

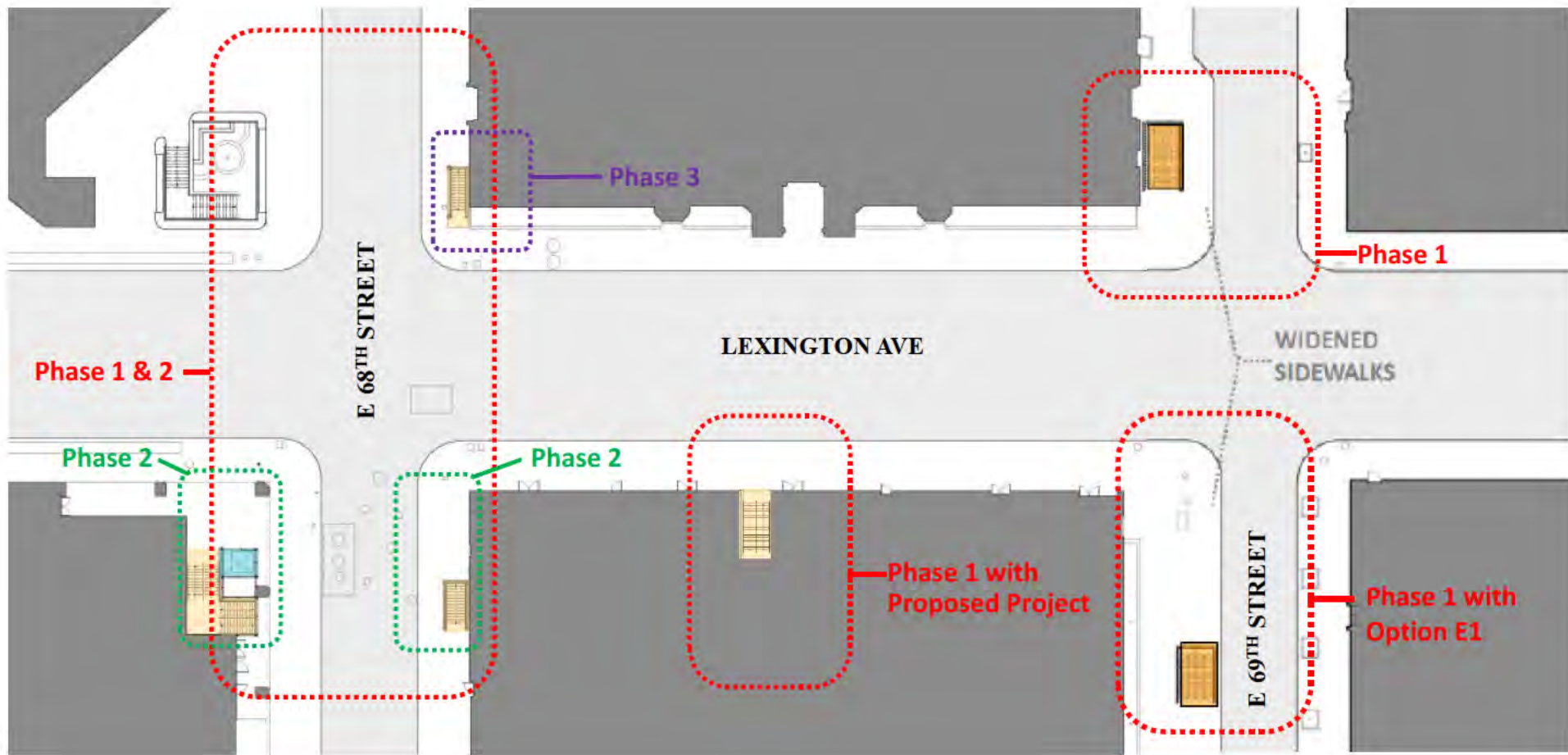
## 13.1 INTRODUCTION

This section provides a discussion of construction activities and the potential impacts that could result from construction activities. While the construction duration and some associated impacts would last approximately 3 or 3.5 years, many impacts would last for only a portion of the total construction duration. Construction impacts are therefore considered to be temporary. Although construction impacts are temporary, MTA NYCT recognizes the need to minimize the potential for impacts resulting from construction. Construction activities, scheduling, equipment, and impacts under the Proposed Project would be generally the same as those for the Proposed Project *with Option E1*. Where differences between the Proposed Project and the Proposed Project *with Option E1* are anticipated, they are identified in the appropriate sub-heading below.

## 13.2 CONSTRUCTION METHODS

Construction of the Proposed Project and the Proposed Project *with Option E1* would be conducted in three phases, where Phase 1 construction would focus on the new street entrances on East 69th Street west of Lexington Avenue and mid-block between East 68th Street and East 69th Street on the east side of the avenue (or with Option E1, on East 69th Street east of Lexington Avenue), and utility relocation activity on East 68th Street. Figure 13-1 illustrates the general location of surface construction activity for the project and Figure 13-2 illustrates the general location of subsurface construction activity. Phase 2 construction would begin after the new entrances are open and would involve construction on the east side of the existing mezzanine, including installation of the northbound platform elevator and street elevator infrastructure, reconfiguring the east side of the mezzanine, and continuing with the relocation of utilities. Phase 3 would begin when the East 68th Street entrances on the east side of Lexington Avenue are reopened and would focus on construction of the southbound platform elevator and reconfiguration of the northwest street stair.

