Chapter 20: Construction

A. INTRODUCTION

This chapter summarizes the construction program for the proposed project site and assesses the potential for significant adverse impacts during construction. The city, state, and federal regulations and policies that govern construction are described, followed by the anticipated construction schedule and the types of activities likely to occur during the construction of the proposed project. The types of equipment to be used during construction are discussed, along with the expected number of workers and truck deliveries. Based on this information, an assessment is provided of the potential impacts from construction activities.

As detailed in Chapter 1, "Project Description," the proposed project would redevelop the northern portion of the Bronx Psychiatric Center (BPC) campus with a mix of commercial and medical office, bio-tech/research, hotel, accessory, college/trade school, community facility, and retail uses in new and renovated buildings as well as recreation and parking uses. For the purposes of this EIS, it is assumed that in the future without the proposed project (the "No-Action" condition), the three primary, existing buildings (Bronx Children's Psychiatric, Thompson, and Parker Buildings) would remain vacant. The powerhouse, two metal shelters, and small storage building on the project site would also be vacated and decommissioned, and the ballfields would remain as in the existing condition.

Construction of the proposed project is expected to occur in two phases over a period of approximately nine years. Phase I is expected to be complete in 2023, and full build out of Phase II is expected in 2028.

PRINCIPAL CONCLUSIONS

As described in detail below, construction activities associated with the proposed project would not result in significant adverse impacts in any technical areas except for transportation; additional information for key technical areas is summarized below.

TRANSPORTATION

Peak construction conditions were considered for the analysis. The proposed project is not expected to result in any significant adverse parking, transit, or pedestrian impacts during construction.

For purposes of the construction traffic analysis, the combined daily workforce and truck trip projections in the peak quarter were used as the basis for estimating peak-hour construction trips. The 2nd quarter of Year 3 construction (2022) was identified as the peak construction traffic period for Phase I, and the 1st quarter of Year 8 construction (2027) was identified as the peak construction period for Phase II. An analysis was also prepared to assess conditions when Phase I construction is completed and operational (2023) while Phase II is still under construction (until 2028). Construction of the proposed project would result in significant adverse traffic impacts

during both Phase I and Phase II construction. For the 2022 Phase I construction With-Action condition, seven of the analyzed intersections would be significantly impacted during the weekday 6 AM to 7 AM construction peak hour and 12 of the analyzed intersections would be significantly impacted during the weekday 3 PM to 4 PM construction peak hour. With the implementation of traffic mitigation measures, some of which would include advancing operational mitigation measures identified in Chapter 22, "Mitigation," the significant adverse traffic impacts identified during the weekday AM construction peak hour could be fully mitigated at all but one intersection and the significant adverse traffic impacts identified during the weekday PM peak hour could be fully mitigated at all but four intersections. Impacts at the Westchester Avenue and Ericson Place/Middletown Road intersection could not be fully mitigated during the weekday AM construction peak hour and impacts at the Morris Park Avenue and Eastchester Road; Marconi Street and Project Driveway; Westchester Avenue and Ericson Place/Middletown Road; and Waters Place and Westchester Avenue intersections could not be fully mitigated during the weekday PM construction peak hour. For the 2027 Phase II construction With-Action condition, eight of the analyzed intersections would be significantly impacted during the weekday 6 AM to 7 AM construction peak hour and 14 of the analyzed intersections would be significantly impacted during the weekday 3 PM to 4 PM construction peak hour. The recommended traffic mitigation measures are expected to be effective in mitigating all of the significant adverse traffic impacts identified during the weekday AM construction peak hour except for two intersections and all of the significant adverse traffic impacts identified during the weekday PM peak hour except for six intersections. Impacts at the Waters Place and Fink Avenue/Hutchison River Parkway (HRP) Southbound Off-Ramp intersection and the Westchester Avenue and Ericson Place/Middletown Road intersection could not be fully mitigated during the weekday AM construction peak hour. Impacts at the Morris Park Avenue and Eastchester Road; East Tremont Avenue and Silver Street; Waters Place and Marconi Street; Waters Place and Fink Avenue/HRP Southbound Off-Ramp; Westchester Avenue and Ericson Place/Middletown Road; and Waters Place and Westchester Avenue intersections could not be fully mitigated during the weekday PM construction peak hour.

AIR QUALITY

Measures would be taken to minimize pollutant emissions during construction in accordance with all applicable laws, regulations, and building codes. These measures would include dust suppression measures, idling restrictions, and the use of ultra-low sulfur diesel (ULSD) fuel. In addition, to minimize air emissions during construction, Simone Development Companies (the "developer") would commit to the implementation of emissions reduction measures including the use of best available technologies (i.e., diesel particulate filters [DPFs]) and the use of newer and cleaner equipment during construction of the proposed project. With these measures in place, and based on the duration and intensity of construction activities, the location of nearby sensitive receptors, and an examination of construction on-road sources, the proposed project would not result in any significant adverse construction air quality impacts.

NOISE

Noise resulting from construction of the proposed project would result in exceedances of the initial construction noise screening threshold at the New York State Office of Mental Health (OMH) Bronx Behavioral Health Center facility immediately adjacent to the project site as well as the Bronx Psychiatric Center sports fields (consisting of the Van Nest Little League, Bronxchester Little League, Parkchester Little League, and other multi-use fields) located immediately southwest of the project site along Marconi Street. The exceedances at these receptors, which

would occur at times only during the demolition, excavation, and foundation stages of construction on immediately adjacent work areas, are predicted to occur for approximately 8 non-consecutive months at the OMH facilities and 3 to 5 continuous months at the Bronx Psychiatric Center sports fields. Furthermore, construction of the proposed project would result in exceedances of *CEQR Technical Manual* noise exposure guidelines at the completed and occupied Thompson Building and Parker Building at times during the demolition, excavation, and foundation stages of construction on immediately adjacent work areas, which would last approximately 4 to 6 continuous months during Phase I of construction, and the proposed baseball fields during the demolition, excavation, and foundation stages of construction on immediately adjacent work areas, which would also last approximately 6 to 16 non-continuous months during both phases of construction.

Since the exceedances of CEQR noise impact criteria would occur for a limited duration, they would not rise to the level of significance. Therefore, the proposed project would not result in significant adverse construction noise impacts.

B. GOVERNMENTAL COORDINATION AND OVERSIGHT

Construction oversight involves several city, state, and federal agencies. **Table 20-1** lists the primary involved agencies and their areas of responsibility. For projects in New York City, primary construction oversight lies with the New York City Department of Buildings (DOB), which oversees compliance with the New York City Building Code. In addition, DOB enforces safety regulations to protect workers and the general public during construction. The areas of oversight include installation and operation of equipment such as cranes, sidewalk bridges, safety netting, and scaffolding. The New York City Department of Environmental Protection (DEP) enforces the *New York City Noise Code*, and regulates water disposal into the sewer system as well as removal of fuel tanks and abatement of hazardous materials. The New York City Fire Department (FDNY) has primary oversight of compliance with the *New York City Fire Code* and the installation of tanks containing flammable materials. The New York City Department of Transportation (NYCDOT)'s Office of Construction Mitigation and Construction (OCMC) reviews and approves any traffic lane and sidewalk closures. New York City Transit (NYCT) is responsible for bus stop relocations, if necessary.

Table 20-1
Summary of Primary Agency Construction Oversight

Agency	Areas of Responsibility
New York City	
Department of Buildings	Building Code and site safety
Department of Environmental Protection	Noise Code, dewatering, fuel tank removal, hazardous materials abatement
Fire Department	Compliance with Fire Code, fuel tank installation
Department of Transportation	Lane and sidewalk closures
New York City Transit	Bus stop relocation
New York State	
Department of Labor	Asbestos Workers
Department of Environmental Conservation	Hazardous materials and fuel/chemical storage tanks
United States	
Environmental Protection Agency	Air emissions, noise, hazardous materials, poisons (for rodent control)
Occupational Safety and Health Administration	Worker safety

At the state level, the New York State Department of Labor (DOL) licenses asbestos workers. The New York State Department of Environmental Conservation (NYSDEC) regulates disposal of hazardous materials, construction, operation and closure of bulk petroleum and chemical storage tanks, and reviews and approves any needed Remedial Action Plans (RAPs) and associated Construction Health and Safety Plans (CHASPs). At the federal level, although the U.S. Environmental Protection Agency (USEPA) has wide-ranging authority over environmental matters, including air emissions, noise, hazardous materials, and the use of poisons, much of its responsibility is delegated to the state and city levels. The Occupational Safety and Health Administration (OSHA) sets standards for work site safety and construction equipment.

C. CONSTRUCTION PHASING AND SCHEDULE

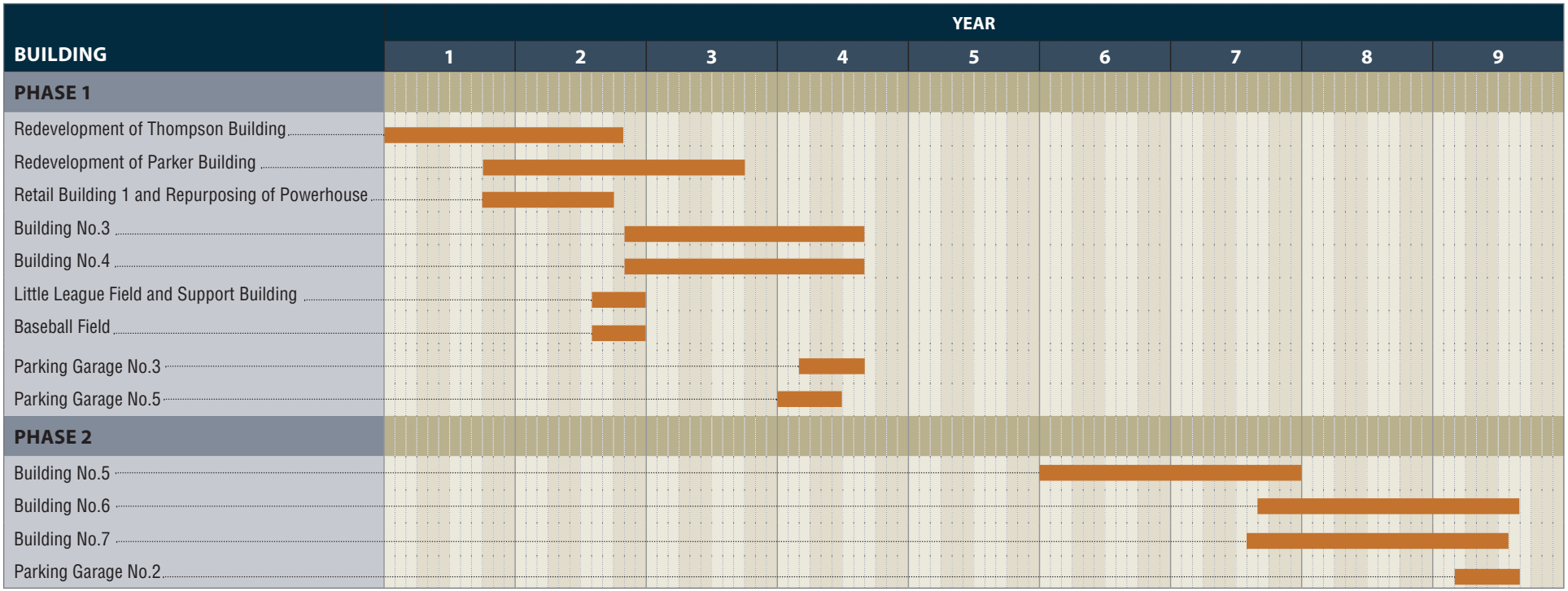
Construction of the proposed project is expected to occur in two phases over a period of approximately nine years. Phase I is expected to be complete in 2023, with the full build out of Phase II expected in 2028.

Phase I would include the redevelopment of the Thompson and Parker Buildings and the development of a new retail building. Phase I would also include the construction of two new buildings for commercial and medical office use, community facility, accessory, and retail use. Phase I also includes approximately 2,509 parking spaces, and 309,700 gross square feet (gsf) of open space.

Phase II would involve the construction of three new buildings for commercial office, medical office, accessory, and retail uses. Phase II would also include approximately 1,520 parking spaces and 71,500 gsf of open space.

The conceptual construction schedule is shown on **Figure 20-1. Table 20-2** and reflects the sequencing of construction events as currently contemplated.

As discussed in Chapter 1, "Project Description," the General Project Plan (GPP) for the proposed project would allow approximately 25 feet in height (two stories) and associated floor area to be shifted among buildings within each phase. Any increases in height and floor area for one building would be accompanied by a commensurate decrease in height and floor area for another building in the same phase. The total overall floor area within each phase of the proposed project would not change as a result of these reallocations. The construction schedule in **Table 20-2** is based on the project as currently proposed. Any potential shifts in height and floor area among the buildings would not substantially affect the duration or intensity of construction activities for any individual building or the proposed project overall, nor would it materially change the peak activities as identified in this analysis.



Source: Simone Development Companies

Preliminary Construction Schedule

BRONX PSYCHIATRIC CENTER LAND USE IMPROVEMENT PROJECT

Figure 20-1

Table 20-2
Preliminary Construction Schedule

Building	Start Month	Finish Month	Approximate duration (months)
Phase 1			
Redevelopment of Thompson Building[3]	Month 1	Month 22	22
Redevelopment of Parker Building	Month 10	Month 33	24[1]
Retail Building and Repurposing of Powerhouse	Month 10	Month 21	12[2]
Building No.3[3]	Month 23	Month 44	22
Building No.4[3]	Month 23	Month 44	22
Little League Field and Support Building[4]	Month 20	Month 24	5
Baseball Field[4]	Month 20	Month 24	5
Parking Garage No.3	Month 39	Month 44	6
Parking Garage No.5	Month 37	Month 42	6
Phase 2			
Building No.5[3]	Month 61	Month 84	24
Building No.6	Month 81	Month 104	24
Building No.7[3]	Month 80	Month 103	24
Parking Garage No.2	Month 99	Month 104	6

Notes:

[1] It is anticipated that the redevelopment of the Parker Building would include limited demolition and asbestos abatement activities from month 5 to month 8. These activities are accounted for in the construction worker and material delivery projections presented below.

[2] Repurposing of the existing powerhouse building would include asbestos abatement activities from month 9 to month 12. These activities are accounted for in the construction worker and material delivery projections presented below.

[3] Construction duration for the Thompson Building and Buildings 3, 4, 5, and 7 includes the associated parking garages for these buildings.

[4] Construction of the proposed baseball fields may occur later than anticipated in this preliminary construction schedule. Specifically, construction of the baseball fields could occur after completion of Parking Garage No. 3 and within 5 years of closing on the purchase of the property. The developer would keep two of the existing baseball fields on the project site (one little league field and one intermediate/adult field) in operation (subject to temporary interruptions required to ensure public safety and seasonal closures) until the two new state-of-the-art fields are constructed. As discussed below in "Transportation Systems" and "Noise" sections, this potential shift in the construction schedule would not alter the conclusions of this analysis and would not result in new or different significant adverse impacts from those identified in this analysis.

Source: Simone Development Companies.

D. CONSTRUCTION DESCRIPTION

This section describes construction activities at the project site of the proposed development and includes the types of equipment to be used and the estimated number of construction-related workers and truck deliveries anticipated throughout the construction period. The approach and procedures for constructing the proposed project would be typical of the methods utilized in other building construction projects throughout New York City.

GENERAL CONSTRUCTION PRACTICES

HOURS OF WORK

Construction of the proposed project would be carried out in accordance with New York City laws and regulations, which allow construction activities between 7 AM and 6 PM on weekdays. Construction work would occur on weekdays and typically begin at 7 AM, with most workers arriving between 6 AM and 7 AM. Normally work would end at 3:30 PM, but it can be expected

that, in order to complete certain critical tasks (i.e., finishing a concrete pour for a floor deck), the workday may occasionally be extended beyond normal work hours. Any extended workdays would generally last until approximately 6 PM and would not include all construction workers on site, but only those involved in the specific task requiring additional work time.

Weekend work may also be required for certain construction activities and to make up for weather delays or other unforeseen circumstances. Weekend work requires a permit from DOB and, in certain instances, approval of a noise mitigation plan from DEP under the City's Noise Code. The New York City Noise Control Code, as amended in December 2005 and effective July 1, 2007, limits construction (other than special circumstances as described below) to weekdays between the hours of 7 AM and 6 PM, and sets noise limits for certain specific pieces of construction equipment. Construction activities occurring after hours (weekdays between 6 PM and 7 AM and on weekends) may be permitted only to accommodate: (1) emergency conditions; (2) public safety; (3) construction projects by or on behalf of city agencies; (4) construction activities with minimal noise impacts; and (5) undue hardship resulting from unique site characteristics, unforeseen conditions, scheduling conflicts, and/or financial considerations. Appropriate work permits from DOB would be obtained for any necessary work outside of normal construction hours (i.e., weekend work) and no work outside of normal construction hours could be performed until such permits are obtained. The numbers of workers and pieces of equipment in operation for weekend work would be limited to those needed to complete the particular authorized task. Therefore, the level of activity for any weekend work would be less than on a normal workday. If it were to become necessary, the weekend workday would typically be a Saturday.

ACCESS, DELIVERIES, AND STAGING AREAS

Because of the size of the project site, there is expected to be substantial flexibility in placing on-site construction equipment and materials staging areas on the project site, including accommodating worker parking. Access to the project site during construction would be controlled. The private roadways for the New York State Office of Mental Health (OMH) Bronx Behavioral Health Center would not be used for the construction of the proposed project. The work areas would be fenced off and limited access points for workers and construction-related trucks would be provided. Workers or trucks with no need to be on the site would not be allowed entry. After work hours, the gates would be closed and locked. Based on current logistics, construction staging would primarily take place on the northern portion of the project site. Trucks delivering materials are anticipated to enter or exit the construction site primarily via Marconi Street.

LANE AND WALKWAY CLOSURES

As discussed above, construction equipment and materials staging would take place on the project site so that roadway lane and sidewalk closures are not expected to be necessary. Any temporary roadway disruptions would be illustrated in Maintenance and Protection of Traffic (MPT) plans that are subject to NYCDOT approvals.

PUBLIC SAFETY

A variety of measures would be employed to ensure public safety during the construction of the proposed project. For example, flaggers would be posted as necessary to control trucks entering and exiting the construction site via Marconi Street, to provide guidance to pedestrians, and/or to alert or slow down the traffic. Safety nettings would be installed on the sides of the proposed

project as the superstructure advances upward to prevent debris from falling to the ground. All DOB safety requirements would be followed and construction of the proposed project would be conducted with care to minimize the disruption to the community.

RODENT CONTROL

Construction contracts may include provisions for a rodent control program. Before the start of construction, the contractor would survey and bait the appropriate areas and provide for proper site sanitation. During construction, the contractor would carry out a maintenance program, as necessary. Signage would be posted, and coordination would be conducted with appropriate public agencies.

GENERAL CONSTRUCTION TASKS

NEW CONSTRUCTION OVERVIEW

The proposed project would construct five new buildings and a new retail building. Construction of new mid-rise buildings in New York City typically follows a general pattern. The first task is construction startup, which involves the siting of work trailers, installation of temporary power and communication lines, and the erection of site perimeter fencing. Then, if there is an existing building on the site, any potential hazardous materials (such as asbestos) are abated, and the building is demolished with some of the materials recycled and the debris taken to a licensed disposal facility. Specific to this project, as each phase has buildings that will have construction ongoing over the course of each phase, some of the initial site activities may be undertaken for the entire portion of the project site to be developed under each phase all at one time. Once the areawide site preparation activities are complete, excavation is the next step, followed by construction of building foundations. When the below-grade construction is complete, construction of the core and shell of the new building begins. The core is the central part of the building and is the main part of the structural system. It contains the elevators and the mechanical systems for heating, ventilation, and air conditioning (HVAC). The shell is the outside of the building. As the core and floor decks of the building are being erected, installation of the mechanical and electrical internal networks would start. As the building progresses upward, the exterior cladding is placed, and the interior fit out begins. During the busiest time of construction, the buildings' upper cores and structures are built while the mechanical/electrical connections, exterior cladding, and interior finishing progress on lower floors. Finally, site work, including landscaping, and other site work associated with a particular building site, or in some instances the entire project area being developed during a particular phase, like completing or resurfacing new roadways and sidewalks, is undertaken, and individual building or project area-wide site access and protection measures required during construction are removed. These anticipated activities for building construction are described in greater detail below.

Demolition

The existing Bronx Children's Psychiatric Building on the project site would first be abated of asbestos and any other hazardous materials before the start of demolition. A New York City-certified asbestos investigator would inspect the building for asbestos-containing materials (ACM), and those materials must be removed by a DOL-licensed asbestos abatement contractor prior to interior demolition. Asbestos abatement is strictly regulated by DEP, DOL, USEPA, and OSHA to protect the health and safety of construction workers and nearby residents and workers. Depending on the extent and type of ACM, these agencies would be notified of the asbestos removal project and may inspect the abatement site to ensure that work is being performed in

accordance with applicable regulations. Any activities with the potential to disturb lead-based paint (LBP) would be performed in accordance with the applicable OSHA regulation (including federal OSHA regulation 29 CFR 1926.62—*Lead Exposure in Construction*). In addition, any suspected polychlorinated biphenyl (PCB)-containing equipment (such as fluorescent light ballasts) that would be disturbed would be evaluated prior to disturbance. Unless labeling or test data indicate that the suspected PCB-containing equipment does not contain PCBs, such equipment would be assumed to contain PCBs, and would be removed and disposed of at properly licensed facilities in accordance with all applicable regulatory requirements.

General demolition is the next step. First, any economically salvageable materials are removed. Then the interior of the building is deconstructed to the floor plates and structural columns. Netting around the exterior of the building would be used to prevent materials from falling into public areas. Hand tools and excavators with hoe ram attachment would mainly be used in the demolition of the existing structure and bobcats and front-end loaders would be used to load the debris into dump trucks. The demolition debris would be sorted prior to being disposed at landfills to maximize recycling opportunities.

Excavation and Foundation

First, sheet piles would be installed if necessary along the perimeter of the construction site to hold back soil around the excavation area. Next, excavators would be used for the task of excavation. The soil would be loaded onto dump trucks for transport to a licensed disposal facility or for reuse on a construction site that needs fill. As the excavation becomes deeper, a temporary ramp would be built to provide access for the dump trucks to the work site. Underpinning may be required along the northern edge of the commercial building immediately south of the project site. This stage of construction would also include the construction of the proposed project's foundation and below-grade elements. Columns and concrete walls would be built to the grade level. Concrete trucks would be used to pour the foundation and the below-grade structures. These trucks would stage on the closest curb lane where they would pump the concrete. Excavation and foundation activities would also involve the use of pile drivers, bulldozers, bobcats, loaders, compactors, generators, and compressors.

Below-Grade Hazardous Materials

As described in greater details below under "Hazardous Materials," to reduce the potential for public exposure to contaminants during excavation activities, construction activities would be performed in accordance with all applicable regulatory requirements. Demolition and removal of PCB-impacted cellar floor and below-grade foundation concrete will be conducted in accordance with a RAP and associated CHASP that will be approved by NYSDEC and USEPA. All construction subsurface soil disturbances outside of PCB-impacted areas would be performed in accordance with a Construction Management Plan (or similarly titled plan) and CHASP. The Construction Management Plan and CHASP would address requirements for items such as: petroleum tank removal, dust control, and contingency measures should unforeseen petroleum tanks or soil contamination be encountered. The Construction Management Plan would also include any measures warranted for the new construction, e.g., a vapor barrier beneath/outside of the foundations or a clean soil cap in any new landscaped/unpaved areas.

Dewatering

During construction, rain and snow may collect in the excavation area, and that water would have to be removed. If dewatering is required, it would be performed in accordance with DEP sewer use requirements. These requirements require testing to ensure that any potentially contaminated groundwater is treated before it is discharged to the sewer system.

Superstructure

The superstructure of the proposed buildings would include the building's framework (beams and columns) and floor decks. Construction of the interior structure, or core, of the building would include elevator shafts; vertical risers for mechanical, electrical, and plumbing systems; electrical and mechanical equipment rooms; core stairs; and restroom areas. The crane would first be brought onto the construction site during the superstructure task and would be used to lift structural components, façade elements, and other large materials. The crane would be on-site for both the superstructure and exterior façade stages of construction. Superstructure activities would also require the use of mobile cranes, concrete pumps, and variety of trucks. In addition, temporary construction elevators (hoists) would be used for the delivery of materials and vertical movement of workers during superstructure activities.

Exteriors

During this stage of construction, the exteriors of the proposed buildings would be installed. The precast façades would arrive on trucks and be lifted into place for attachment.

