Chapter 3: Alternatives

3.1 INTRODUCTION

The CEQ regulations for implementing NEPA require that Federal agencies "use the NEPA process to identify and assess the reasonable alternatives to proposed actions that will avoid or minimize adverse effects of these actions upon the quality of the human environment" (40 CFR 1502). The regulations call for the EIS to "rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated" (40 CFR 1502.14).

This chapter includes background information about the use and history of the Project Site, which provides context for the Proposed Action developed by the Project Sponsor, as well as the site constraints and design criteria considered in the development of the Proposed Action. This chapter also describes the FRA's evaluation of the Proposed Action, including review of other possible viable alternatives. In addition, this chapter defines the FRA's No Action Alternative. As explained below, the Alternatives development process resulted in only one feasible and constructible build alternative, which is the Proposed Action. FRA has identified the Proposed Action as the Preferred Alternative.

3.1.1 PROJECT SITE BACKGROUND

The MTA Hudson Yards is an electrified train yard that stores 35 LIRR commuter trains daily, with a capacity of 386 train cars on 30 tracks. The train yard is divided into two sections, the Eastern Rail Yard located on Block 702 and the Western Rail Yard located on Block 676.

The proposal to redevelop the Western Rail Yard culminates years of planning and proposals for redeveloping the entire Hudson Yards area. Hudson Yards, like much of the Far West Side of Manhattan, has long been used for rail and transportation facilities, starting in the mid to late 1800s, when the Hudson River Railroad first developed a rail depot on the site. Subsequently, the Hudson River Railroad merged with the New York Central Railroad, which used Hudson Yards as a freight depot that gradually grew to become a major freight terminal in the early 20th century. The current configuration of the Eleventh Avenue viaduct (which separates the eastern and western portions of Hudson Yards) and the High Line viaduct were created in the 1930s as part of the West Side Improvement Project. The elevated Miller Highway was also built above Twelfth Avenue as part of that project. By the 1970s, freight operations fell into disuse, and the Triborough Bridge and Tunnel Authority (TBTA), an affiliate of MTA, acquired the site in 1980 from Consolidated Rail Corporation, an affiliate of Penn Central Transportation Company. The TBTA redeveloped Hudson Yards in 1986, in tandem with the development of the Jacob K. Javits Convention Center (Convention Center), as a storage and maintenance complex for the LIRR's electric commuter car fleet. TBTA also designed Western Rail Yard to allow for future development above its facilities, and tracks were spaced to accommodate columns to support air rights development without interrupting use of the yard as a rail facility.

3.1.2 PRE-NEPA PLANNING PROCESS

The development of the Proposed Action has been a collaborative process among LIRR, MTA, Amtrak, and Related. In preparing this EIS, FRA reviewed information from previous environmental and engineering studies and the design plans prepared by the Project Sponsors. FRA reviewed site and construction constraints and the construction feasibility of the elements of the Proposed Action, to confirm the design's reasonableness, feasibility and constructability of the design. A summary of the development of the site considerations, constraints, and requirements and resulting design criteria considered by the Project Sponsors and MTA, LIRR during the development of the design for the Proposed Action is provided below.

The first concept of future development over Western Rail Yard was a proposal by the owners of Madison Square Garden and the City of New York (the City). Although the owners of Madison Square Garden ultimately decided to renovate the existing structure rather than move, the planning effort identified a broad range of public benefits that could result from the development of the area above Western Rail Yard—including new housing, parks, and waterfront recreation—and support uses to enhance the then relatively new Convention Center's marketability, and office space to accommodate large employers who require large development sites.

More recently, the area near Western Rail Yard has been the subject of various planning, rezoning, and redevelopment efforts by the City, MTA, and other entities. The City and MTA rezoned the Eastern and Western Rail Yards to accommodate high density, mixed-use development as part of the 2005 Hudson Yards rezoning project. The 2005 Hudson Yards rezoning project instituted a major rezoning of the entire Hudson Yards area, including the Eastern and Western Rail Yards, to accommodate a mix of uses and densities throughout the Far West Side, the provision of new open space, and an extension of the No. 7 subway line to 34th Street.

In July 2007, MTA issued a request for proposals (RFP) for the lease of—with option to purchase—air space and related property interests for development over Western Rail Yard. The primary objectives stated by MTA were to maximize revenue for its capital plan and to assure safe, uninterrupted LIRR service at Western Rail Yard. A further goal was to promote excellence in architecture, urban design, and sustainability in keeping with New York City's vision for the economic development and revitalization of the Far West Midtown/Hudson Yards area. After negotiations with several of the proposers, MTA reached agreement with WRY Tenant LLC for the development of plans for Western Rail Yard.[1] Subsequent to the plan approval and rezoning, WRY Tenant LLC acquired the air rights from MTA for 5.7 million gross square feet (gsf) of development above the Western Rail Yard.

In order to support the Overbuild, the Project Sponsor determined that the Platform would require deep footings and a concrete slab to transfer the building loads to the bedrock below. Approximately 400 caissons (i.e., watertight columns) would be needed to support the Platform, which would need to be drilled into bedrock deep below the surface. The Tunnel Encasement would need to withstand any possible changes in load of the above ground structures to be operational for the life of the infrastructure (100-plus years). Additional design and coordination between MTA, LIRR, and the Project Sponsor would be necessary during caisson installation to ensure safe and continual rail operations at Western Rail Yard.

[1] WRY Tenant LLC is the Overbuild Developer.

3.2 DEVELOPMENT OF PROPOSED ACTION

Throughout the design and planning process, FRA and the Project Sponsor have and will continue to coordinate with stakeholders, including but not limited to: LIRR, Amtrak, Friends of the High Line, Community Board 4, and various New York State and City agencies. FRA and the Project Sponsor have also coordinated with the construction managers for the recently completed Eastern Rail Yard and previous sections of the concrete casing (aka Tunnel Encasement) beneath the Eastern Rail Yard to incorporate lessons learned from those similar projects. For example, previous community feedback led to construction work hour limits in the project specifications.

During the scoping process, FRA gave agencies and the public the opportunity to comment on the alternatives FRA would consider in this EIS, and to suggest other feasible alternatives for FRA to consider. As FRA documented in the *Western Rail Yard Infrastructure Project Scoping Summary Report,*[2] no additional alternatives were identified during the scoping process by agencies or the public. The following sections describe the alternatives development factors FRA considered to review the alternatives (No Action Alternative and Preferred Alternative) to be analyzed in the EIS.

3.2.1 SAFETY AND SECURITY

Design and operation of the Platform would account for National Fire Protection Association (NFPA) 130 requirements, where applicable and practicable, and regulations, criteria and guidance provided by American National Standards Institute (ANSI), American Public Transit Association (APTA), American Society of Civil Engineers (ASCE), US Department of Homeland Security (DHS) agencies (e.g., Transportation Security Agency [TSA], DHS Protective Security Coordination Division, DHS Office of Cyber and Infrastructure Analysis, DHS National Infrastructure Simulation and Analysis Center, and DHS Science and Technology), Occupational Safety and Health Administration (OSHA), FRA, and FTA. The Project Sponsor would coordinate Project Site safety and security with various Federal and state law enforcement and safety agencies. These would include but not be limited to DHS, TSA, New York State Police, Amtrak Police, and MTA Police. This coordination would also involve local municipal police and fire departments including but not limited to, NYPD (including Counterterrorism Unit and Emergency Medical Services Unit) and FDNY, and the New York City Office of Emergency Management. The Project Sponsor would develop safety and security measures to address natural events (e.g., severe storms, flooding, earthquakes), or emergencies caused by human error, mechanical failure, and intentional or unintentional human intervention.

During construction, the Project Sponsor would secure the Project Site and adjacent sidewalks and streets, at a minimum with fencing or other passive security measures (e.g., security lighting, concrete bollards). The LIRR and MTA working area would remain closed to the public and only authorized individuals would be allowed during construction. Within the Project Site, there are track-level roadways, walkways, fencing, gates, and other controlled-access site features used only by authorized personnel. The Project Sponsor would follow all applicable Amtrak and MTA LIRR guidelines and standards.

[2] The complete *Western Rail Yard Infrastructure Project Scoping Summary Report* (FRA, September 2020), is accessible on the on the Federal Docket system at Regulations.gov (Docket FRA-2020-0039) and on the Project website at: http://westernrailyardinfrastructure.com/documents/2020-09-04_Scoping%20Summary%20Report_FINAL_Complete.pdf (accessed January 12, 2021).

