

HISTORICAL **PERSPECTIVES** INC.



Archaeological Memorandum: Sidewalk Vaults

**Willoughby Square Open Space Project
Duffield Street/Abolitionist Place sidewalk adjacent to
Block 146, Lot 16 (formerly Lot 18, 213-221 Duffield Street)
Brooklyn, Kings County, New York**

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Brooklyn, Kings County, New York**

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I. INTRODUCTION

In March 2022, contractors for the New York City Economic Development Corporation (NYCEDC) discovered three subsurface “vaults” under a portion of the sidewalk on Duffield Street/Abolitionist Place, which is City-owned property adjacent to the Willoughby Square Project (Abolitionist Place), located in the Borough of Brooklyn, Kings County, New York. The three vaults are situated on the east side of Duffield Street /Abolitionist Place between Willoughby Street on the north and Fulton Street on the south, adjacent to Block 146 (formerly Block 2077), Lot 16 (Figures 1 and 2). The former addresses corresponding to these vault locations were 213-221 Duffield Street. Until 2014, there was a seven-story commercial warehouse building located on what was then known as Lot 18 (see Figure 2), fronting Duffield Street, as well as a two-story later addition fronting Willoughby Street. These buildings, which were constructed in 1914 and 1922, were demolished as part of the Willoughby Square (Abolitionist Place) project. At the time, the three vaults (labeled, from north to south, Vaults A, B, and C) were not removed, as they are located under the sidewalk and not on the block itself. After 2017, all of Lot 18 was subsumed into current Lot 16, which includes the entire northern portion of Block 146 associated with the Willoughby Square/Abolitionist Place property.

The NYCEDC determined that the discovered vaults must be researched and documented per 2004 Downtown Brooklyn Final Environmental Impact Statement (FEIS) commitments, particularly commitments around the handling of archaeological materials on or adjoining the site that have the potential to be significant when discovered. The Downtown Brooklyn Development Project Statement of Findings for findings and anticipated protocols regarding historic resources on Duffield Street is provided as Appendix A.

In keeping with the 2004 FEIS commitments, the NYCEDC, on behalf of the City Environmental Quality Review (CEQR) Lead Agency (Deputy Mayor for Economic and Workforce Development), and in coordination with New York City Landmarks Preservation Commission (LPC) have requested the preparation of an archaeological memorandum, prepared to the 2018 standards of the LPC, which should summarize past archaeological findings for the Downtown Brooklyn rezoning and Willoughby Square project(s); detail on-site work and findings in partnership with NYCEDC, the construction manager, and design team; culminate in a conclusion of historic sensitivity of the Vaults; and finally, if the discovery is significant, recommend an appropriate mitigation and/or documentation strategy. At the request of the NYCEDC and The LiRo Group, Historical Perspectives, Inc. (HPI) has prepared the following archaeological memorandum, which satisfies the requirements of CEQR, and complies with the standards of the LPC (LPC 2018; CEQR 2021).

II. RESEARCH DESIGN AND METHODOLOGY

HPI formulated the research design for this investigation to address the following questions.

1. What are the characteristics and construction details of the three vaults?
2. What other cultural resources studies have been completed on Block 146 and what did these studies conclude?
3. What is the history of the former 213-221 Duffield Street lots abutting the vaults?
4. Based on the preceding information, how old are the vaults and when were they constructed?
5. Last, what is the possible historical significance of the three vaults, particularly as they might relate to previous studies addressing possible connections to Underground Railroad activities along this stretch of Duffield Street?

In order to address these research questions, HPI was provided with site photographs and survey maps from NYCEDC and The LiRo Group, and information obtained from the New York City Department of Transportation’s (NYCDOT) Vault archives by Langan Engineering. HPI further consulted information from previous cultural resources studies available from the New York State Office of Parks, Recreation, and Historic Preservation (OPRHP or SHPO) and the LPC, as well as historic maps, photographs, and additional primary source material including

records of the New York City Department of Buildings (NYCDOB). A selection of these maps and historic photographs are included in this report.

III. PREVIOUS CULTURAL RESOURCES INVESTIGATIONS ON BLOCK 146

There have been five cultural resources studies completed on Block 146. Each is summarized below.

A. DOWNTOWN BROOKLYN DEVELOPMENT PROJECT (2004)

All of Block 146 was included in the Downtown Brooklyn Development project, which began in 2003 and culminated in an FEIS in April 2004, under CEQR No. 03DME016K (AKRF, Inc. et al. 2004). The New York City Office of the Deputy Mayor for Economic Development and Rebuilding (ODMEDR) served as the CEQR lead agency for that project's environmental review. The project was a public planning effort to stimulate economic development in the Downtown Brooklyn area. Discretionary actions included as part of the project included zoning map and text changes, street mapping changes, urban renewal actions, the disposition of City-owned property, special permits for public parking facilities, and related land use actions. The project encompassed approximately 59 city blocks roughly bounded by Tillary Street to the north, Ashland Place to the east, Schermerhorn Street to the south, and Adams Street to the west. Within this area, projected and potential development sites were identified where new residential, commercial, retail, and institutional development was anticipated. On Block 146, a new 694-space underground public parking facility was proposed.

At the time of the Downtown Brooklyn Development Project, Block 146 was identified as Projected Development Site P. During the environmental review for the project, the LPC assessed the projected and potential development sites and indicated that within Block 146, Lots 12, 13, 14, 15, 29, 37, 41, 42, 43, 46, 47, 48, and 49 were potentially sensitive for 19th century archaeological resources. The 2004 FEIS indicated that for those lots flagged by the LPC as having potential archaeological sensitivity, a Phase 1A Archaeological Assessment should be conducted on any City-owned or acquired properties prior to any new development. If the Phase 1A study should identify archaeologically sensitive areas, and if determined necessary by LPC, Phase 1B field testing must also be undertaken to determine the presence or absence of archaeological resources in those locations proposed for development. Several lots on Block 146 subsequently were examined in archaeological studies as a result of these directives, as described below. Of note, the portion of what was then Lot 18 (now part of Lot 16) along Duffield Street was not flagged by LPC for archaeological potential because at the time the seven-story warehouse (with basement) building was located across the entire Duffield Street footprint of the lot. The LPC review did not address potential archaeological resources within streets or sidewalks abutting the city blocks and lots, and so the present vault locations were not addressed as part of the 2004 study.

As part of the Downtown Brooklyn Development Project, during the public comment period for the Draft Environmental Impact Statement (DEIS)/Draft Supplemental Environmental Impact Statement (DSEIS) several property owners of 227 Duffield Street, 233 Duffield Street and 436 Gold Street came forward, to claim that their buildings once were utilized for Underground Railroad activities. The owners asserted that the Duffield Street area had a number of residents associated with the abolitionist movement in Brooklyn during the mid-19th century, that there was lore of an underground tunnel connecting several houses along Duffield Street under the sidewalk (purportedly shown on an 1898 Sanborn map with dashed lines in front of the houses), and also that there were cellar features in some of the houses that connected to the tunnel and/or other houses and were used to hide enslaved people who had escaped bondage. In response to comments on the DEIS, research into the possible association with the Underground Railroad was undertaken, and the results were incorporated into the 2004 FEIS. At that time, no definitive physical association could be established linking the 227 Duffield Street, 233 Duffield Street, and 436 Gold Street buildings with Underground Railroad activity. However, during the public review the New York City Council requested that the project sponsors revisit the research into the possible association of the properties with the Underground Railroad and produce a separate report detailing the additional studies. That subsequent report is summarized below.

The final Statement of Findings for the Brooklyn Development Project is included as Appendix A.

B. DUFFIELD AND GOLD STREET PROPERTIES PROJECT (2007)

In 2007, AKRF, Inc. completed an extensive research study of 223, 225, 227, 231, 233, and 235 Duffield Street and 436 Gold Street/Albee Square, building on the work completed for the 2004 Downtown Brooklyn Development FEIS. The additional properties were added to the overall study area following the 2004 FEIS. The 2007 study was designed to evaluate further the potential of these properties to have historical associations with the Underground Railroad.

The AKRF report concluded that there was no extant physical evidence of an underground tunnel connecting the properties along Duffield Street, nor were there any extant connections between the cellars of the buildings to each other. The dashed line on the 1898 Sanborn map that was referenced as a potential tunnel location instead was found to represent a line of open porches on the front of the row houses, as per the Sanborn Company's communication (AKRF, Inc. 2007:S-7). Although at least one small cellar feature (possibly a former coal chute) was documented that extended beyond the footprint of one of the buildings, it could not be confirmed that this was an associated Underground Railroad feature. A site visit of 223, 227, and 233 Duffield Street and historic construction review by Michael Devonshire of Jan Pokorny Architects indicated that the construction of the cellars in the buildings conformed to established building practices of the time and that there were no obvious anomalies that could signify Underground Railroad activity.

The AKRF report also documented the possible historical associations of its mid-19th century owners and residents of the buildings to the abolitionist movement in Brooklyn and possible Underground Railroad activities, to determine if any of the buildings could be potentially eligible for listing on the National Register of Historic Places (NRHP) or to become a New York City Landmark (NYCL). Of the seven buildings, the report indicated that only 227 Duffield Street was associated with a family with well-documented abolitionist ties, Harriet and Thomas Truesdell (also spelled Truesdale). The report concluded that while the downtown Brooklyn area including Duffield Street area was a locus of abolitionist activity, there was not enough evidence to recommend potential eligibility for the NRHP. The report further recommended that the information compiled about the abolitionist movement and the Underground Railroad could be used for future public involvement, such as a walking tour or on-site signage or exhibits.

C. WILLOUGHBY SQUARE PROJECT (2013-2014)

During 2013 and 2014, as part of the current Willoughby Square project, now called Abolitionist Place, HPI completed a Phase IA Archaeological Documentary Study and a Phase IB Archaeological Investigation (HPI 2013, 2014). At the time, the Willoughby Square project site on Block 146 included what were then known as Lots 16, 17, 18, 23, 29, 34, 35, 36, 37, and a part of Lot 41, for a total of 1.2 acres. Three of these lots – Lots 29, 37, and 41 – were identified by the LPC as having potential sensitivity for 19th-century archaeological resources as part of the larger Downtown Brooklyn Development FEIS in 2004, described above. The lots then contained paved parking lots fronting Willoughby Street and Gold Street (Albee Square) but previously had 19th -century residences on them. At the time, the area abutting the three vaults that are the subject of this report were not flagged for potential archaeological sensitivity because they contained multiple-story commercial buildings with full basement levels across the entirety of the lots, which would have destroyed any potential archaeological resources associated with the former residences there.

The three modern lots studied as part of the Phase IA Archaeological Documentary Study contained ten historic lots. Archival research concentrating on the specific histories of the ten historic lots revealed that most had residences constructed on them by the early to mid-1840s (the exception was modern Lot 41, which had its house built between 1850 and 1855). Each of these historic lots had a series of occupants over time, but many of them had occupants who lived there for over five years from the 1840s-1870s, and in general, the lots all had residents whose household heads worked in professional occupations during the initial decades of occupancy. Based on the lot histories, combined with an analysis of prior disturbance on the lots, HPI recommended that a program of archaeological field testing be undertaken within archaeologically sensitive areas within historic Lots 29, 38 and 40.

During the subsequent Phase IB Archaeological Investigation, six large trenches were excavated within the three historic home lots. The archaeologists discovered six features during the field investigation. Two of the features were truncated cisterns and a third was a mostly intact cistern; all with construction dates in the mid-19th century

prior to the introduction of public water. It is likely that these water management features were not utilized for any length of time, and were quickly abandoned. The cistern behind the dwelling on Historic Lot 38 was the only one of the three that had been utilized for the deposition of domestic refuse not long after it was abandoned. The cisterns on Historic Lots 40 and 29 appeared to have been filled during 20th century demolition activities on the lots. The remaining features were artifact concentrations outside of shaft locations within the former yards. As part of the Phase IB study of the Willoughby Square site, the project team consulted reports on file at the LPC that were completed on nearby archaeological sites. They included the study of the MetroTech Site and the Atlantic Terminal Site (Greenhouse 1990, 1991, 1993; John Milner Associates 1996). Cisterns discovered through archaeological investigation on nearby sites were very similar to those identified at Willoughby Square. Because the archaeological resources encountered during the Phase IB Archaeological Investigation were completely excavated, no further archaeological studies were recommended by HPI for the Willoughby Square project site.

D. 420 ALBEE SQUARE PROJECT (2015-2016)

In 2016, AKRF, Inc. completed a Phase 1 and Phase 2 Archaeological Investigation of the 420 Albee Square West project on Block 146, Lots 12, 41 (part), 42, 43, 46, and 47, immediately south of the Willoughby Square project site (AKRF, Inc. 2016). At the time, Lots 11 and 12 fronting Duffield Street contained two vacant residential buildings and the remaining lots, fronting Albee Square (formerly Gold Street) contained a surface parking lot. These lots were subject to the same mitigation measures outlined in the 2004 FEIS as the Willoughby Square project. A Phase 1 Archaeological Testing Protocol prepared by AKRF, Inc. in 2015 and accepted by LPC indicated that the proposed tasks would be twofold: to investigate the former rear yards associated with historic lots and to document the subsurface conditions within the footprint of the structure at 233 Duffield Street through archaeological testing and/or monitoring. Prior to its demolition the house was recorded through a Historic American Buildings Survey (HABS) (AKRF, Inc. 2015).

The Phase 1B archaeological fieldwork in 2015 included the excavation of 22 backhoe trenches across the project site. The trenching identified domestic shaft features on historic Lots 42, 44, and 45. The rear yards of Lots 12, 46, and 47 and historic Lot 43 did not contain archaeological resources. Additionally, the archaeological monitoring of the removal of the cellar floor slab at 233 Duffield Street did not locate any archaeological features or anomalies, including possible tunnels that could have been associated with Underground Railroad activity.

Phase 2 evaluation of identified shaft features on historic Lots 42, 44, and 45 indicated that they consisted of three brick cisterns, one possible privy, and three stone wells. Of the shaft features, five contained densely deposited fill with artifacts dating to the 19th and 20th centuries. Within these seven shaft features, and using an LPC-approved sampling strategy, a total of nearly 7,500 artifacts were recovered that were associated with the domestic occupation of Lots 42, 44, and 45 in the mid-19th century. The features represented deposits associated with a range of Brooklyn residents, including upper to middle class households, working class households, and working class boarding house residents.

Three archaeological Unique Site Numbers (USNs) were assigned by the SHPO for the shaft features located on: Lot 42 / 418 Gold Street (USN 04701.023626), historic Lot 44 / 422 Gold Street (USN 04701.023627), and historic Lot 45 / 424 Gold Street (USN 04701.023628). AKRF, Inc. concluded that the artifact assemblages from the shaft features may be eligible for listing in the NRHP. In consultation with LPC, it was determined that the Phase 2 evaluation would constitute the data recovery or mitigation phase, as further excavation would result in redundant data.

E. HARRIET AND THOMAS TRUESDELL HOUSE DESIGNATION (2021)

The building at 227 Duffield Street, noted above, was researched as part of the 2004 Downtown Brooklyn Development project as well as the ensuing 2007 AKRF project pertaining to the Underground Railroad activities. In 2021, the LPC issued a Designation Report for the Harriet and Thomas Truesdell House at 227 Duffield Street. The Designation Report indicated that the house is historically significant for its association with Brooklyn abolitionists Harriet and Thomas Truesdell, who lived in the house from 1851-1863 and were active participants in antislavery organizations for many years, first while living in Rhode Island and later in Brooklyn. The building at 227 Duffield Street is located 41 feet south of the southernmost of the historic vaults that are the subject of this current memo.

