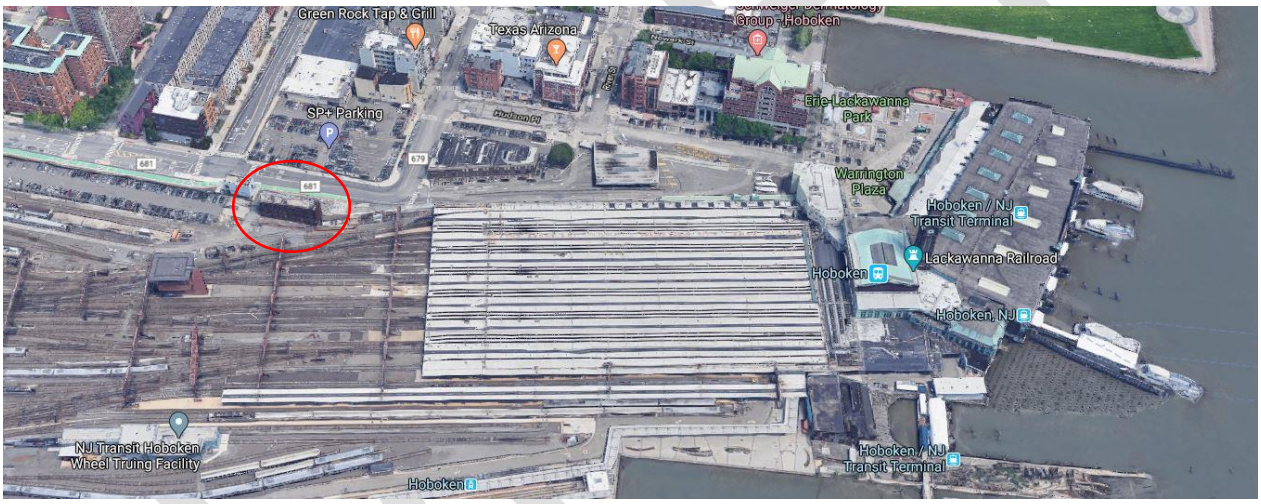
LACKAWANNA RECORDS BUILDING PROJECT – DRAFT ALTERNATIVES ANALYSIS

INTRODUCTION

The documentation provided herein was prepared in February 2020 by NJ TRANSIT and engineering consultant, STV, Incorporated, in partial satisfaction of the requirements of the National Historic Preservation Act for the Lackawanna Records Building Project. The persons involved in the authorship of this document have demonstrated experience with the evaluation of historic buildings and/or historic regulatory processes and documentation (refer to the attached resumes).

The Records Building is located at the northern border of the Hoboken Rail Yard, west of the Hoboken Rail and Ferry Terminal along Observer Highway in the City of Hoboken, Hudson County, New Jersey (circled in red in the aerial photograph provided below). The building was originally designed and built by the Delaware Lackawanna and Western Railroad, and has been owned by NJ TRANSIT since 1983. The project evaluated herein will be funded using state monies and, depending upon the work that is ultimately undertaken, New Jersey Department of Community Affairs permit(s) may be required. The project is being undertaken pursuant to the requirements of the National Historic Preservation Act (as explained under the Section entitled Regulatory Context below) with the Federal Transit Administration acting as the lead agency for this process.



PROJECT PURPOSE

The goal of the Lackawanna Records Building Project is to balance the need to address the existing public safety and structural capacity concerns related to the Records Building while respecting the historic significance of the structure. The Records Building was designed in 1901 by Delaware Lackawanna and Western (DL&W) Railroad architect, Frank J. Nies, and was constructed in 1904 as part of the DL&W's early 20th-century rail yard improvement program, making it the oldest extant building associated with the Hoboken Terminal and Rail Yard facilities. It has been determined to be eligible for listing in the National Register of Historic Places as a contributing resource to the eligible Old Main Delaware Lackawanna and Western Rail Historic District that extends across New Jersey from Hoboken to the Delaware River. The building has been vacant for decades, and exhibits wide cracks in and bowing of the exterior walls, deterioration of the roof and displacement of some of the upper parapet stones, ongoing water infiltration, and deterioration and missing material at the corner roof turrets. Little exists inside

the building as it has not be used for its original or any subsequent function for many years. Following a partial roof collapse, inspections undertaken by several independent engineers resulted in the recommendation that the Records Building be demolished.

PROJECT HISTORY

A portion of the roof parapet of the Records Building collapsed on July 31, 2019, and an evaluation undertaken on the same date by NJ TRANSIT structural engineering personnel identified several wide cracks in the exterior building walls, sections of missing roof parapet, partial parapet displacement, and areas of outward wall displacement. During an October 16, 2019 inspection performed by NJ TRANSIT's consultant, STV, the engineers noted bowed sections and diagonal cracks extending from the cornices, through the window openings, and down to the first floor on the exterior building walls; displacement of some of the top stones of the parapets; deterioration and partial missing elements at the corner cornice turrets; deterioration at the corners of the roof and extending into the side walls; and substantial accumulation of soil and debris on the roof. The STV engineer responsible for the inspection has demonstrated experience in the evaluation of historic structures (refer to the attached resume).

On January 3, 2020 an inspector from the New Jersey Department of Community Affairs (DCA), the official code compliance agency for the State of New Jersey, confirmed the findings of the STV report and noted that the building exhibited major roof and wall leaks. The DCA inspector issued a notice requiring that NJ TRANSIT post the Records Building as unsafe, properly protect the surrounding area from any falling debris prior to and during future demolition, and demolish the building no later than June 30, 2020. Following the DCA inspection, NJ TRANSIT cordoned off the area surrounding the structure with chain link fence and posted notices stating the building to be an unsafe structure.

In January 2020 the representatives of the North Hudson Sewerage Authority (NHSA), the owner of the pumping station located adjacent to the Records Building, determined that, due to the unsafe nature of the building, their personnel could no longer access their pumps for necessary maintenance and pre-storm cleaning. In early February 2020 the NHSA requested that the Hudson County engineering department consider establishing a larger restrictive buffer area around the building to protect pedestrian and automobile traffic. Later the same month, the NHSA determined that it would need to install a temporary protective scaffold over their manholes, not physically impacting the Records Building, to permit access to their facilities while protecting their workers. Cursory inspections performed in February 2020 by NJ TRANSIT structural engineering staff indicate that the bowing of the exterior walls of the Records Building appears to have increased since the summer of 2019.

REGULATORY CONTEXT

On February 12, 2001, the Federal Transit Administration (FTA), the New Jersey State Historic Preservation Office (HPO) and NJ TRANSIT entered into a Programmatic Agreement (PA) Regarding the Implementation of the Hoboken Terminal and Yard Master Plan, a condition of which was the proposed rehabilitation and adaptive reuse of the Records Building dependent upon available funding. The PA stipulated that, for any proposed major capital projects related to the various structures located within the Hoboken Terminal and Yard boundary (including the Records Building) with the potential to result in

an adverse effect, NJ TRANSIT would conduct an alternatives analysis and consult to resolve adverse effects pursuant to the requirements of the National Historic Preservation Act (Section 106). As the Records Building is a contributing resource to the National Register of Historic Places eligible Old Main Delaware Lackawanna and Western Railroad Historic District, and its demolition would result in an adverse effect, the FTA determined that the proposed demolition required review under the Section 106 process.

Section 106 requires that federal agencies consider the effects of undertakings on historic resources; as part of that effort a fundamental goal is consultation with identified consulting parties. The overall objective of the Section 106 process is to identify and avoid, minimize, or mitigate adverse effects on historic resources, with first priority given to avoidance and second to minimization. In situations where a project cannot avoid or minimize adverse effects, the "resolution" of those effects takes the form of a formal agreement identifying mitigation measures commensurate with the anticipated project effects.