3.2.2 DESIGN PROCESS

WRY Tenant LLC, Amtrak, MTA, and LIRR developed the design criteria for the various project elements by taking site constraints; rail operator needs and requirements; and engineering considerations into account. To achieve this end, the Project Sponsor entered a construction agreement with LIRR to ensure that design would adhere to a strict review process. LIRR and the Project Sponsor determined this to be necessary, given the complexity of the Platform construction and associated reconstruction and upgrades to the LIRR support services.

- Several owners provided criteria for development of the Proposed Action's design (i.e., WRY Tenant LLC for the Platform and structural support; Amtrak for Tunnel Encasement; and LIRR for the rail yard infrastructure). Each owner contributes to an Owner's Project Requirements (OPR), a document that establishes project goals. The OPR is considered a "living" document during the design phase of a project, and as such is subject to change as the design progresses. By establishing the goals of the project in a single document, the OPR becomes a record by which the Architect/Engineer of Record (A/E), and other parties involved in the project, can judge the degree of success in meeting the owner's defined objectives and criteria.
- The A/E is defined as the professional architect or engineer licensed in the State in good standing who is designated by the owner, acting reasonably, as the engineer responsible for the preparation, signing, dating, sealing and issuing of the engineering documents relating to all of the project work based on the owner's determined project delivery method. As the project includes input from several owners, more than one A/E would be responsible for separate components of the Proposed Action.
- The Basis of Design (BOD) Report is developed by the A/E based on the OPR document(s). The BOD Report is the primary document that translates the owner's needs into project components such as bridges and structures, track, turnouts, communications and signals, etc. The BOD Report describes the Technical Approach planned for the project as well as the Project Design Criteria (PDC) to be used. The BOD Report transforms the raw data from the OPR document (the "what") into a detailed, technical, actionable plan (the "how") that will meet the owner's objectives—which will also help avoid the "scope creep" that can jeopardize the project schedule and lead to budget overruns.
- The PDC provides constraints to the design in the form of applicable codes, standards, and regulatory guidance positions, from conception through final design. The PDC identifies the appropriate laws, regulations, codes and standards for all project components. As the design evolves, the PDC are revised in accordance with the evolving design and safety categories for project components Application of specific sections of these codes and standards for particular project elements will be determined as the design advances. The PDC is organized along traditional discipline lines and comprised of sections that contain general design criteria or generic discipline design criteria, design load combinations, design acceptance limits, design load cases, site conditions, mechanical, electrical, plumbing, fire and life safety and each section typically references the applicable codes, standards, and regulations for each discipline in Engineering.

3.2.2.1 DESIGN STATUS

WRY Tenant LLC has advanced the design of the Platform and most of the associated infrastructure to 30 percent design in coordination with LIRR. The percentage design completion (i.e., 30, 60, 90, and 100) refers to the approximate percentage of design effort relative to the overall project design effort. The 30 percent submission includes preliminary layout drawings, conceptual description of major systems, preliminary design criteria and constraints, summary of code and life safety requirements, and other data applicable to this stage. The 60 percent design stage confirms the constructability of the proposed structure and that the submitted plans and specifications will meet the identified objectives without significant design changes. The 60 percent design submission includes finalized expectations and objectives, confirmed constructability, identification of construction permit requirements, implementation of acceptable value engineering requirements (as applicable), and identification of preferred equipment and materials for the structure.

Amtrak has advanced the design of the Tunnel Encasement to 100 percent Final Design. Final design includes design of temporary works, construction phasing, structural details and all Tunnel Encasement details including interim facilities. It also includes the preemptive demolition of LIRR Emergency Services Building and ongoing utility relocation work.

3.3 ALTERNATIVES ANALYSIS

The Project Sponsor developed and presented the Proposed Action to the FRA for consideration. For each project component of the Proposed Action, FRA reviewed the design standards, relevant site constraints, design process, and stakeholder input to identify potential feasible alternatives to advance for analysis in the EIS. As the result of this process, and using the information regarding the engineering constraints, FRA has identified two alternatives for analysis in this EIS: the No Action Alternative and the Proposed Action.

3.3.1 PLATFORM

Initially, the Project Sponsor, in collaboration with LIRR, reviewed the range of requirements identified in the 1989 MTA Master Plan, current MTA requirements, as well as other Project documents (i.e., 2009 SEQRA/CEQR FEIS) in order to develop the Platform design. As design of the Platform advanced, it became evident that only one Alternative for the Platform was feasible due to the unique engineering considerations and site constraints. In addition to the design, the Project Sponsor would develop a Platform construction sequencing plan. This plan would need to include a program for scheduled track outages conforming to a number of concurrent track outages allowable and approved by MTA LIRR, specifying stages for outages needed to construct the Platform's foundations (caissons and shear walls). The plan would need to include the identification of the groups of tracks that would be out of service at any given time, and the timing anticipated for those outages to facilitate Platform construction.

The following factors and requirements, which are discussed further below, were considered: LIRR Track Layout and Train Clearances; LIRR Support Services; Caissons, Foundations, and Shear Walls; and the Platform Structural Lateral System.

3.3.1.1 LIRR TRACK LAYOUT AND TRAIN CLEARANCES

As stated in the 1989 MTA Master Plan, MTA specifically designed the track layout to allow placement of columns to support the development of structures above. The Western Rail Yard consists of parallel storage tracks with narrow walkways and wide walkways, which provide for LIRR personnel access and train servicing. The wide walkways are generally located every third track and were laid out by MTA when the Western Rail Yard was reconstructed to allow for the future introduction of support columns for the Platform structure. All tracks are subject to minimum horizontal and vertical railway clearances as determined by LIRR. These factors define the available location and geometry of the caissons and Platform structure.

The Platform is required to provide a minimum average clearance height of 19.5 feet above the tracks, which informs the bottom elevations of the Platform. The Platform deck is established to meet the grades of Eleventh Avenue, which informs the top elevation of the Platform. The Project Sponsor developed the Platform structural design within these lower and upper constraints.

3.3.1.2 LIRR SUPPORT SEVICES REQUIREMENTS

The LIRR operational constraints during the construction of the Proposed Action are paramount for design considerations. Site constraints and proximity requirements limit the possible locations for LIRR support services. LIRR requires consistent operations of emergency electrical equipment, railroad staff facilities, rail car cleaning services, and LIRR service buildings. LIRR service buildings would be replaced with modernized buildings without change to function or footprint. These buildings would continue to house LIRR personnel and programs associated with the storage and maintenance of the stored trains. A new approximately 20,000 square-foot electrical substation would primarily provide the electrical infrastructure necessary for the upgraded LIRR systems. The new substation would be located in the terra firma portion of the site, directly south of the LIRR Access Road (see Section 3.4.2.1).

3.3.1.3 CAISSONS, FOUNDATIONS, AND SHEAR WALLS

The approximately 425,000-sf structural Platform would be supported by approximately 400 caissons drilled up to 120 feet deep into bedrock below. The overall arrangement of caissons is informed by the existing LIRR track layout, the structural loads imposed by the Overbuild, and the site geology. The approved Overbuild included some flexibility in the mix of uses of the resulting buildings, but the building envelopes are all large-scale and would result in buildings of similar sizes, requiring similar structural foundations. The bedrock depth varies from about 30 feet below track level just west of Eleventh Avenue to over 90 feet at the western limit of the yard. Deep rock reduces lateral load capacity of the caisson foundations and places greater demand on the flexural strength of the building shear walls at the track level.

For additional support for the mixed-use Overbuild, shear walls would be located parallel to and between the existing tracks below the Platform. The proposed locations of the caissons and shear walls are dependent upon site constraints of the track layout of the rail yard. As stated in the 1989 MTA Master Plan, structural columns would be supported by caissons drilled into bedrock. The Project Sponsor would develop a Caissons/Foundation and Shear Wall Work Plan that would require approval by LIRR. This complex Work Plan would require advanced procurement of the caisson, shear wall, foundation, and superstructure subcontractors.

3.3.1.4 PLATFORM STRUCTURAL LATERAL SYSTEM

The complex engineering design would ensure structural integrity of the Platform and Overbuild. Due to site constraints for the location of caissons and sheer walls, one of the biggest challenges in designing the Platform was the design of an effective lateral load resisting system to prevent excessive lateral drift of a structure. Typically, such systems would consist of concrete shear walls or cross bracing in both east–west and north–south directions. The need to design the structural lateral load systems over an active rail yard, where there are so many physical constraints on the placement of load-bearing members, significantly magnifies the engineering complexity of designing these systems. In this case, the only way to provide adequate lateral strength of the building foundations in the north–south direction is to utilize flexural rigidity of the Platform structure and caissons, and in the east–west shear walls located at the track level.