IV. CURRENT CONDITIONS, SIDEWALK VAULTS

The three vaults along Duffield Street/Abolitionist Place were labeled Vaults A, B, and C, from north to south, respectively. Each is described, below. Several memos by The LiRo Group, including further details about the vaults, photographs, and mapping, are included as Appendices B and C.

A. VAULT “A”

Vault A is the northernmost of the three vaults. Its horizontal east-west extent includes the entire width of the sidewalk, from the former lot line to the curb line, a distance of approximately 15 feet. North-south, Vault A measures approximately 45 feet in length, corresponding to the dimensions of the merged historic lots. As noted below, these dimensions generally conform to a submitted vault application plan from 1922, now on file with the NYCDOT. The northern 32 feet of Vault A contains two below grade levels, which corresponded to the former building’s basement and sub-basement depths. The southern 13 feet of Vault A contains only one level below grade. The walls, floors, columns and beams of the vault are primarily of poured in place concrete with reinforcing details that matches the former Lot 16 building to which it was attached (Appendix B). Within the vault were remains of abandoned utilities including switchgear, a telephone switchboard, and various pipes and conduits. Additional details and photographs of Vault A are in Appendix B.

Vault A was the first vault to be discovered by construction personnel in March 2022, during excavation within the former building’s footprint on Lot 16, which led to the entrance of the vault. The vault was found to have asbestos, which is being remediated.

B. VAULT “B”

Vault B is the central of the three vaults, located immediately south of Vault A. It measures 15 feet in width and approximately 44 feet in length. It contains one level below grade. This vault was discovered and initially documented via video camera through a small opening in the south wall of Vault A (Appendix B). At that time, Vault B was otherwise inaccessible, as the only entry to the vault was from the now demolished building on Lot 16, and demolition rubble had blocked that entryway. The view of Vault B from the southern end of Vault A showed rubble fill, suspended utility piping, and concrete walls that suggested Vault B is similar in construction materials and appearance to Vault A (Appendix B). In late July 2022, project team members were able to further access the interior of Vault B. At that time, it was discovered that Vault B was constructed of poured in place concrete walls on the exterior sides of the rectangular-shaped space. The overall space has been subdivided to create a gas meter room at the southwest corner of the vault and a larger rectangular-shaped enclosure at the southeastern side of the vault. Both of these subdivisions are surrounded by red brick walls covered in white paint rather than concrete walls. It is possible that these subdivisions were created after the vault was constructed, as needs for the main warehouse building on the project site block changed. These semi-enclosed spaces contain various sets of defunct utility pipes leading from the former warehouse building on the main project site block into and across this subdivided vault space, presumably once connecting to the utility mains under Duffield Street. Mapping and photographs of Vault B are included in Appendix C.

C. VAULT “C”

Vault C, located immediately south of Vault B, is the smallest of the three vaults. Vault B measures 15 feet in width and approximately 18 9 feet in length. It is slightly shorter in length than the former historic lot frontage in this location. The floor of Vault C is approximately three feet lower in elevation than the floor of Vault B. There is an exhaust hatch at the northwest corner of the vault that vents through a grate on the sidewalk, likely servicing a former exhaust system. Like Vault B, this vault was largely inaccessible during the initial discovery because demolition rubble from the former building had blocked the only entry to the interior. At that time, photographs of the interior of Vault C were taken by lowering a camera through the sidewalk grate opening. The photographs indicated that portions of the northern and southern walls of the vault are constructed of brick, in contrast to the remaining portions that appear to be concrete or concrete-faced. There was significant rubble covering the floor. Of note, a photograph of the basement level of the former building at 213-215 Duffield Street adjoining the vault

location (Appendix B), showed that the combination of brick and concrete, with a whitewashed interior, was a common construction method across the larger early 20th century structure.

In early August 2022, project team members further investigated the interior of Vault C. At that time, the brick wall that formed the southern extent of the initial vault exploration was breached, revealing another chamber to the south. The southernmost extent of Vault C was found to have poured in place concrete walls, similar in construction to Vaults A and B. There were several horizontal and vertical metal supports that had been installed to brace the walls, floor, and ceiling. The portions of the walls of Vault C that were constructed of brick were found to represent infilled doorways or openings between the sections of the overall vault footprint. Mapping and photographs of the two sections of Vault C are included in Appendix C. Given the similarities in construction, it appears that Vault C is contemporaneous with Vaults A and B, as well as the former buildings on Lot 18.

V. 213-221 DUFFIELD STREET HISTORY

The location of the sidewalk vaults adjoining what became 213-221 Duffield Street were, prior to the construction of city streets, part of the John Duffield farm (Beers 1874, Hopkins 1880). The Duffield farm had been part of the larger Carel Debevois property, which upon his death had passed to his heirs, including daughter Margaret Duffield. The Debevois/ Duffield house was located at the approximate modern intersection of Duffield and Fulton Streets, several hundred feet south of the sidewalk vaults location (Stiles 1869). In 1829, the Duffield property was surveyed into blocks and lots surrounded by proposed streets, including Duffield Street (Ludlam 1829). What would become the 213-221 Duffield Street property included Farm Map Lots 469, 470, 471, 472, and a portion of 473. Each of these farm lots was 25 feet wide and 100 feet deep. Despite the division of the farm property into new lots, however, these areas remained undeveloped through the 1830s and into the 1840s.

By the 1830s, the City of Brooklyn had extended its city grid into the project site vicinity, with new streets laid out, including those surrounding the project site block. Willoughby, Duffield, and Gold Streets were laid out officially in 1835, although the streets seem to have existed only on paper for a number of years before and after that time (Dikeman 1870).

During the mid-1840s the first land transfers on Duffield Street began to be made to people outside the Duffield family. At this time, though, the farm lots that were 25 feet wide were divided into new lots measuring approximately 20-22 feet in width. Each 20- or 22-foot wide lot was given a unique lot number within the block; the area that became 213-221 Duffield Street became historic lots 18, 19, 20, 21, and 22.

The mid-1840s marked the period when the first structures were built along Duffield Street. The 1850 Dripps map, although not particularly detailed, did show that the location that became 213-221 Duffield Street was fully built out with new structures. The 1855 Perris map (Figure 3) showed the layout of these five individual 1840s houses. What became 213-221 Duffield Street then had addresses of 127-135 Duffield Street. All of these row houses were frame constructed, with front and rear porches, and had open rear yards behind them. The houses were set back slightly from the street, leaving several feet of open space in front of the front porches. The five frame row houses at 213-221 Duffield Street remained standing through the 19th century and into the first decades of the 20th century (Dripps 1869; Bromley 1880; Hopkins 1880; Sanborn 1887, 1904 [Figure 4]).

In the early 1910s, the southern three row houses (217, 219 and 221 Duffield Street) were demolished and a new seven-story building with a basement was constructed across the entirety of the three lots. The 1915 Sanborn map (Figure 5) indicated that the building was completed in 1914. By 1922, the remaining two row houses at 213 and 215 Duffield Street had been demolished and an addition to the 1914 building had been constructed, covering the entire footprint of those two lots (Sanborn 1950, Figure 6). The 1922 building also was seven stories, but had both a basement and a sub-basement level. Finally, in 1936, a two-story addition to the large building was constructed fronting Willoughby Street, with a parking lot located at the northwest corner of the block between the building wings. A 1937 Certificate of Occupancy (#84398), on file at the NYCDOB, indicated that the entire three building complex had seven floors and two basement levels (Appendix E). No earlier Certificates of Occupancy were found to be on file for the building. The 1950 Sanborn map (Figure 6) illustrated the layout of the building complex. Several historic photographs (Appendix F) showed the buildings in the 1940s.

An inquiry was made to the NYCDOT by Langan Engineering as part of this project concerning records for vaults under Duffield Street. The NYCDOT indicated that there is one vault application on file, for the northernmost vault associated with the 1922 building at 213-215 Duffield Street. The 1922 application was made to the New York City Bureau of Highways (a precursor to the NYCDOT) by Henry Otis Chapman, Architect, acting on behalf of the company of Towns & James, wholesale druggists, the occupants of the buildings. The vault application was submitted in conjunction with the construction of the building, and is dated August 21, 1922 (Appendix D). The vault application permit plan indicated that the proposed vault would extend along the entire length of the building and include the sidewalk (measuring approximately 45 feet long by 14 feet wide) but would be set back from the curb and the adjacent north and south properties by ten inches. The survey of the proposed vault indicated that there was already another vault located to the south (noted as “wall of old vault”). However, the NYCDOT does not have any records on file for vaults located to the south of 213-215 Duffield Street. Although the NYCDOT’s archives contain information on vault applications and plans dating back to the 1880s in some cases, their collection is incomplete, with some locations containing extant paperwork and other locations undocumented and/or with missing records. According to NYCDOT Plan Examiner Shane Zhang, there also have been a number of records lost over the many years that the archive has existed, most recently during flooding associated with Superstorm Sandy in 2012 (Shane Zhang, personal communication June 21, 2022).

It is unclear whether the “old vault” noted to the south of 213-215 Duffield Street on the 1922 vault application referred to the existing vaults documented in this report, or to an earlier vault that Vaults B and C replaced. Regardless, it seems evident from their building materials that Vaults B and C were constructed at about the same time as the 1914 building they abutted, or alternately were constructed after 1922, when the initial vault application for Vault A was made, eradicating any potentially earlier vaults.

The seven-story buildings at 213-221 Duffield Street remained standing until 2014, when they were demolished to make way for the Willoughby Square project. The Willoughby Square project footprint extended across the entire northern portion of Block 146, but at that time did not extend into the sidewalks. In 2022, during work to prepare the Duffield Street sidewalk to receive new utilities, the three vaults were re-discovered and documented by LiRo Engineers.

V. CONCLUSIONS

Based on the information provided in the preceding sections, HPI provides the following conclusions, in response to the research design questions presented above. The three sidewalk vaults discovered in 2022 abutting the former locations of the seven-story warehouse buildings at 213-221 Duffield Street extend from the former building line to the curb line. Vault A contains two sub-grade levels, and Vaults B and C contain one sub-grade level. These sidewalk vaults were contemporary with the 1914 and 1922 seven-story buildings that they abutted and were connected to below grade. They are constructed of poured concrete on the exterior walls and whitewashed brick walls in some of the subdivided interior sections of Vaults B and C. The northern vault, labeled Vault A, matched the dimensions outlined in a 1922 vault permit on file with the NYCDOT and included here as Appendix D. The southern two vaults, labeled Vaults B and C, were of similar construction as Vault A and of the buildings they serviced. Although there was no formal permit found for Vaults B and C, the characteristics of these vaults argue that they were constructed at about the same time. NYCDOT Plan Examination staff indicated that not all sidewalk vaults have permits that were filed and/or have survived in the archives.

Beginning in the 19th century and continuing into the early 20th century, sidewalk vaults were a common feature of structures in New York City and other urban centers. They were used for a variety of purposes, including coal delivery and storage, the location of boilers or other utilities that serviced adjoining buildings, and for general storage of materials, particularly heavy objects. They were also the locations where utilities under the streets often connected to the buildings. Although no specific information was available in municipal and archival records to confirm the purpose of the three vaults along Duffield Street, given that the buildings they serviced were constructed as warehouses for wholesale druggists, it appears likely that the vaults were used both for storage of materials related to the business and for the placement of mechanical and electrical equipment, including telephone gear and an exhaust system. Prior to abandonment of coal as a fuel source, the vaults would also have been the means delivering coal to the buildings.

The research conducted for this memo indicates that these three vaults neither date to the mid-19th century nor were associated with the 1840s former row houses that predated the high-rise early 20th century warehouse at 213-221 Duffield Street. A number of previous archaeological studies on Block 146, in proximity to the sidewalk vaults, have investigated the occupancies of historic lots that had similarly constructed mid-19th century row houses. Several of the studies also addressed the potential for archaeological and architectural resources associated with Underground Railroad activity on the block, specifically studying the possibility of subsurface tunnels or vaults under the Duffield Street sidewalk. Although there was no clear evidence to link these houses with the Underground Railroad, at least one of the houses, at 227 Duffield Street, was owned and occupied by notable abolitionists Harriet and Thomas Truesdell. This row house was designated a New York City Landmark in 2021.

Despite the documented abolitionist activity of some of the former residents of Duffield Street, and the oral tradition of Underground Railroad activities on the block, the three vaults that are the subject of this report do not have any association with that era, since they were constructed in the 20th century. Additionally, given that these three vaults are so extensive, including the entire sidewalk width and one or two levels below grade, it is assumed that *if* there were any earlier tunnels or vaults from the 19th century in these locations, the current vaults would have completely destroyed them. In summary, there is no historical significance to the three sidewalk vaults adjoining the former buildings at 213-221 Duffield Street.

VI. RECOMMENDATIONS

Although HPI has concluded that the three vaults along Duffield Street date to the 20th century, if LPC requests further documentation to be completed, Vaults B and C could be photodocumented prior to final deconstruction and abandonment. The recordation would include information about the final depths of the vaults, the construction materials, and any additional information that may become evident during the inspection. HPI would prepare a memorandum about the findings, to be filed with LPC.

