tank T3-OBS, and Tank TD4-OBS—are sensitive for historic deposits associated with the elevated NHCR train line along Observer Highway. The Block 10 Site is also sensitive for historic deposits associated with the elevated train line and for deposits associated with the mid-nineteenth century Paterson Plank Road. Archaeological monitoring of any ground-disturbing activities within the three tank sites and within the Block 10 site is recommended. This monitoring would include photo documentation and recordation of any historic features that are encountered. It may also include mechanical and/or manual excavation to further expose any historic deposits which might be truncated, compromised, or destroyed by the Project activities. The scope and extent of archaeological monitoring will be further defined in consultation with the NJHPO and other consulting parties.
- Portions of the NJ Transit Site along Marshall Street between 3rd and 4th streets and at the northwest corner of Marshall and 4th streets are sensitive for mid to late-nineteenth century historic deposits including residential remains and potential shaft features. Portions of the NJ Transit Site along Harrison Street

between 3rd and 4th streets are sensitive for early to mid-twentieth century residential and industrial deposits. The NJ Transit Site along Jackson Street between 2nd and 4th streets is also sensitive for brick sewer-related deposits. Archaeological monitoring of any ground disturbing activities within these portions of the NJ Transit Site is recommended. Monitoring would include photo documentation and recordation of any historic features that are encountered. Additional mechanical and/or manual excavation may be required if intact historic shaft features, midden deposits, structural remains, and/or brick-sewer related features are identified. The scope and extent of archaeological monitoring will be further defined in consultation with the NJHPO and other consulting parties.

- The DP associated with the NJ Transit Site between 2nd and 3rd streets, at 8th, 13th, 14th, and 17th streets is sensitive for historic deposits associated with the Old Horseshoe Curve, with late-nineteenth to early-twentieth century trolley lines and railroads along the western extent of Hoboken, and with historic staircases leading up the Palisades from Hoboken to Jersey City. Archaeological monitoring is recommended in association with any ground-disturbing activities in portions of the DP. This monitoring would include photo documentation and recordation of any historic features that are encountered. It may also include mechanical and/or manual excavation to further expose any historic deposits which might be truncated, compromised, or destroyed by the Project activities. The scope and extent of archaeological monitoring will be further defined in consultation with the NJHPO and other consulting parties.
- Within the BASF Site, historic Block 108 is considered sensitive for mid to late-nineteenth century residential or commercial deposits. Historic Blocks 107 and 108 are also considered sensitive for twentieth century industrial remains associated with the Henkel Company's occupation. Archaeological monitoring of ground disturbing activities within these portions of the BASF Site is recommended. Additional mechanical and/or manual excavation may be required if intact historic shaft features, midden deposits, structural remains, and/or industrial-related features are identified. The scope and extent of archaeological monitoring will be further defined in consultation with the NJHPO and other consulting parties.
- Given past industrial occupation of the site, protocols associated with hazardous waste and contaminated soils will have to be undertaken during any archaeological investigations of the BASF Site.
- The BASF piping is sensitive for historic deposits around Weehawken Cove. Given the potential impacts of the proposed BASF piping, archaeological monitoring of construction activities within this area is recommended. This monitoring would include photo documentation and recordation of any historic features that are encountered. Archeological monitoring would include mechanical and/or manual excavation and exposure of historic deposits when the following conditions are met: potentially intact historic period deposits are exposed. Such deposits may include historic landfill and/or waterfront-related deposits including cribbage, bulkhead features, foundational supports, and structural remains. The scope and extent of archaeological monitoring will be further defined in consultation with the NJHPO and other consulting parties.
- The BASF Outfall and the NJ Transit Outfall are sensitive for historic deposits associated with the development of Weehawken Cove, the viaducts on Willow and Park avenues, industrial occupations in the vicinity of 16th and 17th streets, and historic sewer lines along 16th and 17th streets. Given the potential impacts of the proposed outfalls, archaeological monitoring of construction activities within the outfalls is

recommended. This monitoring would include photo documentation and recordation of any historic features that are encountered. It may also include mechanical and/or manual excavation to further expose any historic deposits which might be truncated, compromised, or destroyed by the Project activities. The scope and extent of archaeological monitoring will be further defined in consultation with the NJHPO and other consulting parties.

It should be noted that 42 of the tank locations, portions of the NJ Transit Site, portions of the BASF Site, and portions of the NJ Transit and the BASF outfalls, are considered potentially sensitive for prehistoric archaeological deposits. However, given the relatively shallow limit of disturbance associated with the DSD locations, the proposed Project activities will have no effect upon any extant prehistoric deposits within these areas.

12.0 ASSESSMENT OF EFFECTS: HISTORIC ARCHITECTURAL RESOURCES

Section 106 of NHPA requires Federal agencies to take into account the effects of their undertakings on historic properties, and provide the Advisory Council on Historic Preservation (Advisory Council) a reasonable opportunity to comment on any such undertakings. The Advisory Council, in consultation with the SHPO/THPO, makes an assessment of adverse effects on the identified historic properties based on criteria found in ACHP's regulation (36 CFR § 800.5). The criteria of adverse effect have been applied for each associated alternative.

Table 12 provides a summary of effects to historic properties, the associated alternative and potential effects:

Table 12: Summary of Effects to Historic Properties by Alternative

ALTERNATIVE 1			
Map ID No.	RESOURCE	MUNICIPALITY	EFFECTS
7	Erie-Lackawanna Terminal (Train Shed)	Hoboken City	No adverse effect
9	Hoboken Historic District	Hoboken City	Adverse effect
10	Hoboken Land and Improvement Company Building	Hoboken City	No adverse effect
13	Machine Shop (Bethlehem Steel Corp. Shipyard)	Hoboken City	No adverse effect
15	Old Main Delaware, Lackawanna and Western Railroad Historic District	Hoboken City and Jersey City	Adverse effect
17	Southern Hoboken Historic District	Hoboken City	Adverse effect
19	Stevens Historic District	Hoboken City	Adverse effect
F55	R. Neumann & Co. Complex Hoboken Historic District	Hoboken City	Conditional no adverse effect
F65	Standard Brands & Lipton Tea Plant	Hoboken City	Adverse effect
H1	Retaining Wall, Elysian Field Stevens Historic District	Hoboken City	Adverse effect
H25	97 Hudson Street Southern Hoboken Historic District Hoboken Historic District	Hoboken City	Adverse effect

ALTERNATIVE 1			
Map ID No.	RESOURCE	MUNICIPALITY	EFFECTS
H26	Hudson Hotel 99 Hudson Street at 1st Street Southern Hoboken Historic District Hoboken Historic District	Hoboken City	Adverse effect
H28	94 River Street Southern Hoboken Historic District Hoboken Historic District	Hoboken City	No adverse effect
H31	41-43 1st Street Southern Hoboken Historic District Hoboken Historic District	Hoboken City	Adverse effect
H32	44A Newark Street Southern Hoboken Historic District Hoboken Historic District	Hoboken City	No adverse effect
H35	Seaboard Building 95 River Street	Hoboken City	Adverse effect
H36	U.S. Post Office 89 River Street	Hoboken City	Adverse effect
H37	Energy House/Trust Company of New Jersey 12-14 Hudson Place	Hoboken City	No adverse effect
H38	Hoboken Evening News 22 Hudson Place	Hoboken City	No adverse effect
H40	First National Bank 43-45 Newark Street	Hoboken City	No adverse effect
H42	Hotel Victor 77 Hudson Street/44 Hudson Place	Hoboken City	No adverse effect
H43	American Hotel 76-82 River Street	Hoboken City	No adverse effect
H44	Hudson Terrace 66 Hudson Street	Hoboken City	No adverse effect
H45	Hudson Trust Co. 80-84 Hudson Street	Hoboken City	No adverse effect
H46	Terminal Office Building 68-70 Hudson Street	Hoboken City	No adverse effect
H47	Martha Apartments/Hotel Edwards 72 Hudson Street	Hoboken City	No adverse effect
H48	Hudson Terrace 74 Hudson Street	Hoboken City	No adverse effect

ALTERNATIVE 1			
Map ID No.	RESOURCE	MUNICIPALITY	EFFECTS
H49	Hudson Terrace 55-57 Newark Street	Hoboken City	No adverse effect
H50	Bucino Bldg 40-42 Hudson Place	Hoboken City	No adverse effect
H51	Eastview 58-68, 72 Washington Street	Hoboken City	No adverse effect
H52	76, 80 Washington Street	Hoboken City	No adverse effect
H53	Hoboken Bank for Savings 82-84 Washington Street	Hoboken City	No adverse effect
H54	Hudson Observer Building 77 Bloomfield Street, 111 Newark Street	Hoboken City	No adverse effect
H55	59-73 Bloomfield Street	Hoboken City	No adverse effect
H56	Freight Office Building 110 Observer Highway	Hoboken City	No adverse effect
H58	Delaware, Lackawanna and Western (DLWRR) Records Building Observer Highway ■ Option 1 ■ Option 2	Hoboken City	(1) Adverse effect (2) Conditional no adverse effect
20	Hudson and Manhattan Railroad Transit System (PATH) Hoboken and Jersey City	Hoboken City	Conditional no adverse effect
H57	Hudson and Manhattan Railroad Repair Shops Hudson Street	Hoboken City	Conditional no adverse effect
H59	Henderson Street Bridge (NJ Transit Morristown Line milepost .57) Old Main Delaware, Lackawanna and Western Historic District	Jersey City	Adverse effect
21	Grove Street Bridge (NJ Transit Morristown Line milepost .66) Old Main Delaware, Lackawanna and Western Historic District	Jersey City	Adverse effect
H60	Grove Street Tie Station Old Main Delaware, Lackawanna and Western Historic District	Jersey City	Conditional no adverse effect

ALTERNATIVE 1			
Map ID No.	RESOURCE	MUNICIPALITY	EFFECTS
H61	Hoboken Avenue (Jersey Avenue)Bridge (NJ Transit Morristown Line milepost .80) Old Main Delaware, Lackawanna and Western Historic District	Jersey City	No adverse effect
H62	DLWRR Bridge over Conrail Riverline (NJ Transit Morristown Line milepost .91 over Hudson-Bergen Light Rail) Old Main Delaware, Lackawanna and Western Historic District	Hoboken and Jersey City	No adverse effect
23	Erie Railroad Pier D and Piershed	Weehawken Township	No adverse effect
24	North (Hudson) River Tunnels	Weehawken Township	No adverse effect
25	Pennsylvania Railroad New York to Philadelphia Historic District	Weehawken Township	No adverse effect

ALTERNATIVE 2			
Map ID No.	RESOURCE	MUNICIPALITY	EFFECTS
2	Central Hoboken Historic District	Hoboken City	Adverse Effect
5	Engine Company #2 Firehouse (Thematic Nomination of Hoboken Firehouses)	Hoboken City	Conditional no adverse effect
7	Erie-Lackawanna Terminal (Train Shed)	Hoboken City	No adverse effect
9	Hoboken Historic District	Hoboken City	Adverse effect
11	Hoboken-North Hudson YMCA	Hoboken City	Conditional no adverse effect
13	Machine Shop (Bethlehem Steel Corp. Shipyard)	Hoboken City	Conditional no adverse effect
14	Northern Hoboken Historic District	Hoboken City	Adverse effect
15	Old Main Delaware, Lackawanna and Western Railroad Historic District	Hoboken City	Adverse effect
17	Southern Hoboken Historic District	Hoboken City	Adverse effect
18	Southern Hoboken Historic District Extension	Hoboken City	Adverse effect

ALTERNATIVE 2			
Map ID No.	RESOURCE	MUNICIPALITY	EFFECTS
F55	R. Neumann & Co. Complex Hoboken Historic District	Hoboken City	Conditional no adverse effect
F65	Standard Brands & Lipton Tea Plant	Hoboken City	Adverse effect
H12	Up-Town Bank- Hudson Reporter Northern Hoboken Historic District	Hoboken City	Adverse effect
H13	104-118 14th Street Northern Hoboken Historic District	Hoboken City	Conditional no adverse effect
H14	1315-1317, 1319, 1321 Washington Street	Hoboken City	Conditional no adverse effect
H15	1300-1318 Washington-west side	Hoboken City	Adverse effect
H16	1301-1309 Bloomfield Street	Hoboken City	No adverse effect
H17	109-111, 113 14th Street Northern Hoboken Historic District Hoboken Historic District Central Hoboken Historic District	Hoboken City	No adverse effect
H32	44A Newark Street Southern Hoboken Historic District Hoboken Historic District	Hoboken City	Conditional no adverse effect
H37	Energy House/Trust Company of New Jersey 12-14 Hudson Place	Hoboken City	No adverse effect
H38	Hoboken Evening News 22 Hudson Place	Hoboken City	Conditional no adverse effect
H40	First National Bank 43-45 Newark Street	Hoboken City	Conditional no adverse effect
H42	Hotel Victor 77 Hudson Street/44 Hudson Place	Hoboken City	No adverse effect
H43	American Hotel 76-82 River Street	Hoboken City	Conditional no adverse effect
H44	Hudson Terrace 66 Hudson Street	Hoboken City	Conditional no adverse effect
H45	Hudson Trust Co. 80-84 Hudson Street	Hoboken City	Conditional no adverse effect
H46	Terminal Office Building 68-70 Hudson Street	Hoboken City	Conditional no adverse effect
H47	Martha Apartments/Hotel Edwards 72 Hudson Street	Hoboken City	Conditional no adverse effect
H48	Hudson Terrace 74 Hudson Street	Hoboken City	Conditional no adverse effect

ALTERNATIVE 2			
Map ID No.	RESOURCE	MUNICIPALITY	EFFECTS
H49	Hudson Terrace 55-57 Newark Street	Hoboken City	No adverse effect
H50	Bucino Bldg 40-42 Hudson Place	Hoboken City	No adverse effect
H51	Eastview 58-68, 72 Washington Street	Hoboken City	No adverse effect
H52	76, 80 Washington Street	Hoboken City	No adverse effect
H53	Hoboken Bank for Savings 82-84 Washington Street	Hoboken City	No adverse effect
H54	Hudson Observer Building 77 Bloomfield Street, 111 Newark Street	Hoboken City	No adverse effect
H55	59-73 Bloomfield Street	Hoboken City	No adverse effect
H56	Freight Office Building 110 Observer Highway	Hoboken City	No adverse effect
H58	Delaware, Lackawanna and Western Records (DLWRR) Building Observer Highway ■ Option 1 ■ Option 2	Hoboken City	(1) Adverse effect (2) Conditional no adverse effect
20	Hudson and Manhattan Railroad Transit System (PATH) Hoboken and Jersey City	Hoboken City and Jersey City	Conditional no adverse effect
H57	Hudson and Manhattan Railroad Repair Shops Hudson Street	Hoboken City	Conditional no adverse effect
H59	Henderson Street Bridge (NJ Transit Morristown Line milepost .57) Old Main Delaware, Lackawanna and Western Historic District	Jersey City	Adverse effect
21	Grove Street Bridge (NJ Transit Morristown Line milepost .66) Old Main Delaware, Lackawanna and Western Historic District	Jersey City	Adverse effect
H60	Grove Street Tie Station Old Main Delaware, Lackawanna and Western Historic District	Jersey City	Conditional no adverse effect
H61	Hoboken Avenue (Jersey Avenue)Bridge (NJ Transit Morristown Line milepost .80) Old Main Delaware, Lackawanna and Western Historic District	Jersey City	No adverse effect
H62	DLWRR Bridge over Conrail Riverline (NJ Transit Morristown Line milepost .91 over Hudson-Bergen Light Rail) Old Main Delaware, Lackawanna and Western Historic District	Jersey City	No adverse effect