Interiors and Finishing

Interiors and finishing activities would include the construction of interior partitions, installation of lighting fixtures, and interior finishes (i.e., flooring, painting, etc.), and mechanical and electrical work, such as the installation of elevators, and lobby finishes. In addition, final cleanup and touchup of the project site and final building system (i.e., electrical system, fire alarm, plumbing etc.) testing and inspections would be part of this stage of construction. Equipment used during interiors and finishing would include exterior hoists, compressors, delivery trucks, and a variety of small hand-held tools. Interiors and finishing would be the quietest because most of the construction activities would occur within the buildings with the façades substantially complete.

BUILDING RENOVATION

The Thompson Building is proposed to be renovated for educational, hotel, community facility and office use and the Parker Building is proposed to be renovated for office, , bio-tech/research, and retail uses, although these buildings could contain other uses within the envelope of the overall proposed project. The first stage of renovation would be asbestos abatement in the existing buildings coupled with interior demolition to facilitate the abatement. This would include the removal of the windows because the caulking around the windows has been identified as ACM. The exterior of the building would be clad in metal panels and/or stucco/exterior insulation and finish systems (EIFS) over the existing masonry, and the interior of the buildings would be renovated to suit the new tenants. Equipment needed for building renovation activities would be similar to those identified above for new building construction.

PARKING GARAGE CONSTRUCTION

The proposed project could include five new parking garages, rising three to six stories. The excavation and foundation activities for the parking structures would be very similar to the activities described above for new building construction. Excavators and front-end loaders would be used for the tasks of soil excavation. Foundation work for the parking structures would include the installation of piles and concrete footings. Then, the floor decks of the garage would be erected with the use of a crawler crane followed by interior finishing (i.e., painting and striping).

BASEBALL AND LITTLE LEAGUE FIELD CONSTRUCTION

The proposed project would remove the four baseball fields currently located on the project site and would replace them with one regulation-size baseball diamond and a little league-size baseball diamond. For the construction of the ballfields, the areas would first be graded, followed by installation of the underground drainage to accommodate the stormwater runoff. Then the appropriate subsurface fill would be installed and graded prior to the installation of the synthetic playing surface. Ballfield construction could include equipment such as excavators, bobcats, and a variety of hand tools.

NUMBER OF CONSTRUCTION WORKERS AND MATERIAL DELIVERIES

Tables 20-3 and 20-4 show the estimated average daily numbers of workers and deliveries for the proposed project by calendar quarter for the duration of the construction period. The average number of workers would be approximately 252 per day throughout the Phase I construction period and 174 per day throughout the Phase II construction period. The peak number of workers by calendar quarter during Phase I construction would be approximately 580 per day, and would occur in the 2nd quarter of Year 4 when the construction of Building No. 3 would overlap with the construction of Building No. 4 and Parking Garages Nos. 3 and 5. The peak number of workers by calendar quarter during Phase II construction would be approximately 450 per day and would occur in the 1st quarter of Year 9 during the construction of Buildings Nos. 6 and 7.

Table 20-3
Average Number of Daily Workers and Trucks by Year and Quarter (Phase I)

Year	Year 1				Year 2				Year 3			
Quarter	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th
Workers	17	50	190	190	288	375	298	197	290	433	350	367
Trucks	5	15	78	57	97	110	73	70	113	163	100	63
Year	Year 4											
Quarter	1st	2nd	3rd	4th					Average		Peak	
Workers	507	580	367	40					252		580	
Trucks	62	78	77	23					66		163	

Source: Simone Development Companies

Table 20-4
Average Number of Daily Workers and Trucks by Year and Quarter (Phase II)

Year	Year 6				Year 7				Year 8			
Quarter	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th
Workers	7	77	135	133	117	183	142	147	280	252	292	367
Trucks	7	53	57	35	30	30	30	87	153	78	65	60
Year	Year 9											
Quarter	1st	2nd	3rd	4th					Average		Peak	
Workers	450	345	187	23					174		450	
Trucks	60	67	70	13					50		153	

Source: Simone Development Companies

The average number of trucks trips would be approximately 66 per day throughout the Phase I construction period and 50 per day throughout the Phase II construction period. The peak number of deliveries by calendar quarter during Phase I construction would occur in the 2nd quarter of

Year 3 with approximately 163 truck trips per day, when redevelopment activities for the Parker Building would overlap with the construction of Building No. 3 and Building No. 4. The peak number of deliveries by calendar quarter would occur in the 1st quarter of Year 8 during the construction of Buildings No.5, No. 6 and No. 7 with approximately 153 truck trips per day.

E. THE FUTURE WITHOUT THE PROPOSED PROJECT

Absent the proposed project, no new development is anticipated to occur on the project site. The Bronx Children's Psychiatric, Thompson, and Parker Buildings would remain vacated with their uses relocated to new BPC facilities at the southern portion of the campus. For the purposes of the environmental assessment, it is assumed that in the future without the proposed project (the "No-Action" condition), these existing buildings would remain vacant. The steam-generating powerhouse, two metal shelters, and small storage building on the project site would also remain vacated and decommissioned. The ball fields would remain as in existing conditions.

F. THE FUTURE WITH THE PROPOSED PROJECT

The proposed project would be constructed in two phases. Unlike other chapters of this EIS, this construction analysis is not organized into separate analysis years (2023 and 2028), but rather focuses on the peak construction years in each phase for the overall project construction.

Construction of the proposed project—as is the case with any construction project—may result in some temporary disruptions in the surrounding area. The following analysis describes the overall temporary effects on transportation systems, air quality, noise and vibration, hazardous materials, and other technical areas including land use and neighborhood character, socioeconomic conditions, community facilities, open space, and historic and cultural resources.

TRANSPORTATION SYSTEMS

The construction transportation analysis assesses the potential for construction activities to result in significant adverse impacts on traffic, parking conditions, and transit and pedestrian facilities. The analysis is based on the peak worker and truck trips, which are developed based on several factors including worker modal splits, vehicle occupancy and trip distribution, truck passenger car equivalents (PCEs), and arrival/departure patterns.

As presented above in **Tables 20-3 and 20-4**, the peak level of construction workers and truck trips would not persist throughout the entire nine-year total construction period. For a reasonable-worst case analysis, the following sections evaluate the potential for the proposed project's construction worker and truck trips during the peak construction period for each of two construction phases to result in significant adverse impacts to traffic, parking, transit facilities, and pedestrian elements.[1]

[1] As discussed in **Table 20-2**, construction of the proposed baseball fields may occur later than anticipated in the preliminary construction schedule. The potential shift in the construction schedule would not affect the conclusions of the transportation analysis because the baseball fields' construction would occur outside the analyzed transportation peak periods and would not result in a new traffic peak period.

TRAFFIC

An evaluation of construction sequencing and worker/truck projections was undertaken to assess potential traffic impacts.

Construction Trip-Generation Projections

The average worker and truck trip projections discussed above in "Number of Construction Workers and Materials Deliveries" were further refined to account for worker modal splits and vehicle occupancy, arrival and departure distribution, and truck PCEs.

Daily Workforce and Truck Deliveries

For a reasonable worst-case analysis of potential transportation-related impacts during construction, the combined daily workforce and truck trip projections in the peak quarter were used as the basis for estimating peak-hour construction trips. The 2nd quarter of Year 3 construction was identified as the peak construction traffic period for Phase I, while the 1st quarter of Year 8 construction was identified as the peak construction period for Phase II. Phase I construction would have a peak of approximately 580 workers per day but the peak traffic period (combined daily workforce and truck trip projections) would have approximately 433 workers and 163 truck deliveries per day during the 2nd quarter of Year 3 when redevelopment activities for the Parker Building would overlap with the construction of Building No. 3 and Building No. 4. Phase II construction would have a peak of approximately 450 workers per day but the peak traffic period (combined daily workforce and truck trip projections) would have approximately 280 workers and 153 truck deliveries per day in the 1st quarter of Year 8 during the construction of Buildings No.5, No. 6, and No. 7. These estimates of construction activities are discussed further below.

Construction Worker Modal Splits and Vehicle Occupancy

Based on the latest available U.S. Census data (2000 Census data) for workers in the construction and excavation industry, it is anticipated that 69 percent of construction workers would commute to the project site using private autos at an average occupancy of approximately 1.16 persons per vehicle. For a conservative analysis, the modal splits were not adjusted to account for the proposed MNR Morris Park Station, which may result in a reduction of construction workers using private autos to commute to the project site.

Peak-Hour, Construction-Worker Vehicle and Truck Trips

Similar to other construction projects in New York City, most of the construction activities at the project site are expected to take place from 7:00 AM to 3:30 PM. While construction truck trips would occur throughout the day (with more trips during the morning), and most trucks would remain in the area for short durations, construction workers would commute during the hours before and after the work shift. For analysis purposes, each truck delivery was assumed to result in two truck trips during the same hour (one "in" and one "out"), whereas each worker vehicle was assumed to arrive near the work shift start hour and depart near the work-shift end hour. Further, in accordance with the *City Environmental Quality Review (CEQR) Technical Manual*, the traffic analysis assumed that each truck has a PCE of 2.

The estimated daily vehicle trips were distributed throughout the workday based on projected work shift allocations and likely arrival/departure patterns for construction workers and trucks. For construction workers, the majority (approximately 80 percent) of the arrival and departure trips would take place during the hour before and after each work shift (6:00 to 7:00 AM for arrival

and 3:00 to 4:00 PM for departure on a regular day shift). Construction truck deliveries typically peak during the hour before each shift (25 percent), overlapping with construction worker arrival traffic.

Tables 20-5 and 20-6 present the hourly trip projections for the peak construction quarter during Phase I and Phase II construction, respectively. As shown, the maximum construction-related traffic increments during Phase I construction would be approximately 299 PCEs between 6:00 and 7:00 AM and 195 PCEs between 3:00 and 4:00 PM; the maximum construction-related traffic increments during Phase II construction would be approximately 242 PCEs between 6:00 and 7:00 AM and 190 PCEs between 3:00 and 4:00 PM.

Table 20-5
Peak Construction Vehicle Trip Projections (Phase I)

	Auto Trips			Truck Trips			Total					
	Regular Shift			Regular Shift			Vehicle Trips			PCE Trips		
Hour	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
6 AM - 7 AM	206	0	206	41	41	82	247	41	288	288	82	370
7 AM - 8 AM	52	0	52	17	17	34	69	17	86	86	34	120
8 AM - 9 AM	0	0	0	17	17	34	17	17	34	34	34	68
9 AM -10 AM	0	0	0	16	16	32	16	16	32	32	32	64
10 AM -11 AM	0	0	0	16	16	32	16	16	32	32	32	64
11 AM - 12 PM	0	0	0	16	16	32	16	16	32	32	32	64
12 PM - 1 PM	0	0	0	16	16	32	16	16	32	32	32	64
1 PM - 2 PM	0	0	0	8	8	16	8	8	16	16	16	32
2 PM - 3 PM	0	13	13	8	8	16	8	21	29	16	29	45
3 PM - 4 PM	0	206	206	8	8	16	8	214	222	16	222	238
4 PM - 5 PM	0	39	39	0	0	0	0	39	39	0	39	39
Daily Total	258	258	516	163	163	326	421	421	842	584	584	1,168

Note: Hourly construction worker and truck trips were derived from an estimated quarterly average number of construction workers and truck deliveries per day, with each truck delivery resulting in two daily trips (arrival and departure).

Table 20-6
Peak Construction Vehicle Trip Projections (Phase II)

	Auto Trips			Truck Trips			Total					
	Regular Shift			Regular Shift			Vehicle Trips			PCE Trips		
Hour	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
6 AM - 7 AM	133	0	133	38	38	76	171	38	209	209	76	285
7 AM - 8 AM	34	0	34	16	16	32	50	16	66	66	32	98
8 AM - 9 AM	0	0	0	15	15	30	15	15	30	30	30	60
9 AM -10 AM	0	0	0	15	15	30	15	15	30	30	30	60
10 AM -11 AM	0	0	0	15	15	30	15	15	30	30	30	60
11 AM - 12 PM	0	0	0	15	15	30	15	15	30	30	30	60
12 PM - 1 PM	0	0	0	15	15	30	15	15	30	30	30	60
1 PM - 2 PM	0	0	0	8	8	16	8	8	16	16	16	32
2 PM - 3 PM	0	8	8	8	8	16	8	16	24	16	24	40
3 PM - 4 PM	0	133	133	8	8	16	8	141	149	16	149	165
4 PM - 5 PM	0	26	26	0	0	0	0	26	26	0	26	26
Daily Total	167	167	334	153	153	306	320	320	640	473	473	946

Note: Hourly construction worker and truck trips were derived from an estimated quarterly average number of construction workers and truck deliveries per day, with each truck delivery resulting in two daily trips (arrival and departure).

Projected traffic levels generated during the peak period for Phase I and Phase II construction and those upon Phase I completion and Phase II full build-out of the proposed project are compared in **Tables 20-7 and 20-8**, respectively. As presented in **Tables 20-7 and 20-8,** the construction traffic increments would be substantially lower than the operational traffic increments for the Phase I completion and Phase II full build-out under the proposed project in 2023 and 2028, respectively.

Table 20-7
Comparison of Incremental Construction (Phase I) and Operational Peak Period Vehicle Trips in PCEs

Time	Peak Incremental Construction Vehicle Trips in PCEs			Peak Incremental Operational Vehicle Trips in PCEs		
	In	Out	Total	In	Out	Total
AM Peak Period (6:00 AM to 9:00AM)[3]						
AM Peak Hour[1]	288	82	370	893	249	1,142
PM Peak Period (3:00 PM to 6:00PM)[3]						
PM Peak Hour[2]	16	222	238	316	868	1,184

Notes:
1. The AM peak hour of trip generator is 6:00 to 7:00 AM for construction and 8:00 to 9:00 AM for operational.
2. The PM peak hour of trip generator is 3:00 to 4:00 PM for construction and 5:00 to 6:00 PM for operational.
3. As presented in Chapter 14, "Transportation," the background traffic AM peak hour is 7:30 to 8:30 AM and the background traffic PM peak hour is 4:15 to 5:15 PM.

Table 20-8
Comparison of Incremental Construction (Phase II) and Operational Peak Period Vehicle Trips in PCEs

Time	Peak Incremental Construction Vehicle Trips in PCEs			Peak Incremental Operational Vehicle Trips in PCEs		
	In	Out	Total	In	Out	Total
AM Peak Period (6:00 AM to 9:00AM)[3]						
AM Peak Hour[1]	209	76	285	1,651	426	2,077
PM Peak Period (3:00 PM to 6:00PM)[3]						
PM Peak Hour[2]	16	149	165	498	1,677	2,175

Notes:
1. The AM peak hour of trip generator is 6:00 to 7:00 AM for construction and 8:00 to 9:00 AM for operational.
2. The PM peak hour of trip generator is 3:00 to 4:00 PM for construction and 5:00 to 6:00 PM for operational.
3. As presented in Chapter 14, "Transportation," the background traffic AM peak hour is 7:30 to 8:30 AM and the background traffic PM peak hour is 4:15 to 5:15 PM.

Cumulative Operational and Construction Traffic Effects of the Proposed Project

An analysis was prepared to assess conditions when Phase I construction is completed and operational (2023) and Phase II of the proposed project is still under construction (until 2028). **Table 20-9** compares trip-making from the full build-out of the proposed project with the cumulative operational and construction trip-making to determine if the cumulative operational and construction effects on traffic conditions surrounding the project site could be beyond those concluded for the full operation of the proposed project.

The cumulative trip-making during any point of project development in the morning and afternoon hours would be lower than the critical operational AM and PM commuter peak hours, for which project-related impacts were identified.

Table 20-9
Phase I Operational and Phase II Construction
Cumulative Peak Period Vehicle Trips in PCEs

Time	Phase II Construction Vehicle Trips in PCEs			Phase I Operational Vehicle Trips in PCEs			Total Construction and Operational Vehicle Trips in PCEs			Full Build-Out Operational Vehicle Trips in PCEs		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
AM Peak Period (6:00 AM to 9:00AM)												
6-7 AM	209	76	285	133	23	156	342	99	441	290	48	338
7-8 AM	66	32	98	297	35	332	363	67	430	599	77	676
8-9 AM	30	30	60	893	249	1,142	923	279	1,202	1,651	426	2,077
PM Peak Period (3:00 PM to 6:00PM)												
3-4 PM	16	149	165	363	408	771	379	557	936	683	727	1,410
4-5 PM	0	26	26	267	692	959	267	718	985	499	1,293	1,792
5-6 PM	0	0	0	316	868	1,184	316	868	1,184	498	1,677	2,175

Note: 1. As presented in Chapter 14, "Transportation," the background traffic AM peak hour is 7:30 to 8:30 AM and the background traffic PM peak hour is 4:15 to 5:15 PM. Based on the study area ATRs, general traffic levels for the 6 to 7 AM hour are approximately 67 percent of the 7:30 to 8:30 AM hour. Correspondingly, general traffic levels for the 3 to 4 PM hour are approximately 94 percent of the 4:15 to 5:15 PM hour.

Based on the construction traffic increments and operational vehicle trips comparisons presented above, Level 2 trip assignment screening assessments (Phase I—construction vehicle trips only; and Phase II—cumulative construction vehicle trips and Phase I operational vehicle trips) were prepared by assigning incremental vehicle trips to the study area traffic network to determine if there is a need for additional quantified traffic analysis during the weekday AM and PM construction peak hours for both Phase I and Phase II peak construction.

CONSTRUCTION TRAFFIC CAPACITY ANALYSIS

As part of the Level 2 traffic screening assessment, construction traffic increments and operational vehicle trips have been assigned to specific intersections in the traffic study area. As previously stated, further quantified analyses would be warranted during Phase I and Phase II construction of the proposed project if the trip assignments were to identify intersections incurring 50 or more peak hour vehicle trips during the weekday AM and PM construction peak hours.

Because of the size of the project site, there is expected to be substantial flexibility in placing on-site construction equipment and materials staging areas on the project site, including accommodating worker parking within the project site. Access to the project site during construction would be controlled. The private roadways for the OMH Bronx Behavioral Health Center would not be used for the construction of the proposed project. Construction worker vehicles and trucks delivering materials are anticipated to enter or exit the construction site via Marconi Street. Furthermore, given the substantial flexibility in construction equipment and materials staging within the project site, temporary curb-lane and sidewalk closures/narrowing in the immediate vicinity of the project site are not expected to be warranted.

NYCDOT has conducted a preliminary study and developed conceptual designs for access improvements to the southbound HRP. However, these potential improvements are not funded in NYCDOT's capital plan and the City has no current or future plans to construct the ramps. The Phase I and Phase II construction-generated vehicle trips do not assume the HRP Improvements in place.

Phase I and Phase II construction-generated vehicle trips were assigned to area intersections based on the most likely travel routes to and from the project site, prevailing travel patterns, commuter origin-destination (O-D) summaries from the census data. Construction-generated truck trips would follow NYCDOT-designated truck routes and would enter and exit the project site from

Marconi Street. Phase I operational vehicle trips during Phase II peak construction were assigned to the area intersections based on the aggregate trip-making patterns described in Chapter 14, "Transportation."

The Phase I construction vehicle trips and Phase II cumulative construction and operational vehicle trips are shown in **Figures 20-2A to 20-5B** and summarized in **Table 20-10**. In total, 29 intersections for Phase I and Phase II peak construction, comprising the traffic study area, have been recommended for the construction traffic analysis. These 29 intersections represent all the traffic intersections on mapped roadways analyzed for the Chapter 14, "Transportation," operational traffic analysis. The recommended construction traffic analysis locations are shown in **Figure 20-6**.

Phase I Construction

To establish a construction No-Action condition against which to measure the potential construction traffic impacts, automatic traffic recorder (ATR) data collected for the operational analyses were reviewed to determine relative traffic levels between the operational and construction analysis peak hours (i.e., 7:30 to 8:30 AM vs. 6:00 to 7:00 AM and 4:15 to 5:15 PM vs. 3:00 to 4:00 PM). Based on this review, the operational 2023 Phase I No-Action traffic volumes were reduced by 33 percent for the AM peak hour and 6 percent for the PM peak to arrive at the representative construction traffic analysis volumes. Although peak construction would occur approximately one year prior to project completion, a reduction in background growth was conservatively not applied for purposes of the construction traffic analyses.

The 2022 Phase I construction No-Action traffic volumes are shown in **Figures 20-7A to 20-8B** for the weekday construction peak hours. The 2022 Phase I construction With-Action traffic volumes are shown in **Figures 20-9A to 20-10B** for the weekday construction peak hours, by adding the construction vehicle trips presented in **Figures 20-2A to 20-3B** to the No-Action traffic volumes.

It should be noted that the geometric and signal timing/phasing changes at the Marconi Street and Project Driveway intersection (see Chapter 14, "Transportation") proposed as part of the proposed project were conservatively not assumed to be in place during Phase I peak construction.

The operation of all signalized intersections and unsignalized intersections in the study area were assessed using methodologies presented in the *2000 Highway Capacity Manual* (HCM) using the *Highway Capacity Software (HCS+ 5.5)*. For the one roundabout intersection at the BPC Driveway included in the traffic study area, HCS 2010 (Version 6.90) was used to assess its operations in the same manner as unsignalized intersections. A discussion of the analysis methodology can be found in Chapter 14, "Transportation."