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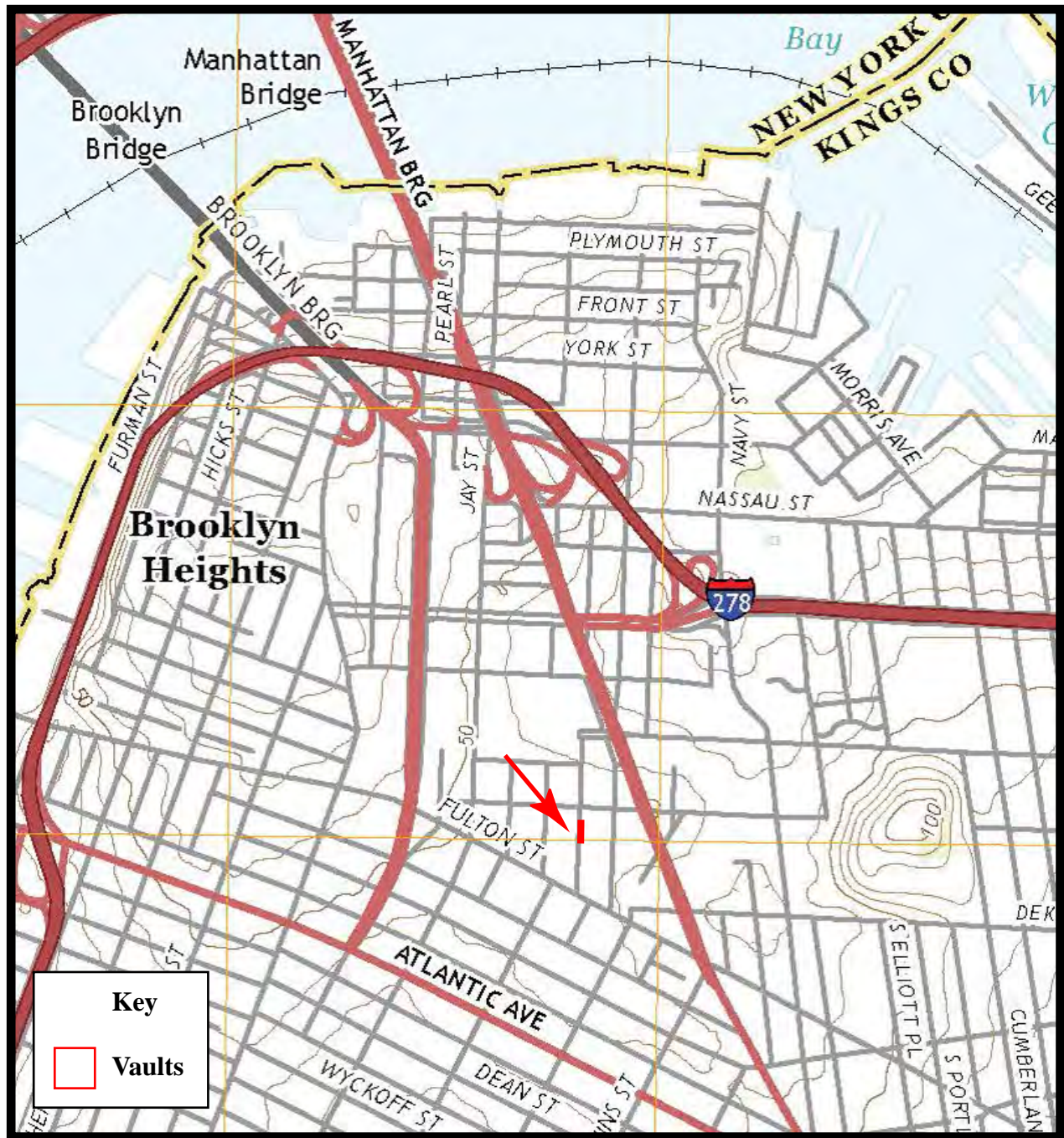
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FIGURES



Archaeological Memorandum: Sidewalk Vaults
 Willoughby Square Open Space Project
 Duffield Street/Abolitionist Place Sidewalk adjacent to
 Block 146, Lot 16 (formerly Lot 18, 213-221 Duffield Street)
 Brooklyn, New York 11201

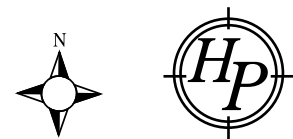
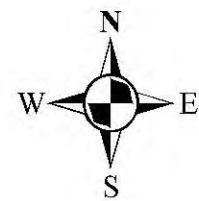


Figure 1: Vault locations on *Brooklyn, N.Y. 7.5 Minute Topographic Quadrangle* (U.S.G.S. 2019).

0 400 800 1200 1600 2000 FEET



NYC Digital Tax Map

Effective Date : 12-09-2008 17:17:10

End Date : 03-27-2012 10:06:08

Brooklyn Block: 146

Legend

- Streets
- Miscellaneous Text
- Possession Hooks
- Boundary Lines
- Lot Face Possession Hooks
- Regular
- Underwater
- Tax Lot Polygon
- Condo Number
- Tax Block Polygon

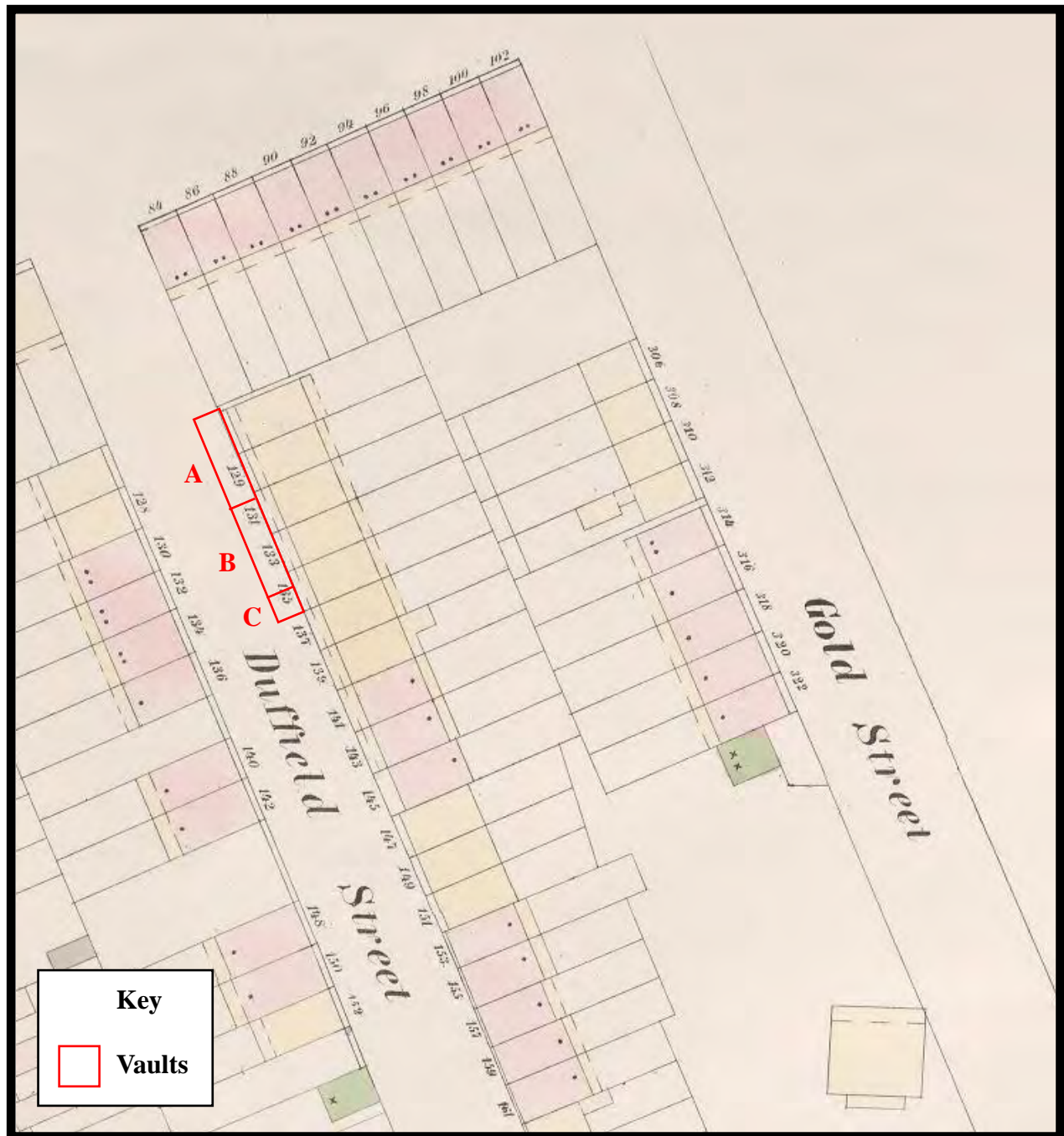
Key

Vaults

Archaeological Memorandum: Sidewalk Vaults
Willoughby Square Open Space Project
Duffield Street/Abolitionist Place Sidewalk adjacent to
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Figure 2: Vault locations on 2008-2012 tax map (Department of Finance 2012).





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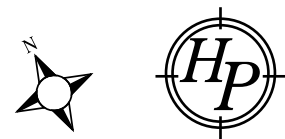
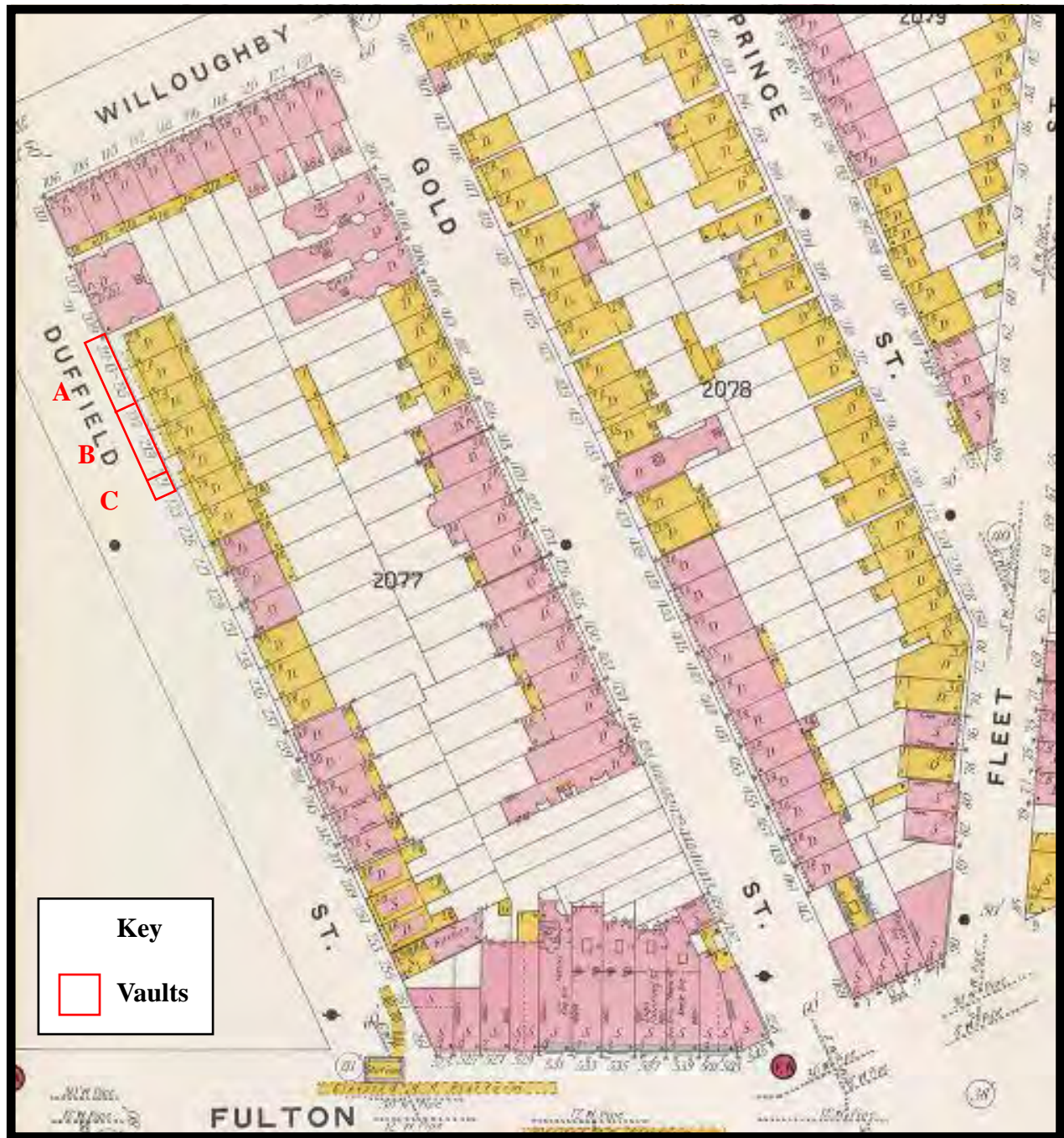


Figure 3: Vault locations on *Maps of the City of Brooklyn* (Perris 1855).





Archaeological Memorandum: Sidewalk Vaults
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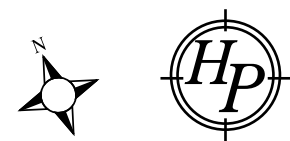
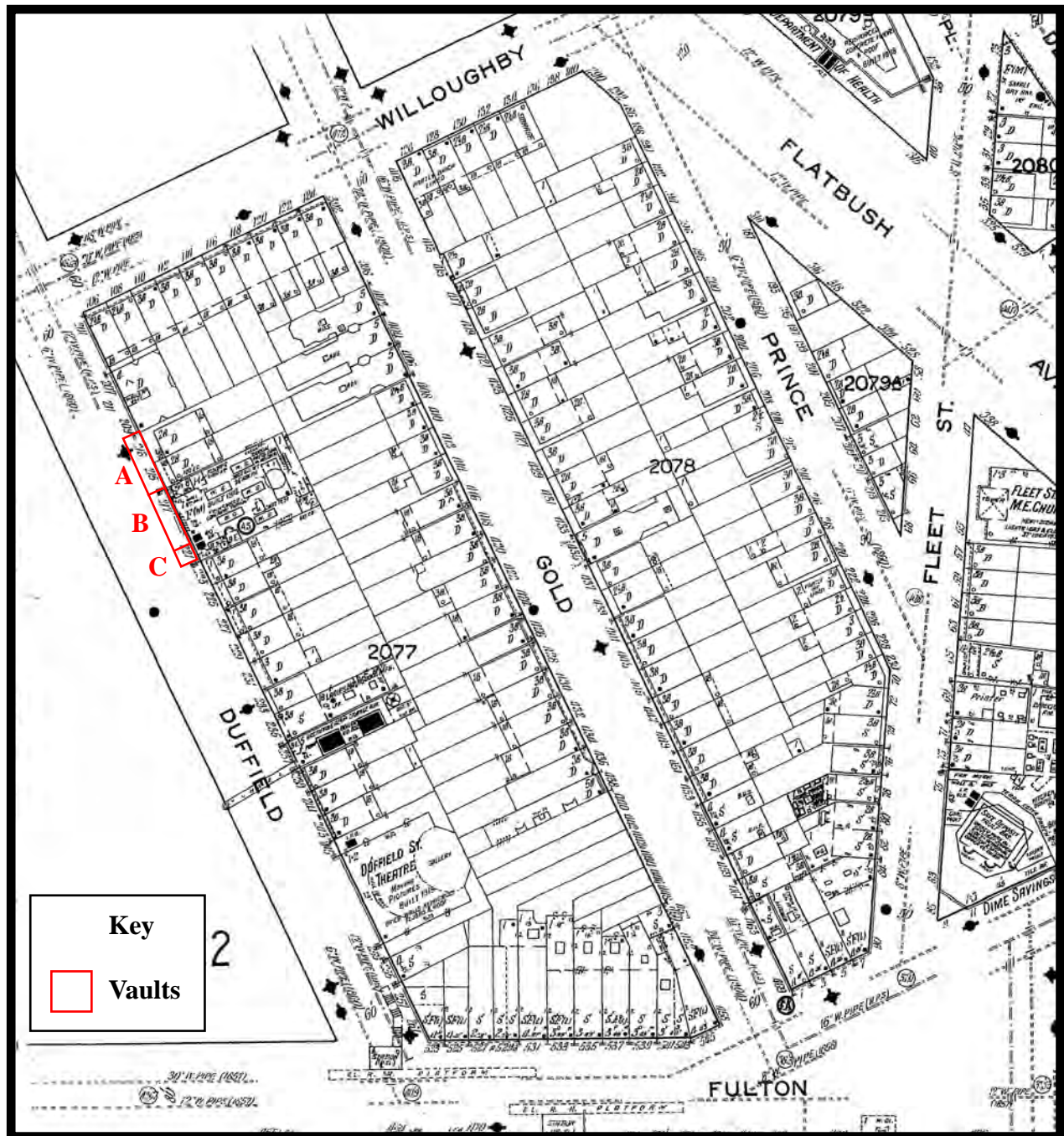


Figure 4: Vault locations on *Insurance Maps of Brooklyn, New York* (Sanborn 1904).