As stated in the 1989 MTA Master Plan, track spacing between Eleventh and Twelfth Avenues allows a regular column grid spacing of generally 50 feet in the north–south direction. However, spacing in the east–west direction would vary depending on the structure above, with closer spacing required for high-rise structures, and longer spacing possible for areas without significant additional vertical construction. For the buildings over the Western Rail Yard, the north–south lateral load resistance system cannot incorporate conventional north–south shear walls or cross-bracing, as they would block the passage of the trains in the yard.

3.3.2 TUNNEL ENCASEMENT

Amtrak developed the Tunnel Encasement design to satisfy the purpose and need statement to preserve a ROW through the Western Rail Yard to support the future construction of a trans-Hudson passenger rail crossing into New York Penn Station. As a result of reviewing the Tunnel Encasement factors and requirements considered by the Project Sponsor, FRA was able to validate the feasibility of the Proposed Action as a viable build alternative that also satisfies the stated purpose and need. As explained in detail below, engineering and constructability requirements have resulted in FRA identifying and advancing only one Alternative for the Tunnel Encasement. The ROW preservation alignment was initially developed in Amtrak's 2011 *Final Report*.[3] Amtrak's 2011 *Final Report* included a set of criteria that any feasible ROW alignment preservation would need to achieve. These criteria included the following:

- Avoid existing tunnels;
- Obtain proper grades for trains entering/leaving New York Penn Station (recognizing that there is a maximum slope for tracks that trains can operate on); and
- Obtain proper horizontal and vertical clearances for trains entering/leaving New York Penn Station.

Using the criteria described above, Amtrak developed the size and alignment of the Tunnel Encasement in line with the current criteria for the development of the proposed Hudson Tunnel (also known as Amtrak's Gateway Tunnel) to ensure consistency with current planning documents. Amtrak developed multiple horizontal and vertical alignment alternatives for consideration. Amtrak held workshops with their engineers and consultants to review these alternatives to rule out those that were infeasible. As shown in Amtrak's 2011 *Final Report*, the final alignment and grade would provide for two new tunnel tracks from Penn Station headed westward south of West 30th Street under Twelfth Avenue, the bulkhead, and under the Hudson River.

[3] Amtrak Tunnel Encasement Final Report, May 2011 (2011 *Final Report*).

The portions of the concrete encasement that extend beneath the Eastern Rail Yard and Eleventh Avenue have been constructed, and the final section would be constructed as a part of the Proposed Action (see Figure 1-1). This final section of Tunnel Encasement beneath the Western Rail Yard would be constructed using the existing design that went through design process with the appropriate stakeholders. The tunnel size and alignment requirements, as well as site constraints (e.g., limited staging area and adjacent active railyard) directly influenced the design of the Tunnel Encasement. The Project Sponsor has advanced the Tunnel Encasement to 100 percent design.

3.3.2.1 TUNNEL SIZING

In the 2011 *Final Report*, Amtrak considered several factors to determine the size requirements of the Tunnel Encasement, including the following:

- Internal space needs to accommodate the types and sizes of existing and anticipated Amtrak and NJ TRANSIT trains that would run through the tunnel;
- Access and egress codes and the resulting space needs to achieve code-compliance;
- Placement and size of other infrastructure that would need to be in the tunnel (e.g., catenary systems and corresponding clearances, low-bench and high-bench walls and clearances; fire-life safety systems, and tunnel ventilation systems and clearances);
- Structural considerations for the Tunnel Encasement itself; and
- Structural considerations for the Overbuild that would eventually be located above the tunnel.

Amtrak considered all of these elements and the space associated with each element in the design and ultimately the interior and exterior size of the ROW preservation Tunnel Encasement. Amtrak considered the overall size requirement of the Tunnel Encasement as one of the criteria for determining the ROW preservation alignment, to ensure the Tunnel Encasement would fit within the physical constraints of the area, as discussed in the next section.

3.3.2.2 ALIGNMENT

Within the Hudson Yards, the specific location of a new tunnel is limited by physical and design constraints, such as the presence of existing structures. Existing underground structures include the North River Tunnel (NRT), Eleventh Avenue Viaduct, MTA New York City Transit (NYCT) No. 7 Line Tunnels, NYC Parks Department High Line Structure, as well as building foundations and utilities (see **Figure 3-1**). As discussed in the 2013 EA and 2014 SEA, a series of studies conducted in 2011 and 2012[4] determined the optimal alignment for the rail tunnel between the Hudson River and New York Penn Station. In the 2012 *Hudson Yards Study Final Report*, Amtrak determined there is one underground location that is viable for a future tunnel within the Eastern Rail Yard.

[4] Penn Station New York Major Support Facilities and Potential Improvements between the Hudson River and Seventh Avenue, Preliminary Track Alignment Design and Impacted Disciplines, Phase I – Section 1 (2011), Penn Station New York Major Support Facilities and Potential Improvements Between the Hudson River and Seventh Avenue, Preliminary Track Alignment Design and Impacted Disciplines, Phase 1 – Section 2A (2012), and Amtrak Gateway Project, High Speed Rail Penn Station, New York Feasibility Study, Phase 1 – Section 2B (2012).

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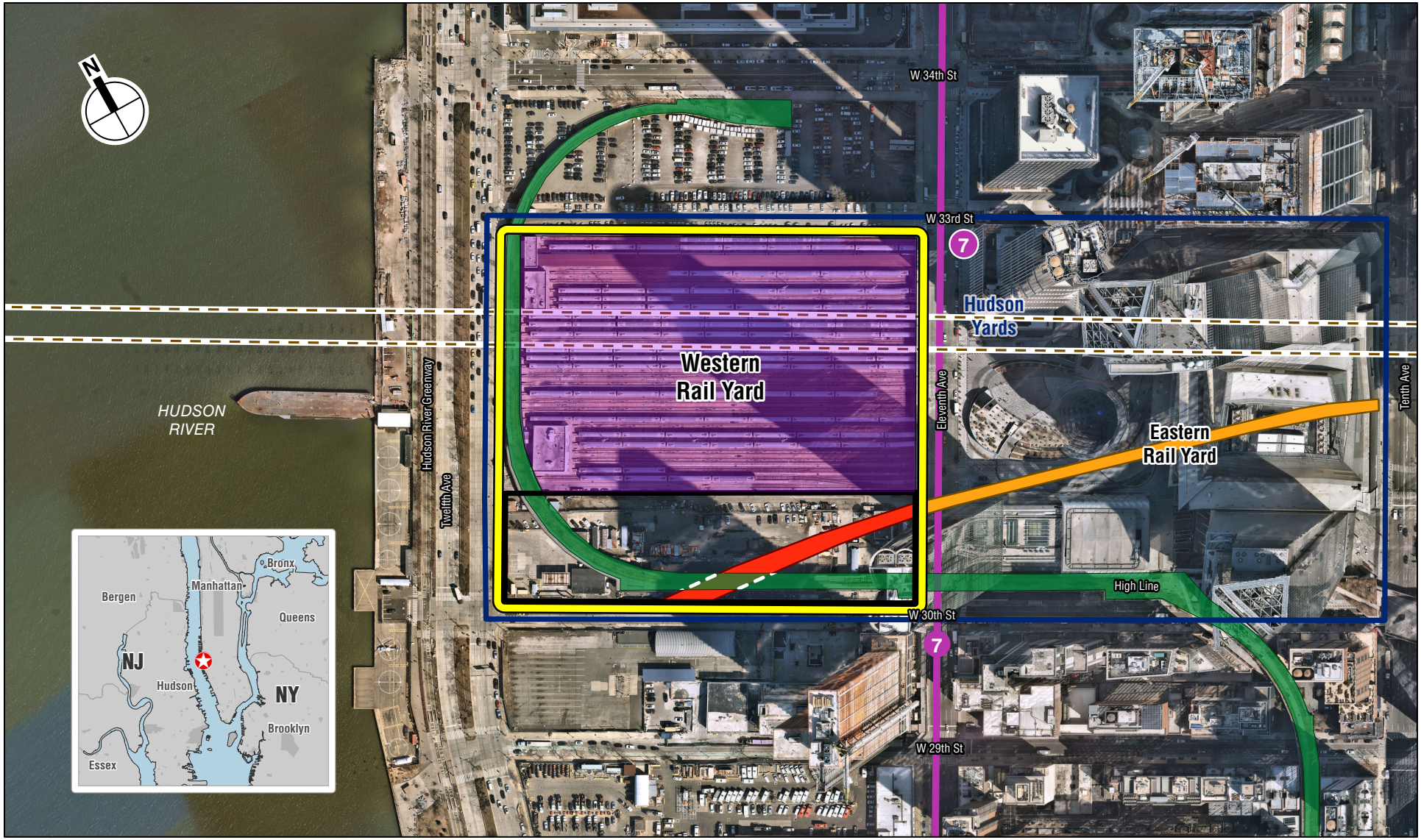