8/5/2019

Project Site

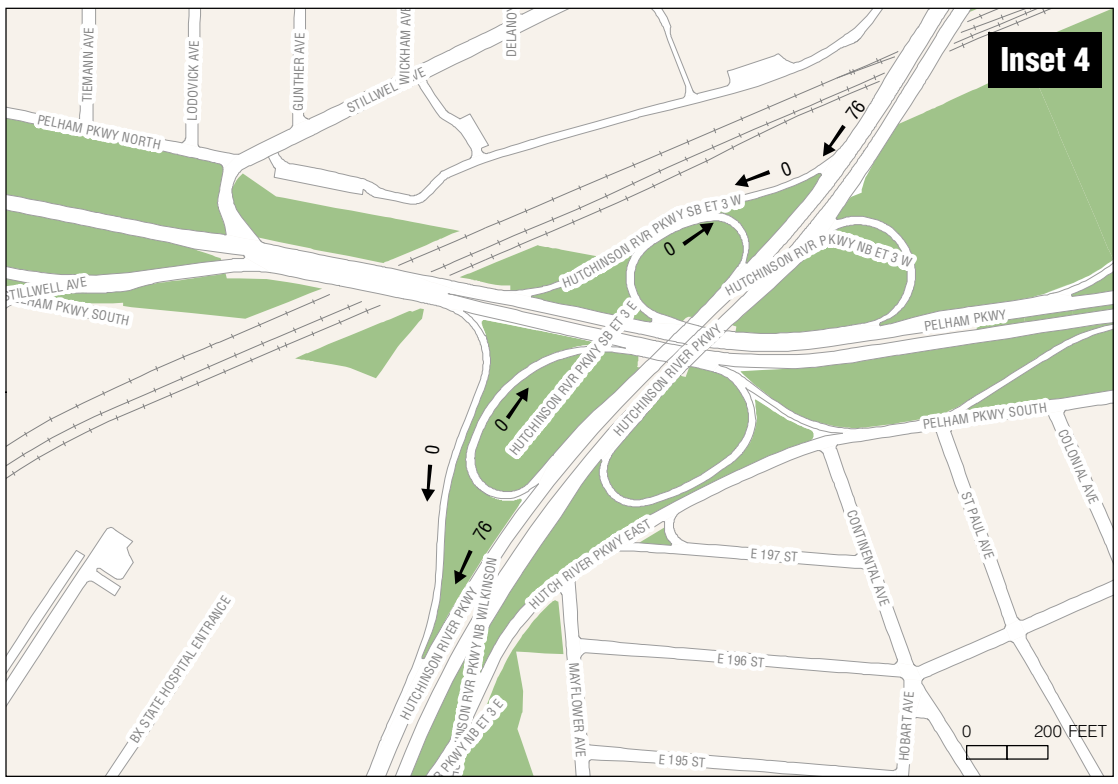
0 800 FEET

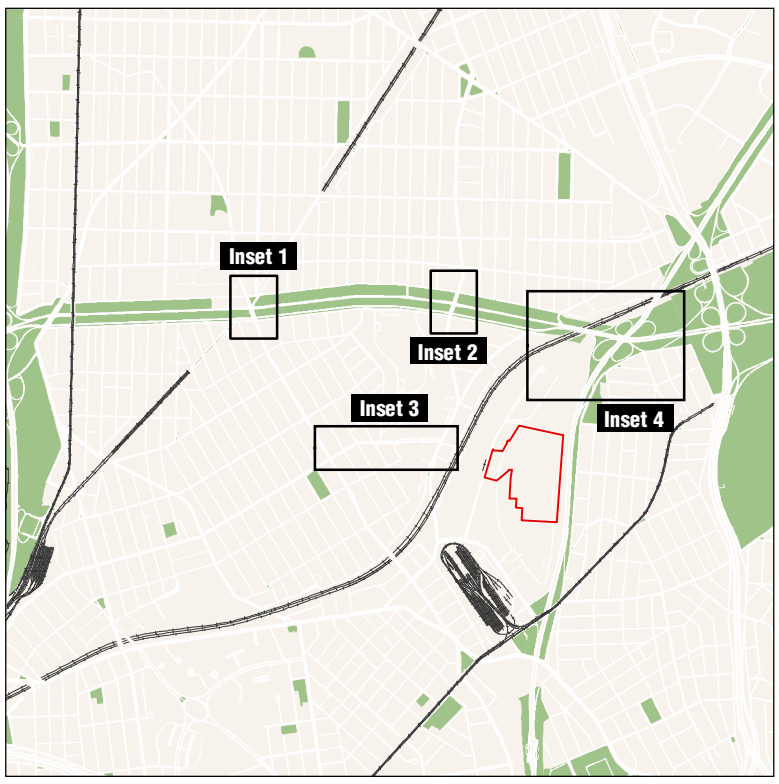
Phase I Construction PCE Vehicle Trips
Weekday AM Construction Peak Hour

BRONX PSYCHIATRIC CENTER LAND USE IMPROVEMENT PROJECT

Figure 20-2A

3/20/2019





Project Site

Phase I Construction PCE Vehicle Trips
Weekday AM Construction Peak Hour

BRONX PSYCHIATRIC CENTER LAND USE IMPROVEMENT PROJECT

Figure 20-2B

8/5/2019

Project Site

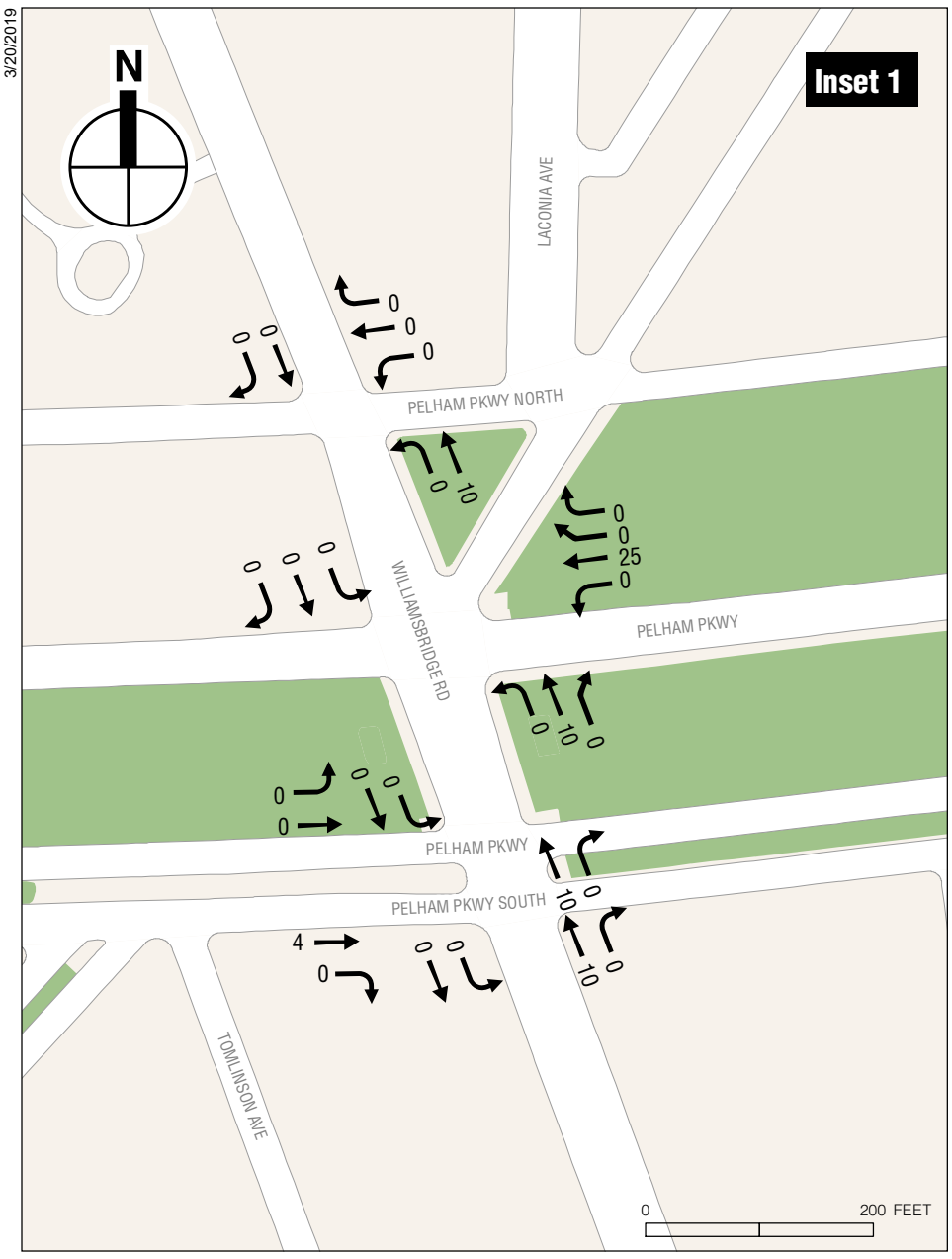
0 800 FEET

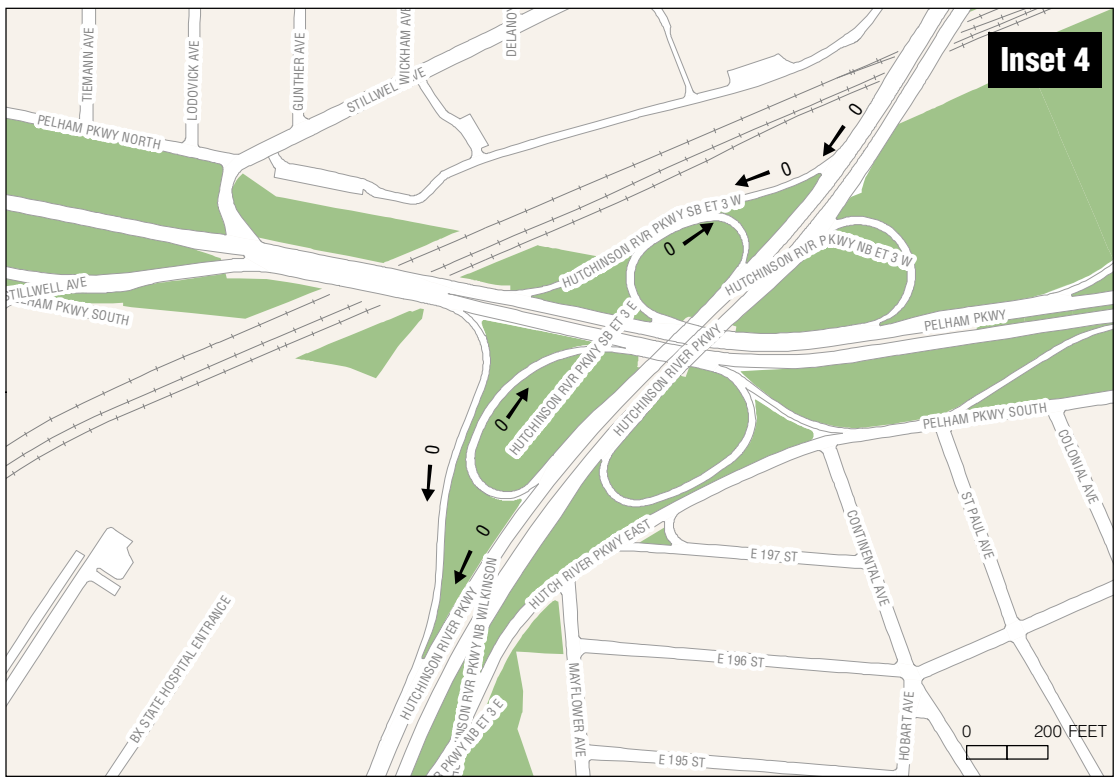
Phase I Construction PCE Vehicle Trips
Weekday PM Construction Peak Hour

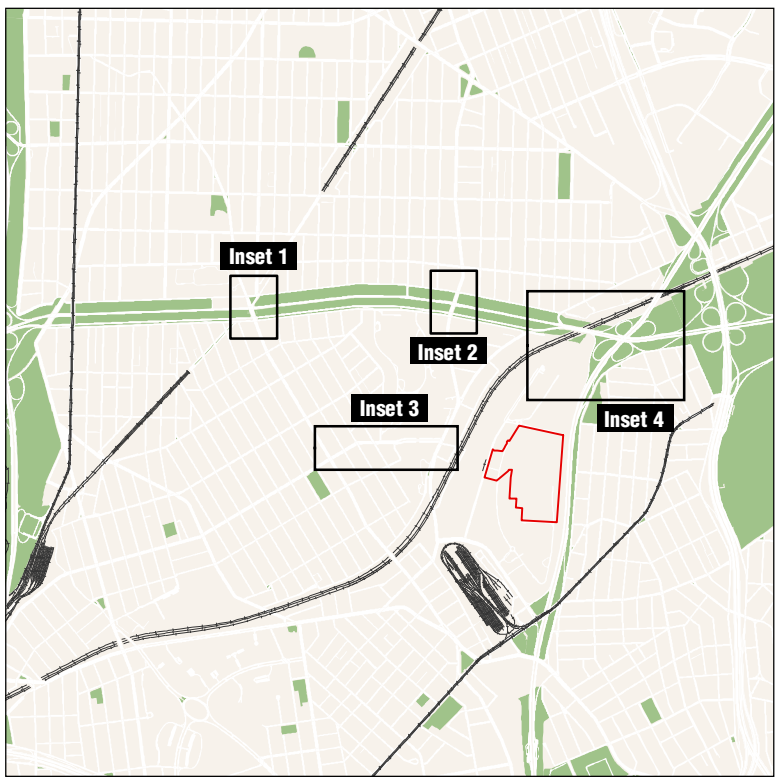
BRONX PSYCHIATRIC CENTER LAND USE IMPROVEMENT PROJECT

Figure 20-3A

3/20/2019







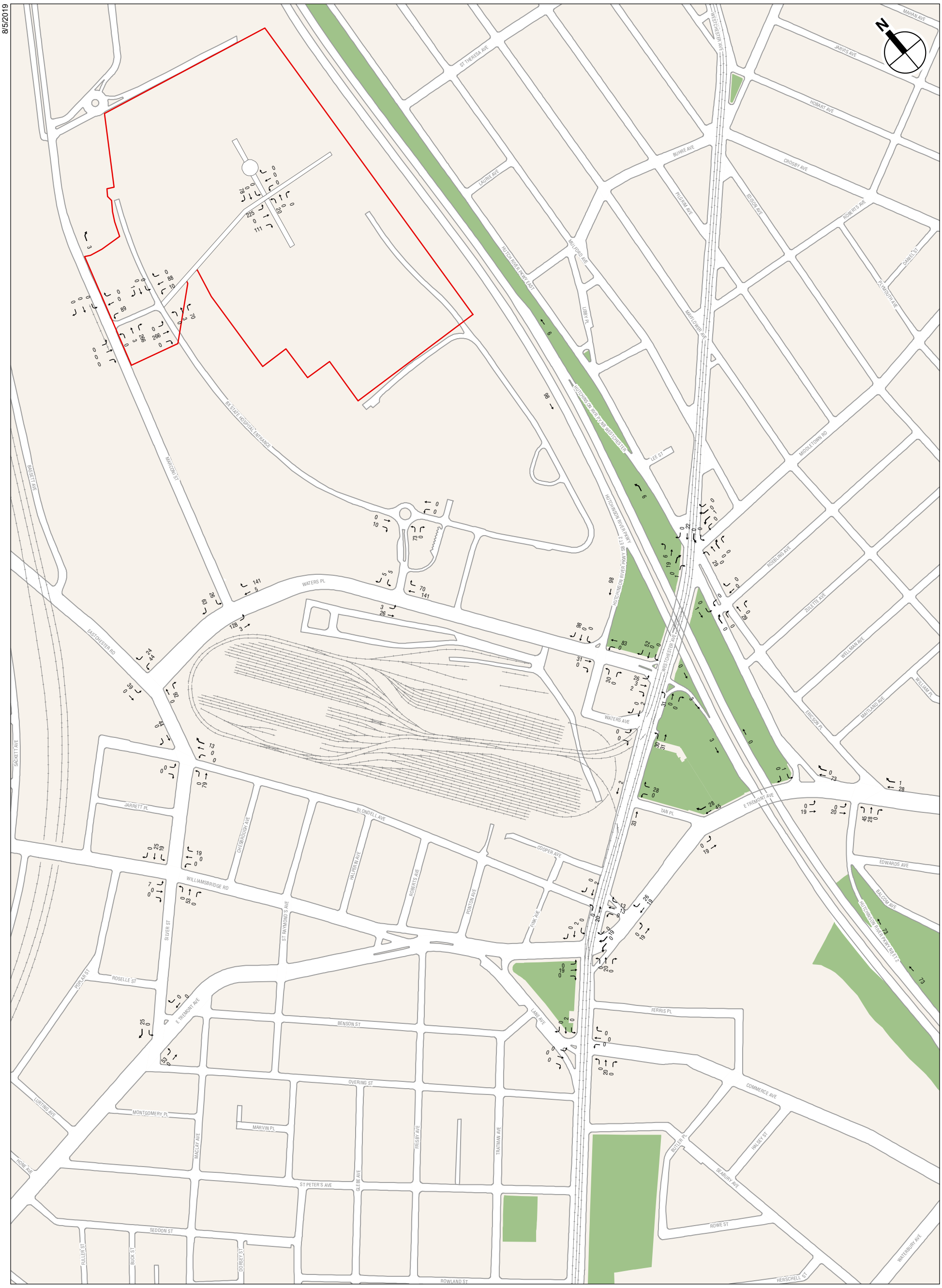
Project Site

Phase I Construction PCE Vehicle Trips
Weekday PM Construction Peak Hour

BRONX PSYCHIATRIC CENTER LAND USE IMPROVEMENT PROJECT

Figure 20-3B

8/5/2019



Project Site

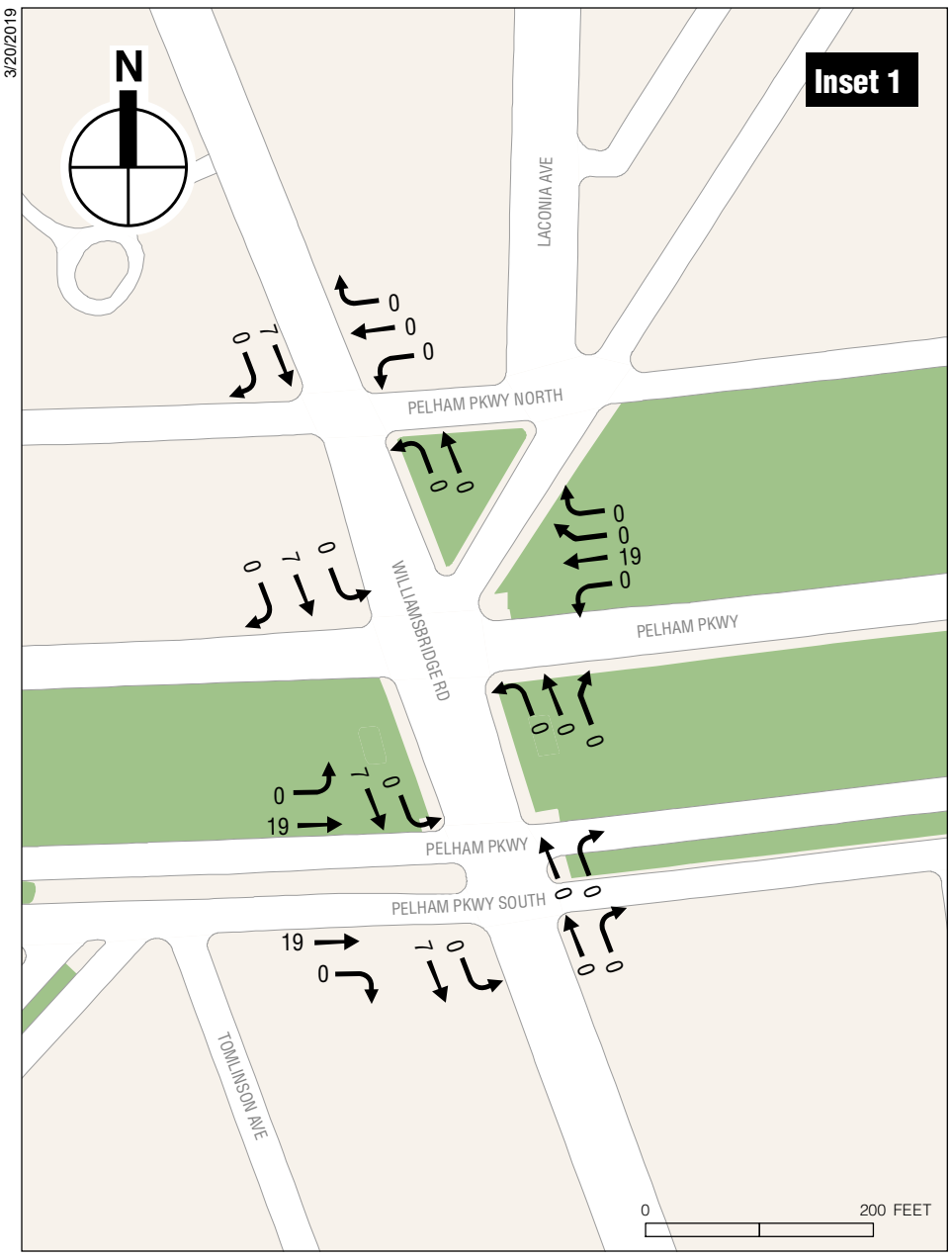
0 800 FEET

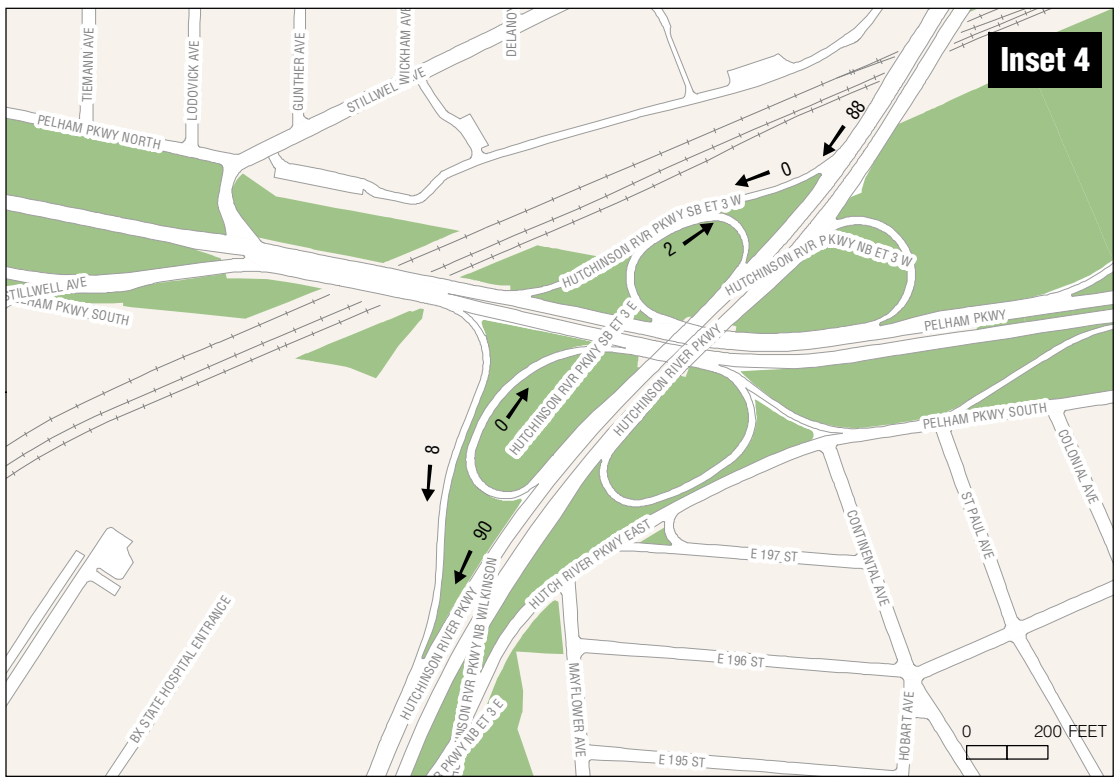
Cumulative Phase II Construction and Phase I Operational PCE Vehicle Trips
Weekday AM Construction Peak Hour

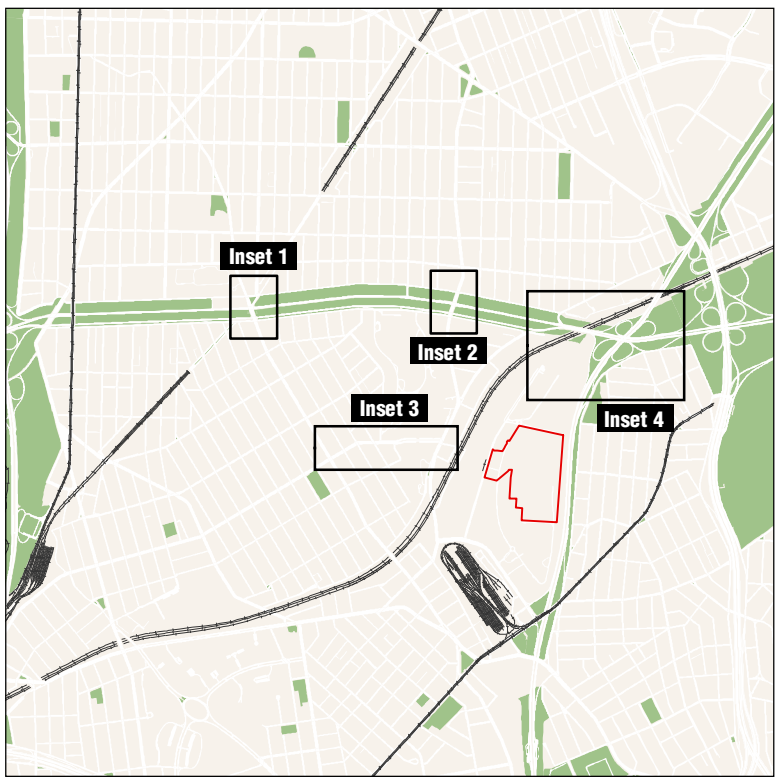
BRONX PSYCHIATRIC CENTER LAND USE IMPROVEMENT PROJECT

Figure 20-4A

3/20/2019







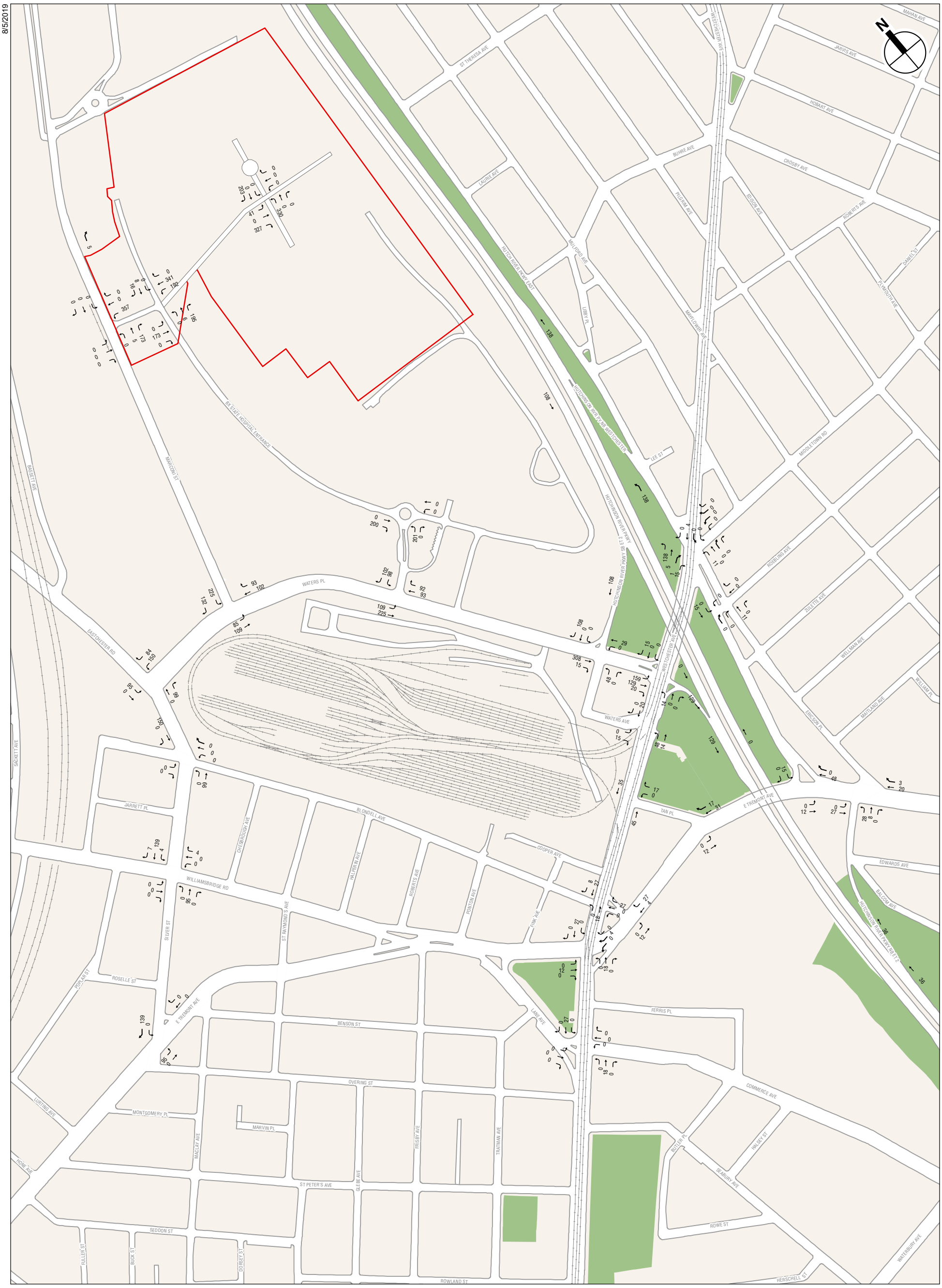
Project Site

Cumulative Phase II Construction and Phase I Operational PCE Vehicle Trips
Weekday AM Construction Peak Hour