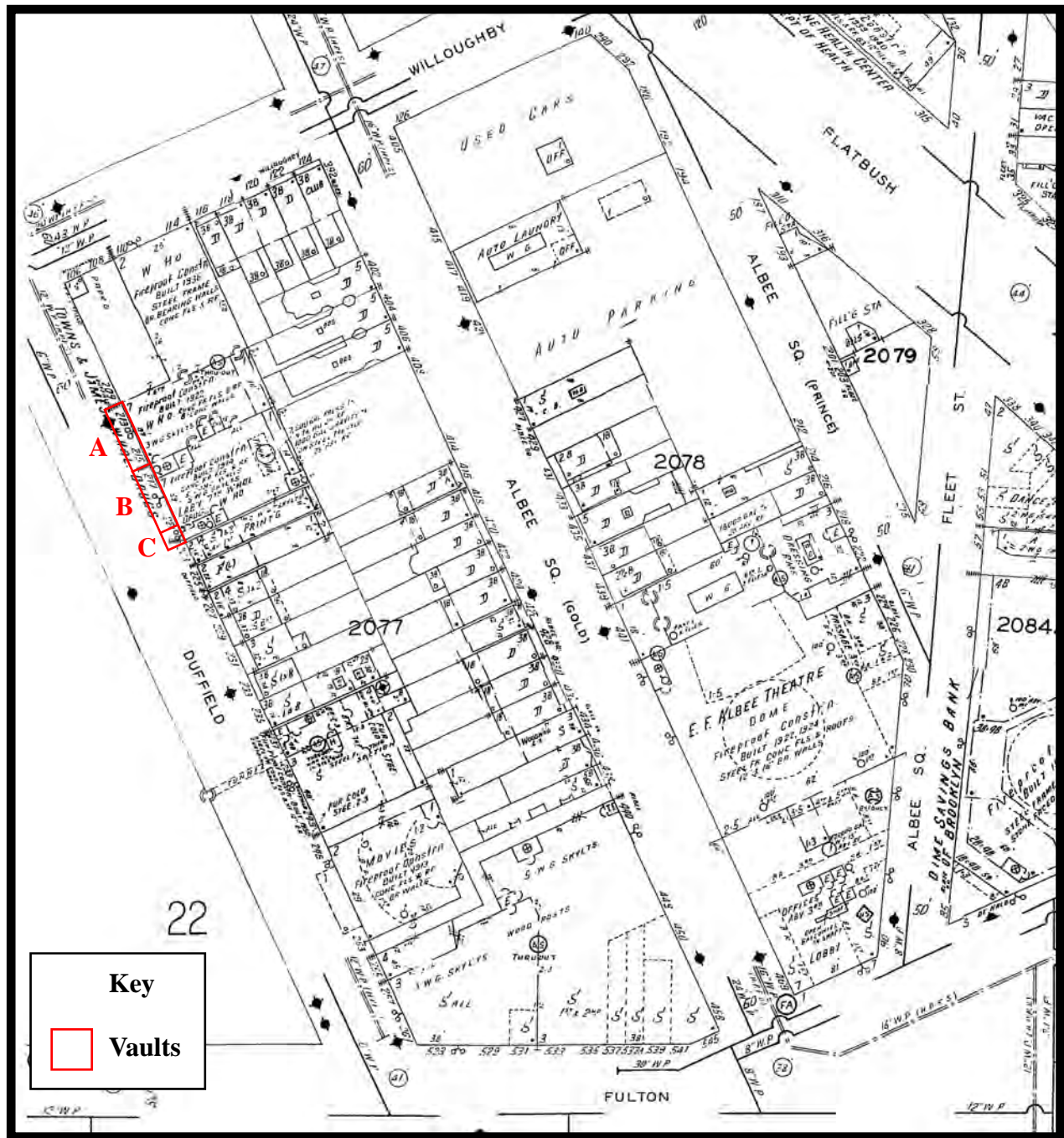
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Archaeological Memorandum: Sidewalk Vaults
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 Duffield Street/Abolitionist Place Sidewalk adjacent to
 Block 146, Lot 16 (formerly Lot 18, 213-221 Duffield Street)
 Brooklyn, New York 11201

Figure 5: Vault locations on *Insurance Maps of Brooklyn, New York* (Sanborn 1915).

0 50 100 150 200 250 FEET



Archaeological Memorandum: Sidewalk Vaults
 Willoughby Square Open Space Project
 Duffield Street/Abolitionist Place Sidewalk adjacent to
 Block 146, Lot 16 (formerly Lot 18, 213-221 Duffield Street)
 Brooklyn, New York 11201

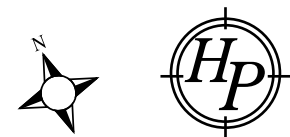
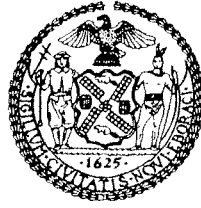


Figure 6: Vault locations on *Insurance Maps of Brooklyn, New York* (Sanborn 1950).

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APPENDIX A: STATEMENT OF FINDINGS, DOWNTOWN BROOKLYN DEVELOPMENT (OFFICE OF THE MAYOR 2004)



THE CITY OF NEW YORK
OFFICE OF THE MAYOR
NEW YORK, N.Y. 10007

STATEMENT OF FINDINGS

DOWNTOWN BROOKLYN DEVELOPMENT

Date Issued:	July 1, 2004
CEQR No.	03DME016K
SEQRA Classification	Type I
Lead Agency	Office of the Deputy Mayor for Economic Development and Rebuilding 100 Gold St., 2nd Floor New York, NY 10038
Location	Area bounded generally by Tillary Street to the north, Ashland Place to the east, Schermerhorn Street to the south and Adams Street/Boerum Place to the west

This Statement of Findings has been prepared pursuant to City Environmental Quality Review (CEQR), Mayoral Executive Order 91 of 1977 as amended, and the City Environmental Quality Review Rules of Procedure found at Title 62, Chapter 5 of the Rules of the City of New York (CEQR), the State Environmental Quality Review Act, Article 8 of the State Environmental Conservation Law, and its implementing regulations found in part 617 of 6 NYCRR (SEQRA). This Statement of Findings has been prepared to demonstrate: 1) that all procedural requirements have been met; 2) that the proposed action was selected from among reasonable alternatives; and 3) that the potential for adverse environmental effects disclosed in the Downtown Brooklyn Final Environmental Impact Statement (incorporating the Final Supplemental Environmental Impact Statement) and during the review process will be avoided or minimized to the extent practicable by mitigation and other project components.

A draft Scope of Work for the Environmental Impact Statement (EIS) was issued on April 15, 2003. A public scoping meeting was held on May 20, 2003 to accept oral comments. Written comments on the draft Scope were accepted through May 30, 2003. The Final Scope of Work incorporating public comments was issued on November 3, 2003. The Draft EIS (DEIS) was certified as complete on December 1, 2003.

Completion of a Draft Supplemental EIS (DSEIS) was then required to revise the future baseline, or No Build conditions, analyzed in the DEIS to account for a potential mixed-use arena development in the Atlantic Terminal area of Brooklyn that could affect the conditions assessed in the DEIS. A draft Scope of Work for the Supplemental EIS was issued on January 22, 2004. A public scoping meeting was held on February 23, 2004 to accept oral comments, and written comments were accepted through March 4, 2004. The Final Scope of Work for the Supplemental EIS was issued on March 5, 2004 and the DSEIS was issued on March 8, 2004. A joint public hearing on the DEIS and DSEIS was held on March 24, 2004 to accept oral comments, and written comments were accepted through April 7, 2004. The Notice of Completion for the FEIS (incorporating the FSEIS) was issued on April 30, 2004.

1. PROJECT DESCRIPTION

The Downtown Brooklyn Development project is a public planning effort to stimulate economic development in the Downtown Brooklyn area. Discretionary actions included as part of the project include zoning map and text changes, street mapping changes, urban renewal actions, the disposition of City-owned property, special permits for public parking facilities, and related land use actions.

2. PROPOSED ACTIONS

The project entails a number of public approvals, which are summarized below.

- Zoning map amendments to increase the floor area ratio (FAR) of portions of the Special Downtown Brooklyn District (SDBD), to allow for greater commercial and residential density in the downtown area; to allow commercial use where such use is not currently allowed; to permit residential use on sites where such use is not currently allowed; and to expand the SDBD;
- Zoning text changes to the SDBD to provide special height and setback regulations and other massing controls for higher-density commercial districts, and new requirements for sidewalk widenings, security-gate transparency, indoor bicycle parking, signage controls, and subway stair relocation;
- Zoning text changes to the SDBD to add or remove requirements for ground-floor retail continuity, ground-floor glazing, street wall continuity, curb cut prohibition, and street tree planting on selected streets;
- Zoning text changes to the SDBD to extend the Schermerhorn Street Height Limitation Area “B” of 140 feet and establish a new Height Limitation Area “C” of 250 feet on the blocks bounded by Smith, Nevins, Livingston, and Schermerhorn Streets and establish a height limit of 160 feet on the south side of Myrtle Avenue between Fleet Place and Ashland Place;
- Mapping actions that would demap the following existing streets: Red Hook Lane, between Fulton Street and Boerum Place; Pearl Street, between Fulton Street and Willoughby Street; Prince Street, between Flatbush Avenue Extension and Myrtle Avenue; and Fair Street between Fleet Place and Prince Street;

- Mapping actions that would widen Fleet Place from Willoughby Street to Fair Street and extend Fleet Place north from Fair Street to Myrtle Avenue; ~~and~~ widen the south side of Willoughby Street between Albee Square West/Gold Street ~~and~~ Flatbush Avenue Extension, and the south side of Myrtle Avenue between Flatbush Avenue Extension and Fleet Place;
- Amendments to the Brooklyn Center Urban Renewal Plan (BCURP) to extend the expiration date of the plan from 2010 to 2044; to extend the Urban Renewal project boundary by 9 blocks; to designate 57 lots within six proposed development sites; to remove certain previously designated urban renewal sites; to ~~modify~~ the definition of Commercial land use to permit residential and community facility uses; to modify the definition of Public Space land use to permit below-grade parking and accessory uses; to delete Industrial and Related use and Institutional/Commercial use as land use categories; to eliminate Q parcels from the text and maps; and to revise the plan text to reflect the standard format for urban renewal plans;
- Amendments to the MetroTech Urban Renewal Plan to change the land use for Block 2060, Lot 8, from street widening to open space; to eliminate Q parcels from the text and maps; and to revise the plan text to reflect the standard format for urban renewal plans;
- Modification of the MetroTech General Large-Scale Development Special Permit to reallocate existing floor area, to allocate newly created floor area generated from the proposed rezoning of Block 142, Lot 1, and to clarify that Commercial and Community Facility uses are allowed at this projected development site;
- Amendments to the Atlantic Terminal Urban Renewal Area Plan (ATURAP) to extend the expiration date of the plan from 2008 to 2044; to modify the definition of Commercial land use within the plan to permit community facilities and below-grade parking; to change the land use and eliminate restrictions on maximum floor area ratios and maximum commercial floor area for certain sites; to eliminate Q parcels from the text and maps; and to revise the plan text to reflect the standard format for urban renewal plans;
- Disposition of City-owned property pursuant to Urban Renewal as well as Block 140, Lot 111 and Block 2107, Lot 36;
- Site selection for a visual and performing arts public library on Block 2110, Lot 3; and
- Special permits for four proposed public parking facilities: 1) A 694-space below-grade public parking facility at Willoughby Street between Albee Square West/Gold Street and Duffield Street; 2) a 457-space partially below-grade parking facility on the south side of Myrtle Avenue and east side of Flatbush Avenue Extension; 3) a 466-space below-grade parking facility on Block 2110; and 4) a 465-space below-grade parking facility on Block 2107.

3. PROBABLE IMPACTS OF THE PROPOSED PROJECT

HISTORIC RESOURCES

Archaeological Resources

The analysis of archaeological resources determined that 21 lots on four “projected” development sites (sites that are likely to undergo development within a ten-year timeframe) and 10 lots on five “potential” development sites (sites that are unlikely to be developed within the ten-year timeframe) are considered to be potentially sensitive for 19th century archaeological resources. Individual Stage 1A Archaeological Assessments will be prepared for those lots that are currently City-owned or are acquired by the City, before development of these sites commences. If determined necessary as a result of the Stage 1A Archaeological Assessment, Stage 1B field testing will be undertaken prior to development of these sites. In the event that Stage 1B field testing confirms that there are significant archaeological resources on the lots, which cannot be recovered during the testing phase, full archaeological excavation will occur or the development would be redesigned to leave the resources protected in place. Under the revised Brooklyn Center Urban Renewal Plan, each redeveloper will be required to perform all mitigation measures identified in the FEIS, such as future archaeological work, prior to issuance of a certificate of occupancy. With these measures, the proposed actions would not have any significant adverse impacts on the potential archaeological resources of these lots.

Architectural Resources

Three potential architectural resources are located on projected development sites: the Joseph J. Jacobs Building at 305-315 Jay Street on site C, the Board of Education Building at 131 Livingston Street on site M, and 233 Duffield Street on site P. In addition, two potential architectural resources are located on potential development sites: 565-571 Fulton Street, on site R, and 423 Fulton Street on site L. The removal of the buildings for these developments would constitute a significant adverse impact on architectural resources. Measures to mitigate this impact have been developed in consultation with the New York City Landmarks Preservation Commission (LPC). In addition to these direct effects, several of the known and potential architectural resources are located within 90 feet of projected and potential development sites, and, therefore, could be potentially physically affected by ground-borne construction-period vibrations or other potential construction-related issues. Construction protection plans will be instituted for these developments in order to avoid potential physical impacts on these architectural resources.

Underground Railroad

During the public comment period for the DEIS/DSEIS, several property owners of 227 Duffield Street, 233 Duffield Street and 436 Gold Street came forward to claim that their buildings were utilized for Underground Railroad activities. A thorough documentation study has not uncovered an association of the 227 Duffield Street, 233 Duffield Street, and 436 Gold Street buildings with the Underground Railroad, and there is no evidence to support a determination that these properties are eligible for either National Historic Landmark status or for listing on the National Register of Historic Places in relation to the Underground Railroad.

The owner of 233 Duffield Street has asserted that there were shafts in the 227 and 233 Duffield Street buildings, as well as other buildings on Duffield Street, that linked the building’s sub-basements to the surface and to tunnels under the street buildings, but he has also reported that the sub-basements and shafts have been filled and lost. However, the potential existence of these

tunnels, without corroborating artifacts, would not necessarily demonstrate a connection to the Underground Railroad.

The existence of tunnels under the street buildings and any potential corroborating artifacts cannot be ascertained without further testing. Therefore, additional work, first in the form of a visual inspection of the interiors of the buildings after condemnation to ascertain the existence of other artifacts and, second, in the form of new continuous soil borings, would need to be undertaken at the sites. Soil borings would be conducted to determine subsurface conditions, such as fill layers, with the locations of borings to be approved by an archaeologist prior to their execution. This testing would be impracticable prior to demolition of these structures and while they are still occupied, and would therefore have to be conducted at the time of site redevelopment. If the soil borings indicate a potential for archeologically sensitive areas, Stage 1B testing would be undertaken in the potentially sensitive areas. The testing phase would first include the preparation of a testing protocol by a professional archaeologist, to be reviewed and approved by LPC prior to implementation. Testing would be conducted by a professional archaeologist, and appropriate research issues would be formulated in the event of a discovery.