In December 2019 the FTA initiated consultation with the HPO to define the steps necessary to satisfy the requirements of the Section 106 process and to develop a public outreach plan and identify consulting parties for the proposed Lackawanna Records Building project. The FTA, through NJ TRANSIT, subsequently invited the following identified Section 106 consulting parties to participate in project consultation and provided those parties with copies of relevant correspondence related to the condition of the building:

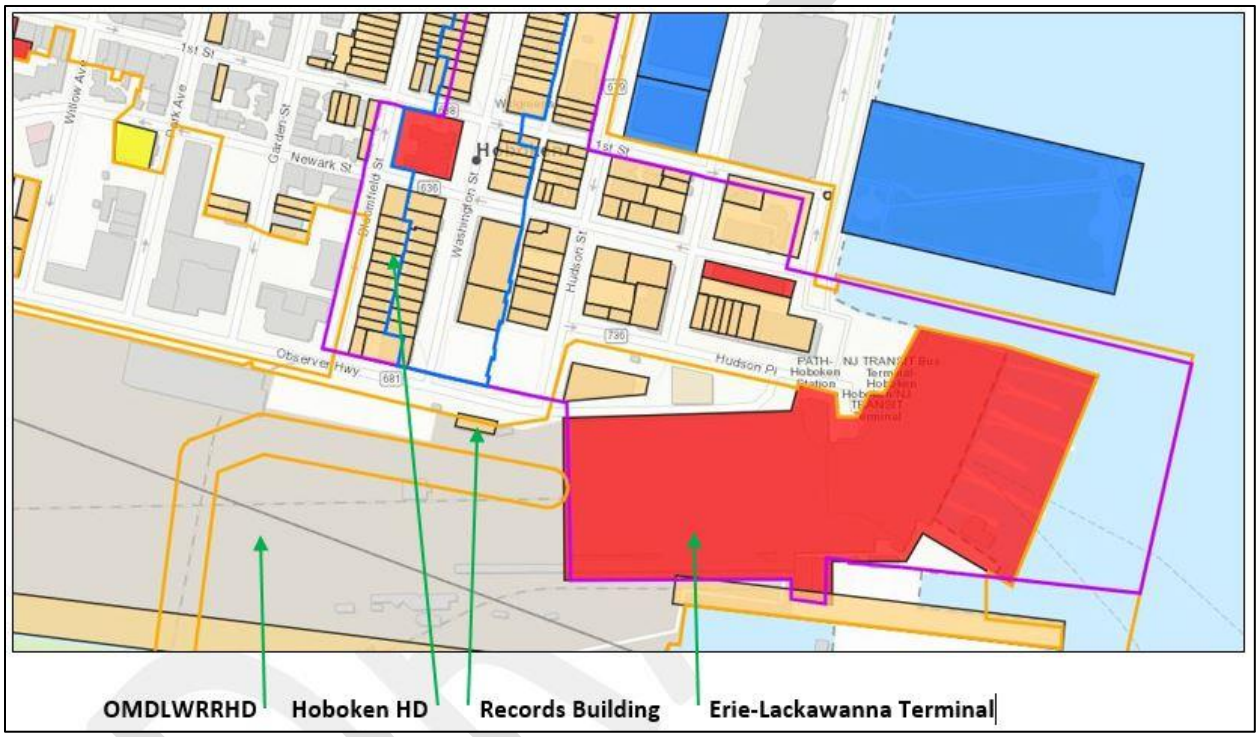
- ✓ The City of Hoboken
- ✓ The Hoboken Historic Preservation Commission (HPC)
- ✓ The New Jersey State Historic Preservation Office (HPO)
- ✓ The Hoboken Quality of Life Coalition (QLC)
- ✓ Preservation New Jersey (PNJ)

The FTA and NJ TRANSIT consulted with representatives of the HPO, the City of Hoboken, the Hoboken HPC and the City of Hoboken Zoning office during an initial consultation meeting held on December 16, 2019 to discuss the project and the Section 106 process. As discussed during that initial meeting, NJ TRANSIT and STV prepared a preliminary draft Alternatives Analysis (AA) for evaluation prior to the next scheduled consultation meeting. The FTA and NJ TRANSIT met with representatives of the HPO, the City of Hoboken, the Hoboken HPC, the City of Hoboken Zoning office, the QLC and PNJ on February 10, 2020 during which time the contents of the preliminary draft AA were discussed; following the meeting all consulting parties offered additional comments for inclusion in a revised AA. This document is the result of that revised and supplemented evaluation.

HISTORIC RESOURCES

The following National Register of Historic Places (NR) eligible or listed historic resources located within the project area have the potential to be impacted by the execution of the project:

- Erie-Lackawanna Terminal (NR-listed 2005)
- Hoboken Historic District (NR-eligible 2016)
- Old Main Delaware Lackawanna and Western Railroad Historic District (OMDLWRRHD) (NR-eligible 2004)
- Records Building (contributing resource to NR-eligible OMDLWRRHD)



Resource Information

The Delaware Lackawanna and Western Railroad (DL&W) was formed in 1853 from several earlier rail companies. It was both a freight line and a busy passenger corridor that helped to develop numerous municipalities across New Jersey. The OMDLWRRHD is significant for its magnificent engineering accomplishments, such as the Lackawanna Cutoff, its beautiful concrete and brick stations, and its architectural masterpiece - the Erie-Lackawanna Terminal in Hoboken. The Terminal was constructed in 1907 to replace an earlier building that had burned down two years earlier. It was designed and constructed as an intermodal transportation complex linking rail, ferry, subway, bus and pedestrian traffic – and originally also served trolley traffic. The hub of all of the DL&W's commuter rail lines, the Terminal is significant as an exceptional example of early 20th-century terminal construction designed by classically trained architect, Kenneth Murchison and renowned civil engineer, Lincoln Bush (for whom the train shed is named). The Hoboken Historic District, the boundaries of which encompass three formerly separate districts extending over a large portion of the City of Hoboken, contains a wealth of

architectural residential gems as well as many former industrial, now repurposed, buildings all of which illustrate the City's development over time from a center of industry to a thriving commercial and residential area.

The Records Building

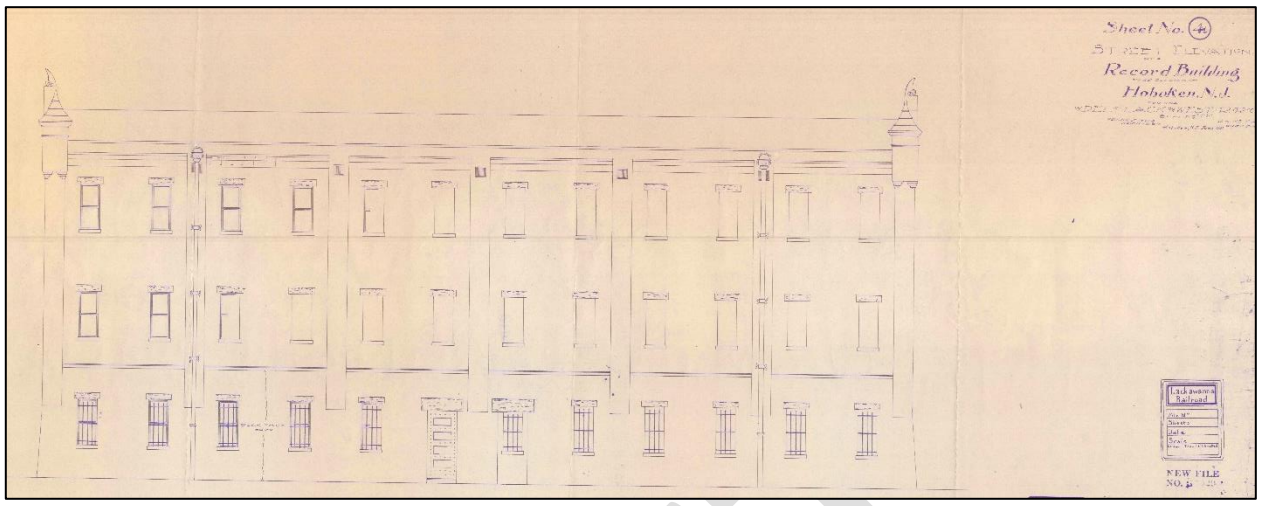
The Records Building was designed in 1901 and constructed in 1904 as part of the DL&W's early 20th-century rail yard improvement program. As the oldest extant building of the Hoboken Terminal and Rail Yard facilities, it was originally designed for the storage of railroad records (documents). The building has been vacant and unused for an unknown period of time and certainly since the date of NJ TRANSIT's 1983 assumption of ownership. As is stated in the "Hoboken Terminal and Yard Preservation Plan" prepared by 1996 by Beyer Blinder Belle (BBB):

"While the Records Building's highly articulated red brickwork, as well as the fanciful cornice and roofline, are stylistic references to English Victorian Gothic Revival architecture, the structure's protective function – the storage of DL&W records – is represented in features drawn from medieval fortress architecture: a battered base of rough-face brick, ground story windows covered with heavy iron grilles and iron shutters, narrow door and window openings, heavily rusticated lintels and stone sills, and corner turrets at the roofline."