Data source: NYS ITS GIS Program Office; Nearmap, 2020 imagery

- Project Site (Western Rail Yard)
- Hudson Yards
- Approximate Terra Firma Area
- Proposed Platform
- Existing Concrete Encasement
- Proposed Tunnel Encasement
- North River Tunnel Alignment (below grade)
- Existing High Line Park (Remains Unaltered)
- 7 — 34th Street-Hudson Yard Station Location
- MTA-NYCT No. 7 Subway Tunnels (below Eleventh Avenue)

0 400 FEET

WESTERN RAIL YARD INFRASTRUCTURE PROJECT

Project Location

Figure 3-1

Amtrak designed the track alignment to connect the proposed tunnel tracks to existing “A Yard” (on the west end of Penn Station) Tracks 1A and 2A, while maintaining sufficient tunnel cover under the Hudson River and existing buildings to the west. The tunnel track alignments need to be able to access the precise location (called the extended 'I' Ladder) at New York Penn Station, for the new tunnel tracks to connect to as many of the existing platform tracks as possible. Based on the 2012 *Hudson Yards Study Final Report*, Amtrak determined that the only location that could provide the appropriate space for the vertical and horizontal alignment of a new tunnel that would be fully and effectively integrated operationally with the existing New York Penn Station complex of tracks and platforms is the Tunnel Encasement alignment. FRA considered all of the physical and engineering design constraints identified and examined by Amtrak to confirm the Tunnel Encasement alignment determined for the final section of ROW preservation. The Tunnel Encasement that the Project Sponsor would construct as a part of the Proposed Action would extend on a diagonal alignment from the western edge of Eleventh Avenue to the northern edge of 30th Street in the Western Rail Yard.

3.3.3 ALTERNATIVES EVALUATION CONCLUSIONS

As described above, because of the unique engineering considerations and site constraints considered by the Project Sponsor in the planning and design of the Platform and Tunnel Encasement, FRA concluded that only one Alternative meets the purpose and need of the Proposed Action.

FRA, in collaboration with the Project Sponsor and MTA, have determined that other options for location, size and alignment for the Platform and Tunnel Encasement are infeasible as they would fail to satisfy the engineering and design constraints of the Project Site and would fail to meet the Project purpose and need.

3.4 EIS ALTERNATIVES

The development of the Proposed Action involved a collaborative process among the Project Sponsor, LIRR, and MTA to ensure the safe and continual operation of LIRR facilities during construction and operation. In preparing this EIS, FRA reviewed information from previous studies and various stages of design plans prepared by the Project Sponsor to identify potential alternative to the Proposed Action. As the result of this process, and using the information regarding the engineering constraints discussed in Section 3.3 above, FRA has identified two alternatives for analysis in this EIS, the No Action Alternative and the Proposed Action (Preferred Alternative), described below.

3.4.1 NO ACTION ALTERNATIVE

CEQ regulations for implementing NEPA require consideration of a No Action Alternative, which represents the conditions that would exist in the planning year if a proposed action is not implemented. The No Action Alternative does not meet the purpose and need of the Proposed Action because it does not protect or enhance MTA’s assets, it would not preserve the ROW for a future trans-Hudson passenger rail connection into New York Penn Station, and would not advance New York City’s land use objectives for Hudson Yards. The No Action Alternative instead serves as a baseline for comparison against the potential impacts of the Proposed Action. Under the No Action Alternative, the Western Rail Yard Platform and Tunnel Encasement would not be built. The existing use of the rail yard and associated LIRR facilities, as well as their maintenance regimen would continue. Therefore, the No Action Alternative includes only those projects that are necessary to keep the Western Rail Yard and the associated LIRR facilities in service and provide continued maintenance.

3.4.2 PREFERRED ALTERNATIVE

FRA conducted an extensive review of documentation prepared by the Project Sponsor related to engineering and site constraints, design criteria, and resulting design development. FRA has determined that there is only one reasonable, feasible and constructible alternative that meets the purpose and need statement and objectives. FRA has included in this determination a review of information obtained through coordination with government agencies, interest groups and the public during the scoping process, and information from previous studies. Any other alternative developed or proposed by others would need to satisfy the purpose and need, would need to adhere to the same design criteria and satisfy the site constraints, and go through the same rigorous stakeholder input and review process that the Project Sponsor has completed with the project stakeholders in order to be a valid feasible alternative.

The public and agencies will have the opportunity to comment on the Preferred Alternative during the review period and public hearing for the EIS. The comments received will inform FRA's preparation of the FEIS and the ROD.

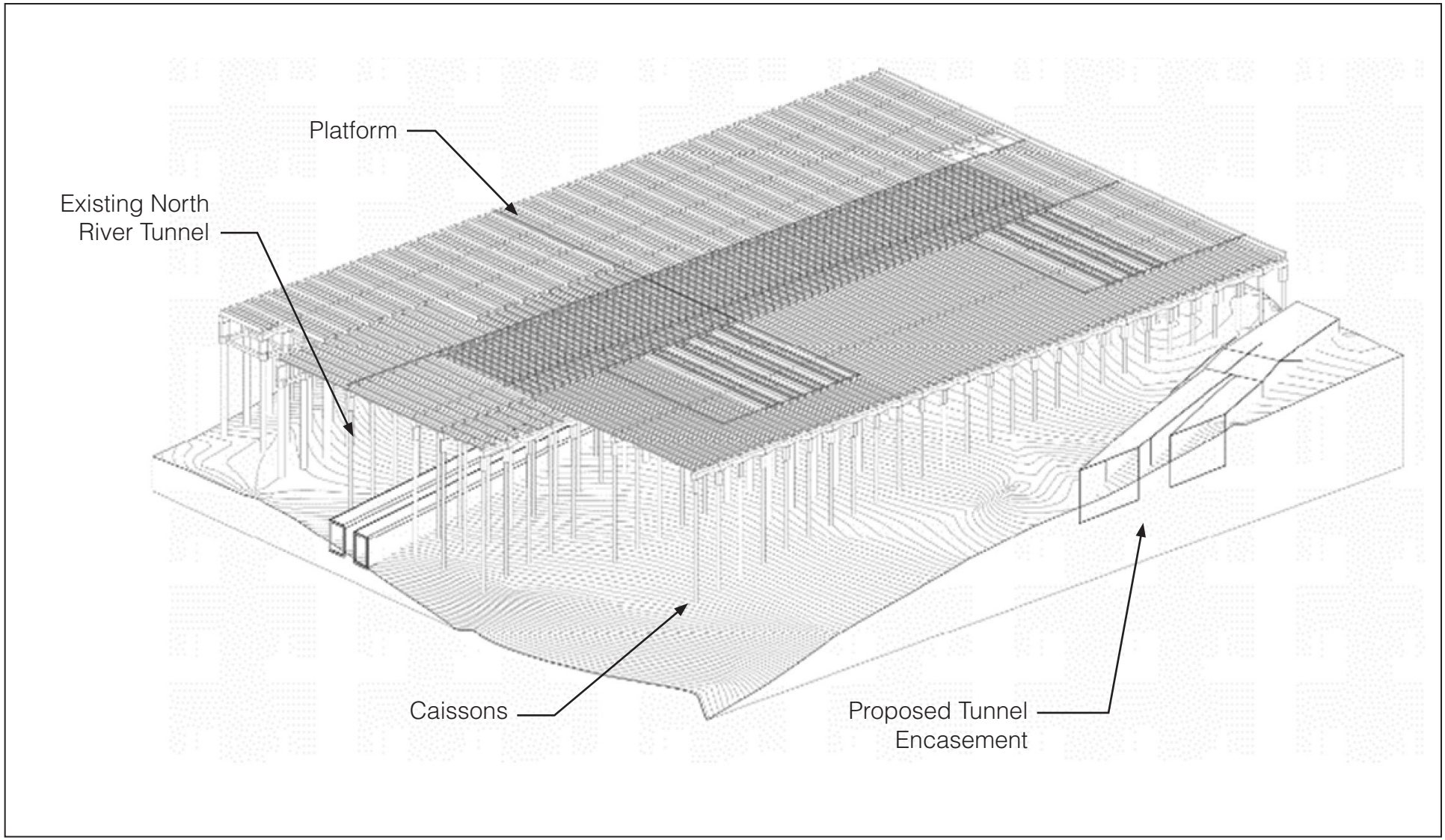
3.4.2.1 PLATFORM

The approximately 9.8-acre Platform spanning the Western Rail Yard would include deep footings and a concrete slab to cover the active rail yard below, and reinforced building foundations to support the future Overbuild (see **Figure 3-2**). The deep footings and a concrete slab would transfer the building loads to the bedrock below to support the Overbuild. Approximately 400 caissons (i.e., watertight columns) would be drilled into bedrock through the water table and soil and to the rock that is up to 120 feet below the surface in certain locations.