Should the Stage 1B testing establish an association of one or all of these buildings with the Underground Railroad, and the National Park Service criteria for eligibility of Underground Railroad properties for National Historic Landmark designation or for listing in the National Register of Historic Places are met, the redevelopment of these sites pursuant to the proposed actions would constitute a significant adverse impact to archaeological resources. As required under the revised BCURP, measures to partially mitigate the elimination of these resources would be developed in consultation with LPC and performed prior to issuance of a certificate of occupancy to the redeveloper.

HAZARDOUS MATERIALS

Potential contaminants were identified at or close to all of the projected and potential development lots. Specifically, potential hazardous materials impacts were identified for all projected and potential development lots that comprise the Downtown Brooklyn Development sites.

Consequently, procedures to reduce the potential for exposure to these contaminants were developed. Prior to construction, further investigation will be performed on each development site to determine the presence and nature of contaminants of concern and the proper remedial and/or health and safety measures that would be employed during redevelopment.

For lots that are not City-owned or intended for City ownership, an E-designation will be used to ensure that the further investigation (and, where necessary, remediation) will be performed. For City-owned sites or sites that are proposed for City ownership, E-designations will not be placed on development lots. Instead, since development of these sites would occur through disposition to a private entity, a similar mechanism to ensure that further investigative and/or remedial activities, as well as health and safety measures, prior to and/or during construction will be required under the City's contract of sale with the private entity selected to develop the site. This mechanism and the E-designation mechanism will reduce or avoid the potential that significant adverse impacts would result from the proposed actions on all development sites.

TRAFFIC

Projected developments would result in a net increase of 865 inbound and 242 outbound vehicle trips in the AM peak hour (auto, taxi and truck), 402 inbound and 416 outbound vehicle trips in the midday peak hour, and 278 inbound and 1,016 outbound vehicle trips in the PM peak hour. This new demand, and the effects of street system changes related to the proposed actions, would combine to result in significant traffic impacts at 29 signalized intersections in one or more peak hours.

TRANSIT AND PEDESTRIANS

The proposed actions would generate a net total of 6,013 inbound and 691 outbound trips by subway in the AM peak hour, and 1,163 inbound and 7,408 outbound in the PM peak hour. Trips by local bus would total 546 inbound and 83 outbound in the AM peak hour and 211 inbound and 782 outbound in the PM peak hour. Trips by walking only, bicycle or other non-vehicular modes would total 1,360 inbound and 623 outbound in the AM peak hour, and 1,780 inbound and 2,753 outbound in the PM peak hour. The additional subway demand would significantly impact two street stairs at the Jay Street-Borough Hall subway station in one or both peak periods. Bus trips generated by projected development would result in a significant PM peak hour impact to NYC Transit's B25 bus route in the eastbound direction. Pedestrian trips en route to and from projected development sites would impact one crosswalk on Jay Street at Willoughby Street and one crosswalk on Albee Square West/Gold Street at Willoughby Street.

AIR QUALITY

The analysis showed that the maximum predicted carbon monoxide (CO) and particulate matter (PM₁₀ and PM_{2.5}) concentrations from mobile sources would be lower than the corresponding ambient air standards with the development of the projected development sites under the proposed actions. The cumulative parking garage analysis also determined that the project's public parking facilities would not result in any significant adverse air quality impacts. Thus, the proposed actions would not have significant adverse air quality impacts from mobile source emissions. A stationary source screening analysis and subsequent detailed dispersion modeling determined that there would be no potential significant adverse air quality impacts from emission of nitrogen dioxide (NO₂), sulfur dioxide (SO₂) and PM₁₀ from the proposed HVAC systems of the projected development sites. With respect to PM_{2.5}, an E-designation has been placed on projected development site BB (Block 165, Lot 29), which stipulates that any new residential and/or commercial development on the above-referenced property must ensure that the heating, ventilation, and air conditioning stack(s) is located at least 115 feet from the lot line facing Hoyt Street and parallel with Schermerhorn Street to avoid any potential significant air quality impacts. In addition, there would be no significant adverse air quality impacts from industrial facilities on the proposed developments sites.

NOISE

Noise monitoring at a receptor location at Duffield Street between Willoughby and Fulton Streets determined that noise increases at the site as a result of the proposed project would be greater than 3 dBA and therefore perceptible. Based upon CEQR noise impact criteria, this would constitute a significant noise impact. There is no feasible mitigation to eliminate this impact at this site during the AM period, and thus it would constitute an unmitigated project impact.

In addition, as part of the development that would occur with the proposed actions, a 1.15-acre public space, Willoughby Square, is proposed to be built over the below-grade public parking facility at the Duffield Street site. Based upon the analysis results, noise levels of approximately 69 to 73 dBA would be expected at this new public space. These noise levels would be higher than those generally recommended for outdoor activities, but would be comparable to levels in existing parks in New York City which are adjacent to moderately to heavily trafficked streets and roadways. There are no feasible mitigation measures to reduce noise levels within an urban public space such as this to within recommended levels for this type of use.

Based upon the $L_{10(1)}$ values measured at the analysis sites, a maximum of 40 dBA of building attenuation would be required to achieve interior noise levels of 45dBA or lower as recommended in the CEQR Technical Manual. The provision of sufficient building attenuation will be mandated by placing “E” designations on projected and potential development sites. In addition, mechanical equipment such as heating, ventilation, and air conditioning (HVAC), and elevator motors would utilize sufficient noise reduction devices to comply with applicable noise regulations and standards. With the attenuation measures in place, the proposed actions would not result in any significant interior noise impacts.

4. MITIGATION

HISTORIC RESOURCES

Architectural Resources

Three potential architectural resources would be directly affected by the development of projected development sites pursuant to the proposed actions. These are the Joseph J. Jacobs Building (site C), the Board of Education Building at 131 Livingston Street (site M), and 233 Duffield Street (site P). In addition, two other potential architectural resources would be directly affected by the development of potential development sites: 565-571 Fulton Street (site R), and 423 Fulton Street (site L). The removal of the buildings for these developments would constitute a significant adverse impact on architectural resources.

Measures to mitigate the impact on these buildings have been developed in consultation with LPC, which has indicated that data recovery (i.e., recordation to the standards of the Historic American Building Survey [HABS]) will be sufficient mitigation for the Joseph J. Jacobs Building and the 423 Fulton Street building. The scopes of work for all HABS-level documentation will be provided to LPC for review and approval prior to the start of demolition of these buildings. Under the revised Brooklyn Center Urban Renewal Plan, each redeveloper would be required to perform all mitigation measures identified in the FEIS, such as HABS-level documentation, prior to issuance of a certificate of occupancy. HABS-level documentation will be provided for the 565-571 Fulton Street, Board of Education (131 Livingston Street), and 233 Duffield Street buildings; however, these buildings are considered to be rarer resources, and therefore further consideration was given of possible measures to mitigate this impact. For the Joseph J. Jacobs Building, which is not located within the revised BCURP, Polytechnic University, the property owner, will execute a restrictive declaration requiring that HABS-level documentation be prepared prior to demolition of the building.

It is unlikely that the projected development of sites M and P and the potential development of site R could be relocated to other sites within the project area. The screening criteria for commercial development, which were developed in consultation with DCP, were considered for all of the

parcels affected by the proposed actions in order to determine a site's attractiveness for commercial use, its bulk, and its development timeframe. Sites M, P, and R met all of the criteria for commercial development, where other blocks and lots within the project area did not. Therefore, it is reasonable to assume that the development projected to occur on these sites could not occur on other sites within the project area. Further, it is not considered feasible to include the 131 Livingston Street, 233 Duffield Street, and 565-571 Fulton Street buildings within the developments projected for sites M, P, and R. Site R was previously designated as an urban renewal site in 1970 as part of the BCURP and the proposed actions would not alter the status of the site in the BCURP. It is possible that the façades of the 575-571 Fulton Street and 131 Livingston Street buildings could be preserved in place and incorporated into the façade of a modern office building; however, this would affect the structure and character of the resources.

Commitment for mitigation beyond the HABS-standard recordation of the buildings is not possible given that neither the development program nor the project developers are known. However, for 131 Livingston Street and 575-571 Fulton Street, it is possible that once a developer has been identified, there may be the potential to preserve architectural elements of the buildings' façades as part of the proposed developments.

Archaeological Resources

LPC has determined that there are 31 lots that are considered to be potentially sensitive for 19th century archaeological resources. Individual Stage 1A Archaeological Assessments will be prepared for those lots that are currently City-owned or would be acquired by the City, before development of these sites would commence. If determined necessary as a result of the Stage 1A Archaeological Assessment, Stage 1B field testing will be undertaken prior to development of these sites. In the event that Stage 1B field testing confirms that there are significant archaeological resources on the lots that cannot be recovered during the testing phase, full archaeological excavation will occur, or the development will be redesigned to leave the resources protected in place. All archaeological work will be completed under LPC review and adhere to the standards set forth in the 2001 *CEQR Technical Manual* and the Archaeological Guidelines for work in New York City. Under the revised BCURP, each redeveloper would be required to perform all mitigation measures identified in the FEIS, such as future archaeological work, prior to issuance of a certificate of occupancy. With these measures, the proposed actions will not result in any significant adverse impacts on archaeological resources on these lots.

For the lots which are not now and would not become City-owned (Block 165, Lot 58 and Block 164, Lots 1 and 29), a mechanism does not exist to ensure that Stage 1A Archaeological Assessments (and, if necessary, archaeological field testing) would be undertaken prior to development. Therefore, the potential loss of archaeological resources on these lots pursuant to their development is considered a potential unmitigated, significant adverse impact.

Underground Railroad

During the public comment period for the DEIS/DSEIS, several property owners of 227 Duffield Street, 233 Duffield Street and 436 Gold Street came forward to claim that their buildings were utilized for Underground Railroad activities. An exhaustive documentation study has not uncovered an association with the Underground Railroad for the buildings, and there is no evidence to support a determination that these properties are eligible for either National Historic Landmark status or for listing on the National Register of Historic Places in relation to the Underground Railroad. The owner of 233 Duffield Street has asserted that that there were shafts in

the 227 and 233 Duffield Street buildings, as well as other buildings on Duffield Street, that linked the buildings' sub-basements to the surface and to tunnels under the street buildings, but he has also reported that the sub-basements and shafts have been filled and lost. However, the potential existence of these tunnels, without corroborating artifacts, would not necessarily demonstrate a connection to the Underground Railroad.

The existence of tunnels under the street buildings and any potential corroborating artifacts cannot be ascertained without further testing. Therefore, additional work, first in the form of a visual inspection of the interiors of the buildings after condemnation to ascertain the existence of other artifacts and, second, in the form of new continuous soil borings, would need to be undertaken at the sites. Soil borings will be conducted to determine subsurface conditions, such as fill layers, with the locations of borings to be approved by an archaeologist prior to their execution. This testing would be impracticable prior to demolition of these structures and while they are still occupied, and would therefore have to be conducted at the time of site redevelopment. If the soil borings indicate a potential for archeologically sensitive areas, Stage 1B testing will be undertaken in the potentially sensitive areas. The testing phase will first include the preparation of a testing protocol by a professional archaeologist, to be reviewed and approved by LPC prior to implementation. Testing will be conducted by a professional archaeologist, and appropriate research issues will be formulated in the event of a discovery.

Should the Stage 1B testing establish an association of one or all of these buildings with the Underground Railroad, and the National Park Service criteria for eligibility of Underground Railroad properties for National Historic Landmark designation or for listing in the National Register of Historic Places are met, the redevelopment of these sites pursuant to the proposed actions would constitute a significant adverse impact to archaeological resources. As required under the revised Brooklyn Center Urban Renewal Plan, measures to partially mitigate the elimination of these resources will, if required, be developed in consultation with LPC and performed prior to issuance of a certificate of occupancy to the redeveloper. Partial mitigation measures would involve HABS-level documentation and/or an exhibit in an appropriate location. As previously described, 233 Duffield Street also has been identified by LPC as a potential architectural resource, and therefore HABS-level documentation will be provided to mitigate its loss.

TRAFFIC

Demand from projected development sites and the effects of street system changes related to the proposed actions would combine to result in significant traffic impacts at 29 signalized intersections in one or more peak hours. To address these impacts, a mitigation plan for the Downtown Brooklyn street network was developed. The proposed traffic mitigation plan would fully address all impacts at 17 intersections in the AM peak hour, 17 in the midday peak hour and 21 in the PM peak hour. Eighteen out of 29 intersections impacted by the proposed actions would no longer be impacted with implementation of the proposed mitigation plan.

However, unmitigable impacts would remain in one or more peak hours at a total of eleven intersections. The intersection of Adams Street and Tillary Street would have four unmitigated impacts in the AM peak hour and two each in the midday peak hour and PM peak hour. The intersection of Atlantic Avenue and Bond Street would have one unmitigated impact in the midday peak hour, while the intersection of Atlantic and Flatbush Avenues would have one unmitigated impact in the PM peak hour. The intersection of Atlantic and Fourth Avenues would

have one unmitigated impact in the AM peak hour, as would the intersection of Atlantic Avenue and Smith Street. The intersection of Flatbush Avenue and Fulton Street would have two unmitigated impacts in the PM peak hour, as would the intersection of Flatbush Avenue/Hanson Place/Fourth Avenue. The Flatbush Avenue and Livingston Street intersection would have one unmitigated impact in the AM peak hour, and the intersection of Flatbush and Myrtle Avenues would have four unmitigated impacts in the AM peak hour and two in the PM peak hour. The intersection of Flatbush Avenue and Tillary Street would have one unmitigated impact in the AM peak hour, two in the midday peak hour and three in the PM peak hour. Lastly, the intersection of Flatbush Avenue with Schermerhorn Street and Lafayette Avenue would have three unmitigated impacts in the PM peak hour.

TRANSIT AND PEDESTRIANS

Subway Service

Transit demand from projected development sites would significantly impact two street stairs at the Jay Street-Borough Hall subway station in one or both peak periods. At Stair S3, at the northwest corner of Jay and Fulton Streets, a one-foot widening would restore this stair to LOS C in the PM peak hour, comparable to the No Build condition and below NYC Transit's minimum standard of 10 persons per foot-width per minute (PFM). However, while such mitigation is feasible, it would not be practical to undertake for this moderate level of impact. (Stair S3 would operate at a functional LOS D in the PM). In addition, urban renewal changes for the project would also allow for the creation of a transit plaza at Jay Street between Willoughby and Fulton Streets that would potentially include a new subway entrance/exit to the Jay Street-Borough Hall station. A new subway entrance/exit located within this plaza would fully address the PM peak hour impact to Stair S3. Therefore, pending the implementation of a new transit plaza, the proposed actions' impact to Stair S3 would remain unmitigated.

To mitigate the AM and PM peak hour impacts to Stair S4 on the northeast corner of Jay and Willoughby Streets, it is proposed to double the width of this stair from its current five feet to ten feet in width. To accommodate this widened stairway and provide sufficient sidewalk space for pedestrians, an eight-foot-wide sidewalk extension or "neckdown" would be installed within the curb lane along the east sidewalk on Jay Street adjacent to the stair. The proposed neckdown, along with a similar installation along the east sidewalk on Jay Street south of Willoughby Street (to channel traffic), would not adversely impact traffic flow conditions.