The three-story red brick building is approximately 24 feet wide by 96 feet long. It has a heavy battered base with a contrasting concrete base course, and the corners are built out with piers that rise past the roofline to terminate in turrets supported by brick corbels and topped by molded copper cornices. The north and south elevations are separated into six equal bays by heavy pier pilasters; the east and west facades are each bisected by a single pier pilaster running from the base to the roofline.

As BBB also notes in the 1996 Preservation Plan, the original drawings (see the example below) indicate that there was a single entrance to the building, fitted with a metal door, located near the center of the Observer Highway elevation. This entrance opened to a square, first-floor stair hall with the remainder of the floor area consisting of open space. The floor plans on the second and third floors had the same layout.

At a past unknown date, the majority of the interior elements of the building were removed; during the period of NJ TRANSIT ownership the only known use has been for the storage of miscellaneous items. Due to long-standing concerns with general building safety, personnel have not been permitted to enter the building for a number of years. However, the building is known to contain at least one mahogany bookcase that may date to the Records Building's historic use, and likely still contains an original staircase with decorative iron railings and a dumbwaiter. NJ TRANSIT has no information regarding how the DL&W historically utilized the building in terms of how company documents were actually stored; however, the fully open space interior layout with no partition walls would seem to indicate that books and other documents were merely stored on shelves and were transported between stories using the dumbwaiter.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Record Building
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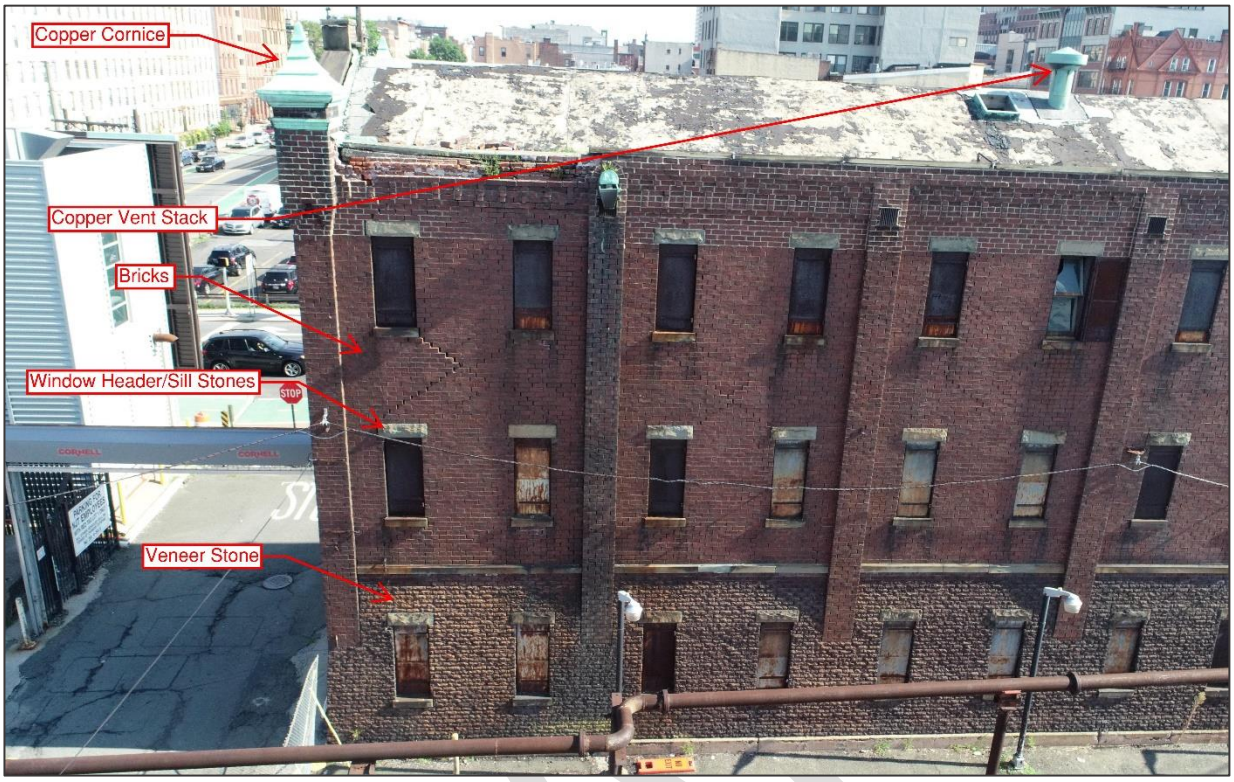
Lackawanna Railroad
NEW FILE

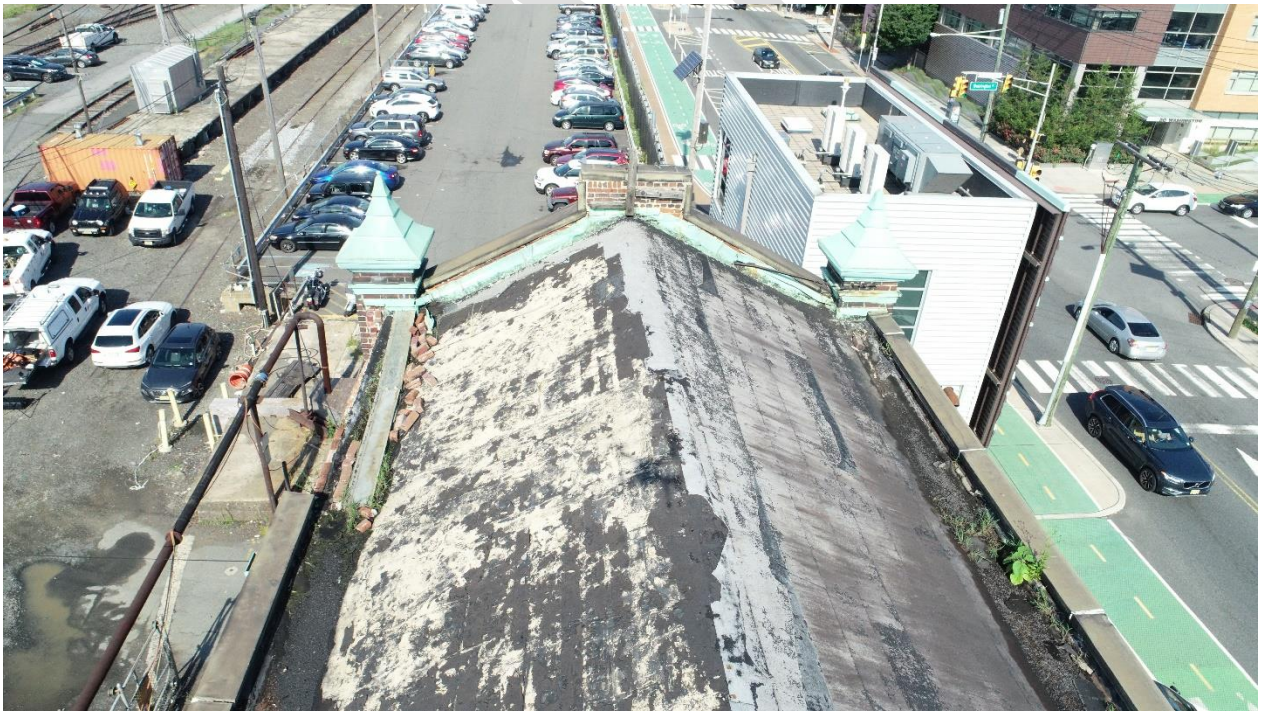
South Elevation Noting Building Elements Taken August 2019



Undated Interior Photograph

Interior Photographs Taken 2014

General Exterior Conditions Photographs Taken August 2019



ALTERNATIVES ANALYSIS

The section that follows describes the alternatives developed to address the concerns with public safety associated with the condition of the Records Building alongside the Section 106 requirement to consider all reasonable means of avoiding or minimizing adverse effects to historic properties. The feasibility of the various alternatives is largely dependent upon a number of constraints associated with the condition and location of the building; the means of construction and configuration of the building; the systems within the existing building versus those required for new construction or rehabilitation; the surrounding infrastructure and nearby functions; the availability of proximate resources; and the impact of planned separate (non-NJ TRANSIT) projects.