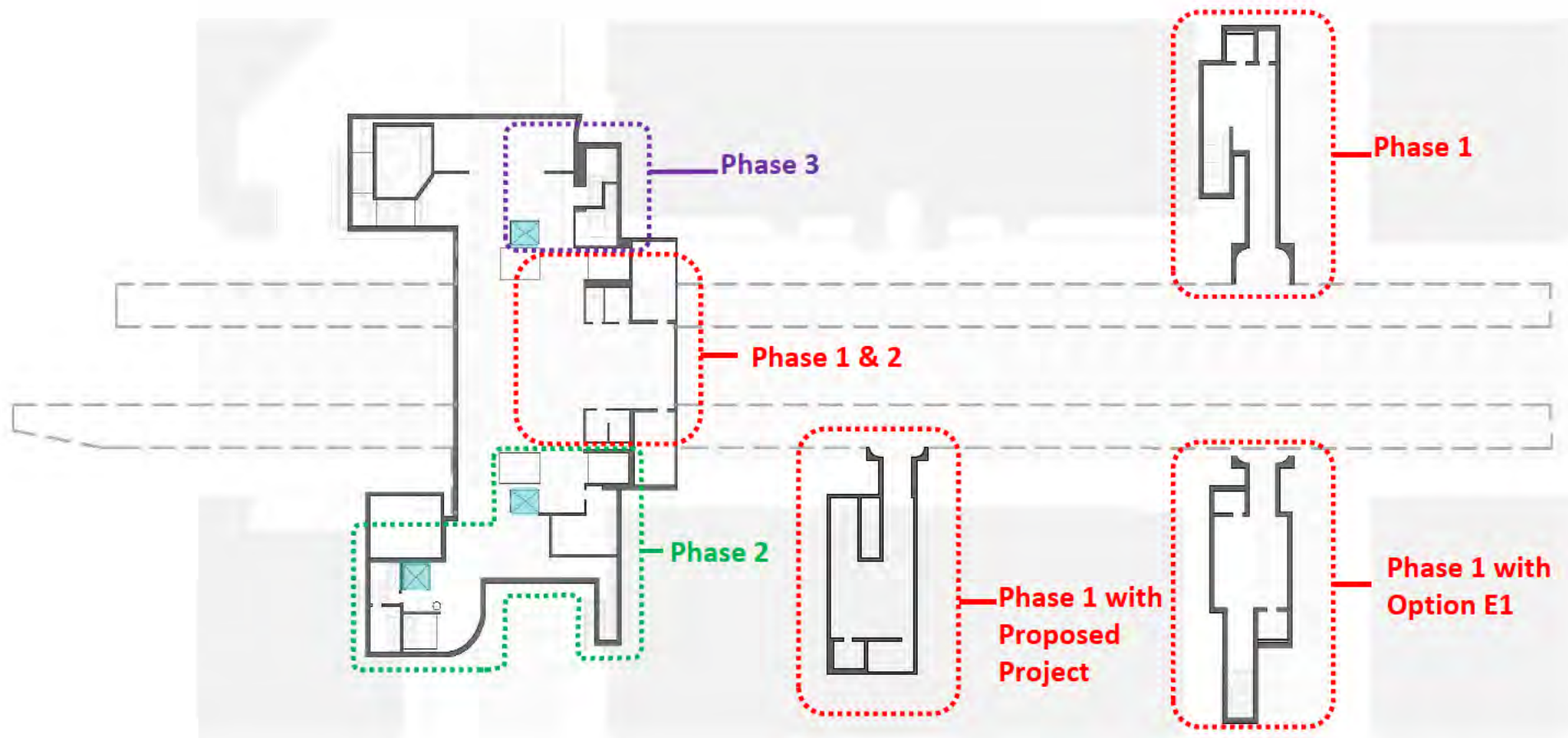
Construction of the Proposed Project and the Proposed Project *with Option E1* would be expected to begin in 2016 and continue for approximately 36 to 39 months, ending in 2019. Work would be conducted in staggered phases to allow for continuous operation of the subway system and to minimize effects of construction activities on surface transportation, pedestrian and vehicular traffic flow, and to minimize effects of construction to businesses, community facilities and residences along Lexington Avenue, East 68th Street and East 69th Street. Work would be conducted, except where noted otherwise, in two shifts per day, between 7:00 AM and 10:00 PM (with approval from the New York City Department of Buildings [NYCDOB]). Construction phases may overlap when doing so would both minimize the construction effects noted above, and decrease the overall construction period. There may be brief periods when 68th Street is closed to vehicular traffic. These closures would likely be at night or on the weekend and an MPT would be developed and approved by NYCDOT prior to street closure. The MPT would stipulate the date and duration of the closure and would include traffic diversion routes and provisions for emergency vehicles.



Not to Scale



Phased Location of Surface Construction Activity  
**Figure 13-1**



Not to Scale



Phased Location of Subsurface Construction Activity  
**Figure 13-2**

After the initial stages of construction in each phase, the majority of the work would be conducted under the streets and sidewalks. The initial phases involve preparing the area for excavation by closing up to approximately half of the street, either East 68th Street, East 69th Street or Lexington Avenue, depending on which phase of the project is under construction. For these initial stages, a portion of the street would be closed, but at least one travel lane on the side streets and two lanes on the avenue would remain open. The area under construction would then be closed off by construction fencing. The initial stages of construction would require removing the pavement and installing soldier piles and lagging. Soldier piles and lagging prevent the sidewalls of the excavation from caving into the work cavity, provide support for street and sidewalk decking, and support for utility transmission infrastructure.

This excavation and street decking would occur under a staggered schedule and would be located on East 69th Street west of Lexington Avenue, and on East 68th Street, both east and west of the avenue.

While the street is functioning normally, the sidewalk in the areas where street stairs are to be installed or modified would be temporarily closed, and a barrier preventing public access would be erected. In instances where a portion of the sidewalk is closed, pedestrian circulation would be maintained by diverting pedestrians to the curb lane, which would be isolated from traffic by a barrier.

After excavation, and while the street and sidewalk are covered by decking, construction would include the new platform elevators, and the small extension of the mezzanine on the east side of the station (East 68th Street), and the subway tunnel walls for the new stairs at the north end of the station. For this construction, temporary concrete forms would be built and fitted with rebar, and concrete would be poured into the forms. Concrete would be trucked to the site and pumped or poured into the forms from the surface.

Construction staging is the planning and management of equipment storage, site access, temporary truck parking, and temporary crane placement during construction. For the purposes of this analysis, temporary construction staging is assumed to be limited to places within the work area (e.g., either the east side of Lexington Avenue, East 68th Street or East 69th Street). While off-site staging may be required, it is not possible to confirm the location of these areas at this time. The requirement for, and the location of such an area, would be the responsibility of the contractor. The contractor would establish possible staging areas and would be required, as part of the contract specification, to comply with all applicable local zoning laws, and other applicable local rules and regulations, and to obtain all necessary permits and approvals.

Staging areas for construction equipment and supplies would likely occupy the curb lane adjacent to the area under construction. These staging areas would migrate as needed from East 69th Street, to Lexington Avenue and to East 68th Street according to which phase of construction is underway. At times there may be more than one staging area. Staging areas would be surrounded by a construction fence and isolated from public access.

## **13.3 CONSTRUCTION PHASES**

### **13.3.1 PHASE 1**

Construction activities during Phase 1 would focus on the new stairs to be located at the north end of the station. Phase 1 activities would also include excavation for the rerouting of utility infrastructure at the intersection of Lexington Avenue and East 68th Street. Phase 1 would continue for approximately one year, from mid-2016 to mid-2017. Access to the station during this phase of construction would be via the four existing stairways.

During excavation, a construction fence would be erected around the construction zone. For the new southbound station access the construction zone would include a portion of the south side of East 69th Street and portions of the south sidewalk for a distance of approximately 100 feet west of Lexington Avenue. Pedestrian traffic along the south side of East 69th Street would be maintained by providing a temporary walkway along the south side of the street. The walkway would be separated from vehicular traffic by a barrier. The service entrance to Hunter College between Thomas Hunter Hall and the North Building would be maintained.

For the new northbound station entrance at 931 Lexington Avenue under the Proposed Action, the sidewalk in front of the proposed entrance would be closed to pedestrians and temporary construction barriers would be erected. The section of sidewalk to be closed would extend for approximately 40 feet along Lexington Avenue. Access to all businesses on the east side of Lexington Avenue would be maintained at all times. Approximately 100 feet of the parking lane adjacent to the proposed entrance would be closed to vehicles and pedestrian traffic would be diverted around the excavation to the parking lane. The minimum width of the temporary sidewalk would be 8 feet, and the duration of the diversion would be approximately 3 months.

As described above, the pavement would be removed, soldier piles and lagging installed, and street and sidewalk decking would be laid. Access to Hunter College west of Lexington Avenue and the commercial spaces of the Imperial House Apartments east of Lexington Avenue would be maintained at all times. Excavation for the new stairwells and mezzanines would progress below utility transmission lines, which would be supported from above where necessary. A temporary walkway would be provided for pedestrians traveling along East 69th Street and the east sidewalk of Lexington Avenue. Pedestrian bridges across the construction zone would be provided for access to Thomas Hunter Hall and business entrances if necessary.

Utility lines would be relocated as necessary, and concrete forms would be constructed to build the walls, floor and roof of the stairs, and concrete would be pumped into the forms. During Phase 1, work at the north end of the station platform level would involve stabilizing and reinforcing the tunnel wall so that an opening in the wall can connect platform to the new platform stairs, mezzanines and street stairs. For the new northbound subway entrance a passageway would be constructed between the Imperial House basement and the existing subway platform. Since the elevation of the existing platform is lower than the Imperial House basement, concrete stairs would be constructed from the Imperial House basement to the elevation of the new passageway at the platform level. Connection of the passageway to the platform would require removing approximately 20 linear feet of the platform wall. As such, prior to construction of the new passageway, approximately 30 linear feet of the Imperial House foundation will require underpinning. However, this work would not affect street level pedestrian and vehicular traffic. At platform level, temporary construction/noise barriers would be erected around the areas of the platform where the tunnel wall is being removed. In order to minimize impacts, the work may be conducted on a staggered schedule.