With the proposed widening, Stair S4 would operate at LOS C (8.26 PFM) in the AM peak period, comparable to the No Build condition and below NYC Transit's minimum standard of 10 PFM. In the PM peak period, this stair would also operate at an acceptable LOS C (9.01 PFM). The proposed five-foot widening would therefore return this stair to a functional level of operation in both peak periods, fully mitigating the project's impacts.

If, after further detailed engineering, widening of Stair S4 proves to be impractical due to the presence of utilities or other physical constraints, an alternative mitigation scheme will be explored. Under this alternative, a second 5-foot-wide stair would be constructed adjacent to the building line immediately to the north of Stair S4. This stair would face northward and share a common landing with Stair S4 in a "T"-shaped configuration. The two 5-foot-wide stairs would function as a combined system with a capacity similar to that achieved by widening Stair S4 to 10 feet. Consequently, this alternative mitigation measure would similarly address the project's AM and PM peak hour impacts to Stair S4. Construction of this new stair would likely not require

extension of the adjacent sidewalk, but such an extension (or neckdown) may still be considered for implementation for the purposes of enhancing pedestrian safety at this intersection.

Local Bus Service

Project demand would significantly impact eastbound B25 service in the PM peak hour. As standard practice, New York City Transit routinely conducts ridership counts and adjusts bus service frequency to meet its service criteria, within fiscal and operating constraints. Therefore, no mitigation is proposed for the impact to eastbound B25 service.

Pedestrians

Project demand would significantly impact the north crosswalk on Jay Street at Willoughby Street in the PM peak hour and the south crosswalk on Albee Square West at Willoughby Street in both the AM and PM peak hours. These crosswalk impacts would all be fully mitigated by widening each crosswalk by 0.5 to four feet.

AIR QUALITY

Under the 2013 build condition, with the development of the projected sites, impacts on carbon monoxide (CO) would be well below ambient air quality standards and the City's *de minimis* criteria. The proposed traffic mitigation measures, which include new roadway configurations and volume diversions, were evaluated to determine the potential effects on air quality in the study area. Because the proposed mitigation measures seek to avoid or reduce the levels of congestion and delays at intersections, an overall improvement in traffic conditions is expected for the study area as compared to the Build condition. Based on the traffic mitigation analysis presented above, the proposed changes in volume, levels of service, and delays through the network would result in similar, if not lower, predicted CO concentrations under the build with mitigation condition. Similarly, the build with mitigation scenario would not alter the conclusions of no significant impact on inhalable particulate (PM₁₀ and PM_{2.5}) levels.

The proposed traffic mitigation measures would not affect the stationary or industrial source analyses, which determined that there would be no significant air quality impacts resulting from the proposed actions.

NOISE

At the noise receptor located at Duffield Street between Willoughby and Fulton Streets, future noise levels with the proposed actions would increase by up to 3.4 dBA compared to future noise levels without the proposed actions during the AM peak period. Increases of this magnitude would be perceptible and, based upon CEQR noise impact criteria, would constitute a significant noise impact. This impact would occur because of the relatively low traffic volumes at this location without the proposed actions, and the number of vehicles (particularly trucks) generated by the development expected on this street and in the surrounding area. While no residences would be impacted with the proposed actions, the increase in noise levels during the AM peak period would exceed the CEQR impact criteria and thus, the project would have a significant noise impact at this location. There is no feasible mitigation to eliminate this impact at this site during this time period, and thus it constitutes a significant adverse project impact.

5. ALTERNATIVES

Four alternatives were examined with the goal of avoiding or reducing project-related significant adverse impacts: the No Action Alternative, the No Unmitigated Impacts Alternative, the Modified BCURP Alternative and the Brooklyn-Queens Expressway (BQE) Ramp Alternative.

Under the No Action Alternative, which analyzes future conditions without the proposed actions, certain project impacts would be reduced or avoided; however the objective of facilitating new development would not be achieved.

The No Unmitigated Impacts Alternative finds that projected development anticipated under the proposed project would need to be reduced by 95% to avoid impacts. As with the No Action Alternative, the No Unmitigated Impact Alternative would not achieve the objective of facilitating future development.

The Modified BCURP Alternative considers the project in the absence of new Urban Renewal site designations. This alternative would limit certain project impacts but would not allow for the creation of new public spaces through urban renewal; would not achieve the objectives of the Urban Renewal Plan; and would not facilitate future development.

The BQE Ramp Alternative examines future traffic conditions with the inclusion of a new ramp to Navy Street from the westbound Brooklyn-Queens Expressway. This alternative would help to reduce or avoid traffic impacts along Flatbush Avenue by diverting traffic exiting the BQE and heading southbound onto Navy Street/Ashland Place. This alternative requires further review and investigation in coordination with the State Department of Transportation, which has jurisdiction over the BQE.

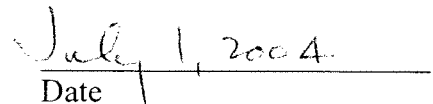
6. CERTIFICATION OF FINDINGS

Having considered the potential environmental impacts, facts and conclusions disclosed in the EIS, as outlined in these findings, the Lead Agency finds that:

- The requirements of 6 NYCRR Part 617 and CEQR have been met;
- Consistent with social, economic and other essential considerations of State and City policy, from among the reasonable alternatives thereto, the action to be approved is one that avoids or minimizes adverse environmental impacts to the maximum extent practicable; and
- Consistent with social, economic and other essential considerations of State and City policy, all practicable means will be taken in carrying out the action to minimize or avoid adverse environmental effects.



Robert R. Kulikowski, Ph.D., Assistant to the Mayor
For the Deputy Mayor for Economic Development and Rebuilding


Date

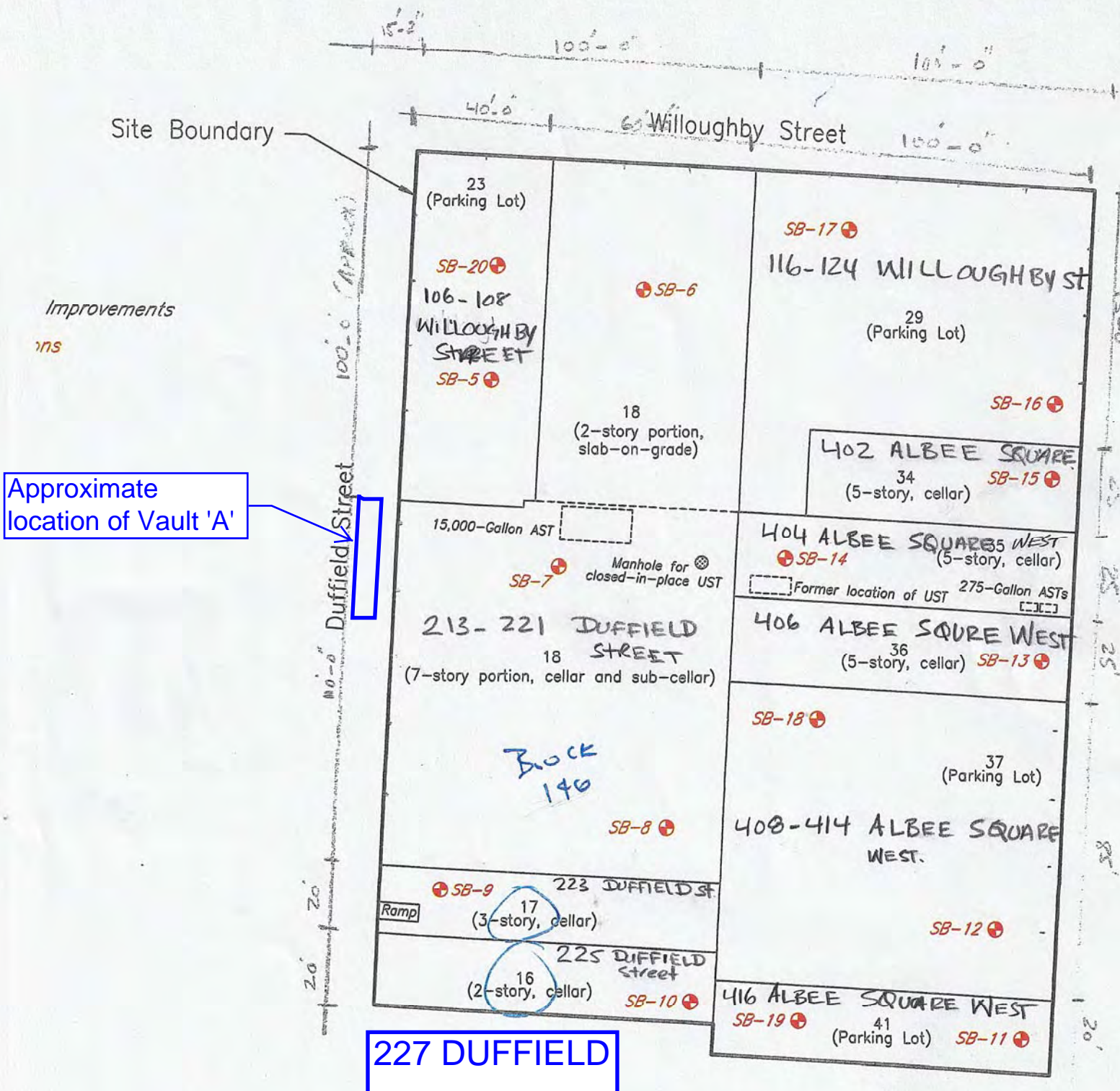
APPENDIX B: ENGINEERING MEMOS, SITE MAPS AND PHOTOGRAPHS OF THE VAULTS (EDC AND LIRO 2022)



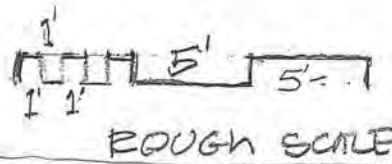
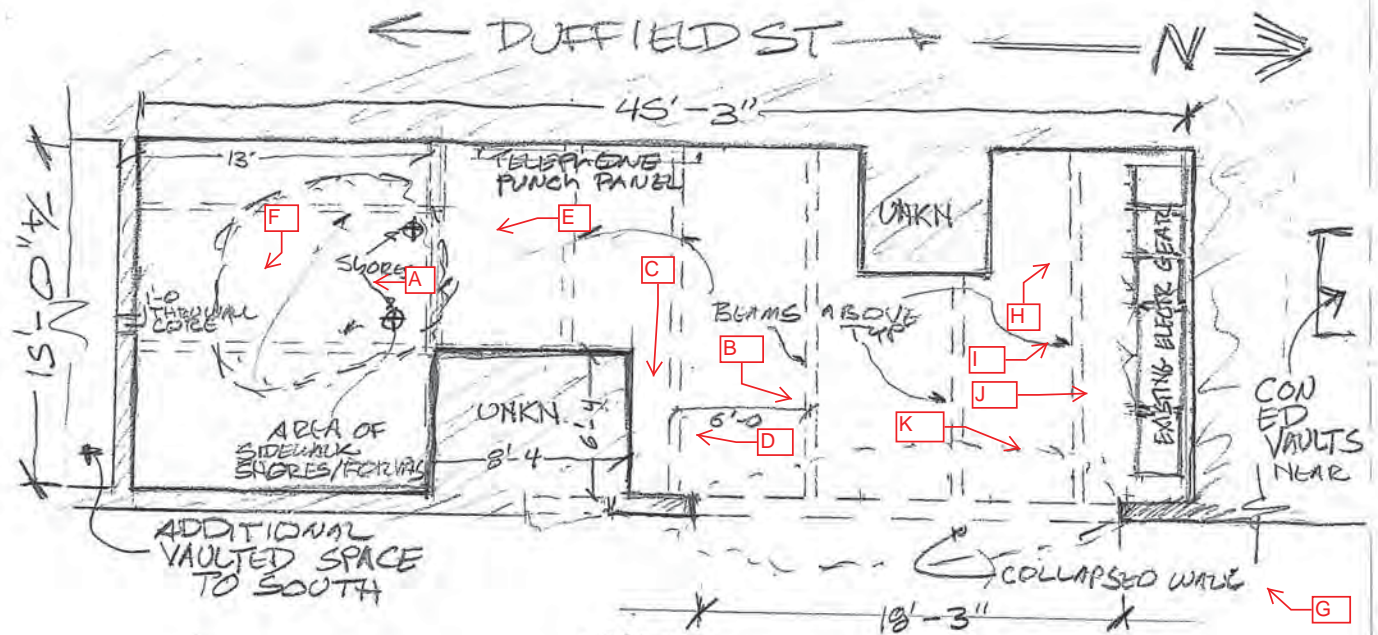
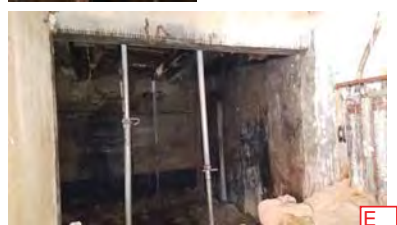
Exhibit A - *Site Plan and Discoveries Document*

WSV - APPROX. DIMENSIONS

03/11/2022



Lot Map Prior to Lot Merger



NOTES

- 1) HANGING UTILITY PIPING THROUGHOUT
- 2) EAST WALL APPEARS TO HAVE COLLAPSED DURING EARLIER DEMOLITION
- 3) VAULTS HAVE 2" ~ 18" SAND FILL AT FLOOR

UTILITY AREA BELOW VAULTED SIDEWALK (DUFFIELD)

Photos of Vault 'A'
3/16/22




Exhibit B – *Vault Description*



MEMORANDUM

To: Ms. Yvi McEvilly, NYCEDC

From: Daniel Bradley
Robert deJongh 

Date: April 21, 2022

Subject: Willoughby Square Open Space
NYCEDC Contract No. 73720003
Under sidewalk Vault at 213-217 Duffield Street

This memorandum has been prepared to describe the vault discovered under the sidewalk at the referenced address. This vault was constructed contiguous with the building proper within the property lines, is/was integral-to, and actively served the building. This evident from:

- The lines and grades of the footprint and floor elevations are corresponding;
- The walls, floors, columns and beams of the vaulted area are predominantly poured-in-place concrete with reinforcing detailing that matches the building;
- A stairwell that spans between the building proper (cellar and subcellar) and the vault;
- The presence of doorways from the building's cellar and subcellar to both levels of the vault;
- The presence of the main mechanical, electrical and telephone equipment that are all shared between the building, the building's vault, and the adjacent Consolidated-Edison utility-vault directly to the north along Duffield Street;
- The remnants of a mid-20th century mechanized material-hoist that vertically transits the northern vault segment (Vault-A) and serves the building subcellar;
- The presence of an apparent chemical-delivery vault (Vault C) containing mid-20th century pressurized mechanical service equipment, and exhaust equipment.