Building, Site and Separate Project Constraints

Conditions Constraints

The Records Building has been evaluated by structural engineers both from NJ TRANSIT's Capital Programs structural engineering staff and from an independent engineering consultant (STV Incorporated), and both engineers have identified a number of structural defects and safety hazards in the building's current condition. In addition, a New Jersey Department of Community Affairs inspector evaluated the Records Building and ordered that the building be demolished by June 30, 2020 determining that the building represents an unacceptable safety hazard to the public. The perimeter bearing walls display diagonal cracks which have formed in the mortar joints due to moisture infiltration and repeated freeze/thaw cycles. In addition to the cracks in the mortar, the freeze/thaw cycles are causing the walls to bow out, and the cornices have been pushed out and are moving away from the building. The other types and extent of building deterioration are noted in the earlier sections of this document. The several engineering assessments of the structure indicate that attempts at repair, rehabilitation or stabilization have the considerable potential to result in further loss of material and/or destabilization of the structure either in whole or in part. The observed structural defects also make it infeasible to pick up the entire building as an assembled unit and move it to a new location.

Given the current condition of the building, and due to structural conditions that have been worsening over the past years and were exacerbated by both water infiltration from the roof level and flooding from past storm events, the NJ TRANSIT Office of System Safety has determined that it is unsafe for any person to enter the Records Building. As some of the proposed activities associated with the alternatives discussed below would require construction personnel to enter the Records Building to perform the work, this restriction significantly impacts the feasibility of some of the evaluated actions.

Code Constraints

The Records Building was not designed or constructed to be a habitable space. Therefore, the structure does not have any restrooms, elevators or other provisions to enable it to comply with Americans with Disabilities Act (ADA) accessibility requirements. It also has only a single means of ingress/egress, and lacks fire sprinkler/alarm systems, bathrooms, emergency lighting and HVAC systems. Furthermore, it falls far short of meeting building code requirements of the present day, and its design does not comply with modern energy codes or seismic requirements. The Rehabilitation Subcode (NJAC 5:23-6) of the current Building Code has provisions addressing older structures that were built to either comply with an earlier code or, in some cases, no building code, such that their rehabilitation and/or change in use might

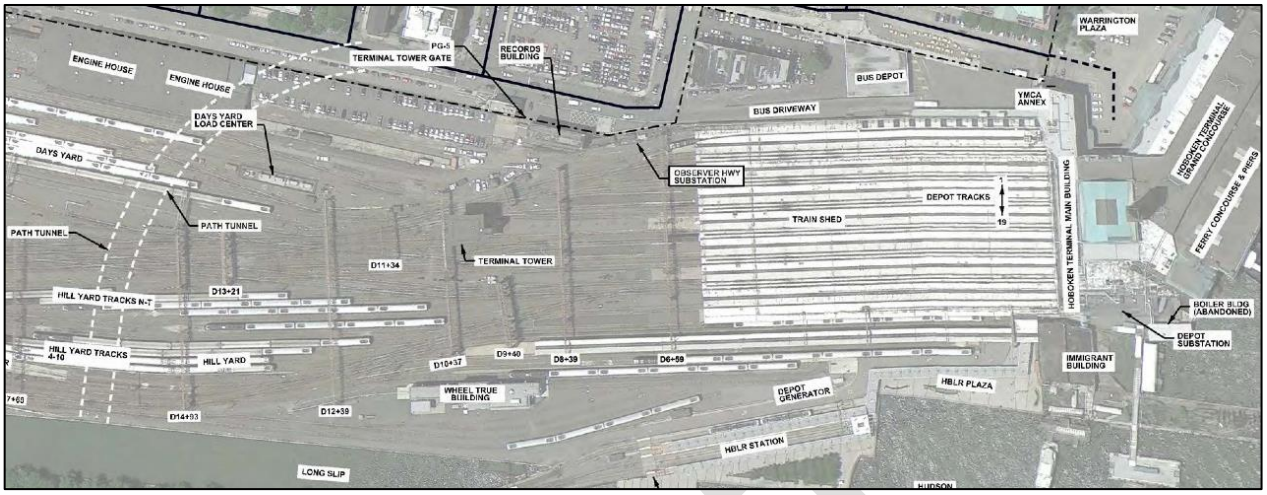
be undertaken without performing the upgrades required to bring a historic building into full compliance with the current Building Code while still ensuring safety and structural integrity. Depending upon the building's intended function and improvement classification, some normally required systems might not be needed in the case of a planned adaptive reuse. Current Building Code for either rehabilitation of the Records Building or some option associated with relocation or reconstruction would necessitate the introduction of all of the systems and elements noted above as would be required for any newly constructed building. In the event of rehabilitation for adaptive reuse, some systems upgrades would be required but the extent of these intrusions would be dependent, in large part, upon the intended use and the classification of the improvements (Repair, Renovation, Alteration, Reconstruction, etc.).

Configuration Constraints

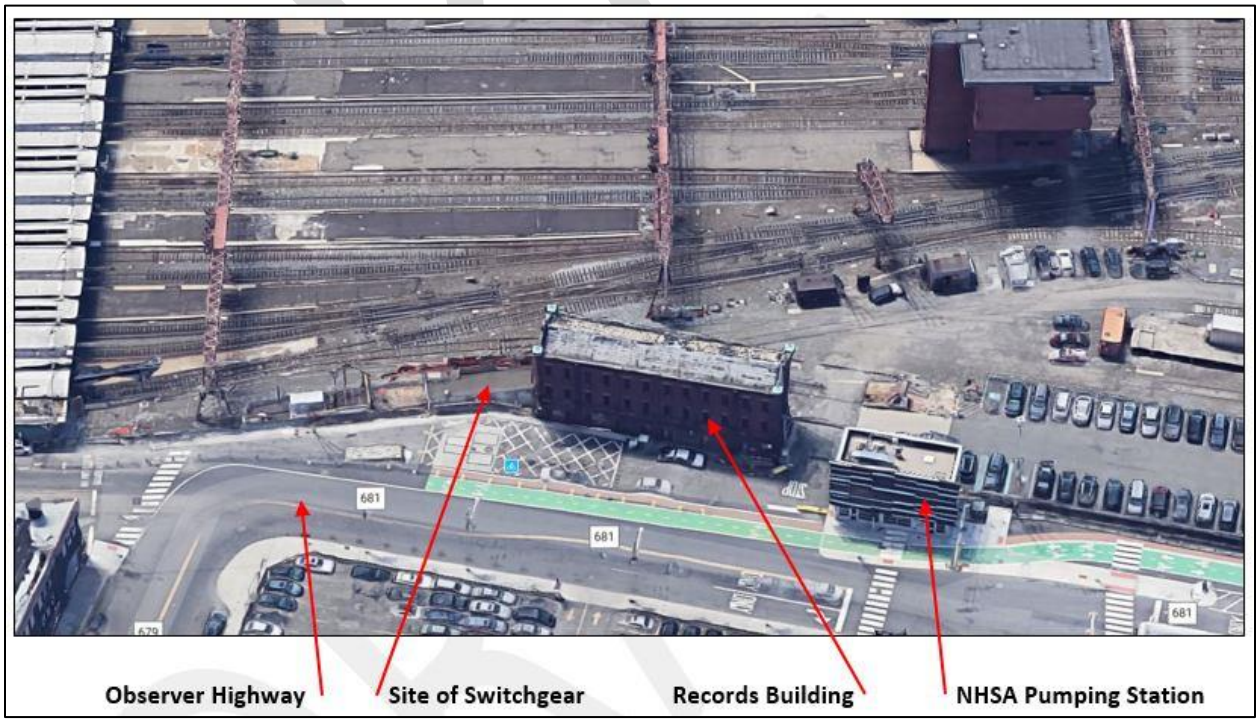
The Records Building was not constructed in the method of more commonly familiar modern brick buildings having an underlying structure that supports and braces the walls that are covered with a masonry veneer. It is simply a brick masonry building that relies for its structural support and stability on increasingly thick courses of brick from the top to the bottom of the building. Unlike buildings of more typical modern configuration, wherein the roof parapet is not a structural element, the gable roof of the Records Building has no structural triangulation (characteristically used to provide structural stability) and is tied directly to, and held in place by, the parapet and masonry walls. Accordingly, the entire or even partial collapse of the parapet would result in loss of support and would compromise the integrity of a section of the roof system. While there is a ridge beam supported by interim walls and columns, the columns do not extend the full height of the building, and a partial roof collapse would likely result, in turn, in a partial collapse or destabilization of the exterior wall(s).