Phase 1 construction includes the relocation of utility infrastructure under the intersection of East 68th Street and Lexington Avenue. During utility relocation, Lexington Avenue would be reduced to two travel lanes for up to 12 months, and in coordination with NYCDOT, East 68th Street would be closed for brief periods. At other times, three travel lanes would be maintained on Lexington Avenue (as is the current condition), and one travel lane would remain open on both East 68th Street and East 69th Street (as is the current condition).

Equipment involved in this phase of construction could include pavement breakers (jackhammers), compressors, excavators, rubber tire loaders, dump trucks and hydraulic cranes. Jack hammers would break the street and sidewalk and debris would be loaded into dump trucks

and hauled away for disposal. Small excavators and hand tools (depending on the location and density of utility infrastructure) would be used to advance the excavation to the necessary level.

After the new entrances are finished, new street beds and curbs would be installed, and a new sidewalk would be constructed. Any sidewalk fixtures—parking meters, street lights and street trees, traffic lights and signs—that were removed would be replaced, and fire hydrants, gutters and catch basins would be rebuilt.

### **Proposed Project with Option E1**

Under the Proposed Project *with Option E1*, a new northbound station entrance would be constructed on the south sidewalk of East 69th Street, east of Lexington Avenue, rather than at 931 Lexington Avenue. Construction for the mezzanine and street stair under the Proposed Project *with Option E1* would thus occur along East 69th Street east of Lexington Avenue instead of under the east sidewalk of Lexington Avenue midway between East 68th and East 69th Streets. For the new northbound station entrance at East 69th Street, the sidewalk in front of the proposed entrance would be closed to pedestrians and temporary construction barriers would be erected. The section of sidewalk to be closed would extend east from Lexington Avenue for approximately 100 feet along the south side of the street. Access to the Imperial House Apartment drive would be maintained at all times. Approximately 100 feet of the parking lane adjacent to the proposed entrance would be closed to vehicles, and pedestrian traffic would be diverted around the excavation to the parking lane. The minimum width of the temporary sidewalk would be 8 feet, and the duration of the diversion would be approximately 3 months.

### **13.3.2 PHASE 2**

Once the new subway entrances are operational, Phase 2 of construction would begin. Phase 2 is identical for the Proposed Project and for the Proposed Project *with Option E1*. Construction activities during Phase 2 would focus on construction of the northbound platform elevator, construction of the street elevator and reconfiguration of the street stair at the southeast corner of East 68th Street and Lexington Avenue, reconfiguration of the east side of the mezzanine, reconfiguration of the street stair at the northeast corner of East 68th Street and Lexington Avenue, and the continued relocation of utilities under the East 68th Street/Lexington Avenue intersection. Phase 2 would continue for approximately one year, and during this time, access to the station would be via the new stairs at the north end of the station, and the existing stairs at the southwest and northwest corners of East 68th Street and Lexington Avenue.

A construction fence would be erected around the construction zone. The construction zone in Phase 2 would include the curb lane and portions of the sidewalk for a distance of approximately 60 feet east of Lexington Avenue on both sides of East 68th Street (not concurrently) and the area around the cantilevered portion of the Hunter College East building. Construction during Phase 2 would eliminate access to the station via the southeast and northeast street stairs. Construction fencing would not extend east on East 68th Street to the point of blocking access to the sidewalk vendor located approximately 80 feet east of Lexington Avenue on the south side of East 68th Street. Excavation and street decking would occur under a staggered schedule and would be located on East 68th Street east of Lexington Avenue.

The East 68th Street access to the parking garage under Imperial House Apartments would be maintained. Access to the building's service entrance would also be maintained. No businesses would be closed or relocated, except for the flower kiosk on the southeast corner of East 68th Street and Lexington Avenue. Demolition of the eastern portion of the mezzanine, and excavation for the two elevators would progress below utility transmission lines, which would be supported from above. A temporary walkway would be provided for pedestrians traveling along East 68th Street. Within the station, the work areas at the platform and mezzanine levels would be isolated

from the rest of the station with plywood barriers to reduce noise in the station and to maintain passenger safety.

The new elevator pits and walls for both the northbound platform elevator and the street elevator would be constructed, the new mezzanine would be built, and the new street stairs east of Lexington Avenue would be built. The existing stairs at the northeast corner of East 68th Street and Lexington Avenue would be enlarged and reconfigured. At the conclusion of Phase 2, new sidewalks would be constructed and sidewalk elements (street trees, street lights, mailboxes, etc.) would be replaced. The expanded mezzanine in the southeast corner of the station would be constructed, the elevator walls would be built, and the area would be backfilled. The street stair on the southeast corner of East 68th Street and Lexington Avenue would be widened and rebuilt and the street elevator head house installed.

The equipment used during the second phase of construction would be similar to that used in the first phase.

### **13.3.3 PHASE 3**

When the street stairs on the east side of Lexington Avenue that were closed under Phase 2 reopen, Phase 3 would begin. Phase 3 is identical for the Proposed Project and for the Proposed Project *with Option E1*. The third phase includes the rehabilitation of the northwest street stair and installation of the ADA-compliant platform elevator for the southbound track. During Phase 3 of construction, access to the station would be via the street stairs on the east side of Lexington Avenue, the street stair on the southwest corner of East 68th Street and Lexington Avenue and the new entrances at the north end of the station. All access to the Hunter College East building would be maintained during Phase 3 of construction.

A new street bed and curb would be installed at East 68th Street and Lexington Avenue.

The equipment used during the third phase of construction would be similar to that used in the previous phases of construction.

## **13.4 POTENTIAL CONSTRUCTION IMPACTS**

### **13.4.1 SOCIAL CONDITIONS**

Construction of the Proposed Project and under the Proposed Project *with Option E1* would affect the character of the neighborhood in varying degrees for up to 39 months. Visible impacts would include construction barriers and equipment and trucks hauling debris away and trucks delivering construction material. At times, especially during the initial stages, noise generated by construction activities would be audible for area residences, workers and pedestrians in the area.

Under the Proposed Project one street tree would be removed to accommodate construction of the street stair at the northeast corner of East 68th Street and Lexington Avenue, and one tree at the southwest corner of East 69th Street and Lexington Avenue would be removed.

Under the Proposed Project *with Option E1*, two additional street trees would be removed along the south sidewalk of East 69th Street east of Lexington Avenue.

Construction would involve disruption on the streetbed, sidewalks, and some adjacent areas where construction materials and equipment would be temporarily stored. On a staggered schedule, construction of the Proposed Project includes replacement of sidewalks on the east side of Lexington Avenue, either side of East 68th Street east of Lexington Avenue, on the north side of East 68th Street west of Lexington Avenue and on the south side of East 69th Street west of the avenue. The replacement of sidewalks in these areas would not occur concurrently. At no

time would construction of the Proposed Project prevent access to businesses along Lexington Avenue, East 68th Street or East 69th Street. The proposed street elevator located on the southeast corner of East 68th Street and Lexington Avenue would require the permanent relocation of the florist kiosk at that location (see Section 3.3.3.2). The commercial space in the Imperial House Apartments would be delivered to MTA NYCT vacant, and no businesses would be displaced.