ALTERNATIVE 2			
Map ID No.	RESOURCE	MUNICIPALITY	EFFECTS
23	Erie Railroad Pier D and Piershed	Weehawken Township	No adverse effect
24	North (Hudson) River Tunnels	Weehawken Township	No adverse effect
25	Pennsylvania Railroad New York to Philadelphia Historic District	Weehawken Township	No adverse effect
H33	44 Newark Street/89 Hudson Street	Hoboken City	Conditional no adverse effect
H34	50 Newark Street	Hoboken City	Conditional no adverse effect
H18	1200-1208 Hudson Street	Hoboken City	Conditional no adverse effect
H19	1210-1222 Hudson Street	Hoboken City	Conditional no adverse effect
H20	Yellow Flats (Elysian Flats) 1201-1221 Washington Street (12th to 13th streets)	Hoboken City	Conditional no adverse effect
H21	1300 Hudson Street	Hoboken City	Conditional no adverse effect

ALTERNATIVE 3			
Map ID No.	RESOURCE	MUNICIPALITY	EFFECTS
2	Central Hoboken Historic District	Hoboken City	Adverse Effect
5	Engine Company #2 Firehouse (Thematic Nomination of Hoboken Firehouses)	Hoboken City	Conditional no adverse effect
7	Erie-Lackawanna Terminal (Train Shed)	Hoboken City	No adverse effect
9	Hoboken Historic District	Hoboken City	Adverse effect
11	Hoboken-North Hudson YMCA	Hoboken City	Conditional no adverse effect
13	Machine Shop (Bethlehem Steel Corp. Shipyard)	Hoboken City	Conditional no adverse effect
14	Northern Hoboken Historic District	Hoboken City	Adverse effect
15	Old Main Delaware, Lackawanna and Western Railroad Historic District	Hoboken City and Jersey City	Adverse effect
17	Southern Hoboken Historic District	Hoboken City	Adverse effect

ALTERNATIVE 3			
Map ID No.	RESOURCE	MUNICIPALITY	EFFECTS
18	Southern Hoboken Historic District Extension	Hoboken City	Conditional no adverse effect
F55	R. Neumann & Co. Complex Hoboken Historic District	Hoboken City	Conditional no adverse effect
F65	Standard Brands & Lipton Tea Plant	Hoboken City	Conditional no adverse effect
H12	Up-Town Bank- Hudson Reporter Northern Hoboken Historic District	Hoboken City	Adverse effect
H13	104-118 14th Street Northern Hoboken Historic District	Hoboken City	Conditional no adverse effect
H14	1315-1317, 1319, 1321 Washington Street	Hoboken City	Conditional no adverse effect
H15	1300-1318 Washington-west side	Hoboken City	Adverse effect
H16	1301-1309 Bloomfield Street	Hoboken City	No adverse effect
H17	109-111, 113 14th Street Northern Hoboken Historic District Hoboken Historic District Central Hoboken Historic District	Hoboken City	No adverse effect
H32	44A Newark Street Southern Hoboken Historic District Hoboken Historic District	Hoboken City	Conditional no adverse effect
H37	Energy House/Trust Company of New Jersey 12-14 Hudson Place	Hoboken City	No adverse effect
H38	Hoboken Evening News 22 Hudson Place	Hoboken City	Conditional no adverse effect
H40	First National Bank 43-45 Newark Street	Hoboken City	Conditional no adverse effect
H42	Hotel Victor 77 Hudson Street/44 Hudson Place	Hoboken City	No adverse effect
H43	American Hotel 76-82 River Street	Hoboken City	Conditional no adverse effect
H44	Hudson Terrace 66 Hudson Street	Hoboken City	Conditional no adverse effect
H45	Hudson Trust Co. 80-84 Hudson Street	Hoboken City	Conditional no adverse effect
H46	Terminal Office Building 68-70 Hudson Street	Hoboken City	Conditional no adverse effect
H47	Martha Apartments/Hotel Edwards 72 Hudson Street	Hoboken City	Conditional no adverse effect
H48	Hudson Terrace 74 Hudson Street	Hoboken City	Conditional no adverse effect

ALTERNATIVE 3			
Map ID No.	RESOURCE	MUNICIPALITY	EFFECTS
H49	Hudson Terrace 55-57 Newark Street	Hoboken City	No adverse effect
H50	Bucino Bldg 40-42 Hudson Place	Hoboken City	No adverse effect
H51	Eastview 58-68, 72 Washington Street	Hoboken City	No adverse effect
H52	76, 80 Washington Street	Hoboken City	No adverse effect
H53	Hoboken Bank for Savings 82-84 Washington Street	Hoboken City	No adverse effect
H54	Hudson Observer Building 77 Bloomfield Street, 111 Newark Street	Hoboken City	No adverse effect
H55	59-73 Bloomfield Street	Hoboken City	No adverse effect
H56	Freight Office Building 110 Observer Highway	Hoboken City	No adverse effect
H58	Delaware, Lackawanna and Western (DLWRR) Records Building Observer Highway ■ Option 1 ■ Option 2	Hoboken City	(1) Adverse effect (2) Conditional no adverse effect
20	Hudson and Manhattan Railroad Transit System (PATH) Hoboken and Jersey City	Hoboken City and Jersey City	Conditional no adverse effect
H57	Hudson and Manhattan Railroad Repair Shops Hudson Street	Hoboken City	Conditional no adverse effect
H59	Henderson Street Bridge (NJ Transit Morristown Line milepost .57) Old Main Delaware, Lackawanna and Western Historic District	Jersey City	Adverse effect
21	Grove Street Bridge (NJ Transit Morristown Line milepost .66) Old Main Delaware, Lackawanna and Western Historic District	Jersey City	Adverse effect
H60	Grove Street Tie Station Old Main Delaware, Lackawanna and Western Historic District	Jersey City	Conditional no adverse effect
H61	Hoboken Avenue (Jersey Avenue)Bridge (NJ Transit Morristown Line milepost .80) Old Main Delaware, Lackawanna and Western Historic District	Jersey City	No adverse effect
H62	DLWRR Bridge over Conrail Riverline (NJ Transit Morristown Line milepost .91 over Hudson-Bergen Light Rail) Old Main Delaware, Lackawanna and Western Historic District	Jersey City	No adverse effect

ALTERNATIVE 3			
Map ID No.	RESOURCE	MUNICIPALITY	EFFECTS
23	Erie Railroad Pier D and Piershed	Weehawken Township	No adverse effect
24	North (Hudson) River Tunnels	Weehawken Township	No adverse effect
25	Pennsylvania Railroad New York to Philadelphia Historic District	Weehawken Township	No adverse effect
H33	44 Newark Street	Hoboken City	Conditional no adverse effect
H34	50 Newark Street	Hoboken City	Conditional no adverse effect
H18	1200-1208 Hudson Street	Hoboken City	Conditional no adverse effect
H19	1210-1222 Hudson Street	Hoboken City	Conditional no adverse effect
H20	Yellow Flats (Elysian Flats) Washington between 12th and 13th streets	Hoboken City	Conditional no adverse effect
H21	1300 Hudson Street	Hoboken City	Conditional no adverse effect

DSD LOCATIONS (ALL ALTERNATIVES)			
	RESOURCE	DSD LOCATION(S)	EFFECTS
1	501 Adams Street (Public School No. 3)	T8-ADM T2-5ST	Conditional no adverse effect
2	Central Hoboken Historic District	T1-GAR T2-BLM TD6-WIL TD1-WIL TD1-4ST TD14-CLA T2-4ST TD23-CLA	Conditional no adverse effect
3	Church of the Holy Innocents	TD23-CLA	Conditional no adverse effect
4	Church of Our Lady of Grace	TD6-WIL TD1-WIL TD1-4ST TD14-CLA T2-4ST	Conditional no adverse effect
6	Engine Company #3, Truck #2 Firehouse (Thematic Nomination of Hoboken Firehouses)	T5-OBS	Conditional no adverse effect

DSD LOCATIONS (ALL ALTERNATIVES)			
	RESOURCE	DSD LOCATION(S)	EFFECTS
8	Ferguson Brothers Manufacturing Company	T6-MON	Conditional no adverse effect
9	Hoboken Historic District	T1-GAR T2-BLM TD6-WIL TD1-WIL TD1-4ST TD14-CLA T2-4ST TD23-CLA	Conditional no adverse effect
12	Keuffel and Esser Manufacturing Complex	T9-ADM T3-3ST T7-JEF T3-4ST	Conditional no adverse effect
16	Public School Number 7	T1-NEW	Conditional no adverse effect
F46	3rd Street Historic District	T7-JEF T3-3ST T9-ADM	Conditional no adverse effect
F2	224-232 Jefferson Street 3rd Street Historic District	T7-JEF T3-3ST	Conditional no adverse effect
F45	St. Francis Italian Catholic Church (3rd Street Historic District)	T3-3ST T7-JEF	Conditional no adverse effect
F47	Chappell, Chase, Maxwell Coffin & Casket Factory (National Casket Company) (3rd Street Historic District)	T9-ADM	Conditional no adverse effect
F9	Albini Pharmacy and the Francisco Crozetti House 403 and 401 Adams Street	T3-4ST	Conditional no adverse effect
F20	509 Madison Street	T6-5ST T15-MAD	Conditional no adverse effect
F43	R.B. Davis Co. Factory Complex	T7-OBS Block 10	Conditional no adverse effect
F44	Society Madonna dei Martiri 332 Adams Street	T3-4ST	Conditional no adverse effect
F55	R. Neumann & Co. Complex Hoboken Historic District	TD4-OBS	Conditional no adverse effect
F70	77-79 Garden Street Hoboken Historic District	TD8-GAR	Conditional no adverse effect

DSD LOCATIONS (ALL ALTERNATIVES)			
	RESOURCE	DSD LOCATION(S)	EFFECTS
H3	Sweet 343 Garden Street; Best Dry Cleaners 167 4th Street Central Hoboken Historic District Hoboken Historic District	T1-GAR	Conditional no adverse effect
H4	Empire Coffee & Tea 338 Bloomfield Street Central Hoboken Historic District Hoboken Historic District	T2-BLM	Conditional no adverse effect
H5	336 Bloomfield Street Central Hoboken Historic District Hoboken Historic District	T2-BLM	Conditional no adverse effect
H6	The Tux Shop 341 Bloomfield Street Central Hoboken Historic District Hoboken Historic District	T2-BLM	Conditional no adverse effect
H7	Cartridge World 401 Bloomfield Street Central Hoboken Historic District Hoboken Historic District	T2-BLM	Conditional no adverse effect
H8	403 Bloomfield Street Central Hoboken Historic District Hoboken Historic District	T2-BLM	Conditional no adverse effect
H9	405 Bloomfield Street Central Hoboken Historic District Hoboken Historic District	T2-BLM	Conditional no adverse effect
H10	407 Bloomfield Street Central Hoboken Historic District Hoboken Historic District	T2-BLM	Conditional no adverse effect
H11	A.J. Demarest Jr High Central Hoboken Historic District Hoboken Historic District	T1-GAR T2-BLM	Conditional no adverse effect

12.1 Alternative 1

Alternative 1 generally follows the waterfront from the Lincoln Tunnel in Weehawken south to Weehawken Cove (see Figure 3). The alignment continues around the waterside of the Standard Brands & Lipton Tea Plant (a.k.a. Hudson Tea Building) and Maxwell Place communities in North Hoboken, and then south along the waterfront to the intersection of Sinatra Drive North and FSD, just south of Maxwell Place Park.

For ease of discussion, Alternative 1 has been divided into two sections – the northern area that evaluates proposed options for the area from FSD at Elysian Park in the Stevens Historic District north along the Weehawken Cove and the southern area that is south of Stevens Park and ball fields at FSD, extending south and west along the rail road in the vicinity of the boundary between Hoboken and Jersey City. Two options are discussed for the segment that extends west from Hudson and Washington streets to Henderson Street (Marin Boulevard).

12.1.1 Alternative 1 – North

Alternative 1 would not physically or directly affect the Erie Railroad Pier D and Piershed. This alternative would create a change to the landscape; however, due to the degree to which the existing landscape has been shaped by new development, the change would not result in a loss of character-defining features or other alteration that would result in an adverse effect.

At the Stevens Historic District, Alternative 1 would tie into the concrete retaining wall around Elysian Field Park. The physical destruction of or damage to all or part of the property; or alteration of a property that is not consistent with the Secretary of the Interior's Standards for the Treatment of Historic Properties (36 CFR part 68) and applicable guidelines is considered an adverse effect. As the plans have not be finalized, the degree of alteration at this location cannot be fully assessed. Construction would be within 90 feet of the wall and therefore, subject to effects due to construction. Vibration and excavation created by the Project construction may adversely impact the Stevens Historic District. As this alternative will result in a physical change to a historic property, Alternative 1 will result in a finding of adverse effect.

The Resist structure within Alternative 1 would wrap around the waterfront at the southeast corner of Weehawken Cove; the waterfront is edged with a bulkhead. The size and length of the structure proposed in Alternative 1, especially around the Standard Brands & Lipton Tea Plant (Hudson Tea Building), is significant. Although the proposed structure would be designed in a manner to include amenities that enhance the perimeter walkway, the structure to be built would be approximately 15 feet in height. This alternative would not physically alter the building. Due to the size of the structure and its close proximity to the building, this alternative would introduce elements that would detract from the character-defining features, such as the materials, scale, and setting of the buildings, and would introduce visual elements that would diminish the integrity of the property's significant historic features. Additionally, due to its close proximity, within 90-foot of the proposed construction area, the Standard Brands & Lipton Tea Plant may also experience adverse effect from vibration and excavation associated with Project construction. The combined result of visual and vibration effects results in a finding of an adverse effect to the Standard Brands & Lipton Tea Plant (Hudson Tea Building) from Alternative 1.

The Machine Shop (Bethlehem Steel Corp Shipyard) is also within the APE; however, due to its distance from the Resist alignment, it will not be affected by the Project. The North (Hudson) River Tunnels and the Pennsylvania Railroad New York to Philadelphia Historic District are within the APE. However, these resources are underground; Due to their distance from any Project construction, they will not be affected by the proposed Project.