BRONX PSYCHIATRIC CENTER LAND USE IMPROVEMENT PROJECT

Figure 20-4B

8/5/2019



Project Site

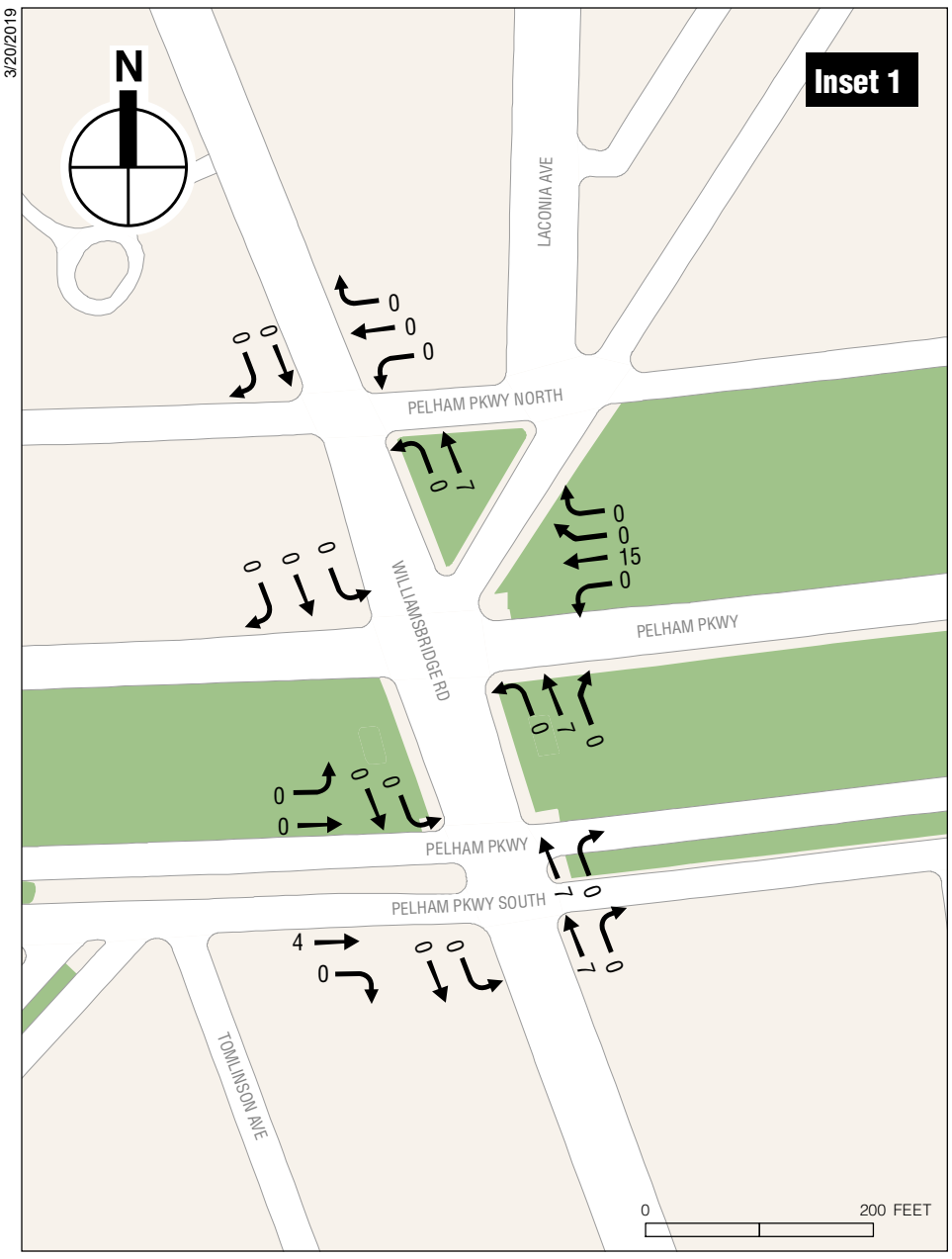
0 800 FEET

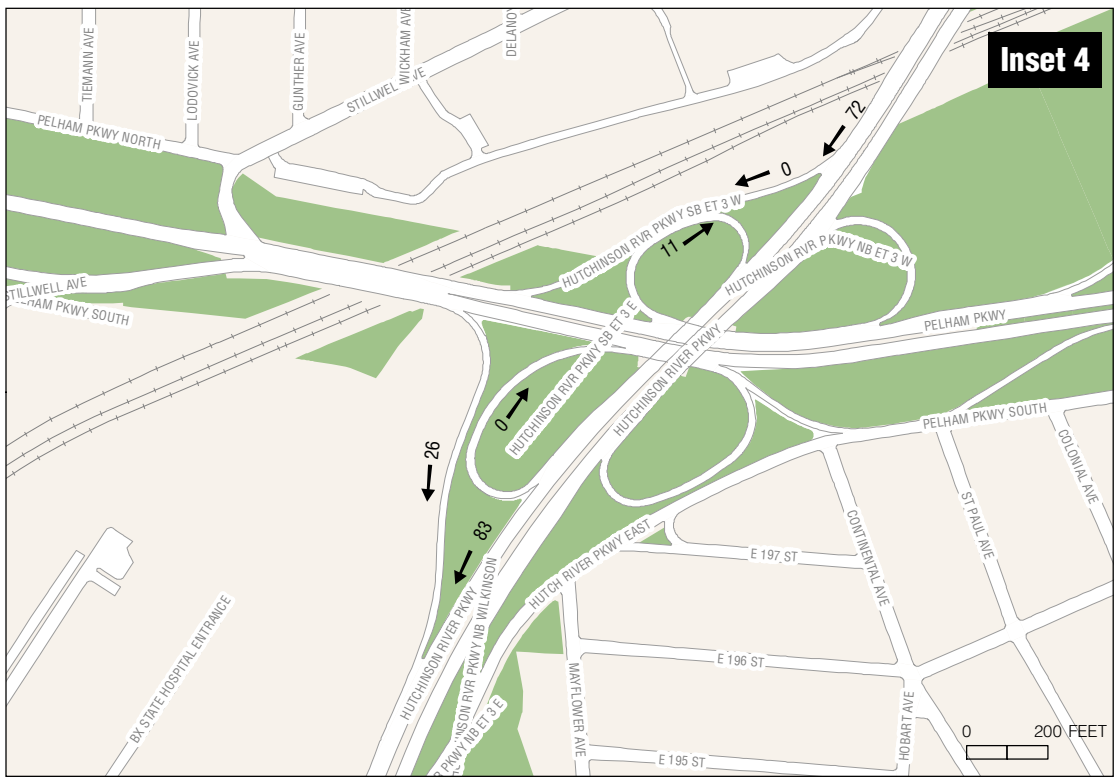
Cumulative Phase II Construction and Phase I Operational PCE Vehicle Trips
Weekday PM Construction Peak Hour

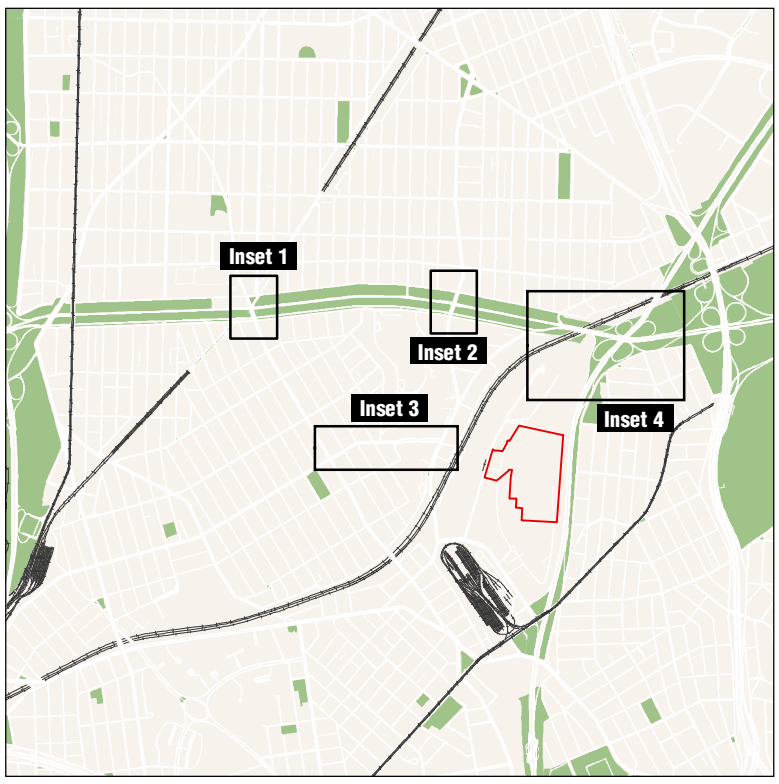
BRONX PSYCHIATRIC CENTER LAND USE IMPROVEMENT PROJECT

Figure 20-5A

3/20/2019





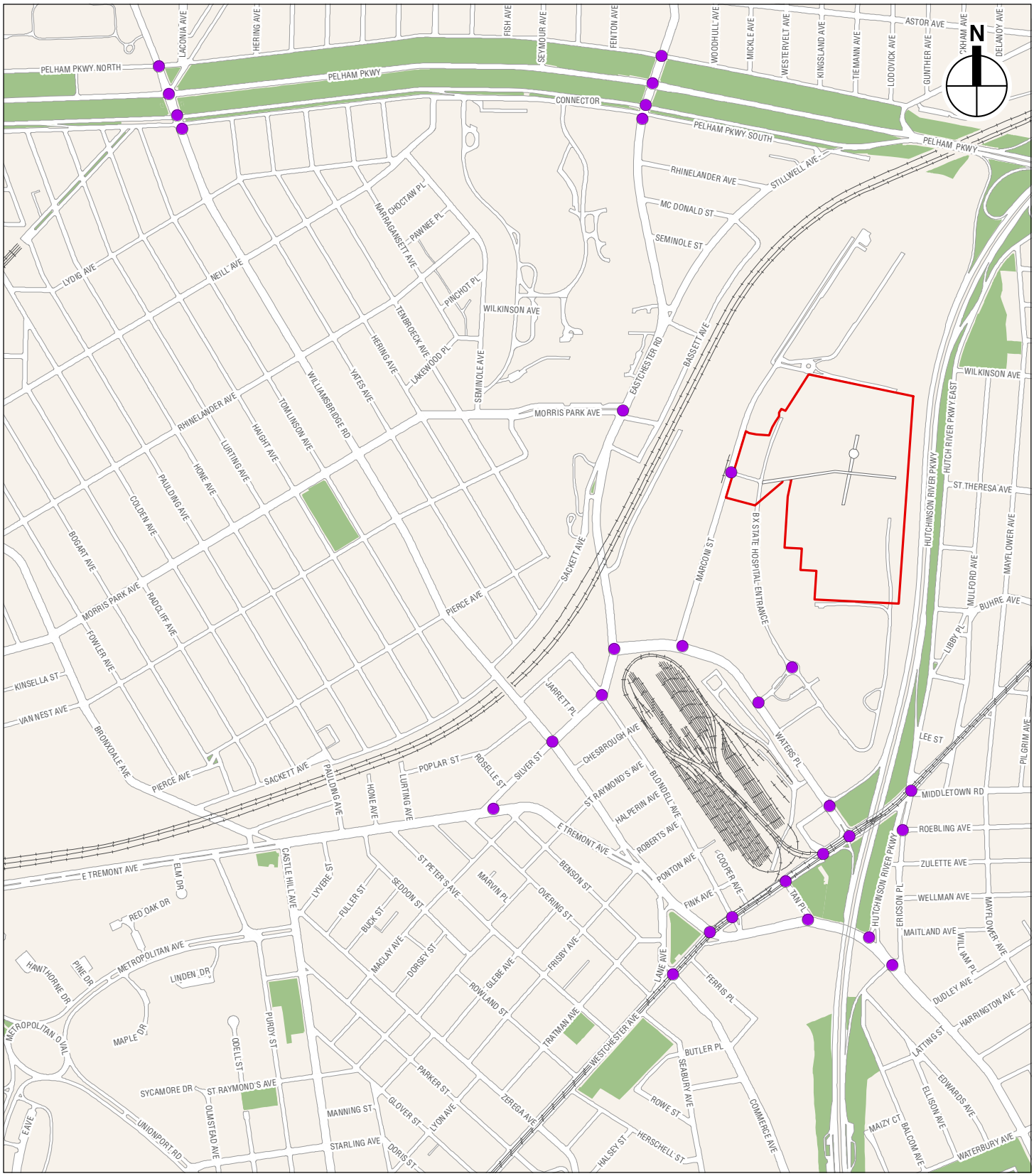


Project Site

Cumulative Phase II Construction and Phase I Operational PCE Vehicle Trips
Weekday PM Construction Peak Hour

BRONX PSYCHIATRIC CENTER LAND USE IMPROVEMENT PROJECT

Figure 20-5B



Phase I and Phase II Construction Traffic Analysis Locations

BRONX PSYCHIATRIC CENTER LAND USE IMPROVEMENT PROJECT

Figure 20-6

8/5/2019

Project Site

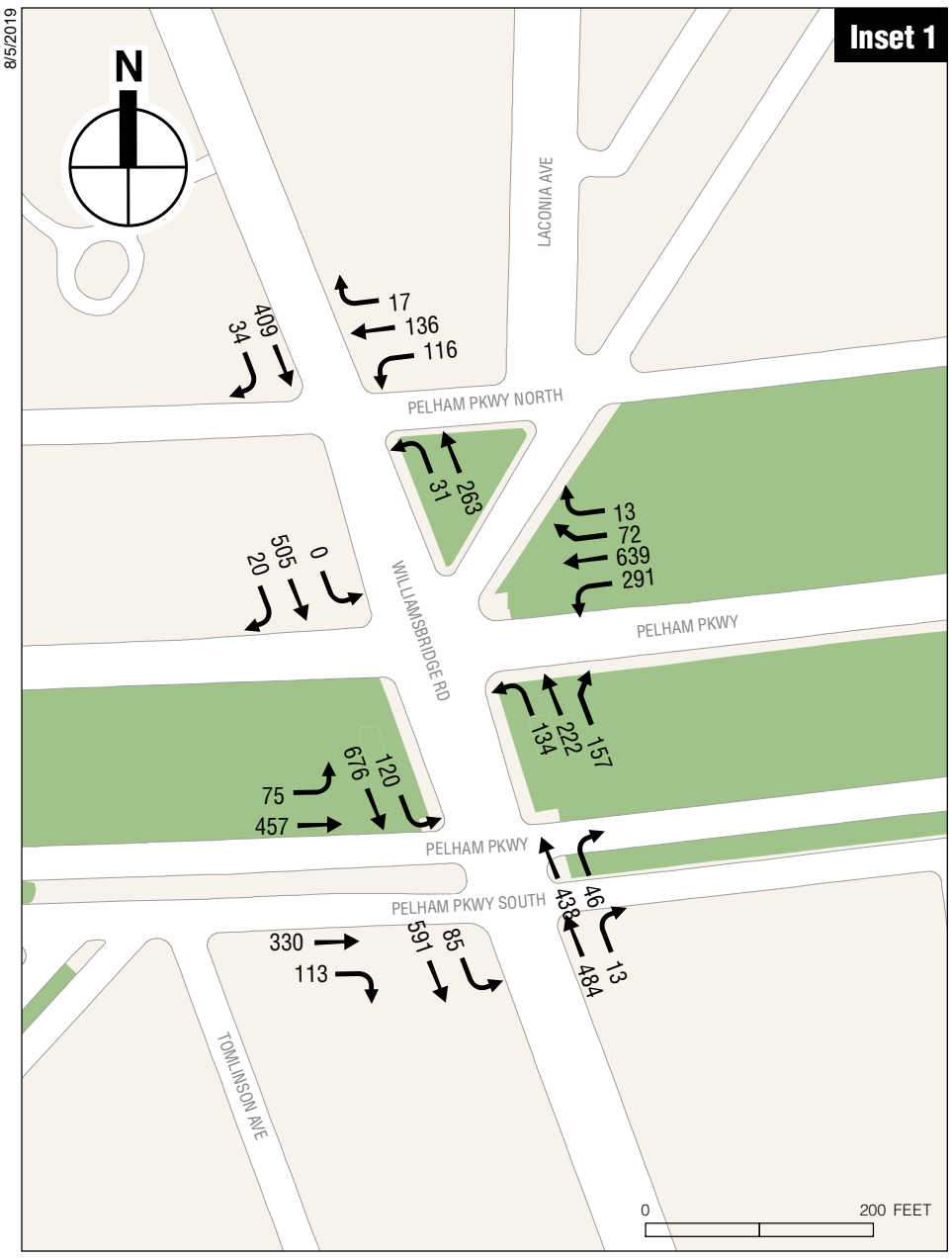
0 800 FEET

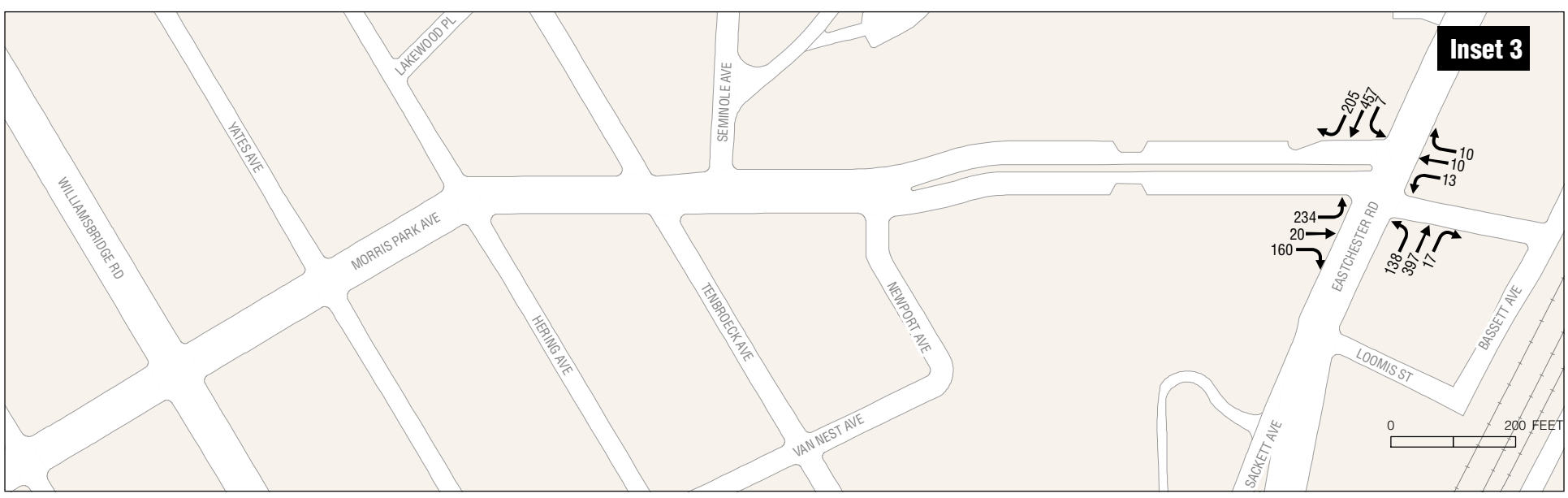
2022 Phase I Construction No-Action Traffic Volumes
Weekday AM Construction Peak Hour