Site Constraints

The Records Building is located at a site immediately adjacent to both the Hoboken Rail Yard and Observer Highway where the loss of building materials has the potential to result not only in damage to the building itself but also to pedestrians, vehicles, rail equipment and nearby structures. Hoboken Terminal Station Track 1 passes approximately 35 feet from the southeast corner of the building and a yard track that connects to Track 1 and provides access into Days Yard and the Engine House is approximately 18 feet from the southeast corner (see the partial yard aerial below). Also, on the south side of the Records Building there is a paved walkway/driveway that allows personnel to travel between the Terminal and the parking lot and allows materials to be moved from yard buildings to the Terminal. The recently constructed NJ TRANSIT Observer Highway Switchgear Station (that houses equipment supporting utility metering and distribution of the Public Service Electric and Gas (PSE&G) electric service to the Depot [Terminal] Substation) is located less than five feet from the east wall of the Records Building. A NJ TRANSIT driveway providing access to employee parking within the Rail Yard is located to the west and passes between the Records Building and the North Hudson Sewerage Authority (NHSA) pumping station.

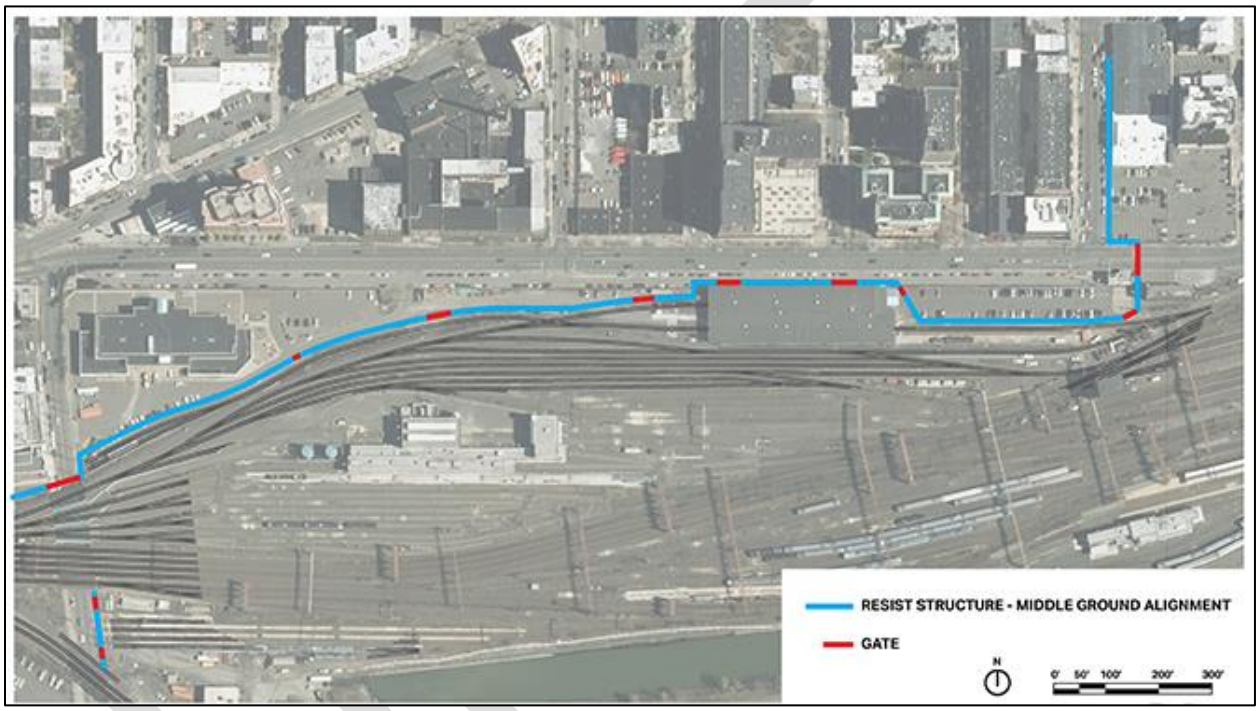


The NHSA facility (discussed in the Project History section above) is situated approximately 25 feet west of the Records Building on Observer Highway, and NHSA manholes used for access to their pumping equipment are located less than 15 feet from the building's north façade. The near edge of the eastbound travel lane of Observer Highway is approximately 35 feet from, and parallel to, the Records Building. The bicycle path is located approximately 25 feet from the building, and a pedestrian walkway is located approximately 20 feet from the building. The Port Authority [of New York and New Jersey] Trans-Hudson (PATH) system tubes run under the Hoboken Rail Yard approximately parallel to and 60 feet south of the property on which the Records Building is situated. An additional site constraint is presented by there being no available property in the general vicinity of the Records Building to accommodate vehicular parking that would be important to repurposing the structure for non-rail use.

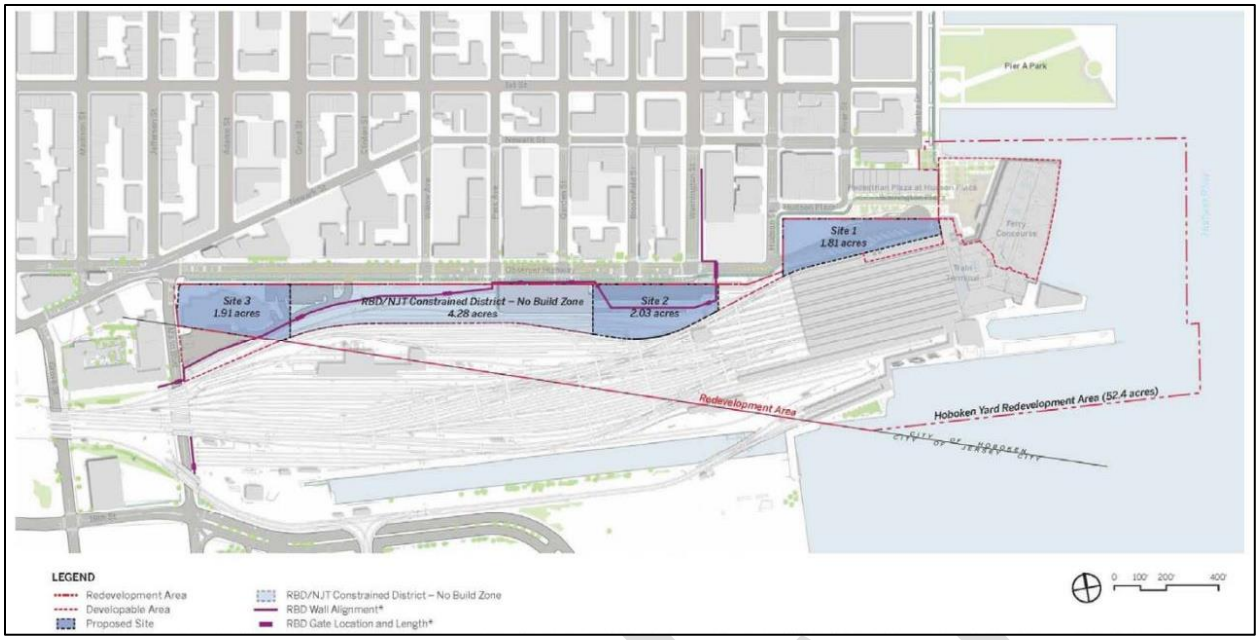


Non-NJ TRANSIT Project Constraints

As a result of a competition called Rebuild by Design (RBD) launched in 2013 by the US Department of Housing and Urban Development (HUD), funds were awarded to the State of New Jersey for the execution of a project to reduce flooding in Hoboken, Weehawken and Jersey City. One element of the project that will be constructed in Hoboken is a floodwall that will run in a west/east direction along Observer Highway and the NJ TRANSIT Rail Yard and turn north at Washington Street (see the aerial view below). This wall placement is intended to provide flood protection for a large portion of the City of Hoboken but will result in the Records Building being behind the barrier and, therefore, within the area that will continue to both experience regular weather- and tide-driven flooding, and be susceptible to future storm-related water inundation such as that which occurred during Superstorm Sandy in 2012.



Potential sites for relocation are constrained not only by the limited available property in reasonable proximity to the existing site of the Records Building, but also by the planned redevelopment of properties along Observer Highway, referred to as the "Hoboken Yard Redevelopment Plan," by NJ TRANSIT's designated developer, LCOR. The current LCOR plan proposes the construction of mixed-use buildings within three sites along the northern boundary of the Rail Yard, with an intermediate "no build zone" (see the aerial view below). The introduction of both the RBD flood wall and the LCOR construction significantly limits the available space for the possible placement of a relocated/reconstructed building utilizing materials salvaged from the Records Building.