12.1.2 Alternative 1 - South

Streets, such as 1st Street, are relatively narrow in this part of Hoboken. They tend to allow for traffic in only one direction to enable on-the-street parking; they also have narrow sidewalks. The historic buildings within this portion of Hoboken have low or no stoops with the first story at or near ground level. Installation of a permanent structure along 1st Street would encroach on the streetscape and possibly interfere with the relationship between building to

building and building to street. The streetscape, setbacks, scale, massing and materials are characteristics that define the historic buildings in this area of Hoboken, which is within the Southern Hoboken and Hoboken historic districts. This component of Alternative 1 could potentially introduce new structures to the streetscapes that would be in close proximity to historic properties that are contributing elements to the Southern Hoboken and Hoboken historic districts, such as the U.S. Post Office, the Seaboard Building, 41-43 1st Street, Hudson Hotel (99 Hudson Street), and 97 Hudson Street. Specific design concepts for the have not been fully developed, therefore, effects to historic properties cannot be fully anticipated. Given available information, posts would be permanently installed along the length of the proposed barrier and would be located on the south side of the street along the historic properties. This proposed action has the potential to change the character of the property's use or of physical features within the property's setting that contribute to its historic significance; and to introduce visual, atmospheric or audible elements that diminish the integrity of the property's significant historic features. The action would, therefore, result in a finding of adverse effect to these historic properties.[978] Additionally, due their location within the 90-foot construction area, the U.S. Post Office, the Seaboard Building, 41-43 1st Street, Hudson Hotel (99 Hudson Street), and 97 Hudson Street may be affected by vibration and excavation associated with project construction. Therefore, Alternative 1 will result in a finding of an adverse effect.

The building at 94 River Street is located mid-block, such that it would not be directly or physically altered. In addition, it is not anticipated that this building will be affected by visual, atmospheric, or other elements that would diminish its integrity or significance. Therefore, the proposed Project would not result in an adverse effect to 94 River Street.

Two options are currently proposed in the vicinity of Observer Highway. Option 1 involves three historic districts, the Southern Hoboken Historic District, the Hoboken Historic District, and the Old Main Delaware, Lackawanna and Western Railroad Historic District. In addition to the historic districts, this component has the potential to affect historic properties contributing to the districts. These properties include: the Hotel Victor; the Martha Apartments/Hotel Edwards; the Terminal Office Building; Hudson Terrace at 66 Hudson Street, 74 Hudson Street, and 55-57 Newark Street; the Hudson Trust Co.; the Bucino Building; the American Hotel; the Energy House/Trust Company of New Jersey; the Hudson & Manhattan Railroad Repair Shops; the Erie-Lackawanna Terminal Train Sheds; the DLWRR Records Building, and the Henderson Street Bridge (NJ Transit Morristown Line milepost .57). Several of the historic properties involved are transportation and railroad-related and comprise some of the most iconic (Erie-Lackawanna Terminal and Train Shed) and some of the oldest remaining (DLWRR Records Building) structures in Hoboken. The buildings and structures that would be affected also share characteristics of scale, massing, setting, and materials and specifically exhibit a relationship between development and commerce in Hoboken with their location at the heart of river and rail transportation in Hoboken.

Option 1 would alter the bridge abutments and/or wing walls and the adjacent fill, thus resulting in a finding of adverse effect to the Henderson Street Bridge and the Old Main Delaware, Lackawanna and Western Railroad Historic District. As designed, this option would install a physical barrier between the historic DLWRR Records

[978] United States, The Advisory Council on Historic Preservation.

Building and the rest of the rail yard, thus creating a change in the character of the property's use or physical features within the property's setting that contribute to its historic significance–its physical association with the railroad. This option would also require changes to the tracks through the yard. Project construction would be adjacent to the DLWRR Records Building, which is located within the 90-foot construction area. In addition, the DLWRR Records Building may be affected by vibration and excavation associated with Project construction. Thus, Option 1 would result in a finding of adverse effect to the Old Main Delaware Lackawanna and Western Railroad Historic District and its contributing features: the Henderson Street Bridge and the DLWRR Records Building.

The Erie-Lackawanna Terminal would not be directly impacted by this option. Under this option, the Hotel Victor; the Martha Apartments/Hotel Edwards; the Terminal Office Building; Hudson Terrace at 66 Hudson Street, 74 Hudson Street, and 55-57 Newark Street; the Hudson Trust Co.; the Bucino Building; the American Hotel; the Energy House/Trust Company of New Jersey; the Hudson & Manhattan Railroad Repair Shops, would have no direct, physical change and therefore, would not be directly affected by the Project. Buildings in close proximity to proposed construction, such as the Hudson and Manhattan Railroad Repair Shops, which are located within the 90-foot construction area, may be affected by vibration and excavation associated with Project construction. The Advisory Council on Historic Preservation and HUD, recognize "conditional no adverse effect determinations" under 36 CFR 800.5 (b) when conditions are implemented in consultation with the SHPO.[979] A Historic Resource Construction Protection Plan would be developed to prevent accidental and unforeseen adverse effects resulting from implementation of the resist plan and to ensure no adverse effects to historic properties from construction activities. As such, the Project would result in a conditional no adverse effect to the Hudson and Manhattan Railroad Repair Shops. Option 1 would result in no adverse effect to the remaining historic properties.

Both Option 1 and Option 2 would cross over the subterranean Hudson and Manhattan Railroad Transit System (PATH) tunnels in two locations: one at Observer Highway and one located in the DLWRR yard. To support the new resist structures, gate, and the required footings at each location, a protective bridge would be constructed below ground, essentially over the existing tunnels of the PATH. The supportive bridge would consist of a post and lintel system whereby piles would be driven in the ground on both sides of the tunnels (the posts), the piles would be capped and carry a transfer beam (the lintel).

No part of the existing Hudson and Manhattan Railroad Transit System would be directly or physically altered. Construction would be in proximity to, but not connected to the existing historic tunnel. To provide additional protections and to shield the existing historic structure from effects due to vibration and excavation activities associated with construction of the Resist structures, additional conditions, such as a Historic Resource Construction Protection Plan would be developed to prevent accidental and unforeseen adverse effects resulting from implementation of the Resist plan Due to the location of the tunnels within the 90-foot construction area, the Hudson and Manhattan Railroad Transit System (PATH) tunnels may be affected by Project construction, however,

[979] United States, Advisory Council on Historic Preservation [ACHP], 36 CFR part 800: Projection of Historic Properties. (Washington, D.C.: The Council, 2004); Advisory Council on Historic Preservation, Section 106 Regulations, Flow Chart, Explanatory Material online. Accessed at http://www.achp.gov/flowexplain.html; United States Department of Housing and Urban Development [HUD], HP Fact Sheet #3: Compliance Options for the Section 106 Review Process. Accessed online at https://www.hudexchange.info/resources/documents/hp-fact-sheet-compliance-options-for-the-section-106-review-process.pdf.

measures would be taken in consultation with NJHPO to avoid adverse effects, such that Option 1 would result in a finding of conditional no adverse effect to the Hudson and Manhattan Railroad Transit System (PATH).

Option 2 would potentially affect the Southern Hoboken Historic District and the Hoboken Historic District, and the Old Main Delaware, Lackawanna and Western Railroad Historic District, as well as historic properties contributing to one or more of the historic districts. These historic properties consist of: Marin Boulevard (Henderson Street) Bridge; Eastview (58-68, 72 Washington Street); 76, 80 Washington Street; the Hoboken Bank for Savings; the DLWRR Records Building; the Freight Office Building at 100 Observer Highway; and the R. Neumann & Co. Complex. The buildings and structures share characteristics of scale, massing, setting, materials, and setback and specifically exhibit a relationship between development and commerce in Hoboken with their location at the heart of river and rail transportation. The buildings on Washington Street form a cohesive streetscape characterized by the repetition of form, scale, massing and materials.

The introduction of new structures, walkways, or other Resist features to the streetscape, located on the opposite side of the street adjacent to a newer, non-contributing building, and providing the scale is appropriate, would not detract from a historic property's significant historic features. Likewise, the proposed structure would be relatively low to the ground and designed to complement the streetscape at this location. Such consideration of scale and placement is important to limit the effect to the Eastview (58-68, 72 Washington Street); 76, 80 Washington Street; the Hoboken Bank for Savings; the Freight Office Building at 100 Observer Highway, as well as the Southern Hoboken and the Hoboken historic districts. To provide protections to historic structure from effects due to vibration and excavation activities associated with construction of the Resist structures, conditions, such as a Historic Resource Construction Protection Plan would be developed to prevent accidental and unforeseen adverse effects resulting from implementation of the Resist plan. As a result, Alternative 1, Option 2, would result in a finding of no adverse effect to these historic properties.

The barriers and gates at Washington Street and Observer Highway in Option 2 would be approximately 85 feet from the DLWRR Records Building and would be separated by a new building at the west. The DLWRR Records Building would not be physically altered or damaged by Option 2. As this building is within 90 feet of the proposed construction, conditions would be implemented to prevent unforeseen effects resulting from construction vibrations. Option 2 would not change the setting or character of the property's use or features; and would not introduce visual, atmospheric, or other elements that would diminish the integrity of the building's significant features, and would, therefore, not be adversely effected.

The R. Neumann & Co. Complex, located at the corner of Willow Avenue and Observer Highway, is a relatively large industrial plant with four-story and six-story buildings aligned with the streets. The complex stretches about 350 feet along Observer Highway and some 250 feet along Willow Avenue. This late-nineteenth and early-twentieth century complex is characterized by scale, massing, setback, and materials that define this industrial streetscape. Observer Highway is 40 feet across; Observer Highway along with the adjacent Vezzetti Way account for a total combined width of 78 feet. The flood barrier at this location will be located on the south side of Vezzetti Way and be 12 feet tall or the height of a single-story building. The Neumann complex is of a scale, such that elements

introduced, while they may be within site of the buildings would not be to the detriment of character-defining features associated with the complex. The proposed flood barriers would not physically alter the R. Neumann & Co. Complex and would not change the character of the property's use or the physical features within the setting that contribute to its historic significance. This option would not introduce visual, atmospheric or other elements that would diminish the integrity of the property's historic features To ensure no adverse effect to the R. Neumann & Co. Complex due to vibration associated with construction within 90 feet of the buildings, a Historic Resource Construction Protection Plan would be developed in consultation with NJHPO to prevent accidental and unforeseen adverse effects resulting from implementation of the Resist plan, therefore, Option 2 would result in a conditional no adverse effect to the Neumann complex.

Due to the distance of more than 145 feet from the proposed Project, it is anticipated that there will be no effect to the row at 59-73 Bloomfield Street or the Hudson Observer Building. The Project will have not pose any direct, physical alterations to these properties. The row at 59-73 Bloomfield and the Hudson Observer Building will not be affected by visual or other elements such that will diminish their integrity or significance.

The alignment resumes at Grove Street, adjacent to the railroad ROW on the north side of the Grove Street Bridge(s). Gates are proposed for this location; the gate rails would be located west of the bridge and extend toward the Grove Street Tie Station. The proposed gate would introduce a new and relatively large visual element at the bridge. Grove Street is at grade at this location and the bridge carries the DLWRR over the street. The approaches are fill that allow the tracks to rise to the height of the bridge and, as a result, the bridge, abutments, and approach frame the road, limiting the physical and visual space. Installation of the gates and their supports would be located at the fill and possibly require grading and/or changes to the wing walls. Although the gate will be moveable and utilized as needed, the structure for the gate would be permanent. The proposed Project would physically impact the bridge and the adjacent fill; therefore, this component of Alternative 1 would result in a finding of adverse effect to the Grove Street Bridge and the Old Main Delaware, Lackawanna and Western Railroad Historic District.

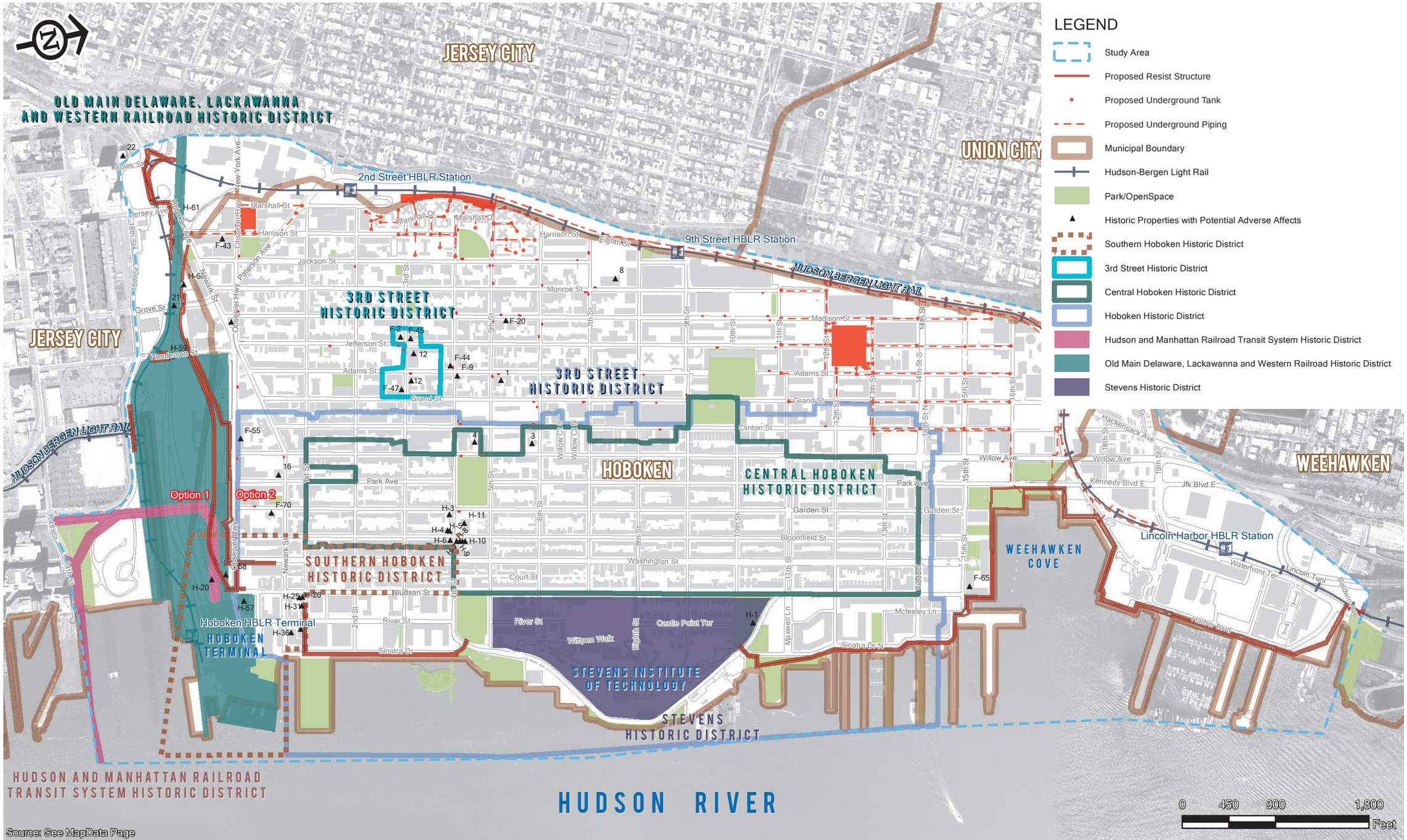
The Grove Street Tie Station is adjacent to the tracks and built into the fill on a raised basement so that the structure is at grade with the tracks. The building would be approximately 40 feet from the gate rails. The Project would not physically alter the Grove Street Tie Station. As the setting is industrial and is defined by the railroad features, the fill, and elevated railroad bed and tracks, installation of the gate would not change the character of the property's use or the physical features within the property's setting that contribute to its historic significance. The Project would not introduce visual, atmospheric or other elements that diminish the integrity of the property's significant historic features. Due to the close proximity, being within the 90-foot construction area, of the Grove Street Tie Station to the Project and the relationship to the fill embankment, the structure may be affected by vibration and excavation associated with Project construction. A Historic Resource Construction Protection Plan would be developed to prevent accidental and unforeseen adverse effects resulting from implementation of the Resist plan and to ensure no adverse effects to historic properties from construction activities. As such, Option 2 is not anticipated to result in an adverse effect; given that measures are taken to adequately protect the Grove Street Tie Station; this alternative will result in a conditional no adverse effect.