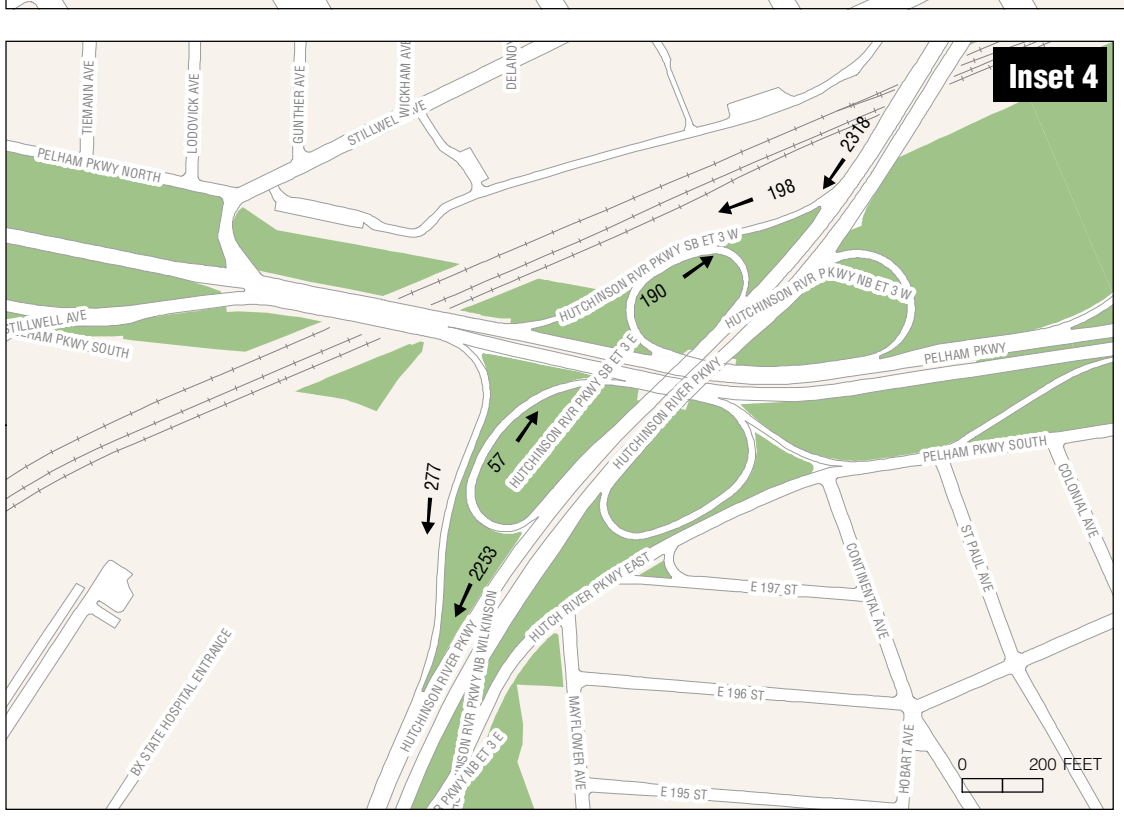
BRONX PSYCHIATRIC CENTER LAND USE IMPROVEMENT PROJECT

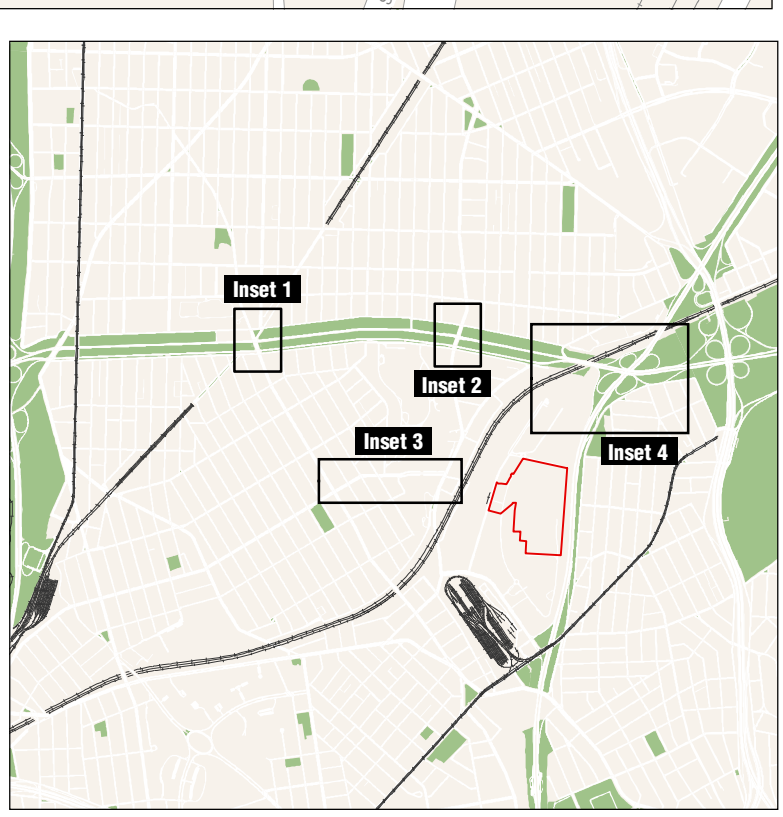
Figure 20-7A

8/5/2019









Project Site

2022 Phase I Construction No-Action Traffic Volumes
Weekday AM Construction Peak Hour

BRONX PSYCHIATRIC CENTER LAND USE IMPROVEMENT PROJECT

Figure 20-7B

8/5/2019

Project Site

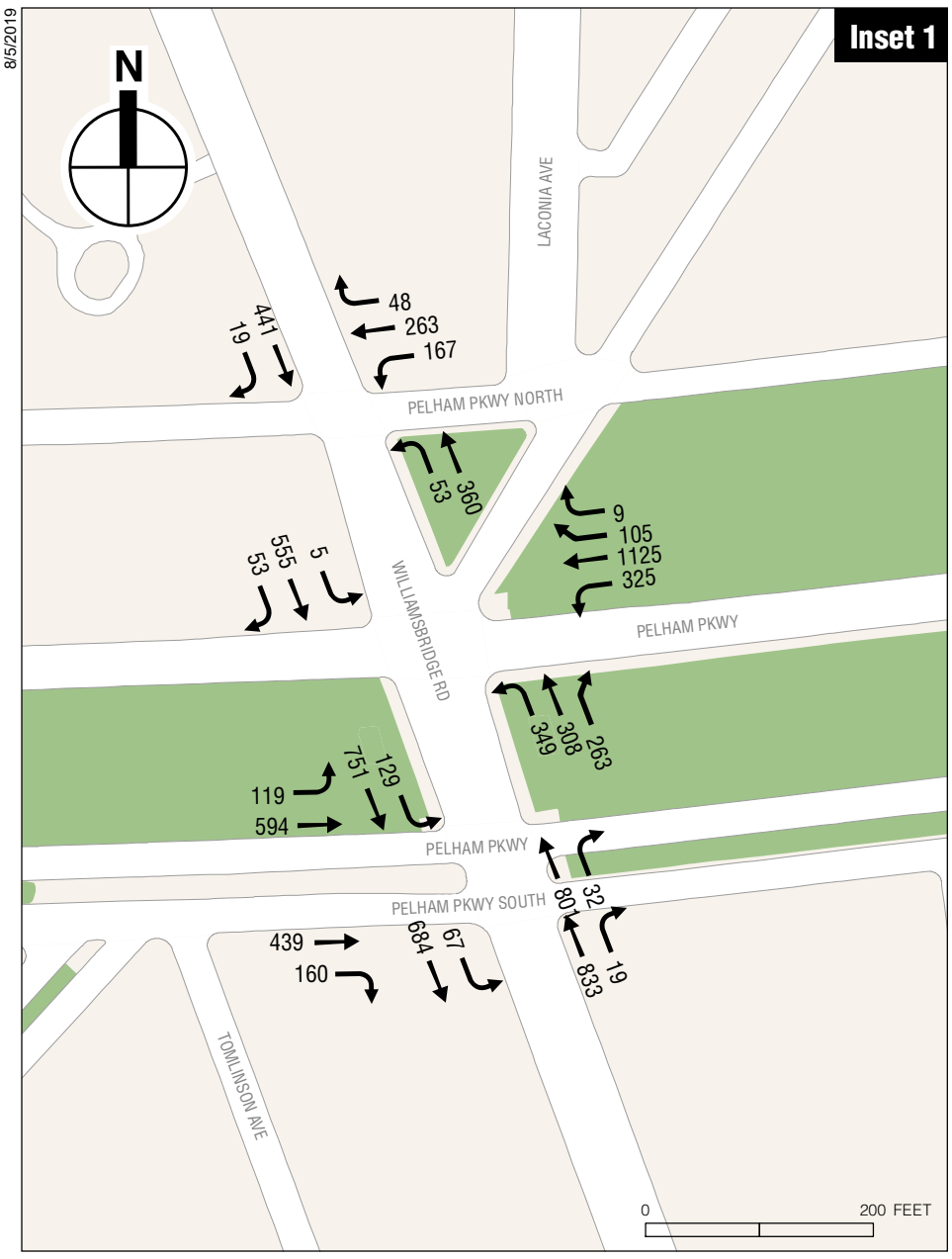
0 800 FEET

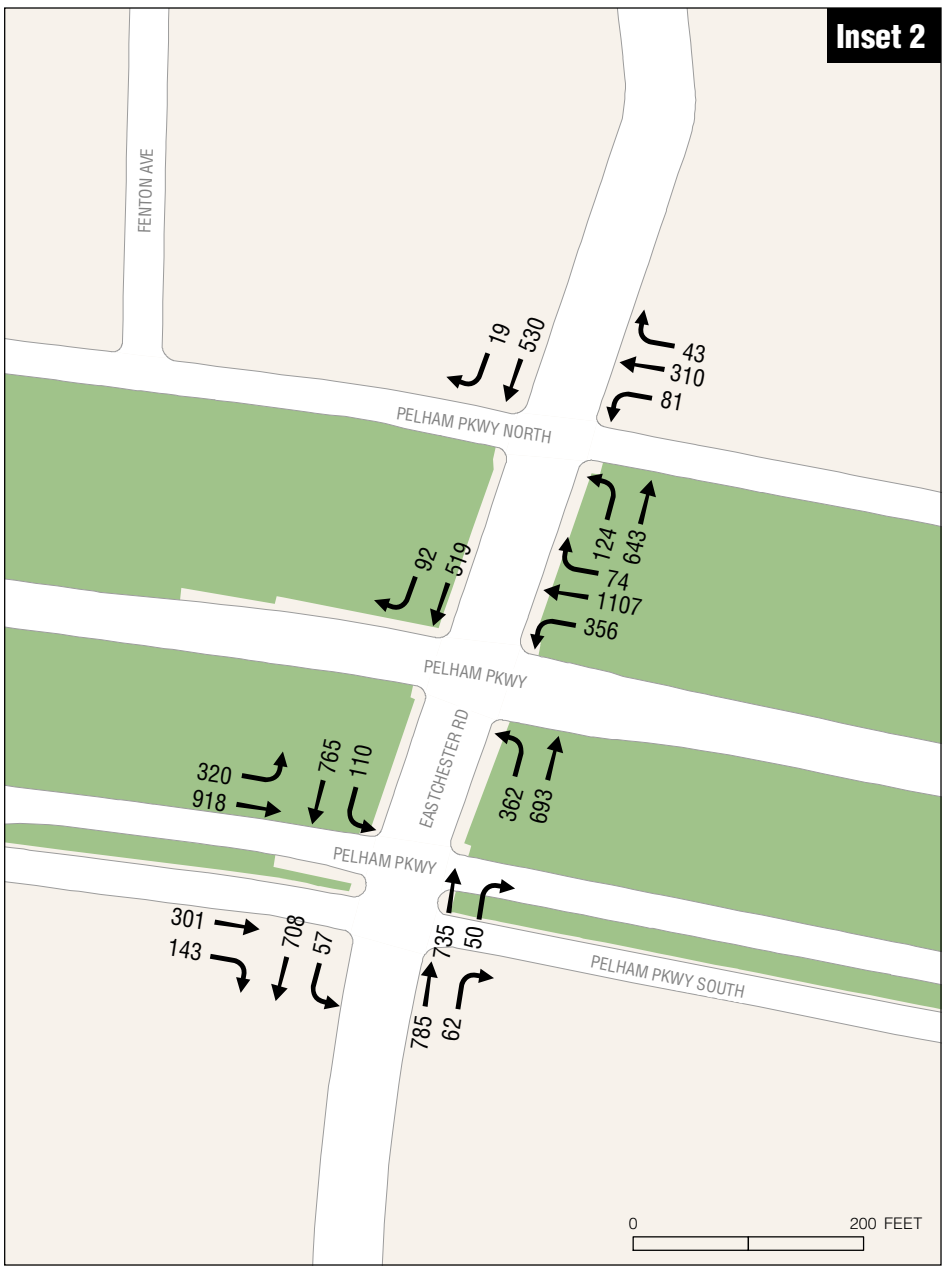
2022 Phase I Construction No-Action Traffic Volumes
Weekday PM Construction Peak Hour

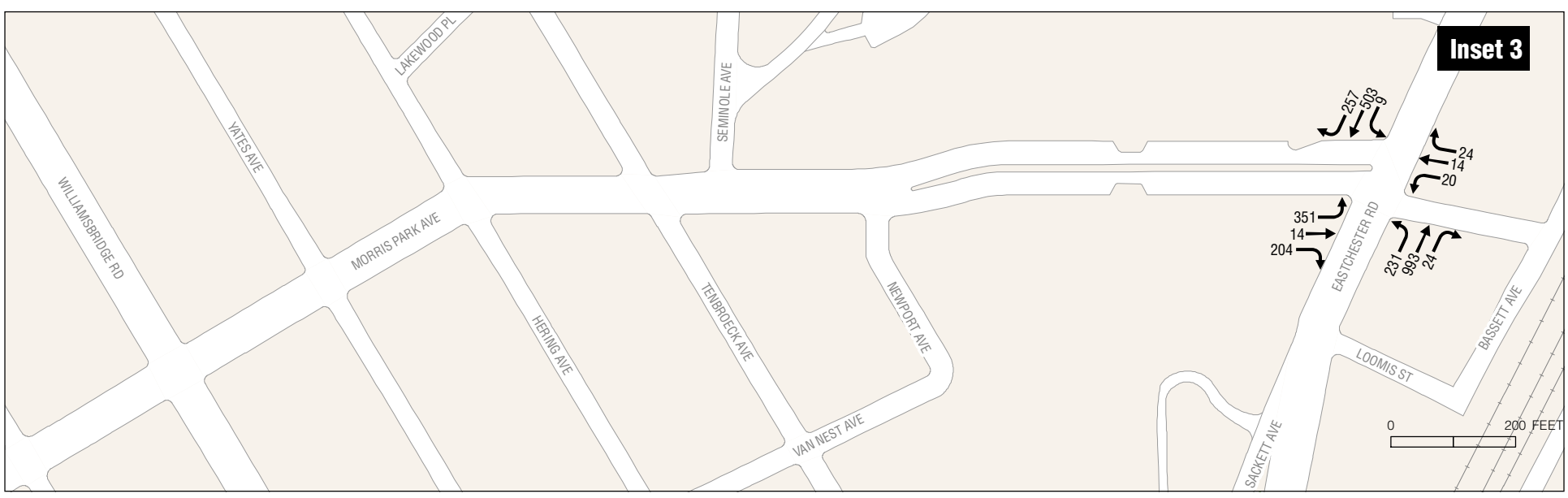
BRONX PSYCHIATRIC CENTER LAND USE IMPROVEMENT PROJECT

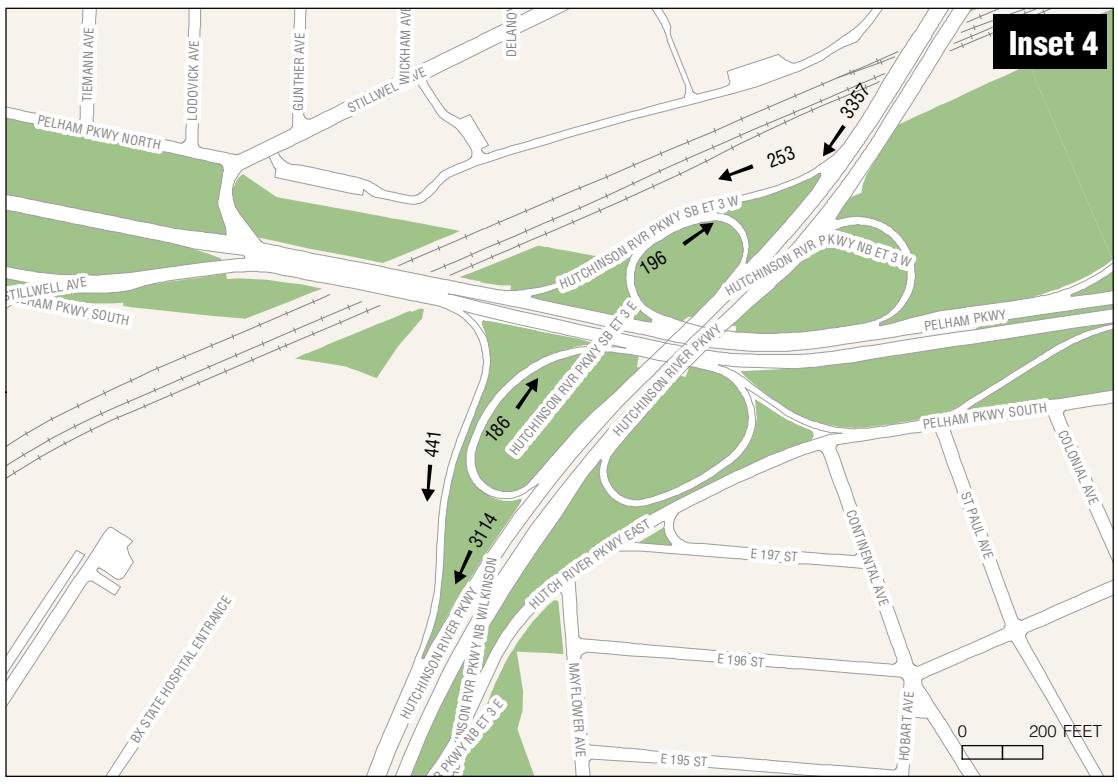
Figure 20-8A

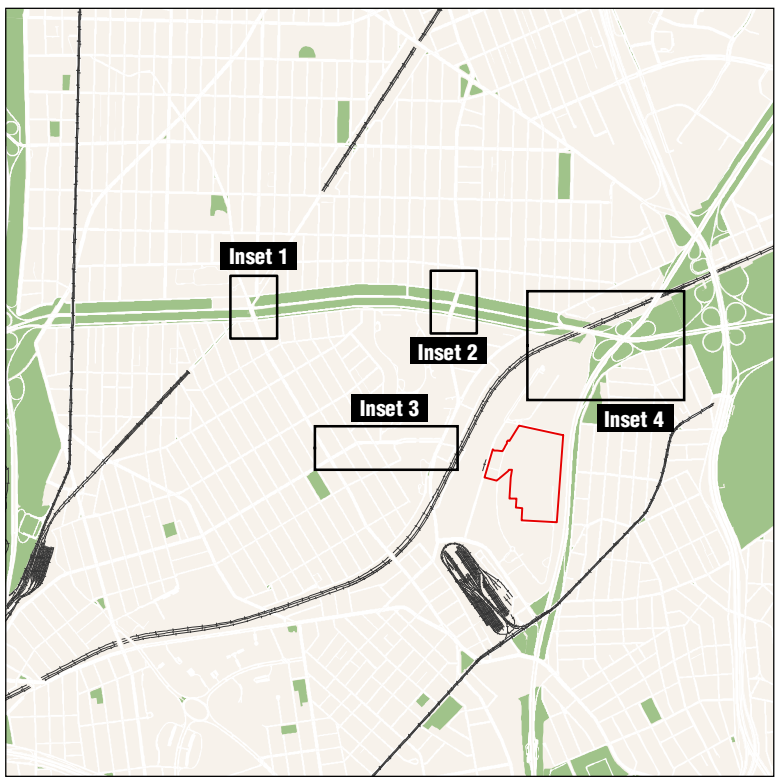
8/5/2019











Project Site

2022 Phase I Construction No-Action Traffic Volumes
Weekday PM Construction Peak Hour

BRONX PSYCHIATRIC CENTER LAND USE IMPROVEMENT PROJECT

Figure 20-8B

8/5/2019

Project Site

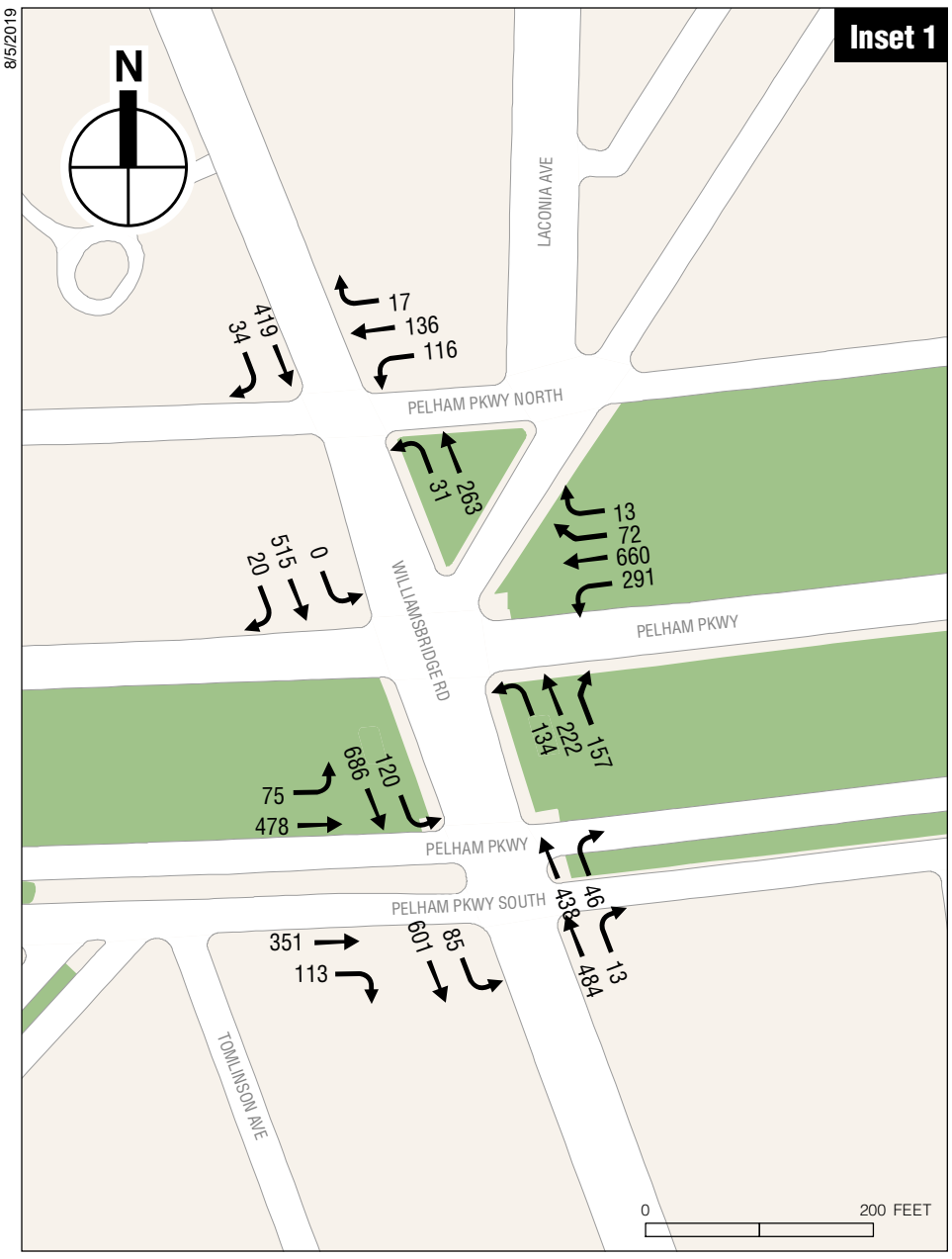
0 800 FEET

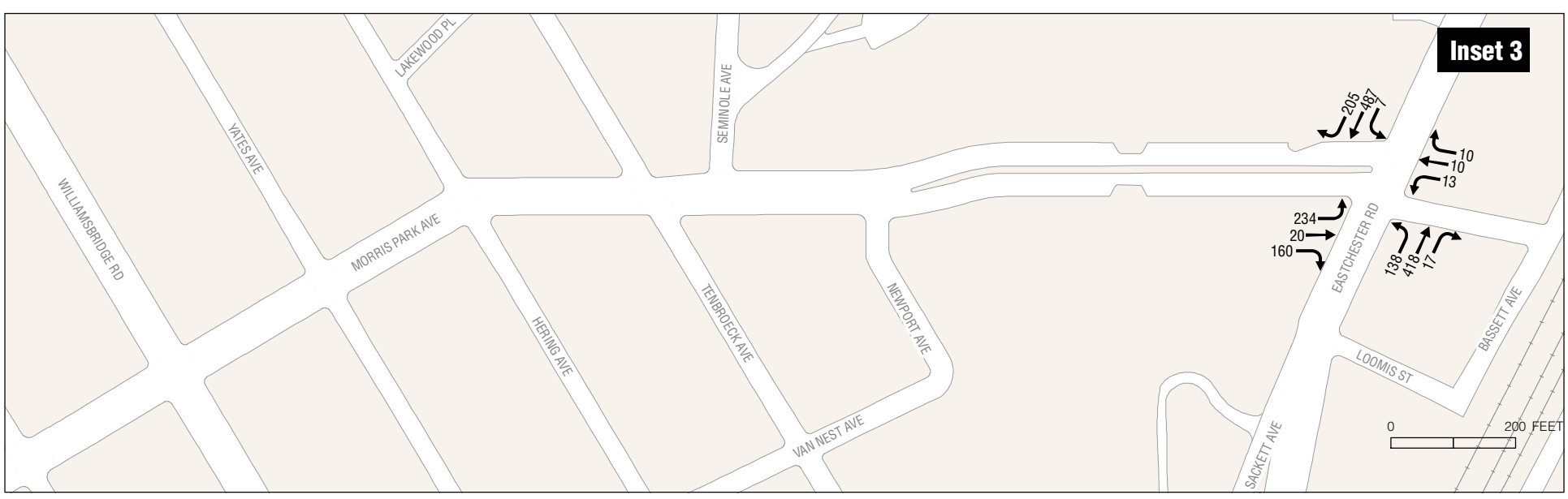
2022 Phase I Construction With-Action Traffic Volumes
Weekday AM Construction Peak Hour