The Platform's support columns would be threaded between the existing railroad tracks and associated infrastructure in Western Rail Yard. No existing storage tracks would be displaced and train service would be maintained during the construction of the Platform.

Platform construction would also include the modernization of LIRR support services for the yard, including new life-safety systems. The following Platform infrastructure components are necessary to support rail yard operations for LIRR:

- Ventilation system;
- Emergency electrical equipment;
- Life safety equipment (i.e., fire protection and fire alarm system);
- Crash walls (i.e., concrete barriers to redirect trains away from support columns);
- Lighting;
- Rail car cleaning services;
- Associated mechanical, electrical, and plumbing services;
- LIRR service buildings (LIRR staff locker rooms and train maintenance and inspection equipment rooms); and
- Substation



Source: WRY Tenant LLC

Platform
Figure 3-2

In accordance with MTA's 1989 Master Plan[5] for Caemmerer West Side Yard, the placement of a Platform over the rail yard was included in the original design criteria for the yard, which MTA established to provide safety considerations and to ensure reliable train operations with a minimum disruption of service. The additional infrastructure elements needed to make the Platform feasible, as identified in the 1989 MTA Master Plan, are shown schematically in **Figure 3-3**.

The ventilation system would require ventilation fan plants and localized exhaust hoods for Dual Mode (DM-30) LIRR train engines that must be located within the Western Rail Yard. Ventilation of the yard is a necessary component to the Platform to remove the heat and emissions from train operations. As such, a heating, ventilating, and air condition (HVAC) system would be incorporated into the design of the Platform.

The existing LIRR support facilities that house the LIRR locker room and the equipment room must be removed and temporarily relocated to allow for construction of the Platform. The permanent LIRR service buildings would be re-constructed in the same locations and within the same footprint. The substation would house mechanical and electrical equipment, fuel oil storage, office space and LIRR substation equipment. Besides Consolidated Edison (Con Edison) service connection and its associated electrical equipment, the substation would house the Medium-Voltage Substation, Emergency Generators for the Eastern and Western Rail Yards, an Electrical Distribution Room, Western Rail Yard Fire Pump, Fire Protection Valves, Communication Rooms, as well as office and storage spaces.

3.4.2.2 TUNNEL ENCASEMENT

The Tunnel Encasement in the Western Rail Yard would start at the western edge of Eleventh Avenue, and extend underground across the Project Site to the northern edge of 30th Street. The tunnel box would be between 50 and 65 feet wide and between 27 and 38 feet high (**Figure 3-4**). The Tunnel Encasement has been designed to be constructed completely independent of the above ground structures and would not take on any load from the Platform. Together, the Tunnel Encasement below both rail yards (Eastern and Western Rail Yards) would preserve a total ROW of approximately 1,400 feet. It would extend underneath a portion of the High Line, and require the underpinning an approximately 100-foot segment of the historic elevated structure during construction. This Preferred Alternative does not include any permanent operational component for the Tunnel Encasement. No permanent operational components, such as tracks, lighting, ventilation, or electrical systems, would be constructed as part of the Preferred Alternative. Minor, temporary systems, such as sump pumps, lighting, and ventilation would be installed to enable its construction, which would be removed once construction is completed.

3.4.3 RELATIONSHIP OF OVERBUILD TO PREFERRED ALTERNATIVE

The Preferred Alternative would allow for the Overbuild, a privately funded mixed-use development and public open space above the Platform. The Overbuild has been approved by CPC, and adopted by the New York City Council into the New York City Zoning Resolution, for redevelopment of the Western Rail Yard parcels, and is now as-of-right development. The Overbuild would include approximately 5.7-million gsf mixed-used development, including residential, commercial (retail and office or hotel space), a public elementary/intermediate school, publicly accessible open space, and enclosed accessory parking areas. The design of the Western Rail Yard includes a variety of uses that integrate with the surrounding neighborhoods and are consistent with the City zoning code. This construction also supports MTA's overall business plan to generate revenue to support their operations.

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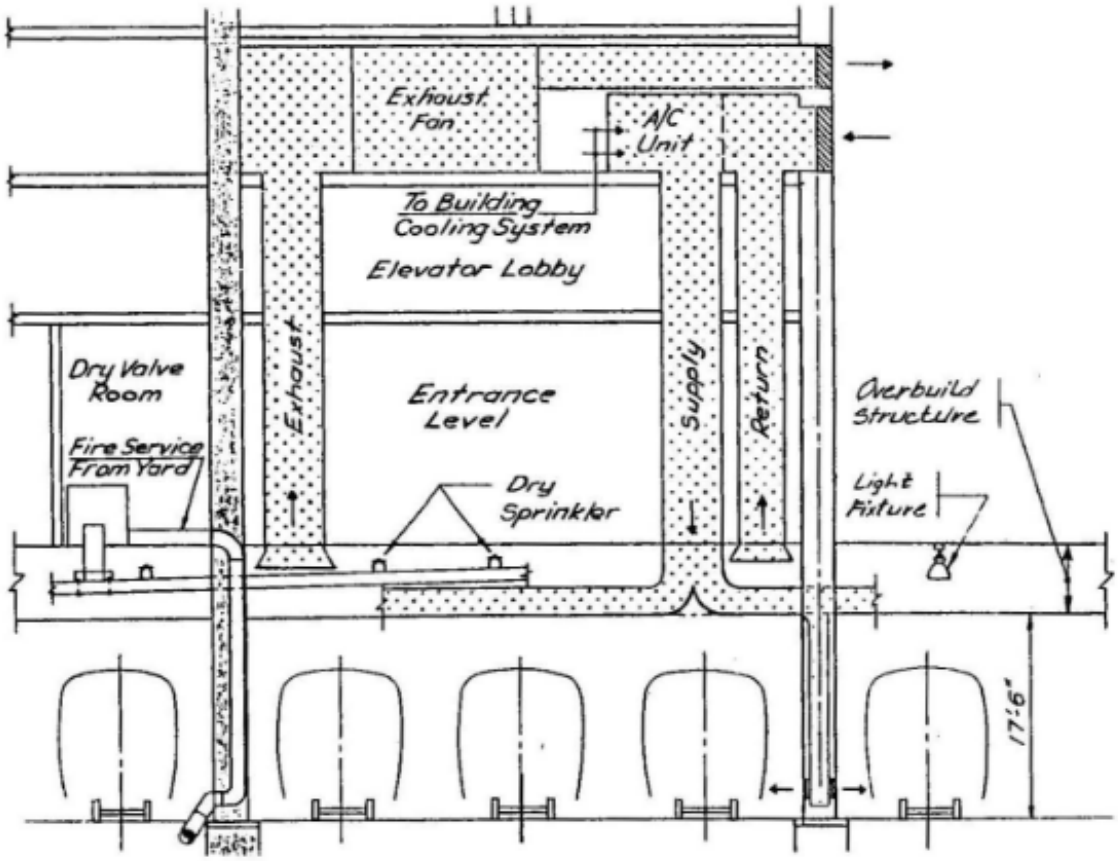
[5] *Metropolitan Transportation Authority, Master Plan, Caemmerer West Side Yard, New York, NY*, August 1989 (1989 MTA Master Plan)