The Old Main Delaware, Lackawanna and Western Railroad Historic District, the Hoboken Avenue Bridge (Jersey Avenue), and the DLWRR Bridge over Conrail Riverline (NJ Transit Morristown Line over the Hudson-Bergen Light Rail) have the potential to be affected by this portion of the Alternative 1. At the west terminus, the flood barrier would be tied into the fill, a retaining wall built, and limited grading undertaken, west of the DLWRR Bridge over Conrail Riverline. At Jersey Avenue, the flood barrier, gate, and gate rails would be built between the Hudson-Bergen Light Rail Bridge and the DLWRR Hoboken Avenue (Jersey Avenue) Bridge. The rail and support system would be located on the east side of Jersey Avenue, south of the DLWRR fill. A wingwall and grading would be undertaken to tie the structure into the fill. The fill embankments would be treated with a combination of Geotextile filter fabric, impervious membrane, drainage, and grading to insure continued stability of the fill under flood conditions. Physical changes to the Old Main Delaware, Lackawanna and Western Railroad fill will result in an adverse effect to the historic district. As the two bridges will not be physically altered; the Project would not change the character of the property's use or the physical features within the Property's setting that contribute to its historic significance; the Project would not introduce visual or other audible elements that diminish the integrity of the property's significant historic features, it is anticipated that the Project would not adversely affect either bridge.

In total, considering all of the segments proposed in Alternative 1, except for the BASF Site, Block 10 Site, the NJ Transit Site, and the DSD Sites, the potential effects to 46 historic properties were evaluated (see Table 12 and Figure 125). Alternative 1 resulted in a finding of adverse effect for 14 historic properties for Option 1: the Hoboken Historic District; the Old Main Delaware, Lackawanna and Western Railroad Historic District; the Southern Hoboken Historic District; the Stevens Historic District; the Standard Brands & Lipton Tea Plant; Retaining Wall, Elysian Field; 97 Hudson Street; Hudson Hotel at 99 Hudson Street; 41-43 1st Street; the U.S. Post Office; the Seaboard Building; the DLWRR Records Building; the Henderson Street Bridge, and the Grove Street Bridge. When considering Option 2, there are adverse effects to 13 historic properties: the Hoboken Historic District; the Old Main Delaware, Lackawanna and Western Railroad Historic District; the Southern Hoboken Historic District; the Stevens Historic District; the Standard Brands & Lipton Tea Plant; Retaining Wall, Elysian Field; 97 Hudson Street; Hudson Hotel at 99 Hudson Street; 41-43 1st Street; the U.S. Post Office; the Seaboard Building; the Henderson Street Bridge, and the Grove Street Bridge. Under Option 2, there are five historic properties with a finding of conditional no adverse effect, given that conditions are established to address effects that may result from potential construction-related vibration and excavation. The five properties are R. Neumann & Co. Complex; the Hudson and Manhattan Railroad Transit System (PATH); the Hudson and Manhattan Railroad Repair Shops; the Grove Street Tie Station; and DLWRR Records Building. Under Option 1, there are four historic properties with conditional adverse effects: R. Neumann & Co. Complex; the Hudson and Manhattan Railroad Transit System (PATH); the Hudson and Manhattan Railroad Repair Shops; and the Grove Street Tie Station. The remaining 28 properties will result in no adverse effect.

12.2 Alternative 2

For ease of discussion, Alternative 2 has been divided into two sections–the northern area that evaluates proposed options for the area from Washington and 15th streets, north along the Weehawken Cove and the southern area at



LEGEND

- Study Area
- Proposed Resist Structure
- Proposed Underground Tank
- Proposed Underground Piping
- Municipal Boundary
- Hudson-Bergen Light Rail
- Park/OpenSpace
- Historic Properties with Potential Adverse Affects
- Southern Hoboken Historic District
- 3rd Street Historic District
- Central Hoboken Historic District
- Hoboken Historic District
- Hudson and Manhattan Railroad Transit System Historic District
- Old Main Delaware, Lackawanna and Western Railroad Historic District
- Stevens Historic District

Source: See MapData Page

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Historic Properties Potentially Affected - Alternative 1

August 2016

FIGURE 125

Observer Highway and the DLWRR Yard, continuing west along the rail road in the vicinity of the boundary between Hoboken and Jersey City (see Figure 4).

12.2.1 Alternative 2 – North

Under this alternative the Northern Hoboken Historic District, the Central Hoboken Historic District, the Southern Hoboken Extension, and the Hoboken Historic District would potentially be affected. These four overlapping historic districts all contain the portion of Washington Street between 13th and 14th streets. The Northern Hoboken and the Hoboken Historic District extend to include the north side of 14th Street between Washington and Bloomfield streets. This alternative would potentially affect the 1300 Block of Washington Street (located in all four historic districts) from 13th to 14th street, on both sides of the street; the Hoboken-North Hudson YMCA; Engine Company No. 2 Firehouse; the Up-town Bank-Hudson Reporter; 104-118 14th Street; 109-111, 113 14th Street; and the National Brands & Lipton Tea Plant.

The properties identified on Washington Street and its intersection with 14th Street are contributing to all or some of the historic districts. These properties and districts are characterized by cohesive streetscapes, their scale and massing, a repetition of form, and use materials and decorative elements, specific to the period of construction and stylistic considerations. The relationship of the buildings to the street, as well as the pedestrian scale of the buildings and surroundings, are integral to the integrity of the historic districts. The proposed Resist structure, as envisioned, would take an undulating form and add amenities such as street plazas, seating, stepped barriers, and playground areas that would function as viewing platforms. Despite being carefully designed and implemented in a manner that retains the characteristics of scale, urban setting, form, setback, and materials of the existing buildings within the historic districts, the Resist structure would detract from the district or its individual components. These considerations would achieve similar results with regard to individual historic properties, such as the Hoboken-North Hudson YMCA, the Engine Company No. 2 Firehouse. As the Resist structure would require construction in close proximity to the historic buildings, this proposed alternative will not result in direct, physical alteration to the historic buildings. The buildings, and therefore the historic districts, are likely to be affected by vibration and excavation associated with construction of the Resist structures at this alignment. Although the design scheme has been crafted to compliment the streetscape, scale, form, massing and materials, the width of the intrusion is significant. This alternative has the potential to change the character of the properties' use and/or the physical features within the properties' setting that contribute to their significance because of the proximity and size of the barrier. Due to the proximity of the barrier to the buildings on the west side of Washington Street, Alternative 2 will result in a finding of adverse effect to the Northern Hoboken Historic District, the Central Hoboken Historic District, the Southern Hoboken Extension, and the Hoboken Historic District; 1300-1318 Washington Street (west side); and the Up-Town Bank-Hudson Reporter.

The buildings on the east side of 14th Street would not be physically altered. The barrier would be sufficiently distant so that it would not change the character of the properties' use or the physical features within the properties' setting that contribute to their significance. It is not anticipated that these buildings would be affected by visual, atmospheric, or other elements that would diminish the integrity of the properties' significant historic features. The Hoboken-North

Hudson YMCA; Engine Company No. 2 Firehouse; and 1315-1317, 1319, and 1321 Washington Street are located approximately 70 feet from the proposed Resist structures. To ensure no adverse effect due to vibration and excavation associated with construction within 90 feet of the buildings, a Historic Resource Construction Protection Plan would be developed in consultation with NJHPO to prevent accidental and unforeseen adverse effects resulting from implementation of the Resist plan. Therefore, Alternative 2 would result in a conditional no adverse effect to the Hoboken-North Hudson YMCA; Engine Company No. 2 Firehouse; and 1315-1317, 1319, and 1321 Washington Street.

Likewise, the buildings on 14th Street would not be physically altered by Alternative 2. This alternative would not change the character of the properties' use or the physical features within the properties' setting that contribute to their significance. It is not anticipated that these buildings would be affected by visual or other elements that would diminish the integrity of the properties' significant historic features. Therefore, Alternative 2 would result in No adverse effect to 109-111, 113 14th Street; and 104-118 14th Street. The buildings at 1301-1309 Bloomfield Street are sufficiently distant from the proposed flood barrier to create an adverse effect.

At 15th Street, the Resist structure would consist of a berm-like structure, eight feet tall, on the north side of the street. This barrier would most likely include terracing and grading of the grounds between the National Brands & Lipton Tea Plant and 15th Street. Although this alternative will not create physical changes to the National Brands & Lipton Tea Plant (Hudson Tea Building) itself, and does not appear to result in a substantive visual impact to this building, it would result in a change to the size of the property through an easement or other device and would, therefore, result in an adverse effect.

12.2.2 Alternative 2 - South

This alternative involves three historic districts, the Southern Hoboken Historic District, the Hoboken Historic District, and the Old Main Delaware, Lackawanna and Western Railroad Historic District. In addition to the historic districts, this component has the potential to affect historic properties contributing to the districts, including: the Hotel Victor; the Martha Apartments/Hotel Edwards; the Terminal Office Building; Hudson Terrace at 66 Hudson Street, 74 Hudson Street, and 55-57 Newark Street; the Hudson Trust Co.; the Bucino Building; the American Hotel; the Energy House/Trust Company of New Jersey; the Hudson & Manhattan Railroad Repair Shops; the Erie-Lackawanna Terminal Train Sheds; the DLWRR Records Building, and the Henderson Street Bridge (NJ Transit Morristown Line milepost .57). Several of the historic properties involved are transportation and railroad-related and comprise some of the most iconic (Erie-Lackawanna Terminal and Train Shed) and some of the oldest remaining (DLWRR Records Building) structures in Hoboken. The buildings and structures that would be affected also share characteristics of scale, massing, setting, and materials and specifically exhibit a relationship between development and commerce in Hoboken with their location at the heart of river and rail transportation in Hoboken.

Option 1 would alter the bridge abutments and/or wing walls and the adjacent fill, thus resulting in a finding of adverse effect to the Henderson Street Bridge and the Old Main Delaware, Lackawanna and Western Railroad Historic District. As designed, this option would install a physical barrier between the historic DLWRR Records

Building and the rest of the rail yard, thus creating a change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance—its physical association with the railroad. This option would also require changes to the tracks within the yard. Thus, Option 1 would result in a finding of adverse effect to the Old Main Delaware, Lackawanna and Western Railroad Historic District and its contributing features: the Henderson Street Bridge and the DLWRR Records Building. Option 1 would also result in an adverse effect to the Southern Hoboken Historic District, which includes the DLWRR Records Building and the eastern portion of the DLWRR yard.

The Erie-Lackawanna Terminal would not be directly impacted by this option. Under this option, the Hotel Victor; the Martha Apartments/Hotel Edwards; the Terminal Office Building; Hudson Terrace at 66 Hudson Street, 74 Hudson Street, and 55-57 Newark Street; the Hudson Trust Co.; the Bucino Building; the American Hotel; the Energy House/Trust Company of New Jersey; the Hudson & Manhattan Railroad Repair Shops, would have no direct, physical change and therefore, would not be directly affected by the Project. To ensure no adverse effect due to vibration and excavation associated with construction within 90 feet of the buildings, a Historic Resource Construction Protection Plan would be developed in consultation with NJHPO to prevent accidental and unforeseen adverse effects resulting from implementation of the Resist plan. As such, the Project would result in a conditional no adverse effect to the Hudson and Manhattan Railroad Repair Shops. Option 1 would result in no adverse effect to the remaining historic properties.

Both Option 1 and Option 2 would cross over the subterranean Hudson and Manhattan Railroad Transit System (PATH) tunnels in two locations: one at Observer Highway and one located in the DLWRR yard. To support the new Resist structures, gate, and the required footings at each location, a protective bridge would be constructed below ground, essentially over the existing tunnels of the Hudson and Manhattan Railroad Transit System (PATH). The supportive bridge would consist of a post and lintel system whereby piles would be driven in the ground on both sides of the tunnels (the posts), the piles would be capped and carry a transfer beam (the lintel).

No part of the existing Hudson and Manhattan Railroad Transit System would be directly or physically altered. Construction would be in proximity to, but not connected to the existing historic tunnel. To provide additional protections and to shield the existing historic structure from effects due to vibration and excavation activities associated with construction of the Resist structures, additional conditions, such as a Historic Resource Construction Protection Plan would be developed to prevent accidental and unforeseen adverse effects resulting from implementation of the Resist plan. Due to the protective measures to be undertaken, this option would result a finding of conditional no adverse effect to the Hudson and Manhattan Railroad Transit System (PATH).

Option 2 begins at Washington Street south of Newark. At Observer Highway and Vezzetti Way, the alignment continues west until Henderson Street (Marin Boulevard), where it continues south a short distance before terminating west of Henderson street along the north side of the railroad right of way. The bridge carries the DLWRR over Henderson Street. The street is at grade at this location, while the railroad bed rests on a fill berm and is elevated approximately 12 feet. The abutments are stone, reinforced in some areas with concrete. A gate is proposed for this location to span the opening under the bridge. The Resist structure would tie into the abutment

and wing wall on the east side. The flood gate rails and structure would be on the west side of the bridge and include grading to tie into the fill. Due to the anticipated physical changes to the bridge and the DLWRR fill, Alternative 2 would result in an adverse effect to the Henderson Street Bridge and the Old Main Delaware, Lackawanna and Western Railroad Historic District.