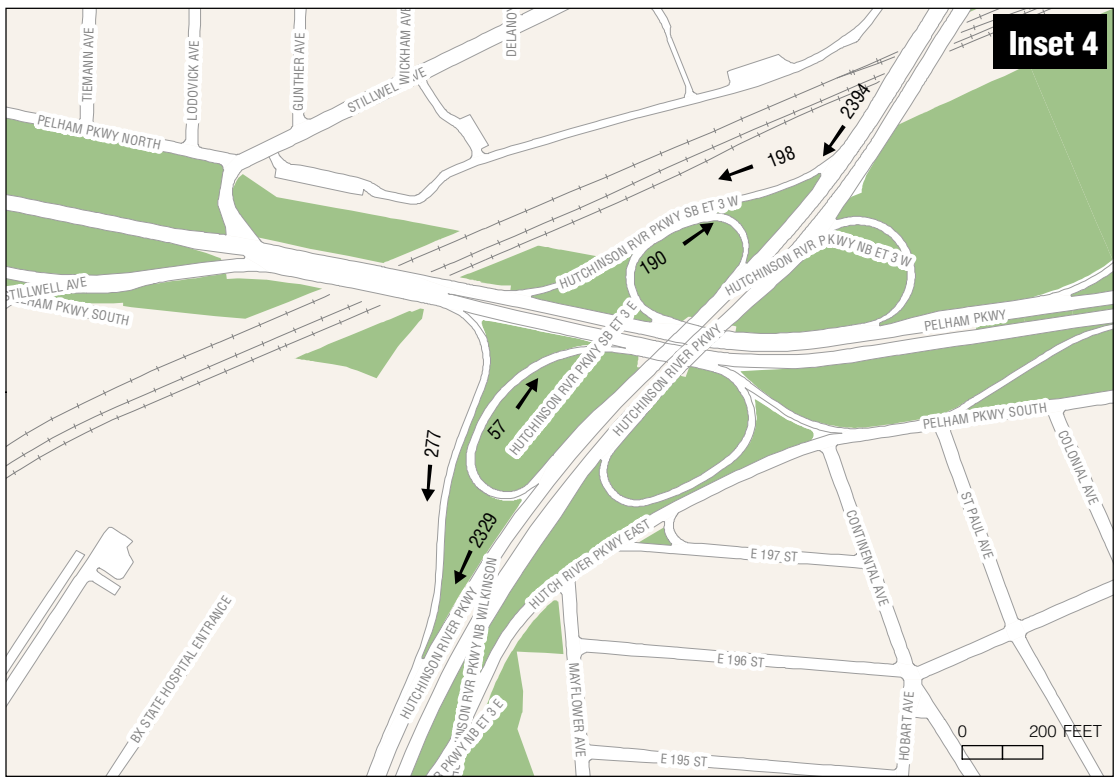
BRONX PSYCHIATRIC CENTER LAND USE IMPROVEMENT PROJECT

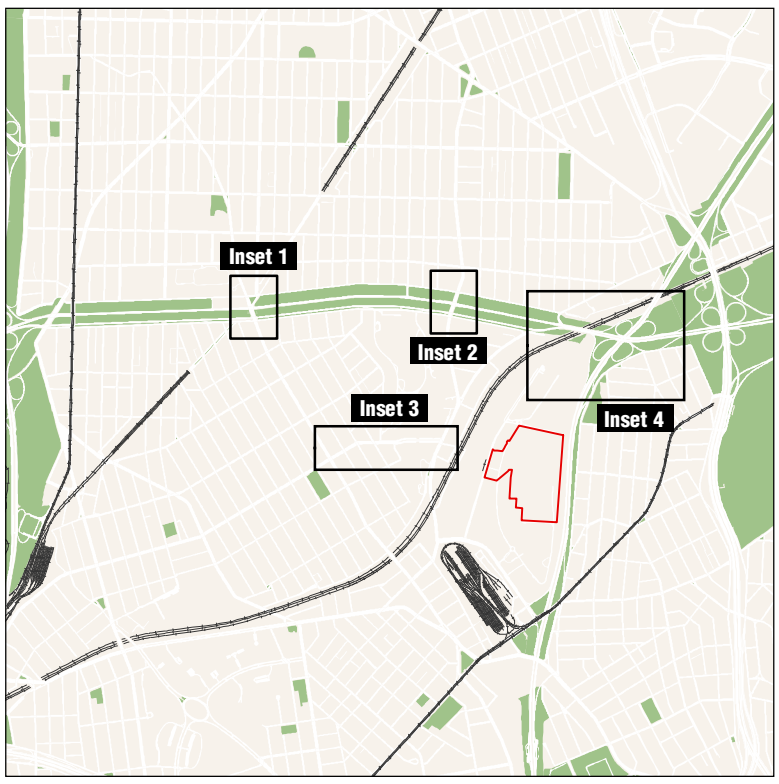
Figure 20-9A

8/5/2019









Project Site

2022 Phase I Construction With-Action Traffic Volumes
Weekday AM Construction Peak Hour

BRONX PSYCHIATRIC CENTER LAND USE IMPROVEMENT PROJECT

Figure 20-9B

8/5/2019

Project Site

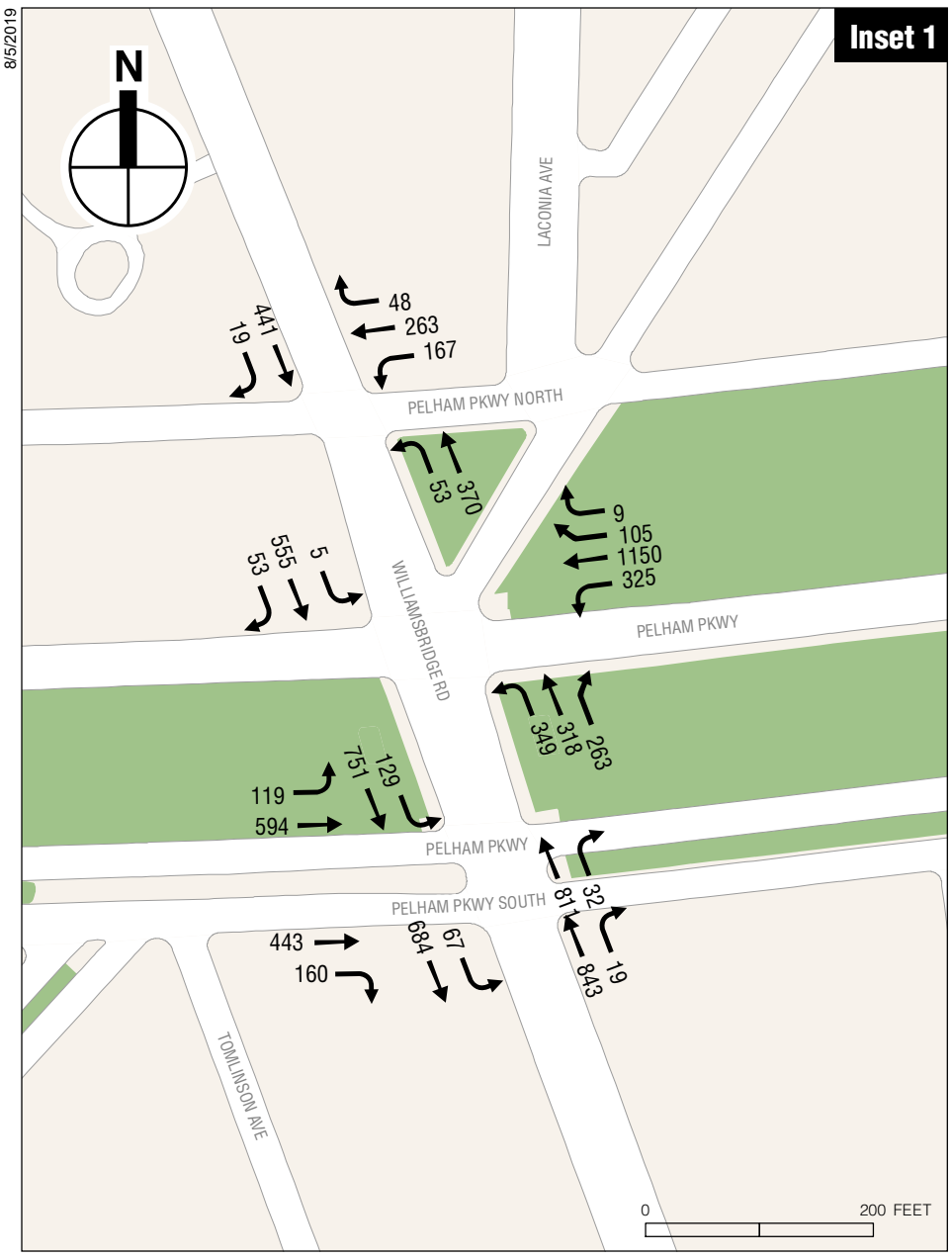
0 800 FEET

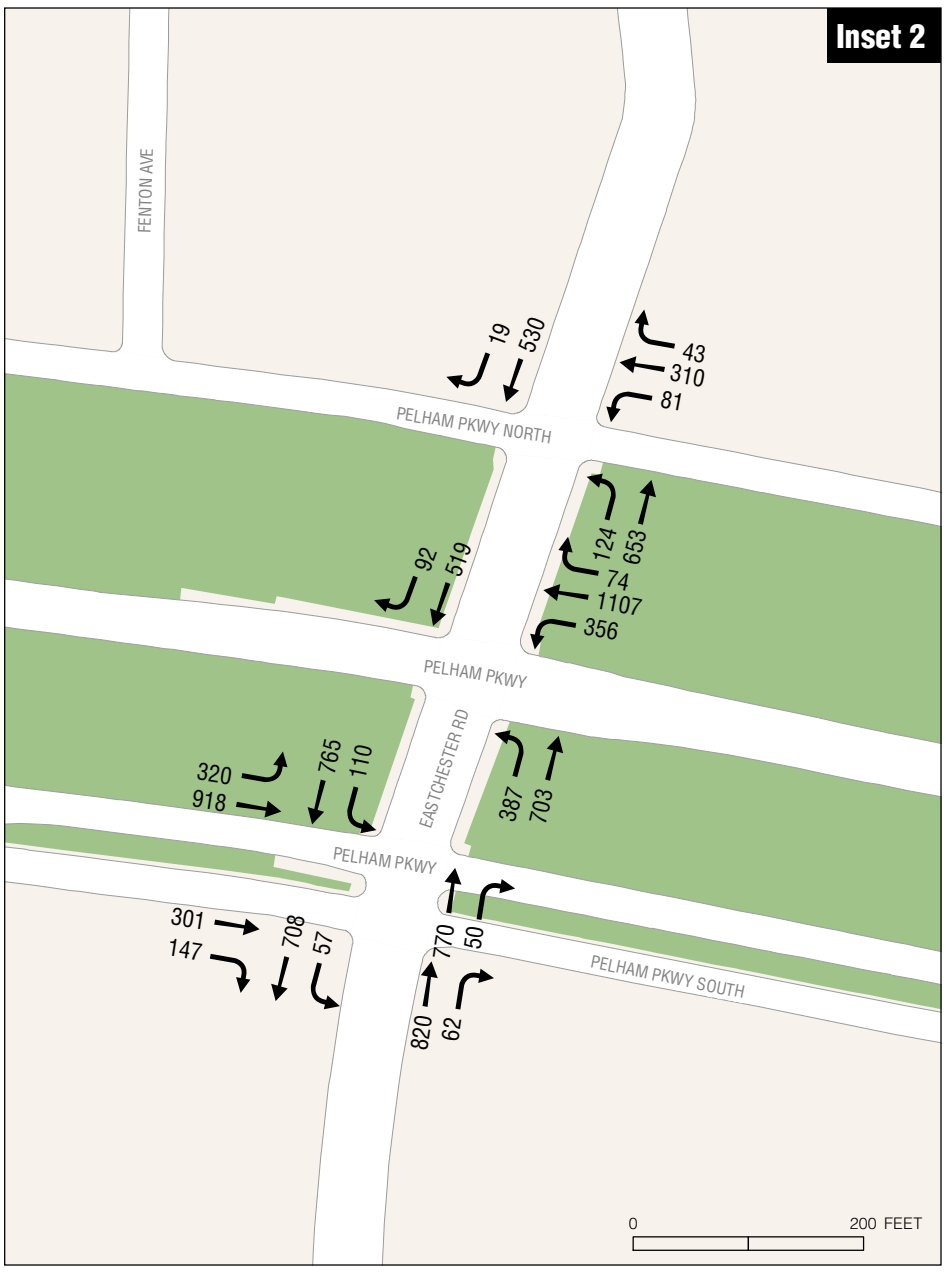
2022 Phase I Construction With-Action Traffic Volumes
Weekday PM Construction Peak Hour

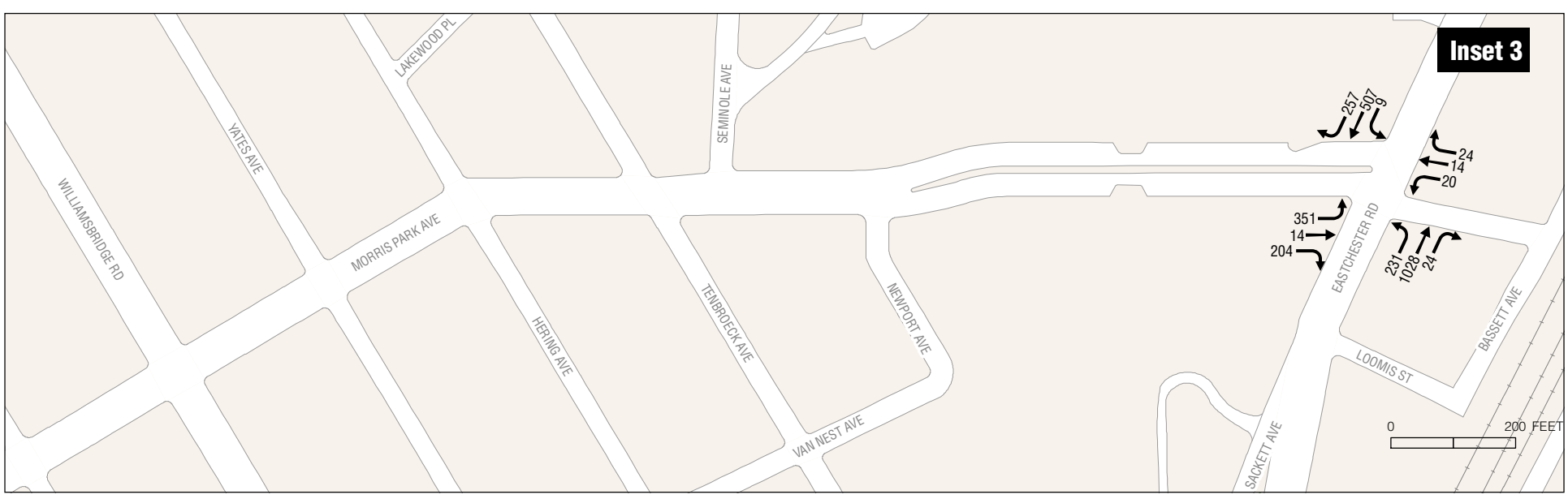
BRONX PSYCHIATRIC CENTER LAND USE IMPROVEMENT PROJECT

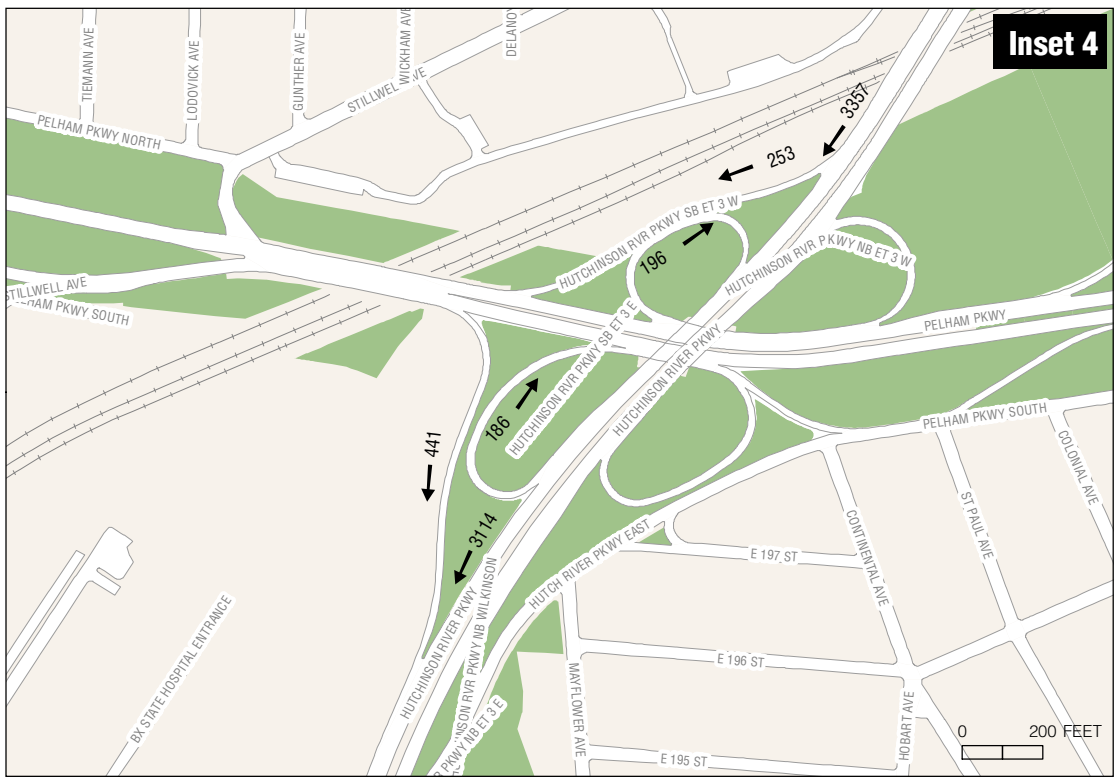
Figure 20-10A

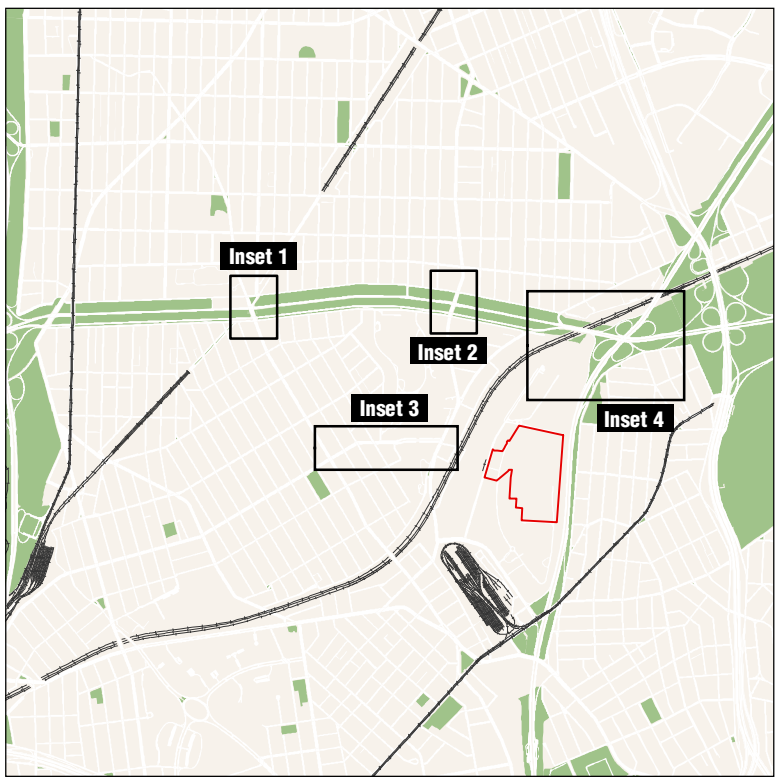
8/5/2019











Project Site

2022 Phase I Construction With-Action Traffic Volumes
Weekday PM Construction Peak Hour

BRONX PSYCHIATRIC CENTER LAND USE IMPROVEMENT PROJECT

Figure 20-10B

Table 20-10
Phase I and Phase II Construction Traffic Level 2 Screening Analysis Results—Selected Analysis Locations

Intersection	Incremental Vehicle Trips (Weekday Construction)				Analysis Locations	
	Phase I Construction		Cumulative Phase II Construction and Phase I Operational			
	AM	PM	AM	PM	Selected	Control
Pelham Parkway North and Williamsbridge Road	10	10	7	7	✓	Signalized
Pelham Parkway North and Laconia Avenue	0	0	0	0		Signalized
Pelham Parkway North and Eastchester Road	9	10	22	103	✓	Signalized
Pelham Parkway and Williamsbridge Road	31	35	26	22	✓	Signalized
Pelham Parkway and Eastchester Road	30	35	41	118	✓	Signalized
Pelham Parkway (Mainline) and Williamsbridge Road	31	10	26	7	✓	Signalized
Pelham Parkway (Mainline) and Eastchester Road	51	35	60	118	✓	Signalized
Pelham Parkway (Service Road) and Williamsbridge Road	31	14	26	11	✓	Signalized
Pelham Parkway (Service Road) and Eastchester Road	51	39	60	122	✓	Signalized
Morris Park Avenue and Williamsbridge Road	10	10	10	58		Signalized
Morris Park Avenue and Eastchester Road	51	39	63	179	✓	Signalized
HRP (NB) On-Ramp and HRP East	0	56	6	138		Unsignalized
Middletown Road/Ericson Place and Westchester Avenue	77	70	78	174	✓	Signalized
Project Driveway and Marconi Street *	370	238	358	535	✓	Unsignalized
Bassett Avenue and Eastchester Road	51	39	63	179		Signalized
Waters Place and Eastchester Road	186	86	199	428	✓	Signalized
Waters Place and Marconi Street	370	238	366	746	✓	Signalized
Waters Place and BPC Driveway	184	152	250	719	✓	Signalized
Waters Place and HRP (SB) Off-Ramp	184	152	242	508	✓	Signalized
Waters Place/HRP (SB) On-Ramp and Westchester Avenue	108	152	114	337	✓	Signalized
Roebling Avenue and HRP East	0	4	1	15		Unsignalized
Roebling Avenue and Ericson Place	35	0	29	11	✓	Unsignalized
Zulette Avenue and HRP East	0	4	1	15		Unsignalized
Zulette Avenue and Ericson Place	35	0	29	11		Unsignalized
Waters Avenue and Westchester Avenue	31	10	63	97	✓	Unsignalized
Tan Place and Westchester Avenue	31	10	63	97	✓	Signalized
Blondell Avenue and Poplar Street	0	0	0	0		Unsignalized
Blondell Avenue and Eastchester Road	135	47	136	249	✓	Signalized
Blondell Avenue and Saint Raymond Avenue	21	0	13	0		Unsignalized
Blondell Avenue and Fink Avenue	21	0	13	8		Unsignalized
Blondell Avenue and Westchester Avenue	31	10	48	80	✓	Signalized
Jarrett Place and Poplar Street	0	0	0	0		Unsignalized
Jarrett Place and Eastchester Road	114	47	123	249		Unsignalized
Williamsbridge Road and Poplar Street	10	10	7	7		Unsignalized
Williamsbridge Road and Eastchester Road	114	47	123	249	✓	Signalized
Williamsbridge Road and Saint Raymond Avenue	42	8	38	8		Signalized
East Tremont Avenue and Silver Street	62	29	78	234	✓	Signalized
East Tremont Avenue and Saint Raymond Avenue	0	0	0	0		Signalized
East Tremont Avenue/Williamsbridge Road and Frisby Avenue	42	8	38	8		Signalized
East Tremont Avenue and Lane Avenue/Fink Avenue	42	8	38	16		Signalized
East Tremont Avenue and Westchester Avenue	52	18	60	61	✓	Signalized
East Tremont Avenue and Blondell Avenue	63	8	64	43		Unsignalized
East Tremont Avenue and Tan Place	84	8	92	60	✓	Unsignalized
East Tremont Avenue and HRP East	84	12	93	75	✓	Signalized
East Tremont Avenue and HRP (NB) Off-Ramp	119	12	122	86	✓	Signalized
Ferris Place and Westchester Avenue	10	10	22	45		Unsignalized
Commerce Avenue and Westchester Avenue	10	10	22	45	✓	Signalized
BPC Roundabout	0	0	83	401	✓	Unsignalized
Total number of recommended analysis locations						29

Note: ✓ denotes intersections selected for detailed construction traffic analysis.
* The Project Driveway was an unsignalized private driveway at the time of the existing data collection efforts. Since the existing data collection efforts, NYCDOT has independently installed a new traffic signal at this intersection and the signal is currently operational.

The results of the traffic analysis summarized in **Table 20-11** show that seven intersections would be significantly impacted during the weekday 6 AM to 7 AM construction peak hour and 12 intersections would be significantly impacted during the weekday 3 PM to 4 PM construction peak hour under the 2022 Phase I construction With-Action condition. **Tables 20-12A and 20-12B** summarize the mitigation measures recommended to address the identified impacts under the 2022 Phase I construction With-Action condition. With the implementation of these mitigation measures, which are subject to approval by NYCDOT prior to implementation, the significant adverse traffic impacts identified during the weekday AM construction peak hour could be fully mitigated at all but one intersection and the significant adverse traffic impacts identified during the weekday PM peak hour could be fully mitigated at all but four intersections. Impacts at the Westchester Avenue and Ericson Place/Middletown Road intersection could not be fully mitigated during the weekday AM construction peak hour and impacts at the Morris Park Avenue and Eastchester Road; Marconi Street and Project Driveway; Westchester Avenue and Ericson Place/Middletown Road; and Waters Place and Westchester Avenue intersections could not be fully mitigated during the weekday PM construction peak hour.