During construction of the Proposed Project and the Proposed Project *with Option E1*, access would be maintained to all buildings, businesses, loading docks, and parking facilities at all times. MTA NYCT and the contractor would provide adequate space for local deliveries during normal hours of operation, so as to minimize inconvenience to pedestrians and delivery services accessing businesses. Sidewalk access would be maintained during construction with a minimum of 5-foot-wide sidewalks. Where the reconstruction of the street stair on the north sidewalk of East 68th Street is proposed, it may be necessary to temporarily reduce the width of the sidewalk to a minimum of 5 feet for a distance of up to 60 feet, or to divert pedestrian traffic to the adjacent curb lane.

MTA NYCT will coordinate with businesses to address access/delivery issues. MTA NYCT would provide special loading and unloading areas on nearby side streets to those businesses where normal delivery access is curtailed during construction. In those designated side street areas, parking could be prohibited to allow more reliable deliveries and pick-ups.

The utility relocations would require the closing of lanes on Lexington Avenue. Excavation in the street bed would occur during normal working hours and would be covered with decking plates that would be secured in place during non-working hours.

On the southwest corner of East 69th Street and Lexington Avenue, the neckdown (widening of the sidewalk) would be constructed prior to construction of the street stair to maintain sufficient width for pedestrians along the sidewalk. Widening of the sidewalk and installation of the street stair is estimated to take 3 to 5 months to complete on the west side of Lexington Avenue.

Variously, depending on time of day and season, vendors on East 68th Street are located on the sidewalks east and west of Lexington Avenue. Depending on the phase of construction, it is expected that these locations would be unavailable for street vendors for temporary periods. Temporary locations for the street vendors would be finalized prior to construction in coordination with the NYCDOT, NYCDPR and the New York City Department of Consumer Affairs.

A traffic management plan would be implemented prior to construction in the form of a NYCDOT-approved MPT plan. This plan would include procedures for advance notification to residents and businesses of partial street/sidewalk closures and other potential construction-related activities, as well as measures to avoid or minimize noise, vibration and dust associated with construction activities. Additionally, these temporary impacts would be offset by the long-term benefits of the Proposed Action, including less congestion and better pedestrian circulation at the intersection of East 68th Street and Lexington Avenue.

With an estimated construction cost of approximately \$70 million, the project would generate substantial economic benefits. The public expenditure required to implement the station improvements would provide jobs in the construction industry and jobs in the production of necessary services and materials. In addition to these jobs, the project's construction would also result in indirect or secondary economic activity generated from the direct expenditures throughout the regional economy (referred to as "multiplier" effects). In addition to employment directly attributable to construction of the Proposed Project and the Proposed Project *with Option E1*, construction expenditures would generate indirect employment, including jobs in business



establishments providing goods and services to the contractors, as well as in businesses that would provide goods and services to construction workers.

#### **13.4.2 ENVIRONMENTAL JUSTICE**

As discussed Chapter 3, the Proposed Project and the Proposed Project *with Option E1* do not have the potential to result in significant adverse construction impacts. Therefore, low-income and minority populations would not experience disproportionate high and adverse impacts during construction at a disproportionately high rate.

#### **13.4.3 HISTORICAL AND CULTURAL RESOURCES**

Construction of the Proposed Project and the Proposed Project *with Option E1* would have no adverse effect on historic properties because a construction protection plan (CPP) for historic resources located within 90 feet of construction activity is required, and would be prepared and executed, prior to the start of construction, as stated in the August 29, 2012, and April 2, 2015, letters from OPRHP. A CPP would be developed for the following historic properties within the project area: Thomas Hunter Hall, a contributing resource to the S/NR listed Upper East Side Historic District, and the Imperial House Apartments, eligible for listing on the S/NR.

To avoid the potential for any adverse physical impacts to historic resources within 90 feet of construction, including the Upper East Side Historic District (Thomas Hunter Hall) or the Imperial House Apartments, as a result of construction-induced ground-borne vibrations, a Historic Resource Construction Protection Plan (HRCPP) would be developed in consultation with NYSOPRHP and LPC prior to construction. The HRCPP would follow the requirements established in the NYCDOB Technical Policy and Procedure Notice (TPPN) #10/88 concerning procedures for the avoidance of damage to adjacent historic structures from nearby construction. It would also follow the guidelines set forth in Section 523 of the CEQR Technical Manual, including conforming to LPC's Guidelines for Construction Adjacent to a Historic Landmark and Protection Programs for Landmark Buildings.

The 68th Street/Hunter College Station is located in a densely developed urban setting with a mix of historic properties and recently constructed buildings; the subsurface locations associated with the Proposed Project have been previously disturbed by the installation of the IRT Subway, and by the excavation for and installation of utilities from the late nineteenth century through to the present. As a result, and following the concurrence from NYSOPRHP on August 29, 2012 and concurrence from LPC on February 1, 2012, the project site does not possess the potential for subsurface archaeological resources within the construction zone for the Proposed Project. No impacts to archeological resources are anticipated.

#### **13.4.4 TRANSPORTATION AND PEDESTRIAN CIRCULATION**

The Proposed Project would be constructed in three phases as identified above. Construction of the new stairs at the north end of the station, identified as Phase 1, would begin in 2016 and be completed within approximately one year. Phase 2 of the Proposed Project, which includes widening and reconfiguring the northeast and southeast street stairs at East 68th Street and Lexington Avenue, and construction of the ADA elevator at the southeast corner of the intersection, would occur the following year, in 2017–2018, and would be completed prior to the start of Phase 3. Phase 3 of the project is expected to start in 2018, and would include rehabilitation of the northwest street stair at East 68th Street and Lexington Avenue, and construction of the southbound platform elevator. This phase is expected to be complete in late 2019. No construction of the street stair at the southwest corner of East 68th Street and Lexington Avenue is planned for the project.

This section analyzes the interim construction condition years of 2014 through 2016, which are earlier than when the actual construction is expected to occur (2017 through 2019); however, the analyses for the earlier years assume that the Second Avenue subway, which is anticipated to open in 2017, would not yet be operational. As the Second Avenue subway would divert significant ridership away from the Lexington Avenue IRT Line, the construction condition analyses for the earlier years are conservative, and conditions during construction in 2017 through 2019 would be better than what is analyzed in this section for 2014 through 2016. The detailed transportation analysis results for the construction condition are included in Appendix C and summarized later in this chapter.

During Phase 2 and Phase 3 of construction, pedestrians and passengers would need to be rerouted to account for the various stair and sidewalk closures. The proposed subway street stairs to be located at the north end of the station would be operational before the start of Phase 2. Therefore the diversion of pedestrian volumes from the East 68th Street stairs to the new stairs would need to be accounted for.

For construction of the Proposed Project *with Option E1*, subway ridership would be the same as the Proposed Project; therefore, all pedestrian and transit volumes would be the same except at a few locations. These differences exist because under the Proposed Project *with Option E1*, the east side street stair at East 69th Street would be located east of the southeast corner of the Lexington Avenue and East 69th Street intersection, rather than mid-block on the east side of Lexington Avenue. Specifically, the following three pedestrian elements analyzed in this construction chapter would have different pedestrian volumes under the Proposed Project *with Option E1*:

- Lexington Avenue east sidewalk, south of East 69th Street (lower volumes under Option E1)
- East 69th Street south sidewalk, east of Lexington Avenue (higher volumes under Option E1)
- East 69th Street north sidewalk, east of Lexington Avenue (lower volumes under Option E1)

The pedestrian reassignment varies per construction phase as follows:

### **13.4.4.1 Phase 1 – Construction of East 69th Street Stairs**

The construction of the proposed street stairs at the north end of the station would occur in Phase 1 (2016–2017). During this phase no rerouting of station passengers would be necessary as pedestrians would continue to use the existing stairs at East 68th Street.