Due to the distance from the proposed Project, it is anticipated that there will be no effect to the row at 59-73 Bloomfield Street or the Hudson Observer Building. The Project will have not result in any direct, physical alterations to these properties. The row at 59-73 Bloomfield and the Hudson Observer Building will not be affected by visual, atmospheric, or audible elements that would diminish its integrity or significance.

The alignment resumes at Grove Street, adjacent to the railroad ROW on the north side of the Grove Street Bridge. Gates are proposed for this location and would introduce a new and relatively large visual element at the bridge. Grove Street is at grade at this location and the bridge carries the DLWRR over the street. The approaches and railroad bed are fill that allow the tracks to be approximately 12 feet above grade. As a result, the bridge, abutments, and approach frame the road, limiting the physical and visual space. The gates would not be dug into the fill. The proposed Project is not anticipated to physically impact the bridge; the gates will be moveable, and utilized as needed. As it is anticipated that the bridge will not be physically altered and would incur occasional visual impacts, this component of Alternative 1 would result in no adverse effect to the Grove Street Bridge and the Old Main Delaware, Lackawanna and Western Railroad Historic District.

The last component of the southern portion of Alternative 2 begins west of Grove Street. The flood barrier would tie into a retaining wall on the south side of the Hudson-Bergen Light Rail and continue across Jersey Avenue in a westerly direction along the Hudson-Bergen Light Rail to Coles Street and Hoboken Avenue where it turns north for a short distance to the DLWRR railroad ROW. The barrier would be tied into the fill, a retaining wall would be constructed, and the area graded. A gate would be located on the south side of the Hudson-Bergen Light Rail Bridge.

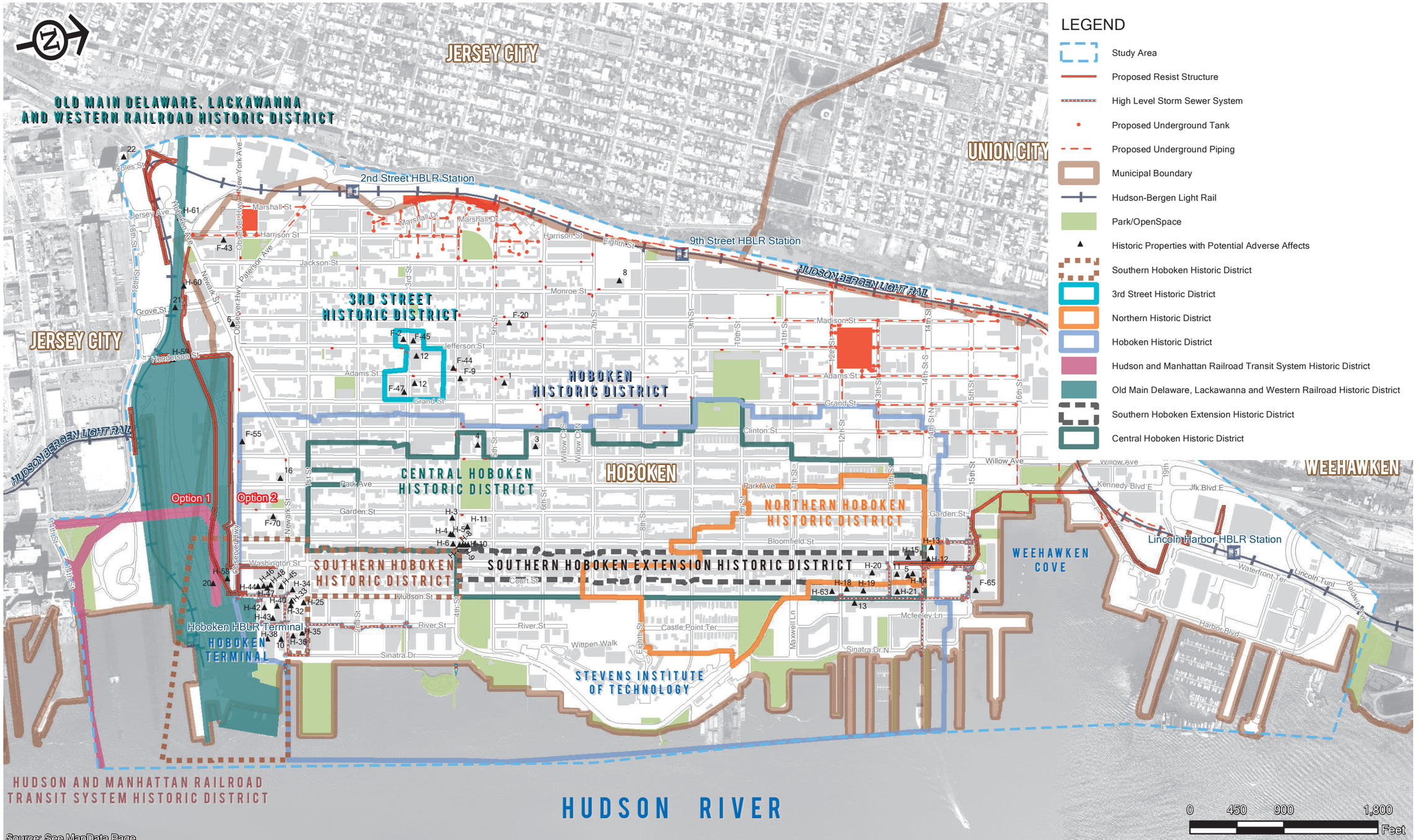
The Hoboken Avenue (Jersey Avenue) Bridge and the DLWRR Bridge over Conrail Riverline (NJ Transit Morristown Line over the Hudson Bergen Light Rail), both contributing to the Old Main Delaware, Lackawanna and Western Railroad Historic District, have the potential to be affected by this portion of Alternative 2. These bridges carry the DLWRR over Jersey Avenue and the former Conrail (Hudson-Bergen Light Rail), respectively. The DLWRR railroad bed is raised on fill, elevated approximately 12 feet above street level. The DLWRR bridges will not be physically altered. This alternative would not change the character of the properties' use or physical features within the setting that contribute to their historic significance. It is anticipated that the Project would not introduce visual or other elements that diminish the integrity of the properties' significant historic features. As such, this portion of Alternative 2 would result in no adverse effect to the Hoboken Bridge and the DLWRR Bridge over Conrail Riverline (Hudson Bergen Light Rail). As the Project would alter the fill associated with the DLWRR, Alternative 2 would result in a finding of adverse effect.

12.2.1 High Level Storm Sewer

The High Level Storm Sewers (HLSS) are the same for Alternative 2 and Alternative 3 and involve historic properties in the northeast and southeast areas of Hoboken. The historic districts involved are the Central Hoboken Historic District, the Hoboken Historic District, the Northern Hoboken Historic District, the Southern Hoboken Historic District and the Southern Hoboken Historic District Extension. The historic properties that would potentially be affected by installation of the HLSS in the northeastern area of Hoboken include: the Machine Shop (Bethlehem Steel Corporation Ship Yard); 1200-1208 Hudson Street; 1210-1222 Hudson Street; 1300 Hudson Street; Yellow Flats; the Hoboken-North Hudson YMCA; Up-Town Bank – Hudson River Reporter; 104-118 14th Street; Standard Brands & Lipton Tea Building, and 1120-1126 Hudson Street. The historic properties located in the southeastern portion of Hoboken that have the potential to be impacted are the First National Bank Building, the Hudson Trust Company Building, 74 Hudson Street, Martha Apartments/Hotel Edwards, the Terminal Office Building, 66 Hudson Street, Hoboken Evening News, American Hotel, 44A Newark Street, 44Newark Street/89 Hudson Street, and 50 Newark Street.

The HLSS would involve ground penetration with trenching of four to ten feet deep and installation of sheeting due to the shallow ground water conditions. To ensure no adverse effect due to vibration and excavation associated with construction within 90 feet of the buildings, a Historic Resource Construction Protection Plan would be developed in consultation with NJHPO to prevent accidental and unforeseen adverse effects resulting from implementation of the Resist plan. Such protection plan(s) should be prepared for all historic buildings and structures within 90 feet of proposed work. As a result, it is anticipated that the proposed HLSS will result in a conditional no adverse effect to historic properties.

In total, considering all of the segments proposed in Alternative 2, except for the BASF Site, Block 10 Site, the NJ Transit Site, and the DSD Sites, the potential effects to 54 historic properties were evaluated (see Table 12 and Figure 126). Alternative 2 resulted in a finding of adverse effect to 12 historic properties for Option 1: the Central Hoboken Historic District; the Hoboken Historic District; the Northern Hoboken Historic District; Old Main Delaware, Lackawanna, and Western Railroad Historic District; the Southern Hoboken Historic District; the Southern Hoboken Historic District Extension; the Standard Brands & Lipton Tea Plant; the Up-Town Bank-Hudson Reporter; 1300-1318 Washington Street (west side from between 13th and 14th streets); the DLWRR Records Building; the Henderson Street Bridge; and the Grove Street Bridge. When considering Option 2, there are adverse effects to 11 historic properties: the Central Hoboken Historic District; the Hoboken Historic District; the Northern Hoboken Historic District; Old Main Delaware, Lackawanna, and Western Railroad Historic District; the Southern Hoboken Historic District; the Southern Hoboken Historic District Extension; the Standard Brands & Lipton Tea Plant; the Up-Town Bank-Hudson Reporter; 1300- 1318 Washington Street (west side from between 13th and 14th streets); the Henderson Street Bridge; and the Grove Street Bridge. Under Option 2, there are 25 historic properties with a finding of conditional no adverse effect, given that conditions are established to address effects that may result from potential construction-related vibration and excavation. The 25 historic properties are Engine Company #2 Firehouse; the Hoboken-North Hudson YMCA; Machine Shop (Bethlehem Steel Corp. Shipyard); 1315-1317, 1319, 1321 Washington Street; 44A Newark Street; Hoboken Evening News; First National Bank; American Hotel;



Source: See MapData Page

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Historic Properties Potentially Affected - Alternative 2

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FIGURE 126

Hudson Terrace, 66 Hudson Street; Hudson Trust Company; Terminal Office Building; Martha Apartments/Hotel Edwards; Hudson Terrace, 74 Hudson Street; Hudson and Manhattan Railroad Transit System (PATH); Hudson and Manhattan Railroad Repair Shops; Grove Street Tie Station, 44 Newark Street; 50 Newark Street; 1200-1208 Hudson Street; 1210-1222 Hudson Street; Yellow Flats; 1300 Hudson Street; 1120-1126 Hudson Street; and the DLWRR Records Building. Under Option 1, there are 24 historic properties with a finding of conditional no adverse effect: Engine Company #2 Firehouse; the Hoboken-North Hudson YMCA; Machine Shop (Bethlehem Steel Corp. Shipyard); 1315-1317,1319, 1321 Washington Street; 44A Newark Street; Hoboken Evening News; First National Bank; American Hotel; Hudson Terrace, 66 Hudson Street; Hudson Trust Company; Terminal Office Building; Martha Apartments/Hotel Edwards; Hudson Terrace, 74 Hudson Street; Hudson and Manhattan Railroad Transit System (PATH); Hudson and Manhattan Railroad Repair Shops; Grove Street Tie Station, 44 Newark Street; 50 Newark Street; 1200-1208 Hudson Street; 1210-1222 Hudson Street; Yellow Flats; 1300 Hudson Street; and 1120-1126 Hudson Street. The remaining 18 properties will result in no adverse effect.

12.3 Alternative 3

For ease of discussion, Alternative 2 has been divided into two sections – the northern area that evaluates proposed options for the area from Washington and 15th streets, north along the Weehawken Cove and the southern area at Observer Highway and the DLWRR Yard, continuing west along the rail road in the vicinity of the boundary between Hoboken and Jersey City (see Figure 5).

12.3.1 Alternative 3 - North

Under this alignment, the Northern Hoboken Historic District, the Central Hoboken Historic District, the Southern Hoboken Extension, and the Hoboken Historic District would potentially be affected. These four overlapping historic districts all contain the portion of Washington Street between 13th and 14th streets. The Northern Hoboken and the Hoboken historic districts include the north side of 14th Street between Washington and Bloomfield streets. This alternative would potentially affect the 1300 Block of Washington Street (located in all four historic districts) from 13th to 14th streets, on both sides of the street; the Hoboken-North Hudson YMCA; Engine Company No. 2 Firehouse; the Up-town Bank-Hudson Reporter; 104-118 14th Street; and 109-111, 113 14th Street.

The properties identified on Washington Street and its intersection with 14th Street are contributing to all or some of the historic districts. These properties and districts are characterized by cohesive streetscapes, their scale and massing, a repetition of form, and use of materials and decorative elements, specific to the period of construction and stylistic considerations. The relationship of the buildings to the street, as well as the pedestrian scale of the buildings and surroundings, are integral to the integrity of the historic districts. The proposed Resist structure, as envisioned, would take an undulated form and add amenities such as street plazas, seating, stepped barriers, and playground areas that functioned as viewing platforms. Carefully designed and implemented in a manner that retains the characteristics of scale, urban setting, form, setback, and materials of the existing buildings within the historic districts, the Resist structure would detract from the district or its individual components. These considerations

would achieve similar results with regard to individual historic properties, such as the Hoboken-North Hudson YMCA, the Engine Company No. 2 Firehouse. This proposed alternative will not result in direct, physical alteration to the historic buildings. The buildings, and therefore the historic districts, are likely to be affected by vibration and excavation associated with construction of the Resist structures at this alignment. Although the design scheme has been crafted to compliment the streetscape, scale, form, massing and materials, the width of the intrusion is significant. This alternative has the potential to change the character of the properties' use and/or the physical features within the properties' setting that contribute to their significance because of the proximity and size of the barrier. Due to the proximity of the barrier to the buildings on the west side of Washington Street, Alternative 3 will result in a finding of adverse effect to the Northern Hoboken Historic District, the Central Hoboken Historic District, the Southern Hoboken Extension, and the Hoboken Historic District; 1300-1318 Washington Street (west side); and the Up-Town Bank-Hudson Reporter.

The buildings on the east side of 14th Street would not be physically altered. The barrier would be sufficiently distant so that it would not change the character of the properties' use or the physical features within the properties' setting that contribute to their significance. The Hoboken-North Hudson YMCA; Engine Company No. 2 Firehouse; and 1315-1317, 1319, and 1321 Washington Street are located approximately 70 feet from the proposed Resist structures. To ensure no adverse effect due to vibration and excavation associated with construction within 90 feet of the buildings, a Historic Resource Construction Protection Plan would be developed in consultation with NJHPO to prevent accidental and unforeseen adverse effects resulting from implementation of the Resist plan. It is not anticipated that these buildings would be affected by visual or other elements that would diminish the integrity of the properties' significant historic features. Therefore, Alternative 2 would result in a conditional no adverse effect to the Hoboken-North Hudson YMCA; Engine Company No. 2 Firehouse; and 1315-1317, 1319, and 1321 Washington Street.