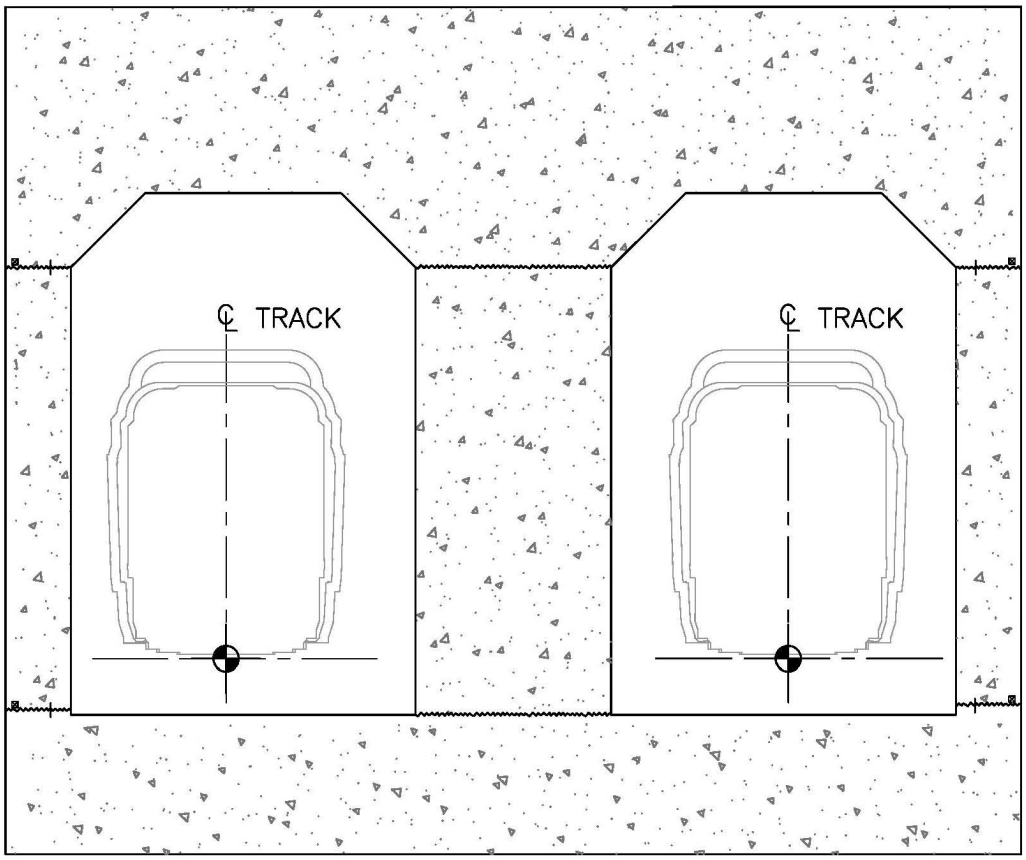
4.13.21



Source: Metropolitan Transportation Authority, Master Plan, Caemmerer West Side Yard, New York, NY, August 1989 (1989 MTA Master Plan)

Typical Platform Section:
Ventilation, Fire Protection, and Lighting for the Yard

4.13.21



Source: Amtrak

WESTERN RAIL YARD INFRASTRUCTURE PROJECT

Tunnel Encasement
Figure 3-4

3.5 PREFERRED ALTERNATIVE OPERATION AND MAINTENANCE

As described in Section 3.2 above, multiple parties would be involved in the operation and maintenance (O&M) of this new infrastructure, including WRY Tenant LLC for the Platform; Amtrak for Tunnel Encasement; and LIRR for the rail yard infrastructure.

3.5.1 PLATFORM

LIRR and WRY Tenant LLC have entered into a 99-year agreement to which both parties are responsible to fulfill their respective obligations. LIRR is solely responsible for maintaining all Platform systems associated with LIRR operations such as underdeck mechanical, electrical, and plumbing (MEP), ventilation, lighting, flood barriers, and all systems in the rail yard. LIRR is also responsible for maintaining the replacement North and South Block End Service Buildings and New Electrical Substation Building in all respects. WRY Tenant LLC is responsible for maintaining the Platform structure.

3.5.2 TUNNEL ENCASEMENT

The Preferred Alternative does not include any efforts to make the encasement operational for passenger rail service. Amtrak is responsible for both the interim maintenance (i.e., monitoring and inspection of structure, lighting, fans and drainage pumps) and long-term maintenance of the Tunnel Encasement. The temporary lighting and fans are for inspection and emergency use only. The structural design of the Tunnel Encasement is robust to serve Amtrak in perpetuity, and is designed to have a minimum 100-year design life.

3.6 CONSTRUCTION METHODS, ACTIVITIES, AND SEQUENCING

Construction of the Preferred Alternative would encompass both the Platform and Tunnel Encasement components. Some construction activities for the Preferred Alternative would overlap. Construction of each component would involve several stages, as described below. **Figure 3-5** shows the construction schedules and anticipated work hours for the construction activities associated with the Platform and Tunnel Encasement components of the Preferred Alternative, and depicts when the construction activities of these two components would overlap.

3.6.1 PLATFORM CONSTRUCTION

3.6.1.1 SITE PREPARATION

Beginning with site preparation, the work area would be prepared for construction. The construction areas would be fenced off to minimize interference between passersby and the construction work. Additional public safety measures, such as signs, would be installed. Access points to the construction area would also be established and portable toilets and dumpsters for trash would be brought to the site and installed. Construction trailers for on-site workers and staff would also be located at various locations within the Project Site. The existing building on the western end of the Project Site near West 33rd Street would be demolished to accommodate construction.

Equipment used for site preparation activities typically includes excavators, backhoes, and a variety of small hand-held tools.

PLATFORM CONSTRUCTION		YEAR					
		2021	2022	2023	2024	2025	2026
Phase 1A - Tracks 27 to 30	**Anticipated Work Shift[1]**						
Track Outage Protection, Track Demolition & Site Preparation	Two shifts per day, five days a week on weekdays						
Excavation and Caisson Drilling	Two shifts per day, six days per week						
Concrete Shear Walls, Columns & Superstructure Concrete	Two shifts per day, five days a week on weekdays						
Precast Superstructure Erection	Two shifts per day, five days a week on weekdays						
Underdeck MEP Installation/Architectural Fitout	Two shifts per day, five days a week on weekdays						
Phase 1B - Tracks 23 to 26	**Anticipated Work Shift[1]**						
Track Outage Protection, Track Demolition & Site Preparation	Two shifts per day, five days a week on weekdays						
Excavation and Caisson Drilling	Two shifts per day, six days per week						
Concrete Shear Walls, Columns & Superstructure Concrete	Two shifts per day, five days a week on weekdays						
Precast Superstructure Erection	Two shifts per day, five days a week on weekdays						
Underdeck MEP Installation/Architectural Fitout	Two shifts per day, five days a week on weekdays						
Phase 1C - Tracks 19-22	**Anticipated Work Shift[1]**						
Track Outage Protection, Track Demolition & Site Preparation	Two shifts per day, five days a week on weekdays						
Excavation and Caisson Drilling	Two shifts per day, six days per week						
Concrete Shear Walls, Columns & Superstructure Concrete	Two shifts per day, five days a week on weekdays						
Precast Superstructure Erection	Two shifts per day, five days a week on weekdays						
Underdeck MEP Installation/Architectural Fitout	Two shifts per day, five days a week on weekdays						
Phase 1D - Tracks 15-18	**Anticipated Work Shift[1]**						
Track Outage Protection, Track Demolition & Site Preparation	Two shifts per day, five days a week on weekdays						
Excavation and Caisson Drilling	Two shifts per day, six days per week						
Concrete Shear Walls, Columns & Superstructure Concrete	Two shifts per day, five days a week on weekdays						
Precast Superstructure & Trusses Erection	Two shifts per day, five days a week on weekdays						
Underdeck MEP Installation/Architectural Fitout	Two shifts per day, five days a week on weekdays						
Phase 2E - Tracks 10-13	**Anticipated Work Shift[1]**						
Track Outage Protection, Track Demolition & Site Preparation	Two shifts per day, five days a week on weekdays						
Excavation and Caisson Drilling	Two shifts per day, six days per week						
Concrete Shear Walls, Columns & Superstructure Concrete	Two shifts per day, five days a week on weekdays						
Precast Superstructure Erection	Two shifts per day, five days a week on weekdays						
Underdeck MEP Installation/Architectural Fitout	Two shifts per day, five days a week on weekdays						
Phase 2F - Tracks 4 to 7	**Anticipated Work Shift[1]**						
Track Outage Protection, Track Demolition & Site Preparation	Two shifts per day, five days a week on weekdays						
Excavation and Caisson Drilling	Two shifts per day, six days per week						
Concrete Shear Walls, Columns & Superstructure Concrete	Two shifts per day, five days a week on weekdays						
Precast Superstructure Erection	Two shifts per day, five days a week on weekdays						
Underdeck MEP Installation/Architectural Fitout	Two shifts per day, five days a week on weekdays						
Phase 2G - Tracks 1 to 4	**Anticipated Work Shift[1]**						
Track Outage Protection, Track Demolition & Site Preparation	Two shifts per day, five days a week on weekdays						
Concrete Shear Walls, Columns & Superstructure Concrete	Two shifts per day, six days per week						
Precast Superstructure Erection	Two shifts per day, five days a week on weekdays						
Underdeck MEP Installation/Architectural Fitout	Two shifts per day, five days a week on weekdays						
New Electrical Substation Building	**Anticipated Work Shift[1]**						
Excavation & Foundations	Two shifts per day, six days per week						
Superstructure Construction	Two shifts per day, five days a week on weekdays						
Exteriors	Two shifts per day, five days a week on weekdays						
Mechanical, Electrical and Plumbing (Excl. AC Sub)	Two shifts per day, five days a week on weekdays						
Architectural Fitout	Two shifts per day, five days a week on weekdays						
LIRR North Block End Service Building	**Anticipated Work Shift[1]**						
Excavation & Foundations	Two shifts per day, six days per week						
Superstructure Construction	Two shifts per day, five days a week on weekdays						
Exteriors	Two shifts per day, five days a week on weekdays						
Mechanical, Electrical and Plumbing (Excl. AC Sub)	Two shifts per day, five days a week on weekdays						
Architectural Fitout	Two shifts per day, five days a week on weekdays						
LIRR South Block End Service Building	**Anticipated Work Shift[1]**						
Excavation & Foundations	Two shifts per day, six days per week						
Superstructure Construction	Two shifts per day, five days a week on weekdays						
Exteriors	Two shifts per day, five days a week on weekdays						
Mechanical, Electrical and Plumbing (Excl. AC Sub)	Two shifts per day, five days a week on weekdays						
Architectural Fitout	Two shifts per day, five days a week on weekdays						
TUNNEL ENCASEMENT CONSTRUCTION	**Anticipated Work Shift[2]**						
Temp. Utilities/Site Preparation/Temp. Structures	One shift per day, five days per week						
Support of Excavation/Jetgrouting	One shift per day, five days per week						
Soil & Rock Excavation	One shift per day, five days per week						
Concrete	One shift per day, five days per week						
Waterproofing & Roof Protection Slab	One shift per day, five days per week						
Backfill/Final Utilities	One shift per day, five days per week						
High Line Underpinning	After-hours when the High Line is closed to the public						