### **13.4.4.2 Phase 2 – Stair Construction at East 68th Street East of Lexington Avenue**

The closure of the street stairs at East 68th Street east of Lexington Avenue would require the shift of all subway passenger flows to the stairs west of Lexington Avenue and to the new north entrances/exits completed in Phase 1.

### **13.4.4.3 Phase 3 – Closure of the Northwest Stair at East 68th Street**

The closure of the northwest corner street stair at East 68th Street would require the shift of these passenger flows to the other three entrance/exits at East 68th Street and to the new north entrances/exits completed in Phase 1.

#### **13.4.4.4 Maintenance and Protection of Traffic**

The contractor selected for the project would be responsible for preparing plans to ensure that acceptable levels of service are maintained throughout potentially affected roadways and intersections in the study area. Maintenance and Protection of Traffic (MPT) plans would be submitted to and approved by NYCDOT. At no time would Lexington Avenue be reduced to fewer than two travel lanes. One travel lane on East 69th Street would remain open throughout construction of the project. However, at times during late night or weekends, East 68th Street would be closed east of Lexington Avenue. MPT plans for these events would be submitted to and approved by NYCDOT, and would accommodate emergency vehicles that require access to buildings along East 68th Street between Lexington Avenue and Third Avenue.

#### **13.4.4.5 Transit**

Rebuilding the platform edge as part of the Proposed Project could cause brief and temporary disruption to subway operations. Disruption to subway service includes six weekend diversions of train traffic on each of the northbound and southbound tracks, and 20 weeknight shutdowns (12:01 AM to 5:00 AM) on each track.

At times during construction within the station, passenger circulation would be disrupted when street stairs are closed for widening or relocating and when the eastern part of the mezzanine is being rebuilt. At these times, pedestrians would be diverted to other exits. At no time would fewer than four entrance/exits be available to the station. The new subway stairs at the north end of the station would be open prior to construction activity that would affect the existing stairs at the southern end of the station.

The MTA NYCT bus stop for the cross town M66 bus route, located at the southeast corner of Lexington Avenue and East 68th Street, would be temporarily relocated to the southwest corner for approximately 12 months. The Proposed Project would not otherwise affect bus transit. No impacts to bus transit along Lexington Avenue are anticipated, and no adverse impacts to public transit in general are expected.

The four street stairs and turnstiles at the 68th Street entrance were analyzed for the two interim construction phases in 2015 and 2016 (2018–2019). In addition, two sets of turnstiles and street stairs (uptown and downtown) at the new entrances were analyzed for the Proposed Project.

#### **13.4.4.6 Subway Street Stairs**

Detailed street stair analyses were conducted for the four existing street stairs at the 68th Street/Hunter College Station and the proposed stairs at the north end of the station during the three peak periods for both the 2015 and 2016 (2018–2019) interim construction years.

During the Phase 2 construction at the East 68th Street entrance, the southwest stair is projected to operate at LOS C during the midday peak period. Because of the closure of the southeast stair during Phase 2 and shift of pedestrians to the southwest stair, the southwest stair is projected to operate at LOS F and E during the AM and PM peak periods, respectively. The northwest stair is projected to operate at LOS C or better during all three peak periods. During the Phase 3 construction at the East 68th Street entrance, all stairs are projected to operate at LOS C or better during all three peak periods.

The proposed East 69th Street stair on the western side of Lexington Avenue is projected to operate at LOS A at all time periods during construction Phases 2 and 3. The proposed eastern stair is projected to operate at LOS B during the AM peak period and LOS A during the midday and PM peak periods for both construction phases.

For the Proposed Project *with Option E1*, the proposed east stair at East 69th Street would have the same volume as the Proposed Project, but the subway street stair would be 108 inches wide rather than 120 inches wide. With Option E1, this stair would operate at LOS B during the AM peak period and LOS A during the midday and PM peak periods, which is the same LOS as for the Proposed Project.

### 13.4.4.7 Turnstiles

Detailed analyses were conducted for control area R-246 in the 68th Street/Hunter College Station and the proposed control areas at East 69th Street for the three peak periods during both the 2015 and 2016 (2018–2019) interim construction years. The results of the analyses indicate that all of the control areas at both entrances of the station are projected to operate at LOS A during the three peak periods for both construction phases.

For the Proposed Project *with Option E1*, the turnstile volumes and analysis results would be the same as those for the Proposed Project.

### 13.4.4.8 Pedestrian Operations

The crosswalk, corner, and sidewalk locations at the Lexington Avenue intersection with East 68th Street were analyzed for the three peak periods for both the 2015 and 2016 (2018–2019) interim construction years. For analysis purposes, existing pedestrians originating from or bound to the subway were assigned to the East 69th Street stairs as appropriate.

#### Crosswalks

The four crosswalk locations at the Lexington Avenue intersection with East 68th Street were analyzed for the three peak periods during both the 2015 and 2016 (2018–2019) construction conditions. During Phase 2 construction, the east and west crosswalks are projected to operate at an LOS C or better during all three peak periods. The north crosswalk is projected to operate at an LOS C or better during the midday and PM peak periods and LOS D during the AM peak period. Because of the shift of pedestrians from the southeast corner to the southwest corner stair, there would be more pedestrians crossing the south crosswalk. As a result, the south crosswalk is projected to operate at LOS F during the AM peak period and LOS E during the midday and PM peak periods.

During the 2016 Phase 3 construction condition, all four crosswalks are projected to operate at an LOS C or better during all three time periods.

For the Proposed Project *with Option E1*, crosswalk volumes and analysis results at the Lexington Avenue and East 68th Street intersection would be the same as those for the Proposed Project.

#### Corners

The four corner reservoir locations at the Lexington Avenue intersection with East 68th Street were analyzed for the 2015 and 2016 (2018–2019) construction conditions. During Phase 2 construction conditions, the northeast corner is projected to operate at LOS A during all three time periods. The northwest and southeast corners are projected to operate at LOS D during the AM and PM peak periods and LOS C during the midday peak period. The southwest corner is projected to operate at LOS E during the AM peak period, LOS C during the midday peak period, and LOS D during the PM peak period.

During the 2016 Phase 3 construction condition, all four corner locations are projected to operate at an LOS C or better during the three peak periods.

For the Proposed Project *with Option E1*, corner volumes and analysis results at the Lexington Avenue and East 68th Street intersection would be the same as those for the Proposed Project.

### **Sidewalks**

The eight sidewalk locations at the Lexington Avenue intersection with East 68th Street were analyzed for the 2014, 2015 and 2016 (2017, 2018, and 2019) construction conditions. Additionally, the eight sidewalk locations at the Lexington Avenue intersection with East 69th Street were analyzed for the 2016 construction condition. During the 2014 (2017) Phase 1 construction condition, seven out of eight sidewalk locations at the intersection of Lexington Avenue at East 68th Street are projected to operate at an LOS C or better under the non-platoon and platoon conditions during the three peak periods. The west side of Lexington Avenue north of East 68th Street is projected to operate at LOS D under platoon conditions during the PM peak hour. At the intersection of Lexington Avenue at East 69th Street, six of the eight sidewalk locations are projected to operate at an LOS C or better under the non-platoon and platoon conditions during the three peak periods. The west side of Lexington Avenue north of East 69th Street is projected to operate at LOS D under platoon conditions during the PM peak hour. The east side of Lexington Avenue south of East 69th Street (midblock between East 68th Street and East 69th Street in front of 931 Lexington Avenue) would operate at LOS D during the AM peak period and LOS C or better during the midday and PM peak periods under non-platoon conditions. Under platoon conditions, it would operate at LOS D during the AM and PM peak periods and LOS C during the midday peak period.