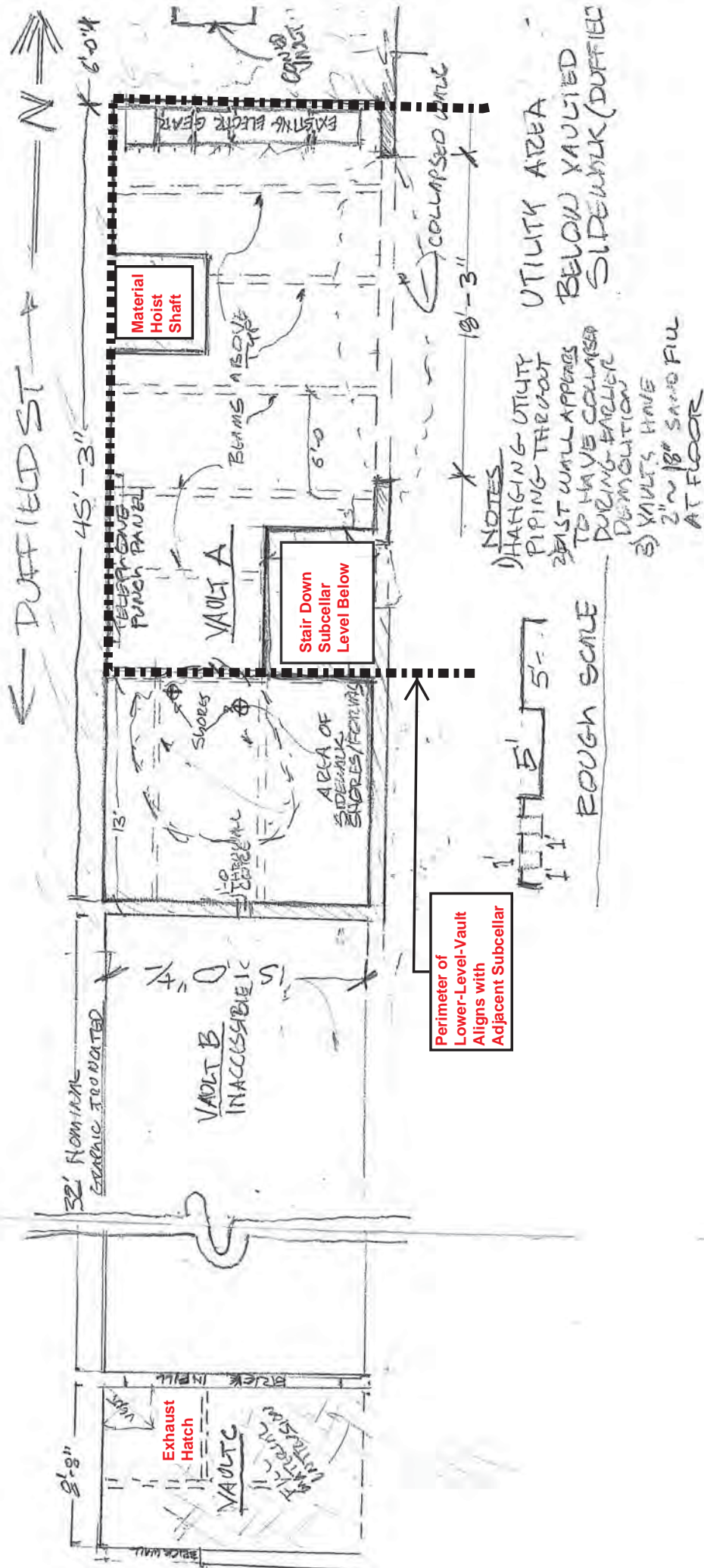
See attached photos and data regarding the vault.

cc: S. Betsalel, NYCEDC

encl: Attachment A: Vault Configuration
Attachment B Photographs

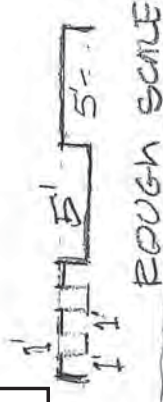


Attachment A



Perimeter of Lower-Level-Vault Aligns with Adjacent Subcellar

- NOTES
- 1) HANGING UTILITY PIPING THROUGH EAST WALL APPEARS TO HAVE COLLAPSED DURING EARLIER DEMOLITION
 - 2) VAULTS HAVE 2" ~ 18" SAND FIL AT FLOOR





TO: File: 
FROM: Robert deJongh, Jr. AIA Project Manager
RE: Willoughby Square Open Space: Duffield Street Sidewalk Vaults: Access Report
Date: June 23, 2022 Rev-1

Subterranean vaults were discovered below the public sidewalk along the east side of Duffield Street (at the western perimeter of the Willoughby Square Open Space project) during the excavation work associated with the Willoughby Square Open Space project.

The Vaults were labeled A B & C during the exploratory work.

Vault A Northernmost of Vaults. Aligns with complete street frontage of 211 Duffield Street Brooklyn. Has a lower level accessible to 211 Duffield Street's Sub Cellar.

Vault A was exposed in March of 2022 during excavation work within the former footprint of the connected building. Limited exploration was conducted until the determination of potential asbestos containing materials in March of 2022

The Eastern Face of Vault-A was exposed within Building Footprint March 2022. The Brick demising wall appears to have been partially knocked-down during building demolition.

Vault B Central of the Vaults. Northern of 2 adjacent vaults (B & C) that constitute entire street frontage of 217 Duffield Street, Brooklyn. This vault appears to have been built concurrently with the 217 Duffield Street Building. This vault appears to be a single-storey structure (below sidewalk grade) which aligns with the building's cellar.

Inaccessible at this time. There are no visible means to access the vault from the public street or from the adjacent Vault-A. All apparent access to Vault B appears to have been from within the now-demolished building.

Due to the placement of Fill material within the footprint of the demolished Building at 211/213 Duffield Street (as part of that building's demolition. There is no access from within the lot.

Vault C Southernmost of the Vaults. Southern of 2 adjacent vaults (B & C) that constitute entire street frontage of 217 Duffield Street, Brooklyn. This vault appears to have been built concurrently with the 217 Duffield Street Building. This vault appears to be a single-storey structure (below sidewalk grade) which aligns with the building's cellar.

Partially accessible

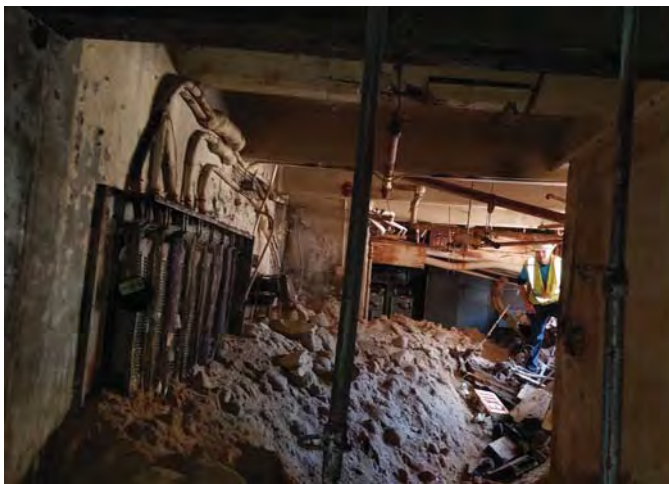
An existing grate was noted at Duffield Street's public sidewalk in the Willoughby Square Open Space construction documents. Apparently no exploration of the grate was conducted prior to the start of construction. Upon further investigation, the grate was found to have a ships-ladder below as well as an adjacent & defunct exhaust system. This grate & ladder down from the public sidewalk at Duffield Street allows limited access within Vault-C. Like Vault B described above, Vault C is no longer accessible from within the former building's footprint (211/213 Duffield street) as that building was demolished and its footprint was partially filled with rubble. The rubble migrated into the vault and has completely blocked any further access. It is noted that Vault-C contains panels of brickwork at portions of the northern & southern walls. It is also noted that there are numerous similar areas of brickwork panels delineating demising walls throughout these building's cellar & vaults. Example is included herein.

Photographs are included below for your ready reference.

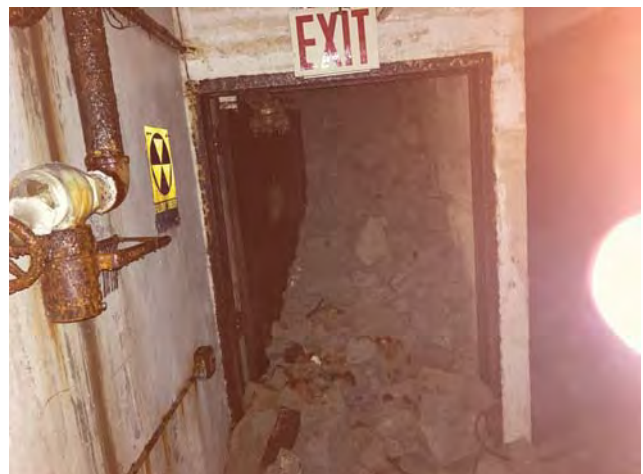


Vault A

Vault A below Sidewalk



Vault A Subcellar Level Vault

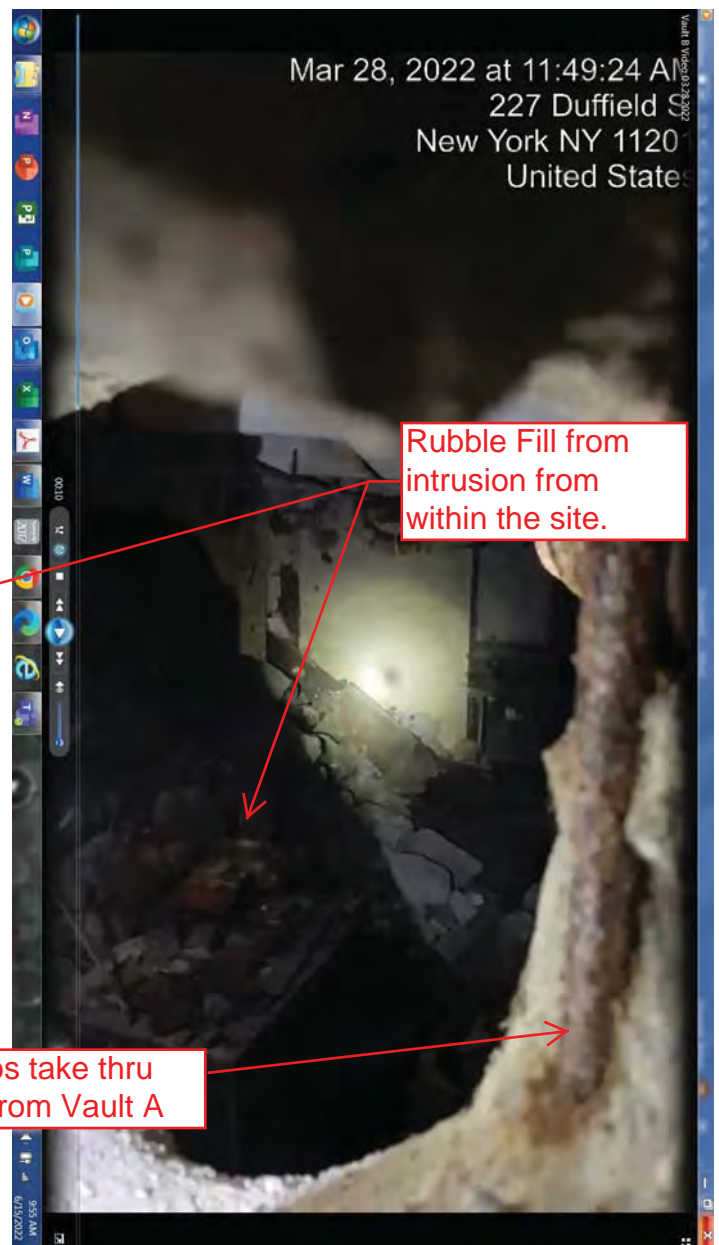
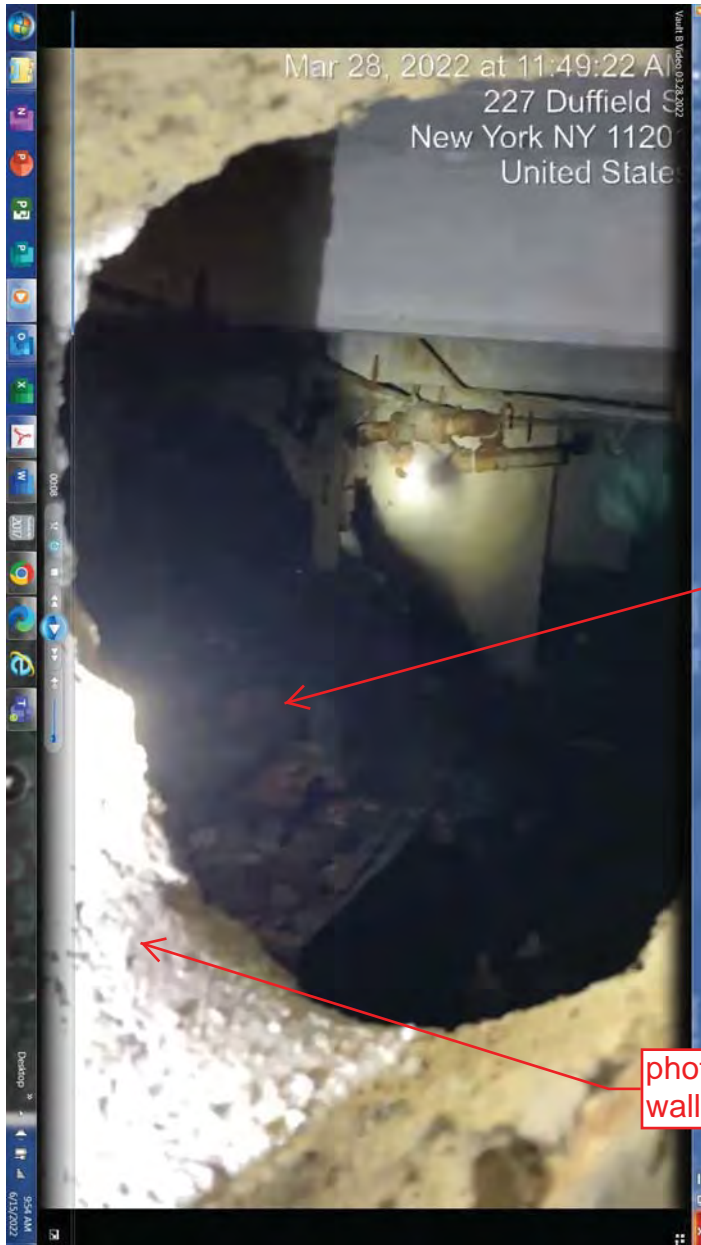




Vault B

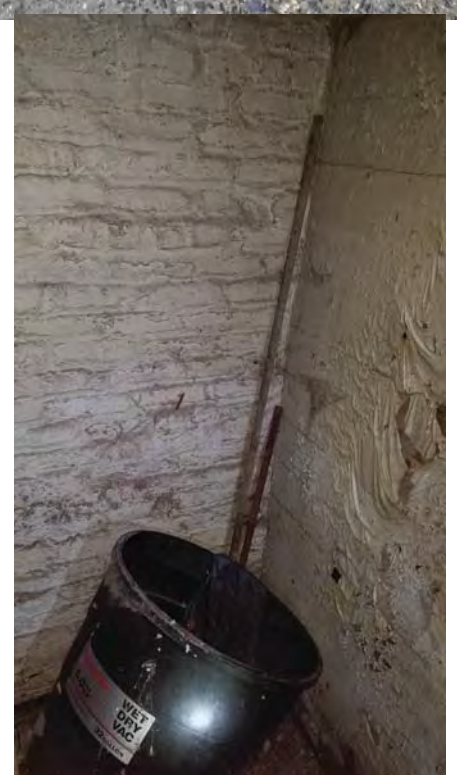
Vault B is inaccessible at this time. Attempts were made to take boreoscope images through the sidewalk but were unsuccessful. The images below came from a short video taken through a sleeve in the north wall of Vault B (from Vault-A)