Notes:
1) Platform construction activities would generally be accomplished in two shifts per day (7 AM to 3:30 PM and 3:30 PM to 12 AM), five days a week on weekdays, with the exception of excavation and foundation activities which are anticipated to be conducted over two shifts per days, six days per week. All of the underground work in the track area would require a minimum of a four-track continuous outage. If the work involves spans that are longer than the limits of the four-track continuous outage, it would occur during nights to minimize disruptions to daytime train service. There is also the potential for catch up work that would require full weekend outages (54-hour) to make up for weather delays.
2) Construction activities for Tunnel Encasement would typically occur between 7 AM and 3:30 PM, five days a week on weekdays. However, in order to complete certain critical tasks (e.g., finishing a concrete pour), the workday may occasionally be extended beyond normal work hours with added night shifts.

3.6.1.2 CONSTRUCTION SEQUENCING

In order to minimize impacts on existing LIRR train operations, Platform construction would be sequenced to optimize track outages and site conditions. Based on current plans, work would occur with four tracks out of service at a time and advance in a linear fashion. **Figure 3-6** illustrates the sequence of grouped track outages for Platform construction anticipated by the Project Sponsor, based on coordination with LIRR. However, construction may also proceed with up to six tracks taken out of service subject to LIRR concurrence that the outage expansion is mutually beneficial. The construction sequence would provide the required isolation between construction activities and railroad operations, while also serving as a staging area for construction of the remaining caissons and deck sections to be built. Each section of the Platform construction would generally consist of the following stages: excavation and caisson drilling, concrete shear walls and columns installation, precast superstructure erection, and underdeck MEP system installation. Platform construction would also include the construction of new replacement LIRR North and South Block End Service Buildings that house LIRR support facilities and a new two-story LIRR Electrical Substation Building. Construction of each of these buildings would consist of the following construction stages: excavation and foundation; superstructure construction; exteriors' MEP system installation; and architectural fit-out.

Equipment used for Platform construction including the three new buildings is anticipated to include cranes, excavators, drill rigs, compressors, generators, rebar benders, concrete pumps, concrete vibrators, concrete finishers, and a variety of hand tools.

3.6.1.3 CONSTRUCTION STAGING

Access to the Project Site during construction would be fully controlled. The work areas would be fenced off, and limited access points for workers and construction-related trucks would be provided. Worker's personal vehicles would not be allowed into the "construction area" (the Project Site and the associated construction staging area). Based on the preliminary construction logistics plan, with the exception of the substation, construction staging for Platform construction would primarily take place within the Project Site and the adjacent sidewalk and parking lane on West 33rd Street and Eleventh Avenue. For the construction of the substation, construction staging would take place within the Project Site and the adjacent sidewalk and parking lane on West 30th Street.

Based on the preliminary construction logistics plan developed by the Project Sponsor, construction trucks such as dump trucks or concrete trucks are anticipated to enter the "construction area" via West 33rd Street and Eleventh Avenue, and via West 30th Street for the substation. Pedestrian circulation adjacent to the Project Site would be temporarily closed during construction on Eleventh Avenue and West 33rd Street. Maintenance and Protection of Traffic (MPT) plans would be developed to ensure the safety of pedestrian, bicyclist, and vehicle circulation near the Project Site during construction of the Preferred Alternative as required by the New York City Department of Transportation (NYCDOT). Measures specified in the MPT plans that are anticipated to be implemented may include but are not limited to the following: sidewalk closures; parking lane closures; safety signs; safety barriers; and construction fencing. Approval of these plans and implementation of the closures would be coordinated with NYCDOT's Office of Construction Mitigation and Coordination (OCMC).

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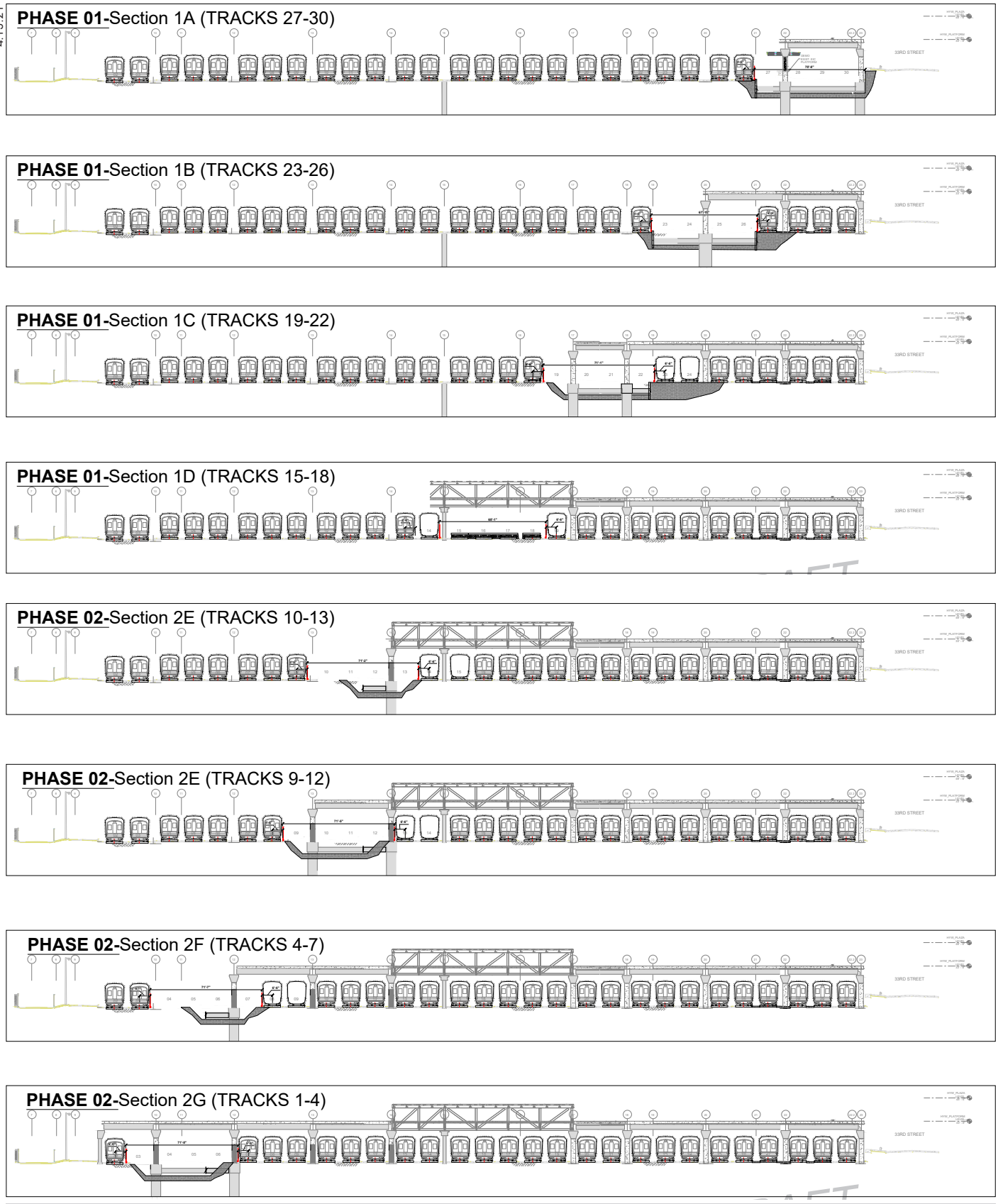