During Phase 2 construction, six of the eight sidewalk locations are projected to operate at an LOS C or better under the non-platoon and platoon conditions during the three peak periods. The south side sidewalk west of the Lexington Avenue and East 68th Street intersection is projected to operate at LOS D during the PM peak period under non-platoon conditions and the AM and PM peak periods under platoon conditions. The south side sidewalk east of the Lexington Avenue and East 68th Street intersection is projected to operate at LOS D during the AM and PM peak periods under non-platoon conditions and LOS E during the AM and PM peak periods under platoon conditions.

During Phase 3 construction, all eight sidewalk locations are projected to operate at an LOS C or better under the non-platoon and platoon conditions except for one. The west sidewalk along Lexington Avenue north of 68th Street is projected to operate at LOS D during the PM peak period under platoon conditions.

For the Proposed Project *with Option E1*, pedestrian volumes would be different for three sidewalks at the Lexington Avenue and East 69th Street intersection during Phase 1. All three of these sidewalks (east side of Lexington Avenue south of East 69th Street, south side of East 69th Street east of Lexington Avenue, and the north side of East 69th Street east of Lexington Avenue) would operate at LOS C or better for both platoon and non-platoon conditions.

### **13.4.5 AIR QUALITY**

Although the Proposed Project and the Proposed Project *with Option E1* would be constructed, using in part, diesel-powered machinery, adverse impacts to air quality would not be anticipated. Because of the limited space available for construction work and the magnitude of the project, it is not expected that many pieces of construction equipment would be in use concurrently. Most of the equipment used in the station (below ground) would be electric-powered.

In addition, contractors at the project site will comply with New York State's Diesel Emissions Reduction Act of 2006 (DERA). DERA requires that construction equipment used for the project, including on and off-road vehicles having a gross vehicle weight greater than 8,500 pounds, will

use ultra-low sulfur diesel fuel (ULSD) and use Best Available Retrofit Technology (BART) to reduce emissions of nitrous oxide and particulate matter.

Construction activity would increase the level of fugitive dust in the immediate vicinity of the construction site during excavation. The term fugitive dust is used to describe dust that is not emitted from definable point sources, such as industrial smokestacks, but from non-point sources such as open fields, unpaved surfaces, parking lots, roadways, storage piles, and construction sites. Air quality may also be affected by emissions from mobile sources and non-road equipment. Potential mobile sources include worker vehicles, construction truck traffic, and disruptions in local traffic caused by site activities. Off-road equipment sources include hydraulic cranes, backhoes/loaders, compressors, welders, drill rigs and concrete pumps. The pollutants of concern from these engine exhausts include nitrous oxides (NO<sub>x</sub>), carbon monoxide (CO), particulate matter (PM), and volatile organic compounds (VOCs).

#### **13.4.5.1 Mobile Sources Construction Emissions**

As described in the construction scenario, construction activity associated with the Proposed Project and the Proposed Project *with Option E1* would last approximately 36 months. Construction activity would require limited trucking during intermittent periods of construction, associated with the removal of demolition spoils and delivery of building materials. Appropriate dust control measures would be implemented during construction. Because of the limited number of trucks required to transport materials to and from the site, and because of the limited time during which traffic lanes would be closed on Lexington Avenue, East 68th Street or East 69th Street, emissions from mobile sources during construction would be minimal and no adverse impacts on air quality from mobile sources are anticipated during construction.

#### **13.4.5.2 Stationary Source Construction Emissions**

Exhaust from non-road construction equipment would result in emission of air pollutants during various phases of the construction period. During the peak construction year in 2017, which includes construction (breaking of the pavement, loading it on a truck and hauling it away), and excavation, on-site equipment may include a hydraulic crane, a backhoe or loader, a compressor, a concrete pump and a small welding machine. During the remaining phases of construction, on-site equipment may include a hydraulic crane, a concrete pump, and welding machines. Because of the temporary nature of construction activities using non-road equipment, and the limited number of such pieces of equipment, the operation of the construction equipment would be unlikely to result in high emissions. No adverse impacts to air quality as a result of off-road emission sources are anticipated.

Construction activities such as pavement breaking, excavation, and vehicles traveling on dirty or unpaved surfaces have the potential to create fugitive dust emissions. Fugitive dust can also be generated by wind erosion of stockpiled materials. Contractors would be required to implement fugitive dust control measures such as watering of exposed areas, installation of dust covers on trucks, and use of tracking mats to remove dirt and other debris from truck tires. Dust generated by street excavation typically consists mostly of relatively large particles that would settle within a short distance from the construction activities. Based on the above, no adverse air quality impacts are anticipated during the construction period.

Contractors would comply with Local Law 77, which requires diesel particulate filters on off-road equipment or alternatively, use of newer Tier 4 equipment that has substantially lower PM<sub>2.5</sub> emissions.

As a part of policy, MTA NYCT incorporates into the construction specifications control measures to minimize potential construction-related air quality effects. The measures would include:

- Use ultra-low sulfur diesel (ULSD) fuel in off-road construction equipment with engine horsepower (HP) rating of 60 HP and above.
- Limit unnecessary idling times on diesel powered engines to three minutes.
- Locate diesel powered exhausts away from fresh air intakes.
- Control dust related to construction site activities through a Soil Erosion Sediment Control Plan that includes, among other things:
  - Spraying of a suppressing agent on dust pile (non-hazardous, biodegradable);
  - Containment of fugitive dust; and,
  - Adjustment for meteorological conditions as appropriate.

Furthermore, during demolition activities (sidewalk removal and limited excavation), dust control, erosion control, and vapor control (if necessary) measures would be implemented as practicable. Truck loading practices would be implemented to limit loss of materials, and prior to leaving the area, each truck would be inspected for residual materials and cleanliness. A cover would be placed over each load of debris prior to the truck leaving the site.

#### **13.4.6 NOISE AND VIBRATION**

##### **13.4.6.1 Noise**

During construction of the Proposed Project and the Proposed Project *with Option E1*, noise and vibration levels would be expected to increase during working hours because of the use of construction equipment use and movement on-site, and construction-related traffic to and from the site. Construction equipment would generate varying levels of noise, depending on the specific activity and the location of the activity, as well as the equipment being used. Construction noise would be intermittent and temporary, and the duration of noise impacts would depend on the specific activity, and the distance to sensitive receptors.

Construction noise levels would be expected to be greatest during the early phases of construction, when activities would include pavement breaking using jackhammers, and the concurrent use of rubber tire loaders and dump trucks to remove the resultant debris.

Construction would be conducted in accordance with the New York City Construction Noise Code, which mandates that all construction be conducted in accordance with noise mitigation plans that address the specific location, type of work, and timing of a project. The Construction Noise Code also sets standards for noise levels created by handling containers and construction material on public streets, and identifies ways to lessen the noise from each type of construction equipment. In order to maintain noise levels below the thresholds mandated by the Noise Code, jackhammers would likely be outfitted with noise-reducing mufflers and/or be surrounded by portable street barriers to reduce the sound impact on the area. The Noise Code also defines the hours when construction may occur.

To comply with the Noise Code, contractors must develop a noise mitigation plan prior to the start of work. If noise complaints are received, a New York City Department of Buildings (NYCDOB) inspector would ensure the contractor has posted the plan, and that it is being followed. This will determine whether or not the plan needs modification. When construction activity is planned near locations such as schools, hospitals and houses of worship, as is the case for the Proposed Project, the noise mitigation plan would be sensitive to these receptors.

Noise that exceeds the ambient sound levels by more than 10 dB, as measured 15 feet from the source or from inside any property or on a public street, is prohibited, and sounds that occur abruptly and for a short duration, called impulsive sounds (e.g., blasting or pile driving), are restricted.