The alignment will extend through the alley at the rear (north) wall of the buildings on the north side of 14th Street. The structure would replace an existing brick wall that does not appear to be original to these buildings. This alternative would not change the character of the properties' use or the physical features within the properties' setting that contribute to their significance. It is not anticipated that these buildings would be affected by visual, atmospheric, or other elements that would diminish the integrity of the properties' significant historic features. The construction would be in very close proximity to the existing historic buildings at 104-118 14th Street and the Up-Town Bank-Hudson Reporter (discussed above). To ensure no adverse effect to the buildings at 104-118 14th Street due to vibration and excavation associated with construction within 90 feet of the buildings, a Historic Resource Construction Protection Plan would be developed in consultation with NJHPO to prevent accidental and unforeseen adverse effects resulting from implementation of the Resist plan. As a result, Alignment 3 would result in a conditional no adverse effect to 104-118 14th Street.

The buildings at 109-111, 113 14th Street would not be physically altered by Alternative 3. This alternative would not change the character of the properties' use or the physical features within the properties' setting that contribute to their significance. It is not anticipated that these buildings would be affected by visual, atmospheric, or other elements that would diminish the integrity of the properties' significant historic features. Therefore, Alternative 2

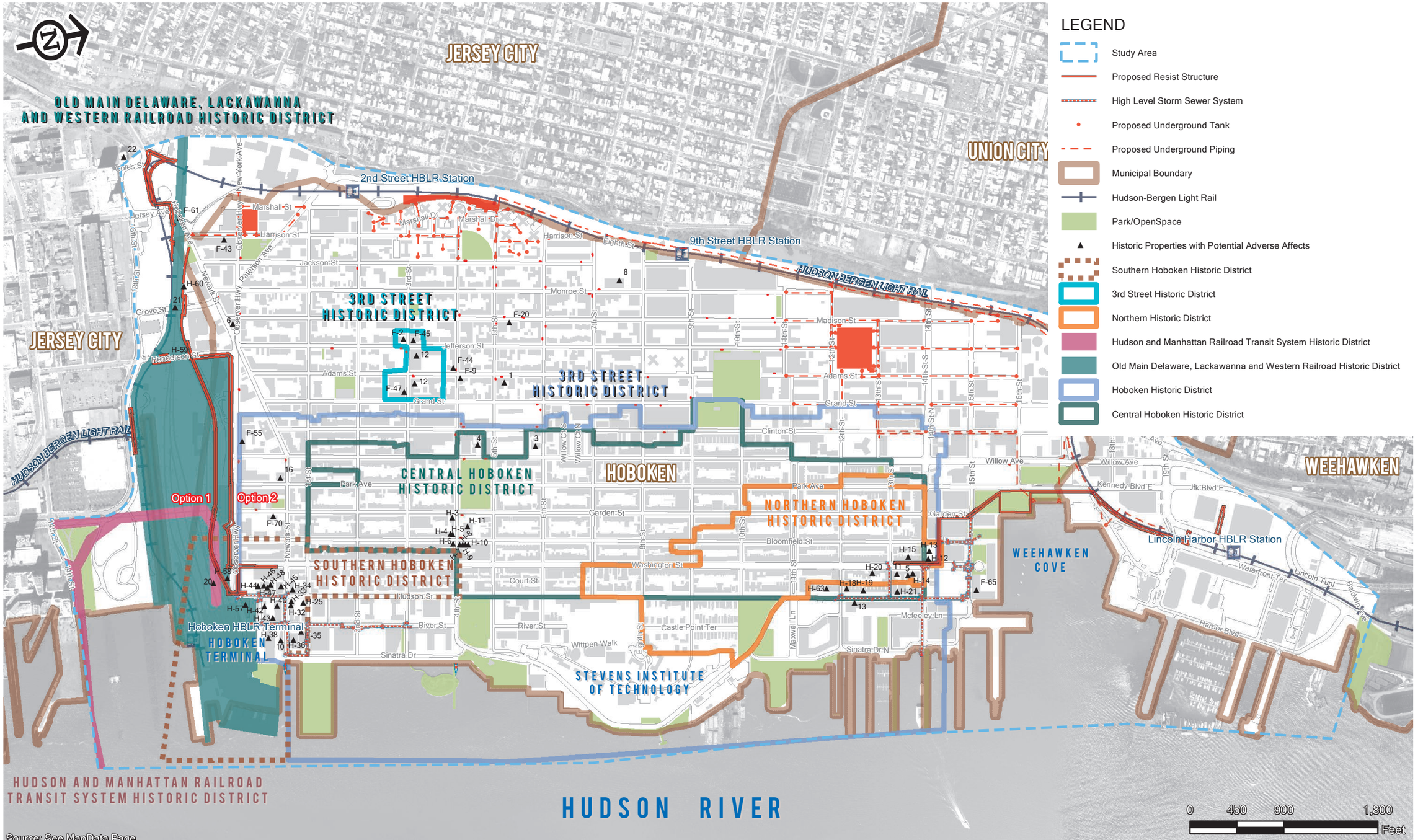
would result in no adverse effect to 109-111, 113 14th Street. The buildings at 1301-1309 Bloomfield Street are at too great a distance from the proposed flood barrier to be adversely affected.

12.3.2 Alternative 3 - South

The alignments for Alternative 3 are the same as for Alternative 2 and have the same two options. For an analysis of the impacts on Options 1 and 2 on historic properties, see Alternative 2.

In total, considering all of the segments proposed in Alternative 3, except for the BASF Site, Block 10 Site, the NJ Transit Site, and the DSD Sites, the potential effects to 54 historic properties were evaluated (see Table 12 and Figure 127). Alternative 3 resulted in a finding of adverse effect to ten historic properties for Option 1: the Central Hoboken Historic District; the Northern Hoboken Historic District; the Hoboken Historic District; the Old Main Delaware, Lackawanna and Western Railroad Historic District; the Southern Hoboken Historic District; the Up-Town Bank-Hudson Reporter; 1300-1308 Washington Street (west side between 13th and 14th streets); the DLWRR Records Building; the Henderson Street Bridge; and the Grove Street Bridge. When considering Option 2, there are adverse effects to nine historic properties: the Central Hoboken Historic District; the Northern Hoboken Historic District; the Hoboken Historic District; the Old Main Delaware, Lackawanna and Western Railroad Historic District; the Southern Hoboken Historic District; the Up-Town Bank-Hudson Reporter; 1300-1308 Washington Street (west side between 13th and 14th streets); the Henderson Street Bridge; and the Grove Street Bridge. Under Option 2, there are 27 historic properties with a finding of conditional no adverse effects, given that conditions are established to address effects that may result from potential construction-related vibration and excavation. The 27 historic properties are Engine Company #2 Firehouse; the Hoboken-North Hudson YMCA; Machine Shop (Bethlehem Steel Corp. Shipyard); Southern Hoboken Historic District Extension; R. Neumann & Co. Complex; Standard Brands & Lipton Tea Plant; 104-118 14th Street; 1315-1317, 1319, 1321 Washington Street; 44A Newark Street; Hoboken Evening News; First National Bank; American Hotel; Hudson Terrace, 66 Hudson Street; Hudson Trust Company; Terminal Office Building; Martha Apartments/Hotel Edwards; Hudson Terrace, 74 Hudson Street; DLWRR Records Building; Hudson and Manhattan Railroad Transit (System (PATH); Hudson and Manhattan Railroad Repair Shops; the Grove Street Tie Station; 44 Newark Street; 50 Newark Street; 1200-1208 Hudson Street; 1210-1222 Hudson Street; Yellow Flats; and 1300 Hudson Street. Under Option 1, there are 26 historic properties with conditional adverse effects: Engine Company #2 Firehouse; the Hoboken-North Hudson YMCA; Machine Shop (Bethlehem Steel Corp. Shipyard); Southern Hoboken Historic District Extension; R. Neumann & Co. Complex; Standard Brands & Lipton Tea Plant; 104-118 14th Street; 1315-1317, 1319, 1321 Washington Street; 44A Newark Street; Hoboken Evening News; First National Bank; American Hotel; Hudson Terrace, 66 Hudson Street; Hudson Trust Company; Terminal Office Building; Martha Apartments/Hotel Edwards; Hudson Terrace, 74 Hudson Street; Hudson and Manhattan Railroad Transit System (PATH); Hudson and Manhattan Railroad Repair Shops; the Grove Street Tie Station; 44 Newark Street; 50 Newark Street; 1200-1208 Hudson Street; 1210-1222 Hudson Street; Yellow Flats; and 1300 Hudson Street. The remaining 18 properties will result in no adverse effect.

12.4 BASF Site



Source: See MapData Page

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Historic Properties Potentially Affected - Alternative 3

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FIGURE 127

No historic properties are located in proximity to the BASF Site, therefore construction at the BASF site would result in no adverse effect to historic properties.

12.5 Block 10 Site

The proposed plan for the Block 10 Site involves conversion to a permeable park space and catchment system that allows water to penetrate the ground. This site has the potential to affect one historic property, the R.B. Davis Co. Factory Complex. Located at the southeast corner of Observer Highway and Harrison Street, the Block 10 Site would excavate at the street and install piping in the ground. This scenario would not physically alter the buildings associated with the R.B. Davis Co. Factory Complex. It would not introduce new visual or other elements. The R.B. Davis buildings are located approximately 50 feet from the proposed construction. To ensure no adverse effect due to vibration and excavation associated with construction within 90 feet of the buildings, a Historic Resource Construction Protection Plan would be developed in consultation with NJHPO to prevent accidental and unforeseen adverse effects resulting from implementation of the Resist plan. The Block 10 Site would result in a finding of a conditional no adverse effect to the R.B. Davis Co. Factory Complex.

12.6 NJ Transit Site

The NJ Transit Site is located at the western edge of Hoboken, in the area of the Hudson-Bergen Light Rail Station at 2nd Street, north along the ROW to the 9th Street Station and the area around the Andrew Jackson Gardens and the Harrison Gardens housing, the Mama Johnson Field, and the PSE&G substation at 2nd Street. No historic properties are located in proximity to this site and therefore, the NJ Transit Site will not affect historic properties.

12.7 Delay, Store, Discharge (DSD) Individual Sites

Approximately 61DSD sites are proposed throughout the interior portion of Hoboken. The DSD Individual Sites are the same for all three alternatives. The individual DSD sites will be located within the public ROW, such as streets and sidewalks. These sites may consist of bioswales (permeable areas with surface vegetation, allowing for gradual infiltration of stormwater into the ground), tanks (built below grade, allowing for storage of stormwater and gradual release to the storm sewer system), and hybrid tanks (tank systems with vegetation planted above, allowing for gradual infiltration into the tank). Table 12 lists the historic resources in the Project APEs and which DSD location and/or Resist initiative the resource is located near.

Table 12 indicates the historic properties that may be affected as a result of the DSD sites and the site number associated with the historic property (see Figure 66 for DSD locations). It is not expected that the proposed DSD sites will result in significant changes to historic properties, the proposed Project will not alter use of properties or create visual changes to the surrounding landscape. The DSD locations, generally, would involve ground penetration and excavation to install the proposed containment structures. To ensure no adverse effect due to vibration and excavation associated with construction within 90 feet of the buildings, a Historic Resource Construction Protection Plan would be developed in consultation with NJHPO to prevent accidental and unforeseen

adverse effects resulting from implementation of the DSD plan. Such protection plan(s) should be prepared for all historic buildings and structures within 90 feet of proposed work. As a result, it is anticipated that the proposed DSD sites will result in a conditional no adverse effect to historic properties.

12.8 Summary

Effects of the project to historic properties, adverse effect, no adverse effect and conditional adverse effects are summarized in Table 12 and depicted in Figures 125, 126 and 127. With the exception of the BASF Site, Block 10 Site, the NJ Transit Site, and the DSD Sites, the potential effects to 46 historic properties were evaluated for Alternative 1. Alternative 1 resulted in a finding of adverse effect for 14 historic properties for Option 1: the Hoboken Historic District; the Old Main Delaware, Lackawanna and Western Railroad Historic District; the Southern Hoboken Historic District; the Stevens Historic District; the Standard Brands & Lipton Tea Plant; Retaining Wall, Elysian Field; 97 Hudson Street; Hudson Hotel at 99 Hudson Street; 41-43 1st Street; the U.S. Post Office; the Seaboard Building; the DLWRR Records Building; the Henderson Street Bridge, and the Grove Street Bridge. When considering Option 2, there are adverse effects to 13 historic properties: the Hoboken Historic District; the Old Main Delaware, Lackawanna and Western Railroad Historic District; the Southern Hoboken Historic District; the Stevens Historic District; the Standard Brands & Lipton Tea Plant; Retaining Wall, Elysian Field; 97 Hudson Street; Hudson Hotel at 99 Hudson Street; 41-43 1st Street; the U.S. Post Office; the Seaboard Building; the Henderson Street Bridge, and the Grove Street Bridge. Under Option 2, there are five historic properties with a finding of conditional no adverse effect, given that conditions are established to address effects that may result from potential construction-related vibration and excavation. The five properties are R. Neumann & Co. Complex; the Hudson and Manhattan Railroad Transit System (PATH); the Hudson and Manhattan Railroad Repair Shops; the Grove Street Tie Station; and DLWRR Records Building. Under Option 1, there are four historic properties with conditional adverse effects: R. Neumann & Co. Complex; the Hudson and Manhattan Railroad Transit System (PATH); the Hudson and Manhattan Railroad Repair Shops; and the Grove Street Tie Station. The remaining 28 properties will result in no adverse effect.