Source: WRY Tenant LLC

Platform Construction Phasing

WESTERN RAIL YARD INFRASTRUCTURE PROJECT

Figure 3-6

3.6.1.4 TRUCK ROUTES

Construction trucks (trucks arriving to and leaving from the Project Site) would be required to use NYCDOT-designated truck routes, which includes Tenth, Eleventh, and Twelfth Avenues and West 30th and West 34th Streets. Flag persons would be employed to control trucks entering and exiting the construction areas and/or to provide guidance for pedestrians and bicyclists safety. An average of approximately 60 to 80 trucks per day would arrive at and depart from the construction zone during the most intensive construction activities associated with Platform construction. These trucks trips are expected to be distributed throughout the day with approximately 15 to 20 trucks arriving at and then departing the Project Site during the peak hour.

Potential impacts on traffic conditions, noise levels, air quality, and the surrounding community from the construction-related truck traffic are evaluated in subsequent chapters of this EIS.

3.6.1.5 SCHEDULE

Platform construction activities would generally be accomplished in two shifts per day (7 AM to 3:30 PM and 3:30 PM to 12 AM), five days a week on weekdays, with the exception of excavation and foundation activities which are anticipated to be conducted over two shifts per days, six days per week. During Platform construction, the Project Sponsor estimates that there would be approximately 100 to 200 workers per day on-site spread out across the two work shifts. All of the underground work in the track area would require a minimum of a four-track continuous outage. If the work involves spans that are longer than the limits of the four-track continuous outage, it would occur during nights to minimize disruptions to daytime train service. There is also the potential for catch up work that would require full weekend outages (54-hour) to make up for weather delays.

Platform construction work would include construction of foundations and the Platform surface and associated infrastructure. This construction would occur over approximately five years, currently anticipated to occur as follows (see **Figure 3-5**):

- Phase 1A (Tracks 27 to 30): 16 months (late 2021 to early 2023).
- Phase 1B (Tracks 23 to 26): 15 months (mid-2022 to late 2023).
- Phase 1C (Tracks 19 to 22): 14 months (mid-2023 to mid-2024).
- Phase 1D (Tracks 15 to 18): 12 months (early 2024 to late 2024).
- Phase 2E (Tracks 10 to 13): 13 months (mid-2024 to mid-2205).
- Phase 2F (Tracks 4 to 7): 13 months (early 2025 to early 2026).
- Phase 2G (Tracks 1 to 4): 8 months (late 2025 to mid-2026).
- Substation: 28 months (mid-2023 to mid-2025).
- LIRR Service buildings: 8 months (late 2025 to mid-2026).

3.6.2 TUNNEL ENCASEMENT CONSTRUCTION

3.6.2.1 SITE PREPARATION

Similar to the site preparation activities for Platform construction, the work area would first be prepared for Tunnel Encasement construction. The construction areas would be fenced off and additional public safety measures, such as signs, would be installed. Access points to the construction area would also be established and portable toilets, dumpsters and construction trailers would be brought to the site and installed. Site preparation activities would also include the demolition of an existing one-story emergency services building located along the alignment of the proposed Tunnel Encasement.

Equipment used for site preparation activities typically includes excavators, bobcats, and a variety of small hand-held tools.

3.6.2.2 EXCAVATION AND CONSTRUCTION

Construction of the Tunnel Encasement would begin with the installation of a Support of Excavation (SOE) system south of the existing LIRR access road near Eleventh Avenue to hold back soil around the excavation area. In order to facilitate the construction of the SOE, the access road and underground utilities located within the construction zone would be relocated. A temporary bridge that spans over the excavation area would then be constructed to provide a connection between the access road and West 30th Street. After the SOE walls and the temporary bridge are completed, excavation activities would commence. Excavation activities would include the removal of soil, rocks, and any abandoned elements encountered such as foundations, piles, utilities, and retaining walls. Once the area has been excavated, a reinforced concrete slab would then be installed below the tracks creating the floor of the Tunnel Encasement. The concrete floor would be used as a base to support the concrete walls and roof of the tunnel, which would be waterproofed. When the tunnel work is complete, the area is backfilled and the surface is restored. In addition, the temporary bridge would be removed and any needed final utilities would be installed.

Equipment used for excavation and backfill activities is anticipated to include a crane, excavators, drill rigs, and generators. Equipment used for tunnel construction is anticipated to include compressors, generators, rebar benders, concrete pumps, concrete vibrators, concrete finishers, and a variety of hand tools.

Since the Tunnel Encasement work would extend underneath a portion of the High Line, it would require the underpinning of an approximately 100-foot segment of this historic elevated structure during construction. Underpinning is a process in which structural support (often using piles) is added to support an existing foundation and permit project construction below. Equipment used for the underpinning work is anticipated to include a crane, welders, and a variety of hand tools.

3.6.2.3 CONSTRUCTION STAGING

The construction logistics plan for the Tunnel Encasement work would be developed by the Project Contractor with constraints, including the use of West 30th Street to access the construction area and the need to provide a temporary two-lane bridge for construction access to span over the excavation area. The Project Sponsor or its construction contractor would develop MPT plans to ensure the safety of pedestrian, bicyclist, and vehicle circulation near the Project Site during construction activities associated with the Tunnel Encasement, as required by NYCDOT.

3.6.2.4 TRUCK ROUTES

As with the activities associated with Platform construction described above, construction trucks for the Tunnel Encasement (trucks arriving to and leaving from the Project Site) would be required to use NYCDOT-designated truck routes, which includes Tenth, Eleventh, and Twelfth Avenues and West 30th and West 34th Streets. Flag persons would be employed to control trucks entering and exiting the construction areas and/or to provide guidance for pedestrians and bicyclists safety. An average of approximately 30 to 40 trucks per day would arrive at and depart from the construction zone during the most intensive construction activities associated with the Tunnel Encasement. These trucks trips are expected to be distributed throughout the day with approximately 8 to 10 trucks arriving at and then departing the Project Site during the peak hour.

3.6.2.5 SCHEDULE

Construction activities for Tunnel Encasement would typically occur between 7 AM and 3:30 PM, five days a week on weekdays. However, in order to complete certain critical tasks (e.g., finishing a concrete pour), the workday may occasionally be extended beyond normal work hours with added night shifts. Tunnel Encasement work would occur over approximately three years, currently anticipated to occur as follows:

- Site Preparation / Temporary Utilities and Structures: 20 months (late 2021 to mid-2023)
- Support of Excavation / Jet grouting: 19 months (early 2022 to mid-2023)
- Soil and Rock Excavation: 21 months (early 2022 to late 2023)
- Concrete: 20 months (mid-2022 to early 2024)
- Waterproofing and Roof Protection Slab: 23 months (mid-2022 to early 2024)
- Backfill / Final Utilities: 23 months (mid-2022 to mid-2024)
- High Line Underpinning: 4 months (mid/late 2022 for installation and early 2024 for removal)

During construction of the Tunnel Encasement, approximately 10 to 30 workers would be on site for each of the tasks listed above. Depending on the activities on-site, there would be up to approximately 120 workers on site at a time.

Except under exceptional circumstances, construction activities must be limited to weekdays between the hours of 7:00 AM and 6:00 PM, as specified in the New York City Noise Control Code (NYCNCC), enforced by the New York City Department of Environmental Protection (NYCDEP). At all other times, including anytime on the weekends, an after-hours authorization is required. After hours variance (AHV) applications must be filed with the New York City Department of Buildings (NYCDOB) at least two business days before the first intended work day. Permit authorization for weekend or after hour construction work may be granted for the following circumstances—emergency work, cases of public safety, City construction projects, construction activities with minimal impact, and for a claim of undue hardship resulting from unique site characteristics, unforeseen conditions, scheduling conflicts and/or financial considerations. ✴