Alternatives Introduction

As the primary intent of the Section 106 process is the avoidance of adverse effects, the alternatives detailed below were assessed relative to their ability to avoid, or if not avoid then minimize, such effects to the Records Building. Where a given alternative does not avoid or minimize adverse effects, it has also been evaluated relative to its feasibility as a mitigation measure.

The costs for each studied option were developed at a conceptual rough order of magnitude level based upon a unit price formatted estimate with adjustments for the complexities of the project and productivity factors relevant to the existing conditions and working within and adjacent to an operating rail yard. The cost estimates assume a General Construction Contracting approach for a lump sum bidding environment, and at a minimum for bid comparison it is expected that a range of three to five bids would be received for the work to be performed as third party work. The estimates were prepared utilizing trade labor, material and equipment rates for Hoboken, New Jersey by RS Means weighted average material and labor cost factors. Prices were arrived at utilizing Local Union wages and include fringe benefits as per the RS Means database and statutory contributions as well as average factors developed to account for general liability and workers' compensation costs.

As the funding source for the execution of any proposed measures beyond the DCA-mandated demolition itself has not yet been identified, it is not yet possible to set timelines for the execution and completion of the various alternatives.

Alternative 1 – No Build Alternative

At a minimum, the No Build Alternative must mitigate the existing safety hazard by stabilizing the structure with external supports around the building to prevent pedestrians from coming near the Records Building, and constructing covered walkways in areas where operations or other obstructions necessitate that pedestrians come near the building. Simply leaving the building alone and doing nothing would not address public safety, code compliance, or preservation concerns. Supporting structures could be temporary or permanent. The No Build Alternative includes temporary/ongoing scaffolding structures; permanent stabilization is discussed in the Stabilization Without Rehabilitation Alternative below. The Building Code only permits temporary structures to be erected for a limited period of time (90 days). Accordingly, the scaffolding would need to be periodically taken down and re-erected for as long as the Records Building remains in place.

The initial estimated cost of the No Build Alternative would be approximately $437 Thousand. The scaffolding portion represents approximately $292 Thousand of this initial cost and would be incurred every three months, or $1.17 Million annually. Semi-permanent supports may not be feasible under the Building Code and do not halt deterioration of the structure.

The No Build Alternative with temporary scaffolding may be technically feasible but does not satisfy the need to address the significant safety concerns in the long term and does nothing to ensure the future preservation of the Records Building. This option would result in no adverse effect to the Records Building in the short term; however, the long term ramifications of doing nothing other than protecting the area surrounding the structure would almost certainly be additional material loss and instability which would ultimately have negative impacts on the historic resource.

Alternative 2 – Stabilization Without Rehabilitation Alternative

The Stabilization Without Rehabilitation Alternative would construct triangular bracing/shoring structures on all four sides of the Records Building that would prevent or limit the ability for the walls to bow or move further away from their plumb lines. The walls are approximately 38 feet tall and the smallest angle that could be used at the top of the bracing structures is 30 degrees. As a result, bracing structures would extend a minimum of 22 feet away from the building walls on all four sides. While this approach is one that is, in general terms, feasible, it is best implemented at a building that is located on an open site with a significant amount of clear space around the building. As described in the Site Constraints section above, the Records Building is located on a congested site, and there is limited clear space around the structure. Bracing/shoring structures on the south side of the building would interfere with the paved walkway/driveway and the yard track. Bracing/shoring structures on the east side of the building would interfere with the newly constructed Observer Highway Switchgear Station. Bracing/shoring structures on the west side of the building would interfere with the driveway that provides access to the employee parking lot and would block the access to the NHSA manholes. In addition, were this approach able to be implemented, it would make the building unusable and would result in the long-term abandonment of the building, which would represent an adverse effect.

A rough order of magnitude construction cost estimate for the Stabilization Without Rehabilitation Alternative would be approximately $800 Thousand.

The Stabilization Without Rehabilitation Alternative is not feasible due to the many site related constraints associated with attempting to install a stabilizing bracing/shoring structure. The bracing/shoring structure would significantly interfere with existing infrastructure and operations surrounding the Records Building and as such is ultimately not prudent. This option would not meet the criteria for long-term avoidance or minimization of adverse effects pursuant to Section 106.

Alternative 3 – Rehabilitation/Stabilization in Place Alternative

The Rehabilitation/Stabilization in Place Alternative would involve significant and extensive repairs to the building that would impact the aesthetic appearance and historic character and structural integrity of the building. Repairs would consist of the following:

- The cornices would need to be tied back with steel straps installed across the cracks separating the cornices from the bearing walls. Exterior steel tie-back straps would be through-bolted into the brick walls at all four corners of the building and connected with tiebars that would surround the entire building. These steel tie-back straps and tie-bars would be installed at multiple levels of the exterior façade to pull the cornices and exterior walls in towards the building lines.
- The existing concrete roof and roof membrane would need to be completely replaced and restored.
- The parapet stones would need to be fully anchored to the parapet brick, and missing parapet stones would need to be replaced.
- The visible cracks would need to be infilled with joint filler to stop any further penetration into the exterior brick.
- All brick joints would need to be repointed.

The Rehabilitation/Stabilization in Place Alternative does not include additional alterations such as the installation of utilities, entrances, windows, and other amenities that would make the structure suitable for adaptive reuse. The existing building was constructed for records storage, and does not meet current code requirements for any residential or most commercial uses. (The Adaptive Reuse Alternative discussed below details the building's code deficiencies and describes additional rehabilitation and alterations necessary for several potential adaptive reuse scenarios.)

The Rehabilitation/Stabilization in Place Alternative would reduce effects to the historic resource as compared with the impacts of any of the evaluated options that call for demolition or deconstruction. This option is technically feasible and would address the current safety concerns associated with the condition of the building. However, it would not be true historic preservation in the strict sense because it would result in the loss of integrity to individual and collective architectural elements that contribute to its intrinsic historic value.

The Rehabilitation/Stabilization Alternative without an adaptive reuse plan would incur ongoing economic costs that result in a disincentive to maintain the building in the long term. NJ TRANSIT inherited the building from the predecessor railroad company and has not been able to find an economically justifiable use for the building. The present and future funding constraints of the building site make finding a willing buyer difficult if not infeasible. The cost of maintaining a structure that NJ TRANSIT cannot use represents a diversion of funds intended for transit. Finally, as the rehabilitation and stabilization work would require construction personnel to access the interior of a building that has been designated by NJ TRANSIT's Office of System Safety as unsafe to enter, it would not be a prudent alternative to undertake.

A rough order of magnitude construction cost estimate for the Rehabilitation/Stabilization in Place Alternative would be approximately $2.86 Million.

In summary, although the Rehabilitation/Stabilization in Place Alternative would reduce effects to the historic resource as compared with the impacts of any of the evaluated options that call for demolition or deconstruction, it would not fully meet established standards for historic preservation and would require some compromise of historic integrity. In addition, building and site constraints; the resulting lack of viable tenants or buyers; the long term challenges to maintenance; and the short term hazards associated with the rehabilitation work make this option less prudent than other alternatives. This alternative would not be an avoidance alternative under Section 106.

Alternative 4 – Adaptive Reuse Alternative

The Adaptive Reuse Alternative would require the building to be rehabilitated and renovated to suit the intended reuse function. Rehabilitation would be similar to the work described in the Rehabilitation/Stabilization in Place Alternative above, which is feasible, but would significantly impact the aesthetic appearance and character of the existing building. The Records Building is located behind the planned RDB flood wall on the west side and will still be subjected to flooding during storm events. As a result, any reuse options would need to be located on the second or third floors of the building so that the reuse elements/functions are resilient and protected from damage resulting from flooding. To prevent the flood waters from continuing to stress the building's structural system, the ground floor level would need to be modified to provide intentional flooding points that would allow flood waters to freely flow in and out of the building.