With the exception of the BASF Site, Block 10 Site, the NJ Transit Site, and the DSD Sites, the potential effects to 54 historic properties were evaluated. Alternative 2 resulted in a finding of adverse effect to 12 historic properties for Option 1: the Central Hoboken Historic District; the Hoboken Historic District; the Northern Hoboken Historic District; Old Main Delaware, Lackawanna, and Western Railroad Historic District; the Southern Hoboken Historic District; the Southern Hoboken Historic District Extension; the Standard Brands & Lipton Tea Plant; the Up-Town Bank-Hudson Reporter; 1300-1318 Washington Street (west side from between 13th and 14th streets); the DLWRR Records Building; the Henderson Street Bridge; and the Grove Street Bridge. When considering Option 2, there are adverse effects to 11 historic properties: the Central Hoboken Historic District; the Hoboken Historic District; the Northern Hoboken Historic District; Old Main Delaware, Lackawanna, and Western Railroad Historic District; the Southern Hoboken Historic District; the Southern Hoboken Historic District Extension; the Standard Brands & Lipton Tea Plant; the Up-Town Bank-Hudson Reporter; 1300-1318 Washington Street (west side from between 13th and 14th streets); the Henderson Street Bridge; and the Grove Street Bridge. Under Option 2, there are 25 historic properties with a finding of conditional no adverse effect, given that conditions are established to address effects

that may result from potential construction-related vibration and excavation. The 25 historic properties are Engine Company #2 Firehouse; the Hoboken-North Hudson YMCA; Machine Shop (Bethlehem Steel Corp. Shipyard); 1315-1317, 1319, 1321 Washington Street; 44A Newark Street; Hoboken Evening News; First National Bank; American Hotel; Hudson Terrace, 66 Hudson Street; Hudson Trust Company; Terminal Office Building; Martha Apartments/Hotel Edwards; Hudson Terrace, 74 Hudson Street; Hudson and Manhattan Railroad Transit System (PATH); Hudson and Manhattan Railroad Repair Shops; Grove Street Tie Station, 44 Newark Street; 50 Newark Street; 1200-1208 Hudson Street; 1210-1222 Hudson Street; Yellow Flats; 1300 Hudson Street; 1120-1126 Hudson Street; and the DLWRR Records Building. Under Option 1, there are 24 historic properties with a finding of conditional no adverse effect: Engine Company #2 Firehouse; the Hoboken-North Hudson YMCA; Machine Shop (Bethlehem Steel Corp. Shipyard); 1315-1317, 1319, 1321 Washington Street; 44A Newark Street; Hoboken Evening News; First National Bank; American Hotel; Hudson Terrace, 66 Hudson Street; Hudson Trust Company; Terminal Office Building; Martha Apartments/Hotel Edwards; Hudson Terrace, 74 Hudson Street; Hudson and Manhattan Railroad Transit System (PATH); Hudson and Manhattan Railroad Repair Shops; Grove Street Tie Station, 44 Newark Street; 50 Newark Street; 1200-1208 Hudson Street; 1210-1222 Hudson Street; Yellow Flats; 1300 Hudson Street; and 1120-1126 Hudson Street. The remaining 18 properties will result in no adverse effect.

Alternative 3, except for the BASF Site, Block 10 Site, the NJ Transit Site, and the DSD Sites, the potential effects to 54 historic properties were evaluated. Alternative 3 resulted in a finding of adverse effect to ten historic properties for Option 1: the Central Hoboken Historic District; the Northern Hoboken Historic District; the Hoboken Historic District; the Old Main Delaware, Lackawanna and Western Railroad Historic District; the Southern Hoboken Historic District; the Up-Town Bank-Hudson Reporter; 1300-1308 Washington Street (west side between 13th and 14th streets); the DLWRR Records Building; the Henderson Street Bridge; and the Grove Street Bridge. When considering Option 2, there are adverse effects to nine historic properties: the Central Hoboken Historic District; the Northern Hoboken Historic District; the Hoboken Historic District; the Old Main Delaware, Lackawanna and Western Railroad Historic District; the Southern Hoboken Historic District; the Up-Town Bank-Hudson Reporter; 1300-1308 Washington Street (west side between 13th and 14th streets); the Henderson Street Bridge; and the Grove Street Bridge. Under Option 2, there are 27 historic properties with a finding of conditional no adverse effects, given that conditions are established to address effects that may result from potential construction-related vibration and excavation. The 27 historic properties are Engine Company #2 Firehouse; the Hoboken-North Hudson YMCA; Machine Shop (Bethlehem Steel Corp. Shipyard); Southern Hoboken Historic District Extension; R. Neumann & Co. Complex; Standard Brands & Lipton Tea Plant; 104-118 14th Street; 1315-1317, 1319, 1321 Washington Street; 44A Newark Street; Hoboken Evening News; First National Bank; American Hotel; Hudson Terrace, 66 Hudson Street; Hudson Trust Company; Terminal Office Building; Martha Apartments/Hotel Edwards; Hudson Terrace, 74 Hudson Street; DLWRR Records Building; Hudson and Manhattan Railroad Transit (System (PATH); Hudson and Manhattan Railroad Repair Shops; the Grove Street Tie Station; 44 Newark Street; 50 Newark Street; 1200-1208 Hudson Street; 1210-1222 Hudson Street; Yellow Flats; and 1300 Hudson Street. Under Option 1, there are 26 historic properties with conditional adverse effects: Engine Company #2 Firehouse; the Hoboken-North Hudson YMCA; Machine Shop (Bethlehem Steel Corp. Shipyard); Southern Hoboken Historic District Extension; R. Neumann & Co. Complex; Standard Brands & Lipton Tea Plant; 104-118 14th Street; 1315-1317, 1319, 1321 Washington Street; 44A Newark Street; Hoboken Evening News; First National Bank; American Hotel; Hudson

Terrace, 66 Hudson Street; Hudson Trust Company; Terminal Office Building; Martha Apartments/Hotel Edwards; Hudson Terrace, 74 Hudson Street; Hudson and Manhattan Railroad Transit (System (PATH); Hudson and Manhattan Railroad Repair Shops; the Grove Street Tie Station; 44 Newark Street; 50 Newark Street; 1200-1208 Hudson Street; 1210-1222 Hudson Street; Yellow Flats; and 1300 Hudson Street. The remaining 18 properties will result in no adverse effect.

The BASF Site, the Block 10 Site, and the DSD sites are the same for all three alternatives. The BASF Site, the Block 10 Site, and the DSD sites would not result in an adverse effect to historic properties and/or have a finding of conditional no adverse effect. A finding of conditional no adverse effect has been assigned to those properties where the proposed Project is located underground and in close proximity (within 90 feet) to a historic property.

12.9 Proposed Mitigation

Additional consultation with the NJHPO as well as identified consulting parties is recommended to develop a Memorandum of Agreement that will provide a specific set of stipulations in order to minimize and/or mitigate adverse effects that are expected to result from the proposed Project.

The following mitigation measures will be considered:

- Develop and implement Historic Resource Construction Protection Plan(s) for the protection of historic properties and to avoid unforeseen and accidental damage during construction. The Historic Resource Construction Protection Plan(s) should be relevant to the proposed Resist and DSD schemes and address likely scenarios.

- Develop design considerations for proposed above ground Resist structures in order to minimize visual impacts to historic districts. Consideration of materials and color is recommended.

- Design and construct interpretive signage to be placed at an appropriate and accessible location. The signage could incorporate images of Hoboken's history as it relates to the former Hoboken Creek, development in former wetlands, and history of flooding in Hoboken.

13.0 CONCLUSIONS AND RECOMMENDATIONS

13.1 Archaeological Resources

In support of the EIS for the Project, Dewberry has completed a Cultural Resource Technical Environmental Study, including a Phase IA Archaeological Assessment and Historic Architectural Eligibility and Effects Survey. This assessment examined the potential for the proposed Alternatives 1, 2, and 3, to impact potential archaeological resources and historic properties.

13.1.1 Resist Structures

The assessment has determined that each of the three alignments have the potential to impact historic archaeological resources. These historic resources include landfill and railroad related development, including features associated with the Erie-Lackawanna Terminal, the Long Slip Canal, and the PATH Tunnel along the southern portion of the alternatives, late-nineteenth to early-twentieth century elevated rail line remains along the southern portion of the alternatives, deposits associated with the development and expansion of the waterfront, including industrial development and the transatlantic shipping and passenger lines along the eastern portion of the alternatives, and the potential for seventeenth through early-twentieth century shipwrecks within Weehawken Cove.

Portions of each alternative were also determined to be sensitive for historic sewer deposits along Observer Highway, Washington Street, Newark Street, 3rd Street, and 14th Street; Alternatives 2 and 3 were each determined to be sensitive for early-nineteenth century historic seawall deposits in the vicinity of Hudson, Washington, 13th and 15th streets. The southern portions of the alternatives are considered sensitive for late-nineteenth to mid to late-twentieth century resources associated with industrial and railroad-related development including ice and grain-related buildings which developed alongside the DLWRR and buildings associated with the meat packing industry in Hoboken. Portions of Alternative 1 along the waterfront were also found to have the potential for mid-nineteenth century residential deposits associated with mapped historic structures. Portions of Alternatives 2 and 3 were also determined to possess historic archaeological sensitivity for mid-nineteenth century structures along Washington Street near 13th Street, in the alleyway between Washington and Garden streets, and along River Street between 1st and 3rd streets; the far northern extent of Alternative 3 was similarly considered sensitive for historic deposits associated with two mid to late-nineteenth century historic structures associated with the Hoboken Land and Improvement Company. The northern portions of the alternatives were also determined to possess the potential for historic deposits associated with the mid-nineteenth to twentieth century Tietjen & Lang Dry Docks and the Erie Freight Terminal in Weehawken. As the depth of disturbance associated with the Resist elements is assumed to extend to bedrock, it is assumed that any potential extant historic deposits would be impacted by the Resist structures. Thus, archaeological monitoring is recommended in all areas within which historic sensitivity was identified.

Given the evident past industrial occupation of portions of the Study Area, protocols associated with hazardous waste and contaminated soils will have to be undertaken during archaeological investigations for this Project.

After an examination of available soil boring data, it was determined that portions of each alternative also have the potential for buried prehistoric deposits. In particular, the area around Weehawken Cove and areas to its north and in the vicinity of Option 2 within each alternative were found to have the potential for cultural-bearing prehistoric deposits at depths generally below 10 to 15 feet from the surface. Given the limit of disturbance associated within the Resist elements, there is a high likelihood that any extant prehistoric deposits would be affected by the proposed Project. Therefore, it is recommended that a series of geomorphological borings be conducted in any area of prehistoric sensitivity within the Resist alignments prior to any ground disturbing activities. The results of these borings would further inform upon the potential for prehistoric deposits and be used in the development of an archaeological monitoring and Phase IB testing protocol.

13.1.2 DSD Locations

Of the approximately 61individual DSD sites, only five sites were found to possess no archaeological sensitivity—Tank T8-JEF, Tank T2-2ST, Tank T6-4ST, Tank T5-9ST, and Tank TD12-13ST. A total of 42 of the individual tank sites were determined to possess potential prehistoric archaeological sensitivity. In each case, potential prehistoric deposits are anticipated at depths greater than 15 feet below the surface as fill deposits. The maximum excavation depth for the proposed tank sites ranges from 6.67 to 11.17 feet below the surface. As such, the limit of disturbance associated with the individual DSD locations is not anticipated to impact potential prehistoric cultural-bearing soils. Therefore, no additional archaeological investigations are recommended in association with the potential prehistoric deposits at the individual tank sites. The sensitivity assessment determined that tank sites T2-4ST, TD1-4ST, T5-5ST, T7-5ST, T6-5ST, T4-5ST, T2-5ST, T1-HAR, T3-JAC, T4-6ST, T3-6ST, T2-6ST, T1-6ST, T2-JAC, T2-7ST, T6-MON, T1-7ST, T4-GND, T3-GND, TD30-CLA, T11-MAD, T6-JEF, T10-MAD, T2-MON, T8-MAD, T9-MAD, T5-JEF, and T3-ADM were only potentially sensitive for prehistoric deposits. Thus, in light of the current design plans, no further archaeological investigations are recommended in association with any of these DSD locations.

A total of 25 tank sites were determined to be sensitive for historic sewer deposits dating from the mid-nineteenth to the early-twentieth century. It is anticipated that the majority of these sewers consist of brick sewer lines. Four of these sewer lines have been identified as wooden—within Newark Avenue (Tank T1-New), within 3rd Street (Tank T3-3ST), within Clinton Street (Tank T14-CLA), and within Grand Street (Tank T6-GND). On the basis of the available utility data, including the 1940 As-Built designs and additional data from the NHSA, Tank sites T7-OBS, T5-OBS, T3-OBS, TD4-OBS, TD8-GAR, T1-NEW, T3-3ST, T9-ADM, T5-JAC, T4-4ST, T3-4ST, TD14-CLA, TD1-WIL, TD6-WIL, T1-GAR, T2-BLM, T16-MAD, T15-MAD, T8-ADM, T6-GND, TD23-CLA, T7-MON, T5-GND, T6-ADM, and TD31-CLA are considered sensitive for historic sewer deposits. Given the limits of disturbance associated within the individual DSD sites, each tank site determined eligible for potential sewer deposits could potentially impact those deposits. Therefore, archaeological monitoring has been recommended at each of these 25 tank sites. This monitoring would include photo documentation and recordation of any exposed sewer deposits and may also include manual excavation of any exposed features or deposits.

Three of the tank sites—T6-NEW, T1-NEW, and TD25-WIL—have also been determined sensitive for late-eighteenth to mid-nineteenth century historic road deposits. With respect to Tank T6-NEW and Tank T1-NEW, both sites are sensitive for historic deposits associated with the late-eighteenth to early-nineteenth century Newark Turnpike at depths greater than 10 to 15 feet below the surface. Given that the limits of disturbance associated with these tanks are shallower than ten feet below the surface, construction activities as they are currently designed are not anticipated to impact any extant deposits associated with the historic Newark Turnpike. Similarly, Tank TD25-WIL is considered sensitive for historic deposits associated with the mid-nineteenth century Bergen Turnpike/Hackensack Plank Road at a depth of 15 to 17 feet below the surface. Given that the limit of disturbance associated with the tank is 6.67 feet, the proposed Project actions will not impact any extant roadway deposits. Additionally, Tank TD25-WIL is also considered sensitive for early-nineteenth century seawall deposits at a depth of 15 to 17 feet below the surface. In light of the limit of disturbance associated with the tank, Tank TD25-WIL as it is currently designed will not impact any existing historic seawall deposits.

Three tank sites are also considered sensitive for historic deposits associated with the late-nineteenth to early-twentieth century NHCR elevated train line along Observer Highway. These sites consist of Tank T5-OBS, Tank T3-OBS, and Tank TD4-OBS. Archaeological remains associated with the elevated train line could include foundational supports, landfill, and/or features associated with elevated train platforms and stops and are anticipated at depths less than ten feet below the surface. Given that the limit of disturbance associated with the three tank sites ranges from 7.17 to 9.17 feet below the surface, each site has the potential to disturb existing elevated train-related deposits. Therefore, archaeological monitoring of any ground disturbing activities within these sites is recommended.

The Block 10 site possesses the potential to contain historic deposits associated with the mid-nineteenth century Paterson Plank Road and for late-nineteenth to early-twentieth century deposits associated with the NHCR elevated train line. These features were installed coincident with or following the development of the meadowlands. Thus, deposits associated with the plank road and with the elevated train are considered to be above or within the landfill and are anticipated at depths shallower than ten feet below the surface. Given that the excavation associated with the installation of the underground detention basin and piping within Block 10 would extend to a maximum depth of four feet below the surface, there is the potential that existing historic deposits would be impacted. Therefore, archaeological monitoring of ground disturbing activities within Block 10 is recommended.