Table 20-11
2022 Phase I Construction With-Action Condition—
Summary of Significant Adverse Traffic Impacts

Intersection		Weekday AM Construction Peak Hour	Weekday PM Construction Peak Hour
EB/WB Street	**NB/SB Street**		
Pelham Parkway (WB)	Williamsbridge Road	No Significant Impact	WB-LT
Pelham Parkway (EB)	Eastchester Road	No Significant Impact	EB-TR (Service Rd)
Morris Park Avenue	Eastchester Road	SB-LTR	SB-LTR
Waters Place	Eastchester Road	WB-L	WB-L
Williamsbridge Road	Eastchester Road	No Significant Impact	SB-TR
East Tremont Avenue	Silver Street	SB-R	SB-R
Project Driveway	Marconi Street	No Significant Impact	WB-LTR
Waters Place	Marconi Street	EB-L	SB-L SB-R
Waters Place	BPC Driveway	No Significant Impact	EB-LT
Waters Place	Fink Avenue/HRP Southbound Off-Ramp	No Significant Impact	EB-TR
Westchester Avenue	Ericson Place/Middletown Road	EB-DefL WB-LT NB-LTR	EB-DefL EB-TR WB-LT
Waters Place	Westchester Avenue	NB-TR	EB-LT
East Tremont Avenue	Westchester Avenue	NB-LT	No Significant Impact
Total Impacted Intersections/Lane Groups		**7/9**	**12/15**

Notes: EB = Eastbound; WB = Westbound; NB = Northbound; SB = Southbound; L = Left Turn; T = Through; R = Right Turn.

Based on the 2022 Phase I construction With-Action condition traffic analysis results, it is anticipated that construction-related mitigation measures would likely be needed prior to the peak construction quarter. A review of the average number of daily workers and trucks by quarter presented in **Table 20-3**, the Phase I peak construction vehicle trip projections presented in **Table 20-5**, and the Phase I construction traffic Level 2 screening analysis results presented in **Table 20-10** indicates that the first two quarters of Phase I construction (1st and 2nd quarters of Year 1) would result in construction peak hour vehicle trips below the *CEQR Technical Manual* analysis thresholds requiring further detailed traffic analysis. Therefore, the construction-related vehicle

Table 20-12A
2022 Phase I Construction With-Action Condition—
Recommended Mitigation Measures: Weekday AM Peak Hour

Intersection	No-Action Signal Timing	Recommended Mitigation Measures	Recommended Signal Timing
Morris Park Avenue and Eastchester Road	EB/WB: Green = 33 s NB/SB: Green = 38 s NB: Green = 20 s LPI = 7 s	Shift 1 second of green time from the NB phase to the NB/SB phase.	EB/WB: Green = 33 s NB/SB: Green = 39 s NB: Green = 19 s LPI = 7 s
Waters Place and Eastchester Road	WB: Green = 23 s NB/SB: Green = 40 s SB/WB-R: Green = 12 s	Shift 1 second of green time from the NB/SB phase to the WB phase.	WB: Green = 24 s NB/SB: Green = 39 s SB/WB-R: Green = 12 s
East Tremont Avenue and Silver Street	EB/WB: Green = 42 s EB/SB-R: Green = 38 s LPI = 25 s	Shift 1 second of green time from the EB/WB phase to the EB/SB-R phase.	EB/WB: Green = 41 s EB/SB-R: Green = 39 s LPI = 25 s
Waters Place and Marconi Street	EB Leading = 7 s EB/WB: Green = 42 s SB: Green = 26 s	For the east leg of intersection, remove parking along both sides of the street and restripe the WB approach lanes (north curb to centerline) from one 8-foot parking lane, one 17-foot through/right-turn lane and one 12-foot through lane to one 11-foot right-turn lane, one 11-foot through lane, and one 12-foot through lanes. An additional 3-foot buffer is provided. For the west leg of intersection, remove parking along both sides of the street and restripe the EB approach lanes (south curb to centerline) from one 8-foot parking lane, one 20-foot through lane and one 10-foot left-turn/through lane to one 11-foot left turn lane and two 11-foot through lanes. An additional 5-foot buffer is provided. For the WB receiving lanes, restripe (north curb to centerline) the existing 28-foot through lane and 12-foot through lane to a 12-foot curb lane, 11-foot through lane, and 12-foot through lane. Retain the current regulations for the curb lane: No Standing Anytime closest to the corner followed by a No Standing Bus Stop further to the west. An additional 6-foot buffer is provided. Add the WB-R movement to the SB phase.	No change from No-Action
Westchester Avenue and Ericson Place/Middletown Road	Leading EB = 6 s EB/WB: Green = 23 s NB: Green = 18 s SB: Green = 20 s	For the southbound approach (Middletown Road) remove the parking on the receiving approach and restripe the lanes from one 8-foot parking lane and a 15-foot left-turn/through/right-turn lane to one 8-foot parking lane, one 11-foot right turn lane and one 11-foot through/left-turn lane. Also move the centerline 9 feet towards the west curb line making one 17-foot receiving lane. For the northbound approach (Ericson Place) remove the parking on the left (along the median) and restripe the lanes from one 8-foot parking lane, one 20-foot left-turn/through/right-turn lane and another 8-foot parking lane to one 8-foot parking lane, one 11-foot left-turn/through lane and one 11-foot through/right-turn lane. An additional buffer of 6-feet is provided. Add the SB-R movement to the EB leading phase. Shift 1 second of green time from the SB phase to the EB/WB phase. Impacts at this intersection would be partially mitigated.	EB/SBR Green = 6 s EB/WB: Green = 24 s NB: Green = 18 s SB: Green = 19 s
Waters Place and Westchester Avenue	EB: Green = 40 s NB/SB: Green = 40 s	Shift 2 seconds of green time from the EB phase to the NB/SB phase.	EB: Green = 38 s NB/SB: Green = 42 s
East Tremont Avenue and Westchester Avenue	EB/WB: Green = 51 s LPI = 7 s NB/SB: Green = 52 s	Shift 1 second of green time from the EB/WB phase to the NB/SB phase.	EB/WB: Green = 50 s LPI = 7 s NB/SB: Green = 53 s

Table 20-12B
2022 Phase I Construction With-Action Condition—
Recommended Mitigation Measures: Weekday PM Peak Hour

Intersection	No-Action Signal Timing	Recommended Mitigation Measure	Recommended Signal Timing
Pelham Parkway (WB) and Williamsbridge Road	WB: Green = 28 s NB/SB: Green = 26 s NB: Green = 20 s	Shift 1 second of green time from the NB/SB phase to the WB phase.	WB: Green = 29 s NB/SB: Green = 25 s NB: Green = 20 s
Pelham Parkway (EB) and Eastchester Road	EB: Green = 45 s NB/SB: Green = 50 s SB: Green = 10 s	Shift 1 second of green time from the NB/SB phase to the EB phase.	EB: Green = 46 s NB/SB: Green = 49 s SB: Green = 10 s
Morris Park Avenue and Eastchester Road	EB/WB: Green = 33 s NB/SB: Green = 38 s NB: Green = 20 s LPI = 7 s	Unmitigated	No change from No-Action
Waters Place and Eastchester Road	WB: Green = 23 s NB/SB: Green = 40 s SB/WB-R: Green = 12 s	Shift 2 seconds of green time from the SB/WB-R phase to the WB phase.	WB/NB-R: Green = 25 s NB/SB: Green = 40 s SB/WB-R: Green = 10 s
Williamsbridge Road and Eastchester Road	EB/WB: Green = 40 s NB/SB: Green = 40 s	Shift 2 seconds of green time from the EB/WB phase to the NB/SB phase.	EB/WB Green = 38s NB/SB Green = 42s
East Tremont Avenue and Silver Street	EB/WB: Green = 42 s EB/SB-R: Green = 38 s LPI = 25 s	Shift 2 seconds from the EB/WB phase to the EB/SB-R phase.	EB/WB: Green = 40 s EB/SB-R: Green = 40 s LPI = 25 s
Marconi Street and Project Driveway	EB/WB: Green = 20 s LPI = 17 s NB/SB: Green = 38 s	Unmitigated	No change from No-Action
Waters Place and Marconi Street	EB Leading = 7 s EB/WB: Green = 42 s SB: Green = 26 s	For the east leg of intersection, remove parking along both sides of the street and restripe the WB approach lanes (north curb to centerline) from one 8-foot parking lane, one 17-foot through/right-turn lane and one 12-foot through lane to one 11-foot through lane and one 11-foot through lane. An additional 3-foot buffer is provided. For the west leg of intersection, remove parking along both sides of the street and restripe the EB approach lanes (south curb to centerline) from one 8-foot parking lane, one 20-foot through lane and one 11-foot left-turn/through lane to one 11-foot left turn lane and two 11-foot through lanes. An additional 5-foot buffer is provided. For the WB receiving lanes, restripe (north curb to centerline) the existing 28-foot through lane and 12-foot through lane to a 12-foot curb lane, 11-foot through lane, and 12-foot through lane. Retain the current regulations for the curb lane: No Standing Anytime closest to the corner followed by a No Standing Bus Stop further to the west. An additional 6-foot buffer is provided. Add the WB-R movement to the SB phase. Shift 5 seconds of green time from the EB/WB phase to the SB phase.	EB Leading = 7 s EB/WB: Green = 37 s SB/WB-R: Green = 31 s
Waters Place and BPC Driveway	EB/WB: Green = 45 s SB: Green = 35 s	Shift 1 second of green time from the SB phase to the EB/WB phase.	EB/WB: Green = 46 s SB: Green = 34 s
Waters Place and Fink Avenue/HRP Southbound Off-Ramp	EB/WB: Green = 40 s NB/SB: Green = 40 s	Shift 4 seconds of green time from the NB/SB phase to the EB/WB phase.	EB/WB: Green = 44 s NB/SB: Green = 36 s

Table 20-12B (cont'd)
2022 Phase I Construction With-Action Condition—
Recommended Mitigation Measures: Weekday PM Peak Hour

Intersection	No-Action Signal Timing	Recommended Mitigation Measure	Recommended Signal Timing
Westchester Avenue and Ericson Place/Middletown Road	EB Leading Green = 6 s EB/WB: Green = 23 s NB: Green = 18 s SB: Green = 20 s	For the southbound approach (Middletown Road) remove the parking on the receiving approach and restripe the lanes from one 8-foot parking lane and a 15-foot left-turn/through/right-turn lane to one 8-foot parking lane, one 11-foot right/through lane and one 11-foot through/left lane. Also, move the centerline 9 feet towards the west curb line making one 17 -foot receiving lane. For the northbound approach (Ericson Pl) remove the parking on the left (along the median) and restripe the lanes from one 8-foot parking lane, one 20-foot left-turn/through/right-turn lane and another 8-foot parking lane to one 8-foot parking lane and one 11-foot left-turn lane. An additional 6-foot is provided. Add the SB-R movement to the EB leading phase. Shift 1 second of green time from the SB phase to the EB/WB phase. Impacts at this intersection would be partially mitigated.	EB/SBR Green = 6 s EB/WB: Green = 24 s NB: Green = 18 s SB: Green = 19 s
Waters Place and Westchester Avenue	EB: Green = 40 s NB/SB: Green = 40 s	Unmitigated	No change from No-Action

trips from these two quarters would not have the potential to result in construction-related traffic impacts and would not require mitigation. For the subsequent quarters following these two quarters and prior to the peak construction quarter, the anticipated construction peak hour vehicle trips would exceed the *CEQR Technical Manual* analysis thresholds and which may result in construction-related traffic impacts requiring mitigation. However, as with the 2022 Phase I construction With-Action condition, there could also be construction-related traffic impacts at the same locations that could not be fully mitigated during these earlier quarters prior to the peak construction quarter.

Detailed traffic analysis results for the 2022 Phase I construction conditions in terms of LOS, v/c ratios, and average delays are presented in **Tables 20-13A to 20-13D**. As discussed below, significant adverse traffic impacts were identified for each of the affected intersections by approach/lane group during the weekday AM and PM construction peak hours. Potential measures that could be implemented to mitigate these significant adverse traffic impacts are also discussed below.

Table 20-13A
2022 Phase I Construction
No-Action, With-Action, and Mitigation Condition Level of Service Analysis
Signalized Intersections—Weekday AM Construction Peak Hour

Intersection	Weekday AM Construction Peak Hour											
	2022 No-Action				2022 With-Action				2022 Mitigation			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
1. Pelham Parkway North & Williamsbridge Road												
WB	L	0.18	21.4	C	L	0.18	21.4	C	No significant adverse impacts			
	LTR	0.20	21.2	C	LTR	0.20	21.2	C				
NB	LT	0.23	11	B	LT	0.23	11	B				
SB	TR	0.34	12.1	B	TR	0.35	12.2	B				
	Int.		14.3	B	Int.		14.3	B				
2. Pelham Parkway (Westbound) & Williamsbridge Road & Esplanade												
WB	LT	0.70	30.1	C	LT	0.71	30.5	C	No significant adverse impacts			
	R	0.25	24.7	C	R	0.25	24.7	C				
NB	L	0.20	15.1	B	L	0.20	15.4	B				
	LT	0.22	9.5	A	LT	0.22	9.5	A				
SB	LTR	0.66	31.9	C	LTR	0.67	32.2	C				
	Int.		25.8	C	Int.		26.1	C				
3. & 4. Pelham Parkway (Eastbound) & Williamsbridge Road												
EB (ML)	LT	0.80	42.1	D	LT	0.84	44.2	D	No significant adverse impacts			
EB (SR)	TR	0.57	33.6	C	TR	0.60	34.4	C				
	R	0.52	37.0	D	R	0.52	37.0	D				
NB	T	0.56	29.9	C	T	0.56	29.9	C				
	R	0.21	25.8	C	R	0.21	25.8	C				
SB	L	0.28	7.8	A	L	0.28	7.8	A				
	LT	0.36	7.5	A	LT	0.36	7.6	A				
	Int.		25.7	C	Int.		26.5	C				
5. Pelham Parkway North & Eastchester Road												
WB	LTR	0.41	29.6	C	LTR	0.41	29.6	C	No significant adverse impacts			
NB	LT	0.22	7.3	A	LT	0.22	7.3	A				
SB	TR	0.44	27.0	C	TR	0.45	27.2	C				
	Int.		19.8	B	Int.		19.9	B				
6. Pelham Parkway (Westbound) & Eastchester Road												
WB	L	0.41	22.5	C	L	0.41	22.5	C	No significant adverse impacts			
	LT	0.55	23.3	C	LT	0.55	23.3	C				
	R	0.08	18.3	B	R	0.08	18.3	B				
NB	L	0.27	18.2	B	L	0.32	19.4	B				
	T	0.26	13.4	B	T	0.26	13.4	B				
SB	TR	0.47	27.9	C	TR	0.48	28.0	C				
	Int.		22.0	C	Int.		22.1	C				
7. & 8. Pelham Parkway (Eastbound) & Eastchester Road												
EB (ML)	LT	0.67	25.6	C	LT	0.69	26.1	C	No significant adverse impacts			
EB (SR)	TR	0.76	35.2	D	TR	0.82	39.3	D				
NB	TR	0.58	27.7	C	TR	0.61	28.3	C				
SB	L	0.29	18.9	B	L	0.30	19.5	B				
	LT	0.52	16.5	B	LT	0.52	16.6	B				
	Int.		24.3	C	Int.		25.3	C				
9. Morris Park Avenue & Eastchester Road												
EB	L	0.62	47.0	D	L	0.62	47.0	D	L	0.62	47.0	D
	LT	0.30	36.8	D	LT	0.30	36.8	D	LT	0.30	36.8	D
	R	0.47	40.4	D	R	0.47	40.4	D	R	0.47	40.4	D
WB	LTR	0.15	34.0	C	LTR	0.15	34.0	C	LTR	0.15	34.0	C
NB	L	0.54	53.5	D	L	0.54	53.3	D	L	0.57	55.5	E
	TR	0.30	16.7	B	TR	0.32	16.8	B	TR	0.32	16.8	B
SB	LTR	0.91	55.4	E	LTR	0.95	60.9	E +	LTR	0.92	56.0	E
	Int.		42.1	D	Int.		44.3	D	Int.		42.5	D
10. Waters Place & Eastchester Road												
WB	L	0.71	40.0	D	L	0.83	48.2	D +	L	0.79	44.0	D
	R	0.61	23.3	C	R	0.65	24.4	C	R	0.64	23.2	C
NB	TR	0.65	22.5	C	TR	0.76	25.7	C	TR	0.78	27.2	C
SB	DefL	0.44	18.1	B	DefL	0.54	24.5	C	DefL	0.55	25.7	C
	T	0.33	8.7	A	T	0.33	8.7	A	T	0.33	9.2	A
	Int.		22.9	C	Int.		26.8	C	Int.		26.7	C

Table 20-13A, cont'd
2022 Phase I Construction
No-Action, With-Action, and Mitigation Condition Level of Service Analysis
Signalized Intersections—Weekday AM Construction Peak Hour

Intersection	Weekday AM Construction Peak Hour											
	2020 No-Action				2022 With-Action				2022 Mitigation			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
11. Blondell Avenue & Eastchester Road												
EB	LR	0.21	21.8	C	LR	0.22	22.1	C	No significant adverse impacts			
WB	LTR	0.48	25.6	C	LTR	0.53	26.9	C				
NB	LT	0.45	17.7	B	LT	0.50	18.7	B				
SB	TR	0.41	17.3	B	TR	0.44	17.8	B				
	Int.		19.2	B	Int.		20.0	B				
12. Williamsbridge Road & Eastchester Road												
EB	LTR	0.37	17.5	B	LTR	0.39	17.8	B	No significant adverse impacts			
WB	LTR	0.29	16.7	B	LTR	0.32	16.9	B				
NB	LTR	0.52	20.9	C	LTR	0.59	22.6	C				
SB	L	0.15	15.9	B	L	0.24	17.2	B				
	TR	0.60	23.0	C	TR	0.63	24.0	C				
	Int.		19.4	B	Int.		20.2	C				
13. East Tremont Avenue & Silver Street												
EB	L	0.46	14.5	B	L	0.51	16.4	B	L	0.51	16.4	B
	T	0.27	7.0	A	T	0.27	7.0	A	T	0.27	7.0	A
WB	TR	0.42	31.1	C	TR	0.42	31.1	C	TR	0.44	32.0	C
SB	R	0.88	59.6	E	R	0.93	68.4	E +	R	0.91	63.2	E
	Int.		30.4	C	Int.		33.3	C	Int.		32.1	C
14. Project Driveway & Marconi Street												
EB	LTR	0.45	36.9	D	LTR	0.54	43.1	D	No significant adverse impacts			
WB	LTR	0.01	29.0	C	LTR	0.47	40.8	D				
NB	LTR	0.78	25.9	C	LTR	0.99	44.1	D				
SB	LTR	0.20	15.6	B	LTR	0.19	13.2	B				
	Int.		24.9	C	Int.		39.3	D				
15. Waters Place & Marconi Street												
EB	L	0.98	77.8	E	L	1.75	371.3	F +	L	0.91	44.4	D
	LT	0.28	9.4	A	LT	0.36	10.5	B	T	0.13	7.9	A
WB	TR	0.64	20.5	C	TR	0.81	26.1	C	T	0.30	15.4	B
									R	0.62	6.0	A
SB	L	0.29	26.6	C	L	0.35	27.5	C	L	0.35	27.5	C
	R	0.43	29.3	C	R	0.64	36.1	D	R	0.64	36.1	D
	Int.		29.4	C	Int.		91.2	F	Int.		20.8	C
16. Waters Place & BPC Driveway												
EB	LT	0.34	14.5	B	LT	0.38	15.0	B	No significant adverse impacts			
WB	TR	0.79	22.7	C	TR	0.91	29.9	C				
SB	L	0.06	17.4	B	L	0.06	17.4	B				
	LR	0.09	17.8	B	LR	0.09	17.8	B				
	Int.		20.7	C	Int.		26.3	C				
17. Waters Place & Fink Avenue/HRP Southbound Off-Ramp												
EB	TR	0.30	16.6	B	TR	0.31	16.8	B	No significant adverse impacts			
WB	LT	0.36	17.3	B	LT	0.44	18.3	B				
NB	LR	0.70	31.5	C	LR	0.70	31.5	C				
SB	L	0.37	18.0	B	L	0.37	18.0	B				
	T	0.38	18.6	B	T	0.38	18.6	B				
	Int.		19.7	B	Int.		19.9	B				
18. Westchester Avenue & Ericson Place/Middletown Road												
EB	DefL	0.73	166.1	F	DefL	0.77	203.8	F +	DefL	0.73	168.2	F
	TR	0.56	41.7	D	TR	0.60	43.8	D	TR	0.58	41.1	D
WB	LT	0.88	263.7	F	LT	0.97	314.5	F +	LT	0.92	274.8	F +
NB	LTR	0.71	48.2	D	LTR	0.79	54.6	D +	LTR	0.75	50.1	D
SB	LTR	0.95	102.9	F	LTR	0.95	104.7	F	LT	0.60	43.3	D
									R	0.24	22.4	C
	Int.		108.0	F	Int.		123.3	F	Int.		97.0	F
19. Waters Place & Westchester Avenue												
EB	LT	0.36	17.3	B	LT	0.38	17.6	B	LT	0.40	19.0	B
NB	LTR	0.76	68.3	E	DefL	0.78	48.3	D	DefL	0.72	39.0	D
					TR	0.76	100.9	F +	TR	0.73	83.5	F
SB	LTR	0.63	32.0	C	LTR	0.66	32.4	C	LTR	0.63	28.8	C
	Int.		38.1	D	Int.		43.3	D	Int.		37.9	D

Table 20-13A, cont'd
2022 Phase I Construction
No-Action, With-Action, and Mitigation Condition Level of Service Analysis
Signalized Intersections—Weekday AM Construction Peak Hour

Intersection	Weekday AM Construction Peak Hour											
	2022 No-Action				2022 With-Action				2022 Mitigation			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
21. Tan Place & Westchester Avenue												
WB	L	0.10	17.9	B	L	0.10	17.9	B	No significant adverse impacts			
	R	0.46	23.2	C	R	0.50	24.2	C				
NB	T	0.45	46.0	D	T	0.47	46.9	D				
SB	T	0.37	17.6	B	T	0.37	17.6	B				
	Int.		28.0	C	Int.		28.6	C				
22. Blondell Avenue & Westchester Avenue												
WB	L	0.12	21.2	C	L	0.12	21.2	C	L	0.12	21.8	C
	T	0.23	22.7	C	T	0.26	23.1	C	T	0.27	23.8	C
NB	LT	0.38	30.3	C	LT	0.39	30.5	C	LT	0.38	29.5	C
SB	TR	0.52	29.0	C	TR	0.52	29.0	C	TR	0.51	28.1	C
	Int.		27.9	C	Int.		28.0	C	Int.		27.4	C
23. East Tremont Avenue & Westchester Avenue												
EB	LTR	0.27	23.0	C	LTR	0.29	23.3	C	LTR	0.30	24.0	C
WB	LTR	0.39	24.6	C	LTR	0.40	24.8	C	LTR	0.41	25.6	C
NB	LT	0.78	59.3	E	LT	0.81	63.7	E +	LT	0.79	59.6	E
SB	TR	0.38	27.2	C	TR	0.38	27.2	C	TR	0.37	26.4	C
	Int.		32.2	C	Int.		33.2	C	Int.		32.4	C
24. Commerce Avenue & Westchester Avenue												
EB	LT	0.30	24.0	C	LT	0.30	24.0	C	No significant adverse impacts			
WB	LT	0.21	22.7	C	LT	0.21	22.7	C				
	R	0.24	23.4	C	R	0.24	23.4	C				
NB	LTR	0.38	29.7	C	LTR	0.39	30.0	C				
SB	LTR	0.38	28.5	C	LTR	0.39	28.7	C				
	Int.		26.8	C	Int.		27.0	C				
26. East Tremont Avenue & HRP East												
EB	T	0.15	6.8	A	T	0.16	6.9	A	No significant adverse impacts			
WB	T	0.49	9.8	A	T	0.52	10.0	A				
SB	LR	0.42	33.0	C	LR	0.42	33.0	C				
	Int.		11.7	B	Int.		11.8	B				
27. East Tremont Avenue & Ericson Place												
EB	LT	0.23	12.6	B	LT	0.25	12.8	B	No significant adverse impacts			
WB	T	0.68	33.4	C	T	0.71	34.4	C				
NB	LTR	0.72	33.5	C	LTR	0.81	37.4	D				
	Int.		28.9	C	Int.		31.0	C				

Notes: L = Left-turn; T = Through; R = Right-turn; LOS = Level of Service; EB = Eastbound; WB = Westbound; NB = Northbound; SB = Southbound; Def = De facto; ML = Mainline; SR = Service Road
+ denotes a significant adverse impact

Table 20-13B
2022 Phase I Construction
No-Action, With-Action, and Mitigation Condition Level of Service Analysis
Unsignalized Intersections—Weekday AM Construction Peak Hour