In addition, the Records Building would need to be renovated to suit the new building's use, and its rehabilitation might require reconstruction work to be performed in connection with the change in use. The Records Building has an Occupancy Classification of S-1 (Storage, Moderate Hazard) as it was historically utilized to store books and paper files. Depending upon the Occupancy Classification of an identified new use and whether reconstruction would be required would depend upon what upgrades are needed in the following areas:

- Means of Egress – The current building only has one means of egress, and two may be required to comply with the rehabilitation code.
- Enclosure of Vertical Openings – The current building has an open stair leading up to the second and third floors, and the stair may be required to be enclosed to comply with the rehabilitation code.
- Automatic Sprinkler Systems – The current building does not have an automatic sprinkler system. While it is unlikely that the change in use would require that a fire sprinkler system be added, this must be investigated and, depending upon the use, one might be required to comply with the rehabilitation code.
- Fire Alarm and Detection Systems – The current building does not have a fire alarm and detection system, but one would likely be required to comply with the rehabilitation code.
- Structural Requirements – Structural upgrades will be required to support the intended use and to restore the building to a state that is structurally sound and in good repair.
- Plumbing Requirements – The current building has no restroom facilities, but the fixtures appropriate to the new use would need to be added to comply with the rehabilitation code.
- Mechanical Requirements – The Records Building will require heating and ventilation system improvements to support the intended use to comply with the rehabilitation code.
- Accessibility Requirements – The implementation of accessibility improvements may be required depending upon the new use and the square footage of the area being repurposed for the new use.

There are a number of possible adaptive reuse options; some of these options include:

- Terminal Wayside Power Substation – The building could possibly be used as a location for a substation that would provide wayside (stand-by) power to trains parked in the Hoboken Terminal.
- Lost and Found Storage – NJ TRANSIT passengers leave a variety of items, ranging from umbrellas to bicycles, on trains. The Records Building could possibly be used as a storage location for lost items until they are claimed or the waiting period required prior to discarding the items has expired.
- Bicycle Storage – The building could possibly be used as a location for the storage of bicycles used by persons utilizing the Hoboken Terminal.
- NJ TRANSIT Police – The Records Building could possibly be renovated and used as a new headquarters location for NJ TRANSIT police operating out of Hoboken.
- Conductors' Crew Quarters/Locker Rooms – The Records Building could possibly be renovated and used as a new crew quarters/locker room space for NJ TRANSIT conductors.
- Vendor Space – The building could possibly be renovated and rented out to a third party vendor for use as retail space.
- Combined Sewer Overflow (CSO) Storage Structure – The building could possibly be renovated and used as a location for the North Hudson Sewerage Authority to provide a structure and equipment to store excess stormwater during periods of heavy rain or snow melt.

Although the activities required to rehabilitate and reconstruct the Records Building for a new function are feasible, many of these options may not be practical and/or they could not be undertaken without the complete dismantling of the structure which would, in itself, represent an adverse effect to the

building regardless of how much historic fabric would be retained and reused and how sympathetic to the existing Records Building's character and aesthetic appearance the rehabilitated building might be. This option would not represent avoidance of adverse effects; however, it would reduce effects as compared with the impacts of any of the evaluated options that call for demolition or deconstruction.

It is not possible to provide even a rough order of magnitude cost estimate for the Adaptive Reuse Alternative because the range of possible reuses listed above varies greatly, and the extent of repairs and renovation activities that would be necessary to accommodate any particular reuse option has not been fully studied. The minimum total cost would be significantly higher than that of the Rehabilitation/Stabilization in Place Alternative assuming retention of key architectural elements, safety code compliance, and whatever additional upgrades would be required by the use.

In summary, the Adaptive Reuse Alternative would address the immediate safety issue, preserve some aesthetic and material characteristics of the current building and potentially result in a viable commercial use that could contribute to the long term maintenance of the remaining structural elements. However, the constraints of the Records Building's construction method, dimensions, and site/location limit the range of economically viable tenants. The condition of the building and amount of additional work needed to bring the building up to code represent additional constraints and uncertainty. This option would result in even greater loss of historic integrity than the Rehabilitation/Stabilization in Place Alternative. The Adaptive Reuse Alternative would not avoid adverse effects to the historic property.

Alternative 5 – Relocation/Reconstruction Alternative

While the condition of the Records Building is such that it is not feasible to pick it up as an assembled unit and move it to a new location, it is possible to carefully demolish the building, salvage historic materials, and construct a new building that reuses the historic materials to create a building that is aesthetically similar to the existing Records Building. In the Relocation/Reconstruction Alternative, the Records Building would be carefully demolished and the materials would be salvaged and stored for future reuse. The significant historic material items to be salvaged are identified as follows:

- Copper cornices at all four corners of the building
- Copper Vent Stack
- Bricks – Due to the age and condition of the building it is anticipated that not all of the bricks will be salvageable. It is assumed that 50% to 60% of the bricks will be salvageable.
  The bricks would be cleaned to remove mortar and debris and inspected to confirm that they are in satisfactory condition for reuse; a materials conservator would assist in determining which bricks are worthy of salvage and reuse.
- Window Header/Sill Stones – Due to the age and condition of the building it is anticipated that not all of the window header and sill stones will be salvageable. It is assumed that 50% to 60% of the window header and sill stones will be salvageable. The stones would be cleaned to remove mortar and debris and inspected to confirm that they are in satisfactory condition for reuse; a materials conservator would assist in determining which stones are worthy of salvage and reuse.
- Veneer Stones at the bottom of the building – Due to the age and condition of the building it is anticipated that not all of the veneer stones will be salvageable. It is assumed that 50% to 60% of

the veneer stones will be salvageable. The veneer stones would be cleaned to remove mortar and debris and inspected to confirm that they are in satisfactory condition for reuse; a materials conservator would assist in determining which stones are worthy of salvage and reuse.

- Mahogany Storage Shelves – The condition of these shelves will be evaluated at the time of demolition and will only be salvaged if they are determined to be of historic significance and in satisfactory condition for relocation/reuse.
- Staircase with Decorative Iron Railings – Staircase elements and railings may be able to be reused in the relocated/reconstructed building; however, these elements might not comply with the current code requirements associated with stairways. If the elements do not comply, they would be salvaged and stored rather than reused.
- Dumbwaiter – The dumbwaiter does not function; therefore, instead of relocating this building element into the relocated/reconstructed building, it would be salvaged and stored.

All other building materials would be discarded. The relocated/reconstructed building utilizing the noted historic materials salvaged from the Records Building would be designed and built only after such time that the proposed new use/function, location and source of funding for construction have all been identified.

While the relocated/reconstructed building is contemplated to be evocative of the original Records Building, it would be new and would be required to be constructed in accordance with all relevant current building codes (including restrooms, elevators, fire sprinkler/alarm systems, emergency lighting, and energy code, seismic and ADA accessibility improvements). Accordingly, the building would be designed to address all of the existing deficiencies in its design and construction.

The relocated/reconstructed building would have either structural CMU block walls or cast-in-place concrete walls designed to meet the seismic and wind requirements of the code, and if necessary, expansion joints would be incorporated into the design. Insulation would be provided on the exterior of the structural walls, and the façade veneer would be constructed with the salvaged historic veneer stones, bricks, and window header/sill stone materials to provide a similar aesthetic to the original Records Building. As the façade would simply be a single layer veneer, it is anticipated that the quantity of salvaged bricks would be sufficient to support the needs of the relocated/reconstructed building. However, there may not be enough of the window header/sill stones and veneer stones. A historic architect would be utilized for the design of the new structure, and a historic materials conservation consultant would be required to select materials that provide a similar aesthetic where additional materials are needed. The copper cornices and vent stack would be incorporated into the design of the relocated/reconstructed building and if additional vent stacks are required new copper vent stacks would replicate the existing stack.

The ground floor of the relocated/reconstructed building would consist of a concrete floor slab on grade. The finished floor of the existing Records Building is slightly above the grade of the surrounding site and is accessed via steps. To comply with ADA requirements, either the ground floor would need to be lowered to meet the grade surrounding the relocated building or a landing with an ADA ramp would

need to be provided to allow for a level ADA accessible entrance to the building. Access to the second floor would be provided via a freight elevator equipped to also accommodate passenger service. To facilitate the ingress/egress of mechanical equipment, the mahogany bookshelves, and future items, larger door openings (i.e. double-doors) would need to be provided even though these larger door openings are not present in the existing Records Building. The second floor of the relocated/reconstructed building would be constructed of a concrete floor slab that is supported by steel beams that are supported by the exterior structural CMU or cast-in-place concrete walls and by interior steel columns.