With respect to the NJ Transit Site, areas north of 3rd Street are considered potentially sensitive for prehistoric remains at depths greater than 15 feet below the surface. Portions of the NJ Transit Site along Marshall Street between 3rd and 4th streets and at the northwest corner of Marshall and 4th streets are also considered sensitive for mid to late-nineteenth century residential deposits. Several of these lots, specifically Lots 3, 4, and 15, contained historic occupations which extended from at least the 1870s through the 1880s. These occupations predated the extension of sewer lines along Marshall Street suggesting that there is the potential for shaft features in the rear portions of the historic lots. Similarly, portions of the NJ Transit Site along Harrison Street between 3rd and 4th streets area sensitive for early to mid-twentieth century industrial and residential deposits. The extent of past disturbance

associated with the installation of the Andrew Jackson Gardens and the Harrison Gardens apartments is currently unknown. Therefore, these portion of the NJ Transit Site are considered sensitive for mid to late-nineteenth century residential deposits and/or early to mid-twentieth century industrial and residential deposits at depths less than 15 feet below the surface. The Jackson Street portion of the NJ Transit Site between 2nd and 4th streets is also considered sensitive for early-twentieth century sewer-related deposits. These deposits are anticipated at depths greater than seven feet below the surface. Given that the maximum depth of excavation within the NJ Transit Site is eight feet, there is the potential that the Project may impact historic residential and/or historic sewer-related deposits. Thus, archaeological monitoring of any ground disturbing activities along Marshall and Jackson streets, particularly in the vicinity of 3rd and 4th streets, is recommended. As the limit of disturbance is shallower than the depth associated with potential prehistoric remains, no additional archaeological investigations are recommended in association with the potential prehistoric deposits.

The drainage pipe (DP) associated with the NJ Transit Site is also considered potentially sensitive for prehistoric deposits north of 3rd Street. The piping is considered sensitive for historic deposits associated with the late-nineteenth to early-twentieth century trolley line and railroads along the western extent of Hoboken, particularly the Old Horseshoe Curve. Deposits associated with the trolley and railroad lines are anticipated between 2nd and 3rd streets, at 13th, 14th, and 17th streets. Around 8th and 13th streets, the DP is also considered sensitive for deposits associated with late-nineteenth century staircases leading up the Palisades. The historic deposits within the DP are anticipated at depths less than 15 feet below the surface. As the limit of disturbance associated with the DP is approximately 6.5 feet, the proposed DP has the potential to impact the historic railroad and trolley deposits, as well as deposits associated with the early-twentieth century structure. Therefore, archaeological monitoring is recommended of any ground disturbing activities within the DP between 2nd and 3rd streets, at 8th, 13th, 14th, and 17th streets.

As current designs indicate that the Project will utilize an existing NJ Transit detention basin as a component within the NJ Transit Site, no archaeological investigations are recommended in association with the proposed NJ Transit Site detention basin.

Portions of the stormwater storage basin at the BASF Site are considered potentially sensitive for prehistoric archaeological deposits at depths below 15 feet below the surface. Similarly portions of the proposed BASF piping between 11th Street and a point midway between 12th and 13th streets area also considered sensitive for potential prehistoric deposits. Historic Block 108 within the BASF Site is considered sensitive for mid to late-nineteenth century residential or commercial deposits. Historic Blocks 107 and 108 are also considered sensitive for twentieth century industrial remains associated with the Standard Chemical Product/Henkel Company's occupation. The nineteenth and twentieth century deposits are anticipated at depths less than 15 feet below the surface. Given that the maximum depth of excavation associated with the stormwater basin is 9.5 feet below the surface, the BASF Site has the potential to impact extant historic deposits associated with the nineteenth century residential/commercial occupation and the twentieth century industrial occupations. Therefore, archaeological monitoring of ground disturbing activities within the BASF Site is recommended. Given the past industrial occupation of the BASF Site, protocols associated with hazardous waste and contaminated soils will have to be undertaken during any

archaeological investigations of the site. The proposed Project activities within the site will not impact any extant prehistoric deposits.

The BASF piping is considered sensitive for deposits associated with the early-nineteenth century seawall and the mid-nineteenth century Bergen Turnpike/Hackensack Plank Road along 16th Street east of Clinton Street, and with a mid-nineteenth structure associated with James Stevens around 16th Street and Park Avenue. Deposits associated with the seawall, the plank road, and the historic structure, are anticipated at depths of 15 to 17 feet below the surface. Thus, given the anticipated depth of the piping, approximately six feet below the surface, the piping will not impact any potentially extant deposits associated with the historic seawall, roadway, and/or mid-nineteenth century structure.

The easternmost extent of the BASF piping along 16th Street is considered sensitive for prehistoric and historic deposits around Weehawken Cove. Prehistoric deposits in the vicinity of Weehawken Cove are anticipated at depths greater than 9 feet below the surface. As the disturbance associated with the piping is shallower than this depth, the BASF piping will not impact any extant prehistoric deposits in the vicinity of Weehawken Cove. This portion of the BASF piping is also considered sensitive for potential seventeenth to early-twentieth century shipwrecks along Weehawken Cove. Such deposits would also be anticipated at depths below historic fill and land use, approximately 15 feet below the surface, beneath the limits of disturbance associated with the piping. The eastern terminus of the piping is also considered sensitive for historic deposits associated with the early to mid-twentieth century Tietjen & Lang Dry Docks. As this occupation included development of the bulkhead and piers around Weehawken Cove, there is the potential for relatively shallow historic waterfront deposits within this area. As such, the eastern terminus of the BASF piping could pose an impact to any extant waterfront-related deposits around Weehawken Cove. Given the potential impacts of the proposed BASF piping along Weehawken Cove, archaeological monitoring of construction activities within this area is recommended.

Portions of both the NJ Transit Outfall and the BASF Outfall, two discharge components, are considered potentially sensitive for prehistoric deposits. Specifically, the eastern terminus of both outfalls in the vicinity of Weehawken Cove and the portion of the NJ Transit Outfall west of Grand Street are considered sensitive for prehistoric deposits at depths greater than 15 feet below the surface. Both of the outfalls are also considered sensitive for deposits associated with the early-nineteenth century seawall around Willow and Park Avenues and the mid-nineteenth century Bergen Turnpike/Hackensack Plank Road around Clinton Street. The outfalls are also considered sensitive for early to mid-twentieth century industrial deposits in the vicinity of Willow and Park Avenues. The NJ Transit Outfall is considered sensitive for deposits associated with the nineteenth century footings of the Park Avenue Viaduct; the BASF Outfall is sensitive for footings associated with both the Park and Willow Avenue Viaducts. The outfalls are also considered sensitive for historic sewer lines along both Park and Willow Avenues. The BASF Outfall is located in the vicinity of a twentieth century signal tower and associated structures at Willow Avenue and 17th Street. Both outfalls are located in the vicinity of an early-twentieth century lumber yard, the Lawson and MacMurray yard, around 16th, 17th, Adams, Grand, and Clinton streets. A gangway superstructure associated with the lumber yard was located within the outfalls and, therefore, foundation remains and/or postholes associated with the frame feature may be located within the NJ Transit and BASF outfalls. The eastern extent of both outfalls is also considered

sensitive for mid-nineteenth through twentieth century waterfront deposits associated with the Tietjen & Lang Dry Docks.

Aside from the nineteenth century seawall and Bergen Turnpike, potential historic deposits within the NJ Transit Outfall and the BASF Outfall would be located within or above the historic landfill as these developments occurred after the filling. Therefore, these historic deposits are anticipated at depths less than 15 feet from the surface. It is assumed that the installation of the outfalls would result in a disturbance of approximately six feet. Thus, construction and installation of the outfalls has the potential to disturb multiple historic deposits including twentieth century industrial and commercial remains, waterfront features, sewer lines, and bridge and railroad related infrastructure and structures. Given the potential impacts of the proposed outfalls, archaeological monitoring of construction activities within the archaeologically sensitive portions of the outfalls is recommended.

13.2 Historic Architectural Resources

Twenty-five (25) previously identified historic properties are located within the APE for Historic Architectural Resources (Figure 119). Based on the results of the intensive-level architectural survey, 11 additional historic properties were identified. Additionally, Table 8 lists 54 properties that are contributing to one or more of Hoboken's historic districts, and nine properties that no longer contribute to a district. Five resources were identified within the APE as contributing to the Old Main Delaware, Lackawanna and Western Railroad Historic District.

It is anticipated that Alternative 1 would result in an adverse effect of up to 14 historic properties for Option 1: the Stevens Historic District; Retaining Wall and Elysian Field; the Standard Brands & Lipton Tea Plant; the Southern Hoboken Historic District; Hoboken Historic District; 97 Hudson Street; Hudson Hotel at 99 Hudson Street; the U.S. Post Office; the Seaboard Building; 41-43 First Street; the DLWRR Records Building; the Old Main Delaware, Lackawanna and Western Railroad Historic District; the Henderson Street Bridge, and the Grove Street Bridge. Under Option 2, Alternative 1 would create adverse effects to 13 historic properties as the DLWRR Records Building would no longer be adversely affected by the project.

It is anticipated that Alternative 2 would result in an adverse effect to 12 historic properties for option 1: the Central Hoboken Historic District; the Hoboken Historic District; the Southern Hoboken Historic District; the Northern Hoboken Historic District; the Old Main Delaware, Lackawanna and Western Railroad Historic District; the Southern Hoboken Historic District Extension; the Standard Brands & Lipton Tea Plant; the Up-Town Bank-Hudson Reporter; 1300-1318 Washington Street (west side from between 13th and 14th streets); the DLWRR Records Building; the Henderson Street Bridge; and the Grove Street Bridge. Under Option 2, Alternative 2 would create adverse effects to 11 historic properties as the DLWRR Records Building would no longer be adversely affected by the project.

Alternative 3, Option 1 would result in an adverse effect to ten historic properties: the Central Hoboken Historic District; the Hoboken Historic District; the Northern Hoboken Historic District; the Old Main Delaware, Lackawanna and Western Railroad Historic District; the Southern Hoboken Historic District; the Up-Town Bank-Hudson Reporter; 1300-1308 Washington Street (west side between 13th and 14th streets); the DLWRR Records Building; the

Henderson Street Bridge; and the Grove Street Bridge. Under Option 2, Alternative 3 would create adverse effects to nine historic properties as the DLWRR Records Building would no longer be adversely affected by the project.

The BASF Site, the Block 10 Site, and the DSD sites are the same for all three alternatives. The BASF Site, the Block 10 Site, and the NJ Transit sites would not result in an adverse effect to historic properties nor would they have a finding of Conditional No Adverse Effect. The DSD locations would result in a Conditional No Adverse Effect. The Conditional No Adverse Effect finding has been assigned to those properties where the proposed project is located underground and in close proximity (within 90 feet) to a historic property. In such instances, a Historic Resource Construction Protection Plan is recommended to avoid potential accidental damage to historic buildings and structures during construction and thus avoid adverse effects to historic properties.

Additional consultation with the NJHPO as well as identified consulting parties is recommended to develop a Memorandum of Agreement that will provide a specific set of stipulations in order to minimize and/or mitigate adverse effects that are expected to result from the proposed project.

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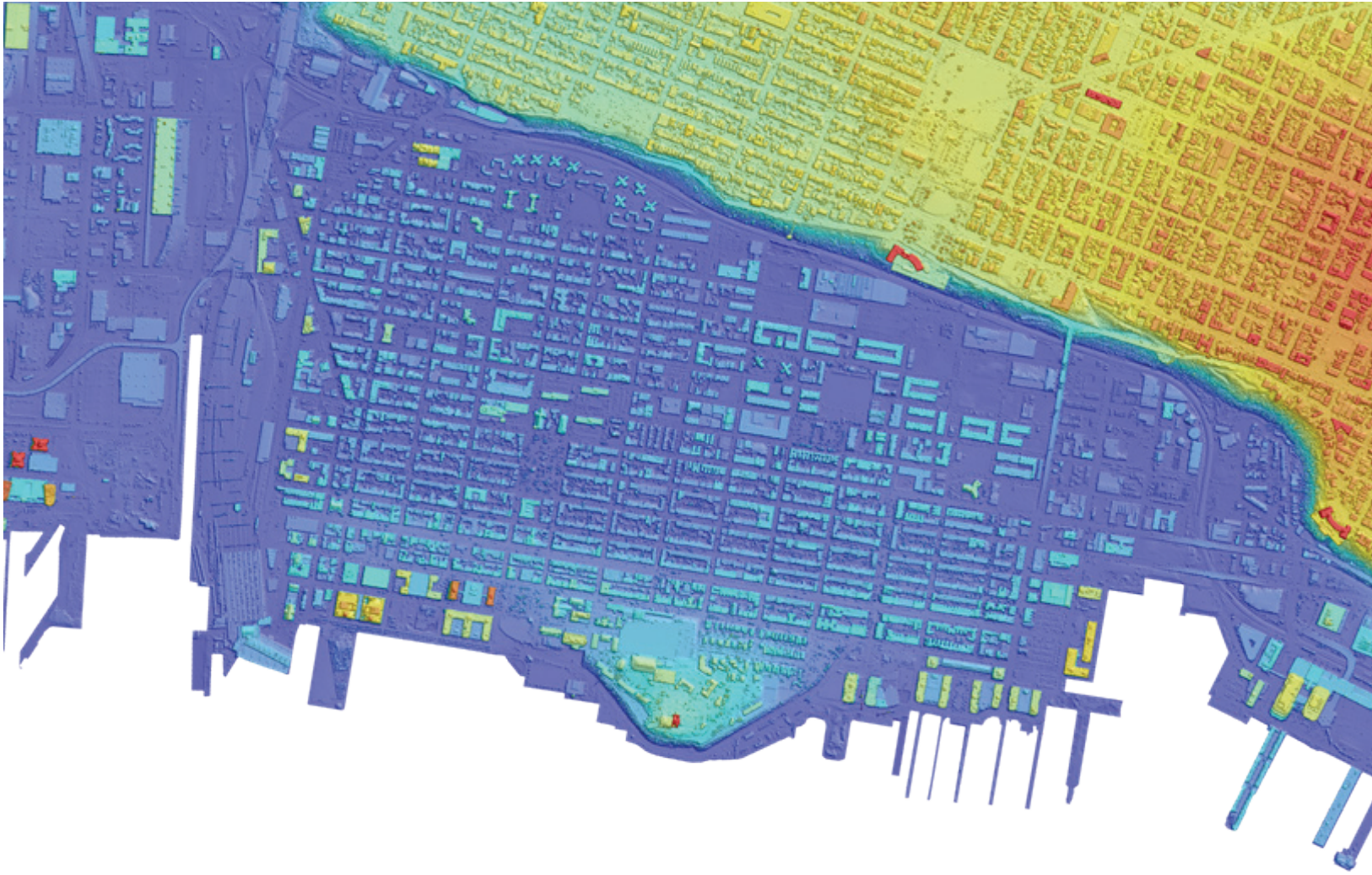

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