Attempt to obtain photos from sidewalk level



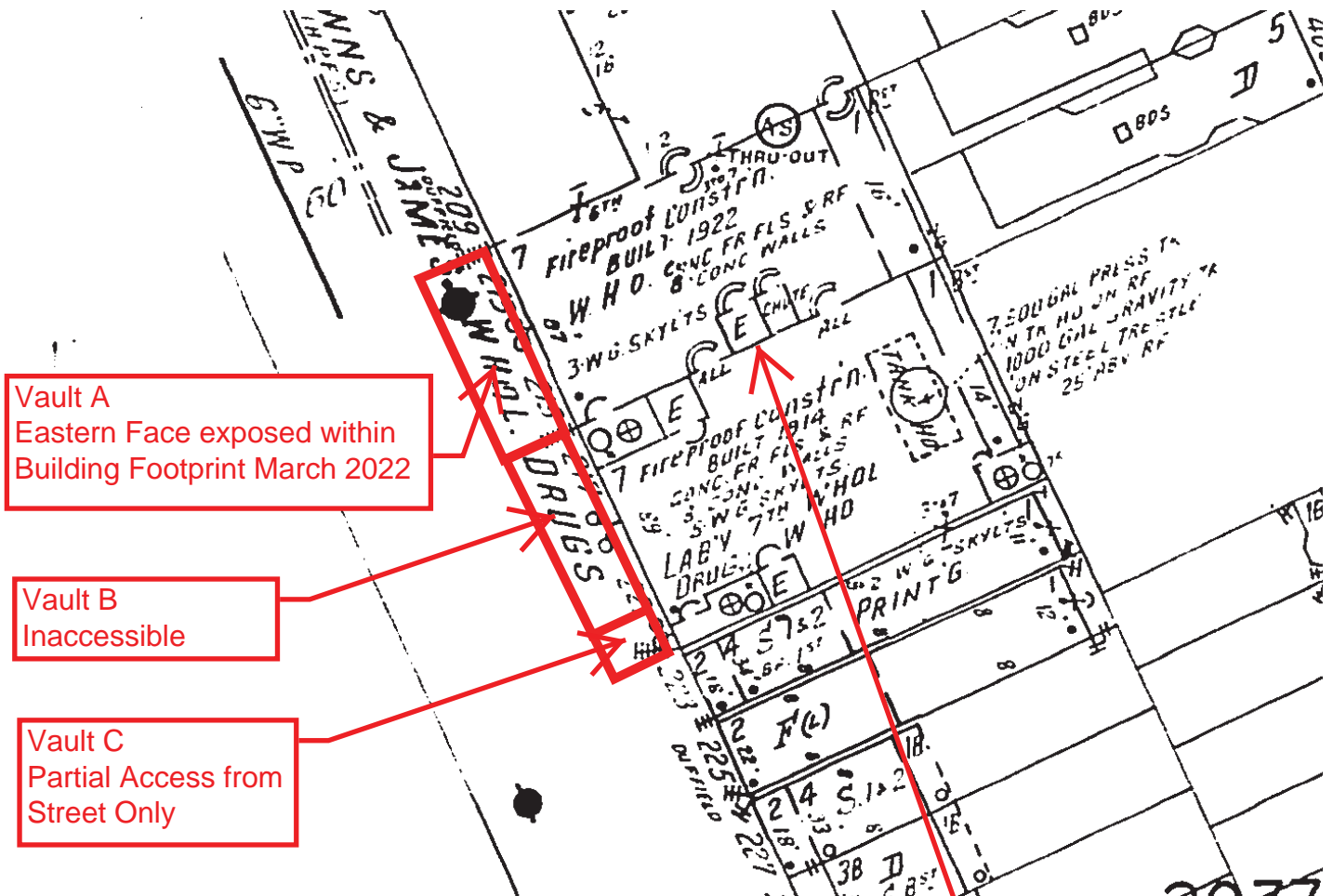


Vault C



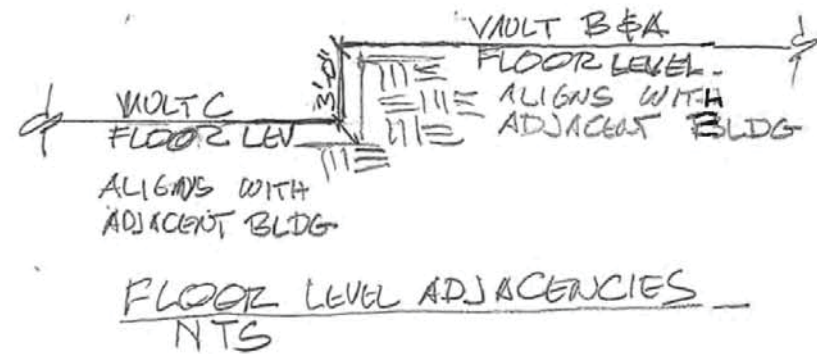
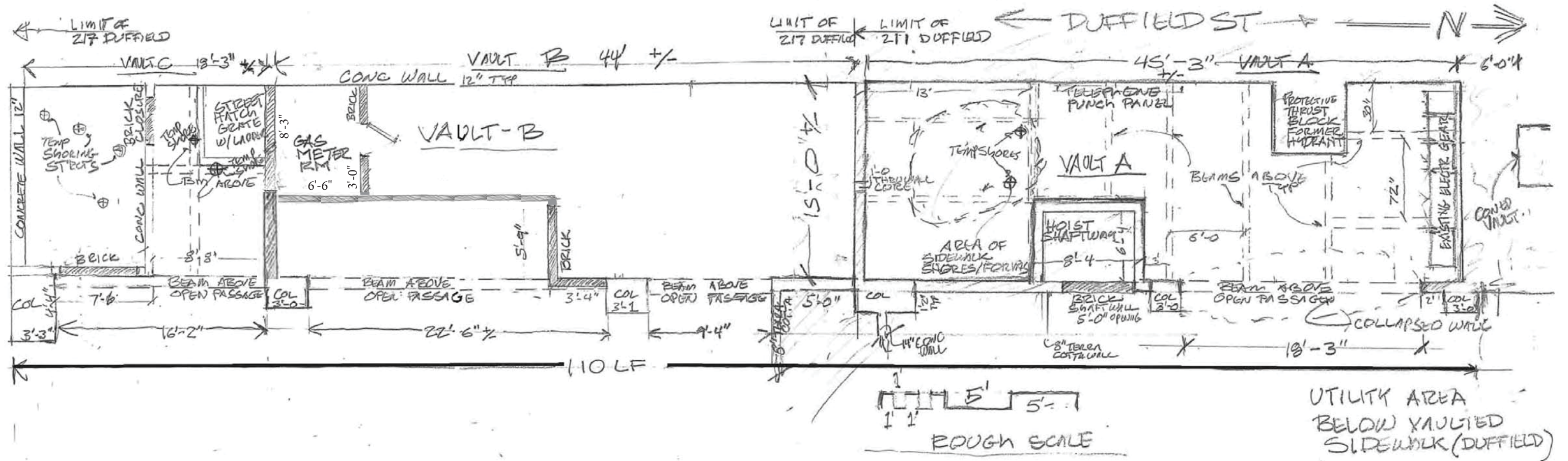


Vault positions overlaid on Sanborn block & Lot Map



Sample Brick Panel
along internal
Building party-wall

APPENDIX C: SUPPLEMENTAL SITE MAPS AND PHOTOGRAPHS OF VAULTS B AND C (LIRO 2022)



NOTES:

1. Hanging utility piping throughout;
2. Existing 4" CMU Walls along eastern demising line have collapsed at some areas;
3. Vaults have varying amounts of fill materials at floors;
4. Vaults A & B Floor-Levels appears to generally align with adjacent building cellar floor levels;
Note Change indicated at "Floor Level Adjacencies" Vault C floor Level is 36" lower than Vault B.
5. Vault Exterior wall thickness has not yet been determined. Projected anticipated wall thickness of 12"



LiRo Engineers, Inc.

Date: 2022-08-10

EXISTING VAULT CONDITIONS

211/213 ~215/ 217 Duffield Street

VAULTS
22-08-10

SK-



PHOTO L





PHOTO M2



PHOTO M3



PHOTO N



PHOTO 0



PHOTO P



PHOTO Q



PHOTO Q1`



PHOTO Q2



PHOTO R



PHOTO S



PHOTO T

**View Up to Underside
of Sidewalk**



PHOTO U

A photograph showing two metal components against a dark, textured background. On the left is a vertical metal rod with a bracket attached to it. The bracket has a circular hole and a small tab. On the right is a vertical threaded rod with a nut and a small tab. The background is dark and textured, possibly a wall or floor.

PHOTO V

**VIEW SOUTH TO
SW CORNER**



PHOTO W



PHOTO X



PHOTO Y

**VIEW UP TO UNDERSIDE
OF SIDEWALK**

A photograph showing a vertical metal rod or pipe. A metal bracket is attached to the rod with a bolt. The background is a weathered, textured wall with some reddish-brown staining. The text "PHOTO Z" is overlaid in the lower right.

PHOTO Z

**VIEW SOOUTH TO
SW CORNER**



PHOTO Z1

**VIEW DOWN TO
CONC-SLAB THRU
BRICK WALL**



PHOTO Z-2

**VIEW NORTH AT STREET LEVEL.
VAULT C SOUTH LIMIT MARKED
WITH ORANGE PAINT.**

**PRIOR CLOSURE OF OPENING
BELOW PERSON AT LEFT**

APPENDIX D: VAULT APPLICATION AND PLAN (BUREAU OF HIGHWAYS 1922)

THE CITY OF NEW YORK

PRESIDENT OF THE BOROUGH OF BROOKLYN

D.W.S.G.&E.No.

PERMIT No. A

Bureau of Highways

APPLICATION FOR PERMIT

498

notified 6/19/23

New York

Aug 21

1922

Application is hereby made by

Towns & James (Turner Constn Co)

residing at

217-21 Duffield St

to use the Roadway Sidewalk

in front of premises (House Number) 213-215

Duffield St

Street Avenue

between Willoughby St and Fulton St

for the purpose of Constructing a Vault

Dimensions

45'-0" x 15' =

675 sq ft

6775

3325

4225

8506.25

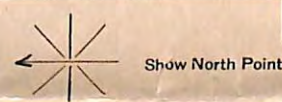
AUG 28 1922

Duffield St

Fulton St

Willoughby

102'



Show North Point

The estimated time required to complete the work is 100 days.

The applicant hereby agrees that all pavement disturbed shall be repaired by the Borough President at the expense of the applicant. In case settlement takes place within the area disturbed within a period of two years after the pavement was restored, it is hereby agreed that such settlement shall be repaired by the Borough President at the expense of the applicant, the charge for pavement repairs in each instance to be made at the current rate for such repairs fixed by the Borough President.

I hereby request the City of New York and the Borough President, through the Bureau of Highways, to issue a permit in accordance with this application, it being agreed and understood that all work done under the said permit shall be done in accordance with the Laws and Ordinances of the State and City of New York, and the rules and regulations of the Borough President.

Lots 21 Land 5200

22 6500

Chas E. Marley clerk

Henry Otis Chapman
Per H.C.P.

Architect
Title

Duly authorized to represent the Towns & James Co.

Sec 7

Block 2077

PAID
WATER
CASHIER BUREAU OF HIGHWAYS
BOROUGH OF BROOKLYN
AUG 21 1922

75' sq foot

DUFFIELD ST.



No 215 - 213.

Brooklyn, N.Y. June 25th 1923.
 Surveyed by Austin Sullivan & Son,
 CITY-SURVEYORS.

APPENDIX E: CERTIFICATE OF OCCUPANCY (DOB 1938)

CITY OF NEW YORK

No. 84103

OFFICE OF THE PRESIDENT OF THE BOROUGH OF BROOKLYN
 DEPARTMENT OF BUILDINGS

DATE Oct 11, 1937

CERTIFICATE OF OCCUPANCY

(Standard form adopted by the Board of Standards and Appeals July 22, 1932, and issued pursuant to Section 411-a, Greater New York Charter, and Chapter 5, Building Code, Code of Ordinances, City of New York.)

This certificate supersedes all previously issued certificates.

To the owner or owners of the building or premises:

THIS CERTIFIES that the ALTERED BUILDING—PREMISES

110/112 414 W. 11th St. Brooklyn, N.Y. 55.40'4" East of 5th Ave
 Located at

Block 2077 Lot 26-27-28

plans and specifications, and to the requirements of the building code and all other laws and ordinances, and of the rules and regulations of the Board of Standards and Appeals, applicable to a building of its class and kind at the time the permit was issued; and CERTIFIES FURTHER that, any provisions of law relating to standpipe and sprinkler equipment have been complied with as certified by a report of the Fire Commissioner to the Commissioner of Buildings.

THIS CERTIFICATE IS ISSUED SUBJECT TO THE LIMITATIONS HEREINAFTER SPECIFIED AND TO THE FOLLOWING RESOLUTIONS OF THE BOARD OF STANDARDS AND APPEALS:
 (Calendar numbers to be inserted here)

PERMISSIBLE USE AND OCCUPANCY

STORY	LIVE LOADS LBS. PER SQ. FT.	PERSONS ACCOMMODATED			USE
		MALE	FEMALE	TOTAL	
Cellar	150	—	—	—	STORAGE WHOLE SALE DRUG HOUSE
Basement	150				STOCK ROOM + BAKER ROOM
First	150	85	30	115	OFFICES + SHIPPING DEPT WHOLE SALE DRUG HOUSE
Second	150	20	2	22	STOCK ROOM, LIGHT W. RM. WHOLE SALE DRUG HOUSE
Third	150	25	0	25	Shoe
Fourth	150	10	0	10	SAME
Fifth	150	125	8	133	SAME + OFFICES
Sixth	150	25	40	65	SAME + OFFICES
SEVENTH	150	10	5	15	PHARMACEUTICAL LABORATORY
Total		245			Wholesale Drug House

Permit No. 5998 Type of Construction Brick-Framework
 Height 2+7 stories — feet Date of completion, construction 10/17/37
 Located in Manhattan zone at time of issuance of permit plumbing 11/16/36
 (over)

APPENDIX F: HISTORIC PHOTOGRAPHS



1941 photograph of the seven-story building on Block 146, Lot 18 in the center of the image. The three vaults are located under the sidewalk in front of the building. View looking south along Duffield Street. Courtesy New York Public Library.



1940s tax photograph of Block 146 (formerly Block 2077), Lot 18, the seven-story building at center left. The three vaults are located under the sidewalk in front of the building. View looking north along Duffield Street. Courtesy New York City Municipal Archives.



1940s tax photograph of Block 146 (formerly Block 2077), Lot 17, which was located immediately south of the current project area. The former seven-story building at 217-221 Duffield Street abutting the sidewalk vaults is on the left, with the freestanding mailbox marking the approximate southern side of Vault C, under the sidewalk. View looking east across Duffield Street. Courtesy New York City Municipal Archives.