The roof of the relocated/reconstructed building would be constructed utilizing steel joists that would bear on the structural concrete masonry units (CMU) or cast-in-place concrete walls and would support pre-cast concrete planks or another appropriate roofing substrate material. The roofing substrate would be covered with insulation and either modified bitumen roofing material or a roofing membrane. Roof drainage would be provided through scuppers and downspouts and secondary drainage, now required by code, would be provided via secondary roof scuppers that would be installed slightly above and adjacent to the primary scuppers. As the use of the relocated/reconstructed building is not currently defined, the spaces at each story would not be fit out with architectural finishes that are suited for a particular function/purpose. The floors would consist of sealed concrete with a burnished trowel finish, the structural CMU or cast-in-place concrete walls and ceilings would be painted white, and the restrooms would be provided with tile finishes on the walls and floor. It should also be noted that, as the potential for flooding, primarily within the first floor space, will remain, the function and finishes selected for the relocated/reconstructed building will have to take this condition into consideration.

A rough order of magnitude construction cost estimate for the Relocation Alternative would be approximately $10 Million. This cost includes a construction cost of approximately $8 Million plus engineering/design and construction management fees totaling approximately $2 Million. While the Relocation/Reconstruction Alternative is feasible, construction costs would be substantially higher than those of most other alternatives.

In addition, while the Relocation/Reconstruction Alternative would incorporate the salvage and reuse of significant historic fabric, the deconstruction of the Records Building would represent an adverse effect to the historic resource.

Alternative 6 – Demolition With Salvage and Storage of Historic Materials Alternative

Under the Demolition With Salvage and Storage of Historic Materials Alternative, it is anticipated that the following historic materials would be salvaged and safely stored for possible future reuse elsewhere or for donation to a third party for retention and preservation:

- Copper cornices at all four corners of the building
- Copper Vent Stack
- 10% of the Window Header/Sill Stones
- 10% of the Veneer Stones at the bottom of the building

- Mahogany Storage Shelves
- Staircase with Decorative Railings
- Dumbwaiter

The combined cost to demolish the Records Building, abate any hazardous materials, salvage the significant historic materials, and dispose of all remaining debris and building contents, result in an estimated cost, for the Demolition With Salvage and Storage of Historic Materials Alternative, of approximately $2.74 Million.

The Demolition With Salvage and Storage of Historic Materials Alternative is feasible; however, it would result in an adverse effect to the historic building.

Alternative 7 – Demolition Without Salvage of Historic Materials Alternative

The Demolition Without Salvage of Historic Materials Alternative is feasible; however, it would result in an adverse effect and would not minimize adverse effects to the Records Building.

It is estimated that, with the combined cost to demolish the Records Building, abate any hazardous materials, and dispose of all debris and building contents, the Demolition Without Salvage of Historic Materials Alternative would cost approximately $1.2 Million.

CONCLUSIONS

While cost is an important element of any alternatives analysis, the evaluation contained herein has been undertaken primarily to determine what, if any, options exist that will address the noted structural and public safety concerns associated with the condition of the Records Building, while avoiding or at least minimizing adverse impacts to historic resources. Any action associated with the Records Building will have a visual, but not physical, impact on the Erie-Lackawanna Terminal. Although the Records Building falls within the boundaries of both the Old Main Delaware Lackawanna and Western Railroad Historic District and the Hoboken Historic District, any action associated with the structure would have visual but relatively minimal physical impacts on the two large and extensive districts. The primary focus of this assessment is, therefore, the anticipated impacts of the various alternatives on the Records Building itself.

In evaluating the various alternatives, it is important to consider the relative degree to which each option meets the overall project purpose and balance it against the relative severity of the harm to historic resources and the ability to mitigate those adverse effects. It should be noted that an action that is not feasible is generally defined to be one that cannot be built as a matter of sound engineering judgment. An action that is not prudent is one that would compromise the project purpose to an unreasonable degree; would result in unacceptable safety or operational problems; would cause significant non-historic impacts; would result in extraordinary costs; or would cause other unique problems.

In summary, the **No Build Alternative** would eliminate the existing safety hazard and avoid an adverse effect to the Records Building in the short term, but would not satisfy the need to address public safety concerns in the long term and would do nothing to ensure the future preservation of the building. While it would result in no adverse effect in the short term, the long term ramifications of doing nothing to the building itself would ultimately result in negative impacts to the historic resource. The **Stabilization without Rehabilitation Alternative** is not feasible due to many site related constraints, and is not prudent as the installation of a bracing/shoring structure would interfere with existing operations and the surrounding infrastructure. The **Rehabilitation/Stabilization in Place Alternative** would eliminate the existing safety hazard and would reduce impacts to the Records Building in comparison with the options that call for either demolition or complete deconstruction; however, it would not avoid the adverse effect to the Records Building due to the need for extensive alterations. This option would not be prudent as it could not be executed without worker access to the interior, which has been determined to be an unacceptable safety risk by NJ TRANSIT's Office of System Safety. The **Adaptive Reuse Alternative** would eliminate the existing safety hazard and would reduce impacts to the Records Building in comparison with the options that call for either demolition or complete deconstruction; however, it would not avoid the adverse effect to the Records Building due to the need for extensive alterations. Depending upon the selected function of the reused building, this option has the potential to result in significantly greater costs than the majority of the other alternatives considered. The **Relocation/Reconstruction Alternative** would eliminate the existing safety hazard, but would not avoid adverse effects due to the need for the complete deconstruction of the Records Building. In addition, this option would result in significantly greater costs than any of the others evaluated (with the exception, potentially, of one or more of the Adaptive Reuse alternatives). The **Demolition with Salvage Alternative** would eliminate the existing safety hazard, but would not avoid adverse effects due to the complete demolition of the Records Building. The **Demolition without Salvage Alternative** would eliminate the existing safety hazard, but would not avoid or minimize adverse effects due to the complete demolition of the Records Building.

ASSOCIATED CORRESPONDENCE (attached)

- NJ TRANSIT internal memorandum, condition assessment, dated July 31, 2019
- Hoboken HPC letter to NJ TRANSIT, concerns regarding proposed demolition, dated August 9, 2019
- NJ TRANSIT letter to Hoboken HPC, response to demolition concerns, dated August 12, 2019
- HPO letter to FTA, concerns regarding proposed demolition, dated October 2, 2019
- STV memorandum to NJ TRANSIT, condition assessment, dated October 16, 2019
- Resume of STV engineer
- City of Hoboken letter to HPO, concerns regarding proposed demolition, dated October 24, 2019
- NJ TRANSIT letter to City of Hoboken, response to demolition concerns, dated November 8, 2019
- FTA letter to HPO, initiation of Section 106 process, dated November 8, 2019
- FTA letter to HPO, confirmation regarding 2001 PA, dated November 8, 2019
- HPO letter to City of Hoboken, response to demolition concerns, dated November 12, 2019
- NJ TRANSIT letters to HPO and City of Hoboken, STV report, dated November 19, 2019
- HPO letter to FTA, approval of Section 106 public involvement plan, dated December 6, 2019
- DCA unsafe structure notice to demolish, dated January 3, 2020
- NJ TRANSIT email to FTA and HPO, DCA notice, dated January 6, 2020
- NJ TRANSIT letters to QLC and PNJ, STV report and DCA notice, dated January 7, 2020
- HPO letter to NJ TRANSIT, response to STV report and DCA notice, dated January 9, 2020
- Meeting Minutes for December 16, 2019 Section 106 consultation meeting (by NJ TRANSIT, finalized January 21, 2020)
- City of Hoboken letter to NJ TRANSIT, clarifications/corrections to December 16, 2019 meeting minutes, dated January 16, 2020
- NJ TRANSIT emails to QLC and PNJ, December 16, 2019 minutes and invitation to February 10, 2020 meeting, dated January 21, 2020
- NJ TRANSIT email to HPO, submission of STV engineer resume, dated January 21, 2020
- HPO letter to NJ TRANSIT, confirmation of STV engineer qualifications, January 29, 2020
- NHSA letter to Hudson County, concerns with protective buffer, dated February 4, 2020
- NJ TRANSIT email to HPO, FTA, City of Hoboken, QLC and PNJ, NHSA letter to Hudson County, dated February 7, 2020
- HPO letter to NJ TRANSIT, response to draft Alternatives Analysis, dated February 14, 2020
- Meeting Minutes for February 10, 2020 Section 106 consultation meeting (by NJ TRANSIT, finalized February 25, 2020)
- HPO letter to NJ TRANSIT, comments on revised draft Alternatives Analysis, dated March 4, 2020
- Alternatives Analysis resumes