Construction hours at the surface under the Construction Noise Code are from 7:00 AM to 6:00 PM on weekdays. Work may take place after hours and on weekends only with express authorization from the NYCDOB and the New York City Department of Transportation (NYCDOT). It is expected that, with such approval, work would be conducted between 7:00 AM and 10:00 PM. A noise mitigation plan must be in place before any authorization is granted.

Construction activity within the station would be carried out at various times during a twenty-four hour period/seven days per week. The hours of work would be dictated by the programmed periods of diversion of subway services, which would only occur weekday nights and on weekends. For street level construction activities, the work hours would be Monday to Friday 7:00 AM to 6:00 PM, and Saturday and Sunday 9:00 AM to 6:00 PM.

Noise from construction activities would be minimized by using properly maintained equipment with sound baffling where necessary, and by adhering to the permitted hours of construction specified in the City Noise Code. Design considerations and project layout approaches may also be included, such as construction of temporary noise barriers, placing construction equipment farther from noise-sensitive receptors, constructing walled enclosures/sheds around especially noisy activities such as pavement breaking, and sequencing operations to combine especially noisy operations to occur in the same time period. No significant adverse impacts from construction-related noise are anticipated.

### **13.4.6.2 Vibration**

Paramount concerns regarding construction vibration include potential damage to buildings, annoyance experienced by residents in the vicinity of the activity, and interference to vibration-sensitive equipment. Operation of construction equipment causes vibrations which spread through the ground, diminishing in strength with increasing distance from the source. Construction activities can result in varying degrees of ground vibration, depending on the equipment used, the substrate and the construction methods employed.

Vibration is commonly measured by two scales, depending on the sensitive receptor considered. Vibration that could damage structures is measured by a scale that relates to the velocity with which the earth moves or shakes – the peak particle velocity (PPV), with the units of measurements being inches per second (ips). (Construction vibration generated by a project of this magnitude would rarely reach levels that could damage structures.) Vibration levels resulting in annoyance, or interference with vibration sensitive equipment, are measured in vibration decibels (VdB).

NYCDEP requires that the impacts of all construction activities be limited by specific vibration restrictions. One of the more frequently used thresholds for vibration to prevent structural damage, established by the United States Bureau of Mines, is a PPV of 2.0 ips at the closest structure. This level is a typical nominal structural damage criterion employed by construction projects. However, where the most stringent protection is required, NYCDEP specifies a PPV limit of 0.5 ips, which is 10 times more restrictive than 2.0 ips (on the logarithmic scale). A PPV limit of 0.5 ips is associated with protection of surrounding historic structures that are susceptible to cosmetic cracks in fragile plaster. This limit could be lowered to protect fragile and/or historic structures based on a detailed vibration assessment to be conducted by the construction contractor prior to construction, monitoring during structural conditions in the vicinity of the Proposed Action, and as modified by the New York City Landmarks Preservation Commission (NYCLPC).



To avoid the potential for adverse physical impacts to historic resources during construction from ground-borne vibrations, a Historic Resource Construction Protection Plan (HRCPP) would be developed in consultation with OPRHP and the New York City Landmarks Preservation Commission (LPC) prior to construction. The HRCPP would follow the requirements established in the NYCDOB Technical Policy and Procedure Notice (TPPN) #10/88, concerning procedures for the avoidance of damage to adjacent historic structures from nearby construction. It would also follow the guidelines set forth in Section 523 of the CEQR Technical Manual, including conforming to LPC's Guidelines for Construction Adjacent to a Historic Landmark and Protection Programs for Landmark Buildings.

Vibration generated as a result of the Proposed Project would be greatest during pavement breaking activities and installation of piles. Vibration levels at a receptor 100 feet from the location of this activity are expected to reach approximately 0.004 PPV, well below levels that would damage sensitive structures, and approximately 67 VdB, below the FTA vibration annoyance criteria of 72 VdB. Vibration levels generated during construction of the Proposed Project would not be expected to exceed regulatory thresholds.

### **13.4.7 CONTAMINATED MATERIALS**

Contaminated materials, namely lead and asbestos, may be encountered during construction of the Proposed Action. Lead-based paint chips and asbestos are considered regulated wastes, and if identified during pre-construction surveys, would be removed and disposed of in accordance with all federal and state regulations, and MTA NYCT policies. It is also possible that petroleum product or other contamination would be encountered in groundwater. If contaminants are identified in groundwater at levels requiring action according to NYCDEP guidelines, appropriate measures such as treatment and disposal would be taken to prevent contaminant release.

Construction activities would require the use and storage of potentially hazardous materials (e.g., solvents, fuel oil and lubricants). It is anticipated that a temporary and secure staging area would be designated for the storage of such materials. Removal of these materials from this area would be by authorized personnel only, and removals would be recorded by a designated Site Safety Officer. All storage areas for liquid-state hazardous materials would have secondary containment systems in place to reduce potential contamination in the event of accidental spillage. The storage of hazardous materials on site would be minimized or avoided where practicable (e.g., fuel for equipment operation would be transported to the site by fuel trucks and transferred in an area equipped with spill containment). Details on the staging and management of contaminated materials would be provided by the contractor in their work plans. No significant adverse impacts from hazardous materials during construction activity are anticipated.

### **13.4.8 NATURAL RESOURCES**

#### **13.4.8.1 Geology**

The amount of bedrock and soil that would be removed during the excavation processes during all construction phases would be insubstantial. The underlying geology of Manhattan would not be altered and no adverse impacts would occur.

#### **13.4.8.2 Flora and Fauna**

Given the disturbed, urban environment of the project site, no significant adverse impacts to vegetation and wildlife habitats would occur. The number of plant and animal species found at the station are limited and these species would likely be tolerant of any increased disturbance created by the project. No loss of habitat is anticipated. While construction of the project would

result in the removal of two mature street trees, this would not create a significant adverse impact on natural resources because the number of trees that would be removed represents a small fraction of New York City's urban forest. In addition, as described in Chapter 3: Social Conditions, the trees removed from parks would be replaced in coordination with the New York City Department of Parks and Recreation. Construction activity would not occur in any state-listed endangered peregrine falcon nesting locations. Moreover, in May 2002, NYSDEC further determined that construction of similar projects (i.e., Second Avenue Subway) would not adversely affect peregrine falcons because they are accustomed to the intensive street level activity that already occurs throughout this area.

#### **13.4.8.3 Floodplains, Navigable Waters, Coastal Zone and Wetlands**

The 68th Street/Hunter College Station is not located within the 100-year flood zone and is not within the coastal zone. The nearest wetlands are approximately 0.5 mile northwest of the project site and the nearest navigable waters are the East River, approximately 0.6 mile east of the project site. Construction activities would not increase impervious surfaces and would not exacerbate flooding in other areas. No construction-related impacts to flood zones, navigable waters, wetlands or the coastal zone are anticipated.

#### **13.4.8.4 Groundwater**

Groundwater resources in Manhattan are not used as potable water, and would not be adversely affected by construction of the Proposed Project. The station design includes provisions to maintain current groundwater flow and elevation. During construction, design requirements would limit the amount of dewatering allowed as one aspect of such protection measures. Groundwater levels would be continuously monitored relative to pre-construction conditions to minimize changes in water levels. After construction is complete, no dewatering is anticipated.

Excavation to the depth required for the platform elevator pits may reach the water table. If groundwater is encountered, it would be removed via dewatering during construction. The water would be pumped into a settling tank to remove sediment and then deposited to the city's sewer system, as permitted in the State Pollutant Discharge Elimination System (SPDES) permit. As described in Chapter 9: Contaminated Materials and Section 13.4.7, above, if the groundwater contains contaminants and if these are present in levels that exceed the sewer use limitations set by the New York City Department of Environmental Protection (NYCDEP), the water would be treated using readily available technologies and retested prior to its disposal.

#### **13.4.8.5 Surface Water**

Because no surface water bodies are in the vicinity of the Proposed Project, construction of the project would not affect surface water. No construction impacts to surface water are anticipated.

#### **13.4.8.6 Stormwater Management, Erosion and Dewatering**

All operations necessary for the management of stormwater, stormwater runoff, dewatering, erosion, and sediment control would comply with the applicable federal, state, and local laws and regulations, and MTA NYCT policies, including the latest editions of the New York State Standards and Specifications for Erosion and Sediment Control, and the New York State Stormwater Management Design Manual in effect at the time the work is being performed.

If required, a SPDES permit from NYSDEC would be secured and would contain appropriate requirements for erosion and sedimentation controls to be used during construction. Approval from NYCDEP would also be secured in order to discharge water from the required dewatering activities into the sewer system. Even if not required by state regulations, MTA NYCT requires

that the contractor develop and submit to MTA NYCT for approval a Stormwater Pollution Prevention Plan (SWPPP) a minimum of 15 business days prior to soil/ground disturbance activities. The SWPPP would:

- include provisions to prevent litter, work site chemicals, and work site debris exposed to stormwater from becoming a pollutant source;
- provide a description of work site and waste materials expected to be stored on-site with updates as appropriate, and a description of controls to reduce pollutants from these materials, including storage practices to minimize exposure of the materials to stormwater, and spill prevention and response;
- identify plans to stabilize work site entrance(s)/exit(s);
- identify dust control measures; and
- identify measures to prevent work site vehicles from tracking soil/sediment outside the site.

With these measures in place, erosion and stormwater pollution would be minimized or eliminated. No construction-related impacts are anticipated.

#### **13.4.9 ENERGY**

Energy would be consumed by equipment required for constructing the Proposed Project, including fuel energy consumed by vehicles transporting workers, equipment, and excavated materials generated during the construction process, and fuel or electric energy used to operate machinery and equipment. Due to the relatively small scale of the project, energy requirements needed to construct the project are not expected to cause a shortage of fuel or electric energy.

#### **13.4.10 UTILITIES**

This section describes the effects construction of the Proposed Project would have on utilities and other subsurface structures. It concludes that temporary disruptions to some utility service could be required to allow the relocations required for project construction, but overall, construction of the project would not result in significant adverse impacts on utilities infrastructure.

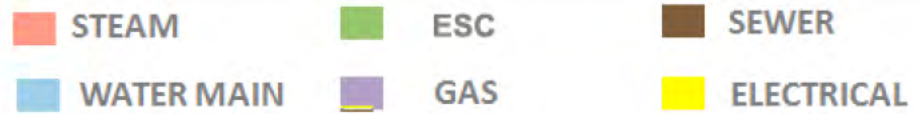
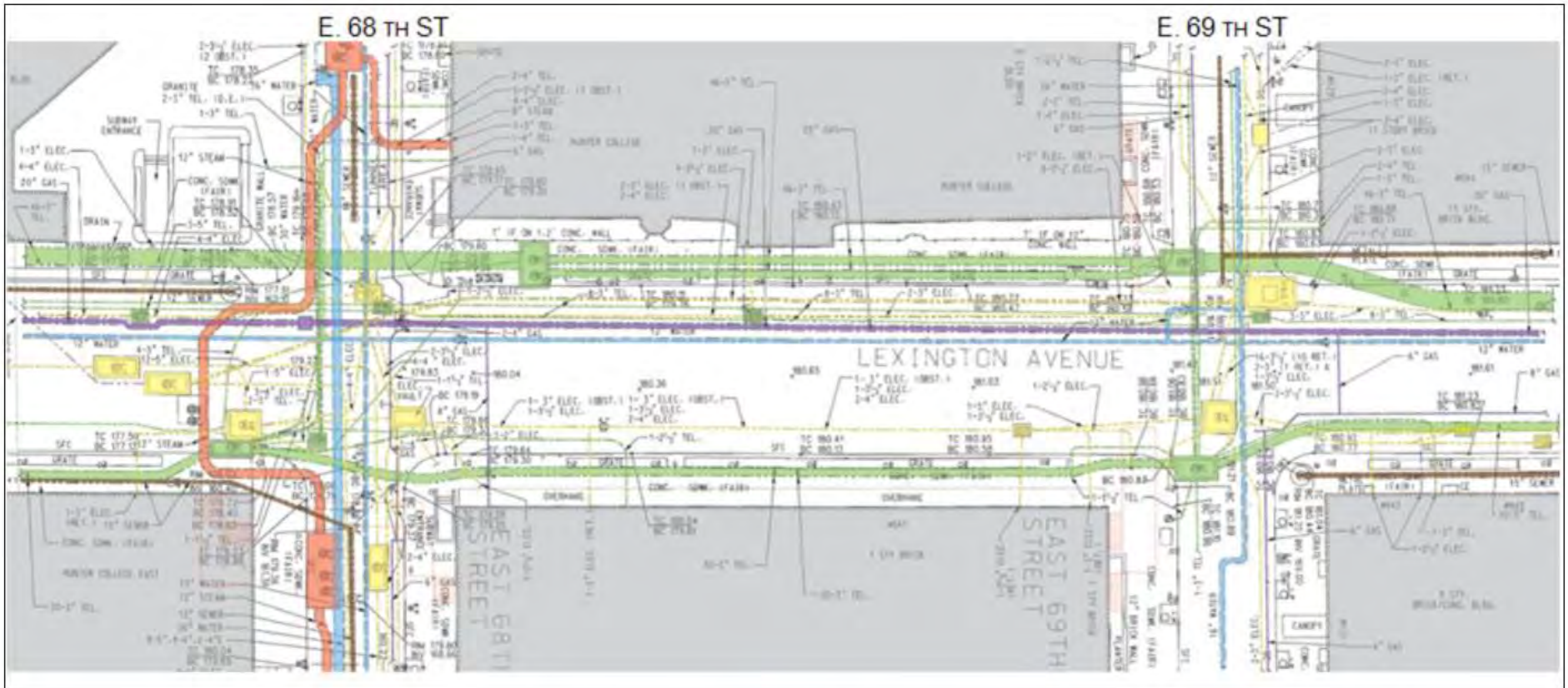
Utility transmission infrastructure for water, gas, steam, sewer, electrical, telephone and digital data, and cable services that provide service to the immediate area and the surrounding community are buried beneath the streets and sidewalks in the project area (Figure 13-3). Most of these utilities are located from 3 to 10 feet below the surface.

Installation of the stairs at the north end of the station would affect utility infrastructure at the intersection of East 69th Street and Lexington Avenue, requiring the installation of new catch basins, the relocation of the existing sewer manhole and construction of a new sewer ejector system, and the in-place supporting of the existing communications manhole. Utility infrastructure not to be relocated or rebuilt would be supported in place such that excavation and construction could occur below. After construction, the area above the new subway entrances would be backfilled around the utility transmission infrastructure, thus maintaining its original position.

Construction at the intersection of Lexington Avenue and East 68th Street would require the relocation of the Con Edison steam vault, relocation of the 30-inch and 12-inch water mains, construction of a new sewer manhole, and construction of new catch basins.

Sewer and water infrastructure relocation or replacement would be performed in coordination with NYCDEP. Steam vault relocation would be performed in coordination with Con Edison and would occur during the warmer months, when steam heat is not needed. Before the steam vault is

relocated, any asbestos-containing material would be removed in accordance with applicable laws. As such, asbestos would not be a significant issue for utility relocation work.



Not to Scale



Existing Project Area Utilities  
Figure 13-3