Intersection	Weekday AM Construction Peak Hour											
	2022 No-Action				2022 With-Action				2022 Mitigation			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
17. Waters Place & HRP Southbound Off-Ramp *												
SB	R	0.65	16.2	C	R	0.81	24.6	C	No significant adverse impacts			
19. Waters Place & Westchester Avenue *												
EB	R	0.12	7.9	A	R	0.12	7.9	A	No significant adverse impacts			
20. Westchester Avenue & Waters Avenue												
EB	LR	0.24	9.8	A	LR	0.24	9.8	A	No significant adverse impacts			
NB	LT	0.33	12.1	B	LT	0.33	12.2	B				
22. Blondell Avenue & Westchester Avenue *												
WB	R	0.07	8.1	A	R	0.07	8.1	A	No significant adverse impacts			
24. Commerce Avenue & Westchester Avenue *												
EB	R	0.16	11.6	B	R	0.16	11.6	B	No significant adverse impacts			
25. East Tremont Avenue & Tan Place **												
28. Roebling Avenue and Ericson Place/HRP East												
WB	LR	0.08	8.3	A	LR	0.09	8.4	A	No significant adverse impacts			
NB	TR	0.37	10.0	A	TR	0.42	10.5	B				
SB	LT	0.14	8.3	A	LT	0.14	8.4	A				
30. Bronx Site Roundabout												
EB	TR	0.20	4.4	A	TR	0.20	4.7	A	No significant adverse impacts			
WB	LT	0.20	4.2	A	LT	0.50	4.9	A				
NB	LR	0.40	4.5	A	LR	0.30	4.5	A				

Notes: L = Left-turn; T = Through; R = Right-turn; LOS = Level of Service; EB = Eastbound; WB = Westbound; NB = Northbound; SB = Southbound
*Channelized Right Turn analyzed as Stop Controlled; ** No traffic control

Table 20-13C
2022 Phase I Construction
No-Action, With-Action, and Mitigation Condition Level of Service Analysis
Signalized Intersections—Weekday PM Construction Peak Hour

Intersection	Weekday PM Construction Peak Hour											
	2022 No-Action				2022 With-Action				2022 Mitigation			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
1. Pelham Parkway North & Williamsbridge Road												
WB	L	0.30	23.1	C	L	0.30	23.1	C	No significant adverse impacts			
	LTR	0.33	22.6	C	LTR	0.33	22.6	C				
NB	LT	0.29	11.6	B	LT	0.30	11.6	B				
SB	TR	0.35	12.1	B	TR	0.35	12.2	B				
	Int.		15.6	B	Int.		15.6	B				
2. Pelham Parkway (Westbound) & Williamsbridge Road & Esplanade												
WB	LT	1.03	61.4	E	LT	1.04	66.7	E +	LT	1.01	55.6	E
	R	0.30	25.5	C	R	0.30	25.5	C	R	0.29	24.5	C
NB	L	0.42	22.2	C	L	0.42	22.2	C	L	0.44	23.2	C
	LT	0.45	11.7	B	LT	0.45	11.8	B	LT	0.47	12.5	B
SB	LTR	0.82	38.4	D	LTR	0.82	38.4	D	LTR	0.82	38.4	D
	Int.		41.3	D	Int.		43.8	D	Int.		38.9	D
3. & 4. Pelham Parkway (Eastbound) & Williamsbridge Road												
EB (ML)	LT	1.03	76.4	E	LT	1.03	76.4	E	No significant adverse impacts			
EB (SR)	TR	0.68	36.8	D	TR	0.69	37.1	D				
	R	0.87	69.2	E	R	0.87	69.2	E				
NB	T	0.99	59.4	E	T	1.00	62.5	E				
	R	0.17	25.1	C	R	0.17	25.1	C				
SB	L	0.30	10.5	B	L	0.30	10.6	B				
	LT	0.46	8.6	A	LT	0.46	8.6	A				
	Int.		45.5	D	Int.		46.4	D				
5. Pelham Parkway North & Eastchester Road												
WB	LTR	0.60	41.1	D	LTR	0.60	41.1	D	No significant adverse impacts			
NB	LT	0.43	11.4	B	LT	0.44	11.5	B				
SB	TR	0.63	38.9	D	TR	0.63	38.9	D				
	Int.		27.5	C	Int.		27.4	C				
6. Pelham Parkway (Westbound) & Eastchester Road												
WB	L	0.93	75.6	E	L	0.93	75.6	E	No significant adverse impacts			
	LT	1.15	125.4	F	LT	1.15	125.4	F				
	R	0.26	38.9	D	R	0.26	38.9	D				
NB	L	0.50	24.7	C	L	0.54	25.6	C				
	T	0.34	9.1	A	T	0.35	9.1	A				
SB	TR	0.83	52.2	D	TR	0.83	52.2	D				
	Int.		68.8	E	Int.		68.4	E				
7. & 8. Pelham Parkway (Eastbound) & Eastchester Road												
EB (ML)	LT	1.08	86.9	F	LT	1.08	86.9	F	LT	1.05	78.1	E
EB (SR)	TR	1.09	104.8	F	TR	1.10	108.3	F +	TR	1.08	98.6	F
NB	TR	0.53	27.3	C	TR	0.55	27.7	C	TR	0.56	28.6	C
SB	L	0.50	35.6	D	L	0.52	37.5	D	L	0.53	38.8	D
	LT	0.53	18.9	B	LT	0.53	19.0	B	LT	0.54	19.7	B
	Int.		57.7	E	Int.		58.2	E	Int.		54.2	D

Table 20-13C, cont'd
2022 Phase I Construction
No-Action, With-Action, and Mitigation Condition Level of Service Analysis
Signalized Intersections—Weekday PM Construction Peak Hour

Intersection	Weekday PM Construction Peak Hour											
	2022 No-Action				2022 With-Action				2022 Mitigation			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
9. Morris Park Avenue & Eastchester Road												
EB	L	0.96	84.5	F	L	0.96	84.5	F				
	LT	0.50	42.6	D	LT	0.50	42.6	D				
	R	0.65	46.9	D	R	0.65	46.9	D				
WB	LTR	0.23	35.3	D	LTR	0.23	35.3	D	Unmitigated			
NB	L	0.90	81.7	F	L	0.90	81.7	F				
	TR	0.73	25.1	C	TR	0.76	26.0	C				
SB	LTR	1.04	86.1	F	LTR	1.07	94.1	F +				
	Int.		55.4	E	Int.		57.5	E				
10. Waters Place & Eastchester Road												
WB	L	1.25	163.2	F	L	1.35	202.8	F +	L	1.24	155.1	F
	R	0.76	28.8	C	R	0.82	32.3	C	R	0.82	32.3	C
NB	TR	0.79	26.7	C	TR	0.79	27.0	C	TR	0.79	27.0	C
SB	DefL	0.75	35.9	D	DefL	0.76	36.9	D	DefL	0.83	44.2	D
	T	0.54	11.7	B	T	0.54	11.7	B	T	0.56	13.2	B
	Int.		53.8	D	Int.		64.4	E	Int.		55.3	E
11. Blondell Avenue & Eastchester Road												
EB	LR	0.48	30.5	C	LR	0.46	28.6	C				
WB	LTR	0.68	32.7	C	LTR	0.67	31.0	C				
NB	LT	0.48	18.1	B	LT	0.50	18.7	B	No significant adverse impacts			
SB	TR	0.61	20.3	C	TR	0.66	21.5	C				
	Int.		22.5	C	Int.		22.7	C				
12. Williamsbridge Road & Eastchester Road												
EB	LTR	0.53	20.1	C	LTR	0.53	20.1	C	LTR	0.56	21.9	C
WB	LTR	0.57	20.6	C	LTR	0.57	20.7	C	LTR	0.60	22.7	C
NB	LTR	0.61	23.2	C	LTR	0.62	23.4	C	LTR	0.59	21.2	C
SB	L	0.31	18.5	B	L	0.32	18.8	B	L	0.30	17.0	B
	TR	1.03	68.8	E	TR	1.09	87.3	F +	TR	1.04	68.3	E
	Int.		34.0	C	Int.		39.8	D	Int.		34.9	C
13. East Tremont Avenue & Silver Street												
EB	L	0.60	25.7	C	L	0.61	25.8	C	L	0.60	25.4	C
	T	0.48	9.3	A	T	0.48	9.3	A	T	0.48	9.3	A
WB	TR	0.68	36.9	D	TR	0.68	36.9	D	TR	0.71	39.4	D
SB	R	1.40	234.2	F	R	1.46	259.8	F +	R	1.39	226.5	F
	Int.		85.7	E	Int.		95.0	F	Int.		85.8	E
14. Project Driveway & Marconi Street												
EB	LTR	0.59	41.1	D	LTR	0.54	37.0	D				
WB	LTR	0.00	28.8	C	LTR	1.15	140.7	F +				
NB	DefL	1.30	223.6	F	DefL	1.30	224.6	F				
	TR	0.54	21.0	C	TR	0.59	23.7	C	Unmitigated			
SB	LTR	0.91	32.9	C	LTR	0.95	40.4	D				
	Int.		41.2	D	Int.		57.6	E				
15. Waters Place & Marconi Street												
EB	DefL	0.78	28.6	C	DefL	0.82	32.9	C	L	0.69	28.5	C
	T	0.44	11.1	B	T	0.44	11.1	B	T	0.26	11.3	B
WB	TR	0.56	18.8	B	TR	0.56	18.9	B	T	0.43	20.0	B
									R	0.23	2.5	A
SB	L	1.27	469.5	F	L	1.61	616.0	F +	L	1.35	449.2	F
	R	1.17	471.8	F	R	1.40	578.8	F +	R	1.16	416.6	F
	Int.		204.5	F	Int.		285.5	F	Int.		208.3	F
16. Waters Place & BPC Driveway												
EB	LT	0.88	29.0	C	LT	1.00	47.8	D +	LT	0.97	40.2	D
WB	TR	0.57	17.4	B	TR	0.58	17.4	B	TR	0.57	16.6	B
SB	L	0.12	18.1	B	L	0.12	18.1	B	L	0.13	18.7	B
	LR	0.20	19.1	B	LR	0.20	19.1	B	LR	0.21	19.8	B
	Int.		23.5	C	Int.		34.3	C	Int.		29.9	C

Table 20-13C, cont'd
2022 Phase I Construction
No-Action, With-Action, and Mitigation Condition Level of Service Analysis
Signalized Intersections—Weekday PM Construction Peak Hour

Intersection	Weekday PM Construction Peak Hour											
	2022 No-Action				2022 With-Action				2022 Mitigation			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
17. Waters Place & Fink Avenue/HRP Southbound Off-Ramp												
EB	TR	0.86	160.2	F	TR	0.98	228.8	F +	TR	0.90	156.9	F
WB	LT	0.25	16.1	B	LT	0.26	16.2	B	LT	0.23	13.6	B
NB	LR	0.50	24.2	C	LR	0.50	24.2	C	LR	0.60	32.6	C
SB	L	0.42	18.7	B	L	0.42	18.7	B	L	0.47	22.1	C
	T	0.63	24.3	C	T	0.63	24.3	C	T	0.69	29.9	C
	Int.		90.5	F	Int.		131.7	F	Int.		94.7	F
18. Westchester Avenue & Ericson Place/Middletown Road												
EB	DefL	1.43	517.0	F	DefL	1.68	626.3	F +	DefL	1.59	574.5	F +
	TR	1.14	210.7	F	TR	1.15	216.2	F +	TR	1.12	199.4	F
WB	LT	1.07	361.4	F	LT	1.08	365.9	F +	LT	1.03	338.5	F
NB	LTR	0.95	98.4	F	LTR	0.95	98.4	F	LTR	0.91	72.5	E
SB	LTR	1.13	174.4	F	LTR	1.13	174.4	F	LT	0.48	38.0	D
									R	0.43	25.6	C
	Int.		243.0	F	Int.		270.7	F	Int.		225.1	F
19. Waters Place & Westchester Avenue												
EB	LT	0.89	227.6	F	LT	1.00	291.0	F +	Unmitigated			
NB	LTR	0.62	53.9	D	LTR	0.62	53.9	D				
SB	LTR	0.63	22.4	C	LTR	0.63	22.6	C				
	Int.		132.3	F	Int.		170.7	F				
21. Tan Place & Westchester Avenue												
WB	L	0.07	17.5	B	L	0.07	17.5	B	No significant adverse impacts			
	R	0.37	21.6	C	R	0.37	21.6	C				
NB	T	0.50	22.6	C	T	0.50	22.6	C				
SB	T	0.55	17.2	B	T	0.56	17.3	B				
	Int.		19.7	B	Int.		19.7	B				
22. Blondell Avenue & Westchester Avenue												
WB	L	0.26	23.2	C	L	0.26	23.2	C	No significant adverse impacts			
	T	0.24	22.8	C	T	0.24	22.8	C				
NB	LT	0.61	44.3	D	LT	0.62	44.7	D				
SB	TR	0.62	31.6	C	TR	0.63	31.9	C				
	Int.		33.7	C	Int.		33.9	C				
23. East Tremont Avenue & Westchester Avenue												
EB	LTR	0.63	29.5	C	LTR	0.63	29.0	C	No significant adverse impacts			
WB	LTR	0.53	26.9	C	LTR	0.52	26.4	C				
NB	LT	0.81	55.1	E	LT	0.81	53.3	D				
SB	TR	0.60	33.0	C	TR	0.60	32.5	C				
	Int.		34.0	C	Int.		33.3	C				
24. Commerce Avenue & Westchester Avenue												
EB	LT	0.44	26.7	C	LT	0.44	26.7	C	No significant adverse impacts			
WB	LT	0.31	24.1	C	LT	0.31	24.1	C				
	R	0.29	24.2	C	R	0.29	24.2	C				
NB	LTR	0.55	34.5	C	LTR	0.55	34.8	C				
SB	LTR	0.68	45.3	D	LTR	0.69	46.0	D				
	Int.		34.6	C	Int.		35.0	D				
26. East Tremont Avenue & HRP East												
EB	T	0.41	8.9	A	T	0.42	8.9	A	No significant adverse impacts			
WB	T	0.62	11.5	B	T	0.62	11.5	B				
SB	LR	0.49	34.5	C	LR	0.50	34.9	C				
	Int.		12.4	B	Int.		12.5	B				
27. East Tremont Avenue & Ericson Place												
EB	LT	0.67	19.1	B	LT	0.68	19.3	B	No significant adverse impacts			
WB	T	0.85	41.1	D	T	0.85	41.4	D				
NB	LTR	0.99	62.6	E	LTR	0.99	62.6	E				
	Int.		39.8	D	Int.		39.9	D				

Notes: L = Left-turn; T = Through; R = Right-turn; LOS = Level of Service; EB = Eastbound; WB = Westbound; NB = Northbound; SB = Southbound; Def = De facto; ML = Mainline; SR = Service Road
+ denotes a significant adverse impact

Table 20-13D
2022 Phase I Construction
No-Action, With-Action, and Mitigation Condition Level of Service Analysis
Unsignalized Intersections—Weekday PM Construction Peak Hour

Intersection	Weekday PM Construction Peak Hour											
	2022 No-Action				2022 With-Action				2022 Mitigation			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
17. Waters Place & HRP Southbound Off-Ramp *												
SB	R	0.53	15.2	C	R	0.53	15.2	C	No significant adverse impacts			
19. Waters Place & Westchester Avenue *												
EB	R	0.07	8.0	A	R	0.08	8.1	A	No significant adverse impacts			
20. Westchester Avenue & Waters Avenue												
EB	LR	0.11	8.8	A	LR	0.51	13.1	B	No significant adverse impacts			
NB	LT	0.51	12.9	B	LT	0.11	8.9	A				
22. Blondell Avenue & Westchester Avenue *												
WB	R	0.11	8.6	A	R	0.11	8.6	A	No significant adverse impacts			
24. Commerce Avenue & Westchester Avenue *												
EB	R	0.29	13.2	B	R	0.29	13.3	B	No significant adverse impacts			
25. East Tremont Avenue & Tan Place **												
28. Roebling Avenue and Ericson Place/HRP East												
WB	LR	0.06	9.1	A	LR	0.06	9.2	A	No significant adverse impacts			
NB	TR	0.66	16.3	C	TR	0.66	16.3	C				
SB	LT	0.25	9.9	A	LT	0.26	10.0	A				
30. Bronx Site Roundabout												
EB	TR	0.20	4.7	A	TR	0.20	4.7	A	No significant adverse impacts			
WB	LT	0.50	4.9	A	LT	0.50	4.9	A				
NB	LR	0.30	4.5	A	LR	0.30	4.5	A				

Notes: L = Left-turn; T = Through; R = Right-turn; LOS = Level of Service; EB = Eastbound; WB = Westbound; NB = Northbound; SB = Southbound
*Channelized Right Turn analyzed as Stop Controlled; ** No traffic control

Pelham Parkway (Westbound) and Williamsbridge Road

- Westbound left-turn/through at this intersection would deteriorate within LOS E (from a v/c ratio of 1.03 and 61.4 seconds per vehicle [spv] of delay to a v/c ratio of 1.04 and 66.7 spv of delay) in the weekday PM construction peak hour, an increase in delay of more than four seconds. This increase in delay constitutes a significant adverse impact.
- The significant adverse impact at the westbound left-turn/through of this intersection during the weekday PM construction peak hour could be fully mitigated by shifting one second of green time from the northbound/southbound phase to the westbound phase.

Pelham Parkway (Eastbound) and Eastchester Road

- Eastbound service road through/right-turn at this intersection would deteriorate within LOS F (from a v/c ratio of 1.09 and 104.8 spv of delay to a v/c ratio of 1.10 and 108.3 spv of delay) in the weekday PM construction peak hour, an increase in delay of more than three seconds. This increase in delay constitutes a significant adverse impact.
- The significant adverse impact at the eastbound service road through/right-turn of this intersection during the weekday PM construction peak hour could be fully mitigated by shifting one second of green time from the northbound/southbound phase to the eastbound phase.

Morris Park Avenue and Eastchester Road

- Southbound approach at this intersection would deteriorate within LOS E (from a v/c ratio of 0.91 and 55.4 spv of delay to a v/c ratio of 0.95 and 60.9 spv of delay) in the weekday AM construction peak hour and within LOS F (from a v/c ratio of 1.04 and 86.1 spv of delay to a v/c ratio of 1.07 and 94.1 spv of delay) in the weekday PM construction peak hour, increases in delay of more than four and three seconds, respectively. These increases in delay constitute significant adverse impacts.
- The significant adverse impact at the southbound approach of this intersection during the weekday AM construction peak hour could be fully mitigated by shifting one second of green time from the northbound to the northbound/southbound phase.
- The significant adverse impact at the southbound approach of this intersection during the weekday PM construction peak hour could not be mitigated.

Waters Place and Eastchester Road

- Westbound left-turn at this intersection would deteriorate within LOS D (from a v/c ratio of 0.71 and 40.0 spv of delay to a v/c ratio of 0.83 and 48.2 spv of delay) in the weekday AM construction peak hour, an increase in delay of more than five seconds. This increase in delay constitutes a significant adverse impact.
- Westbound left-turn at this intersection would deteriorate within LOS F (from a v/c ratio of 1.25 and 163.2 spv of delay to a v/c ratio of 1.35 and 202.8 spv of delay) in the weekday PM construction peak hour, an increase in delay of more than three seconds. This increase in delay constitute significant adverse impacts.
- The significant adverse impact at the westbound approach of this intersection during the weekday AM construction peak hour could be fully mitigated by shifting one second of green time from the northbound/southbound phase to the westbound phase.
- The significant adverse impact at the westbound approach of this intersection during the weekday PM construction peak hour could be fully mitigated by shifting two seconds of green time from the southbound/westbound right-turn phase to the westbound phase.

Williamsbridge Road and Eastchester Road

- Southbound through/right-turn at this intersection would deteriorate from LOS E to LOS F (from a v/c ratio of 1.03 and 68.8 spv of delay to a v/c ratio of 1.09 and 87.3 spv of delay) in the weekday PM construction peak hour, an increase in delay of more than four seconds. This increase in delay constitutes a significant adverse impact.
- The significant adverse impact at the southbound approach of this intersection during the weekday PM construction peak hour could be fully mitigated by shifting two seconds of green time from eastbound/ westbound phase to the northbound/ southbound phase.

East Tremont Avenue and Silver Street

- Southbound right-turn at this intersection would deteriorate within LOS E (from a v/c ratio of 0.88 and 59.6 spv of delay to a v/c ratio of 0.93 and 68.4 spv of delay) in the weekday AM construction peak hour and within LOS F (from a v/c ratio of 1.40 and 234.2 spv of delay to a v/c ratio of 1.46 and 259.8 spv of delay) in the weekday PM construction peak hour, increases in delay of more than four and three seconds, respectively. These increases in delay constitute significant adverse impacts.

- The significant adverse impact at the southbound right-turn of this intersection during the weekday AM construction peak hour could be fully mitigated by shifting one second of green time from the eastbound/westbound to the eastbound/southbound right-turn phase.
- The significant adverse impact at the southbound right-turn of this intersection during the weekday PM construction peak hour could be fully mitigated by shifting two seconds of green time from the eastbound/ westbound phase to the eastbound/southbound right-turn phase.

Project Driveway and Marconi Street

- Westbound approach at this intersection would deteriorate from LOS C to F (from a v/c ratio of 0.00 and 28.8 spv of delay to a v/c ratio of 1.15 and 140.7 spv of delay) in the weekday PM construction peak hour, an increase in delay beyond mid-LOS D. This increase in delay constitutes a significant adverse impact.
- The significant adverse impact at the westbound approach of this intersection during the weekday PM construction peak hours could not be mitigated.

Waters Place and Marconi Street

- Eastbound left-turn at this intersection would deteriorate from LOS E to F (from a v/c ratio of 0.98 and 77.8 spv of delay to a v/c ratio of 1.75 and 371.3 spv of delay) in the weekday AM construction peak hour, an increase in delay of more than four seconds. This increase in delay constitutes a significant adverse impact.
- Southbound left-turn at this intersection would deteriorate within LOS F (from a v/c ratio of 1.27 and 469.5 spv of delay to a v/c ratio of 1.61 and 616.0 spv of delay) in the weekday PM construction peak hour, an increase in delay of more than three seconds. This increase in delay constitutes a significant adverse impact.
- Southbound right-turn at this intersection would deteriorate within LOS F (from a v/c ratio of 1.17 and 471.8 spv of delay to a v/c ratio of 1.40 and 578.8 spv of delay) in the weekday PM construction peak hour, an increase in delay of more than three seconds. This increase in delay constitutes a significant adverse impact.
- The significant adverse impacts at this intersection during the weekday AM and PM construction peak hours could be fully mitigated by applying the same geometric mitigation measures proposed under the operational conditions along with the addition of the westbound right-turn movement to the southbound phase. In addition, a shift of five seconds of green time from the eastbound/westbound phase to the southbound phase during the weekday PM construction peak hour would also be needed.

Waters Place and BPC Driveway

- Eastbound left-turn/through at this intersection would deteriorate from LOS C to D (from a v/c ratio of 0.88 and 29.0 spv of delay to a v/c ratio of 1.00 and 47.8 spv of delay) in the weekday PM construction peak hour, an increase in delay beyond mid-LOS D. This increase in delay constitutes a significant adverse impact.
- The significant adverse impact at the eastbound approach of this intersection during the weekday PM construction peak hours could be fully mitigated by shifting one second of green time from the southbound phase to the eastbound/westbound phase.

Waters Place and Fink Avenue/HRP Southbound Off-Ramp

- Eastbound through/right-turn at this intersection would deteriorate within LOS F (from a v/c ratio of 0.86 and 160.2 spv of delay to a v/c ratio of 0.98 and 228.8 spv of delay) in the

weekday PM construction peak hour, an increase in delay of more than three seconds. This increase in delay constitutes a significant adverse impact.

- The significant adverse impact at the eastbound approach of this intersection during the weekday PM construction peak hour could be fully mitigated by shifting four seconds of green time from northbound/southbound phase to the eastbound/westbound phase.

Westchester Avenue and Ericson Place/Middletown Road

- Eastbound de facto left-turn at this intersection would deteriorate within LOS F (from a v/c ratio of 0.73 and 166.1 spv of delay to a v/c ratio of 0.77 and 203.8 spv of delay) in the weekday AM construction peak hour and within LOS F (from a v/c ratio of 1.43 and 517.0 spv of delay to a v/c ratio of 1.68 and 626.3 spv of delay) in the weekday PM construction peak hour, an increase in delay of more than three seconds during both peak hours. These increases in delay constitute significant adverse impacts.
- Eastbound through/right-turn at this intersection would deteriorate within LOS F (from a v/c ratio of 1.14 and 210.7 spv of delay to a v/c ratio of 1.15 and 216.2 spv of delay) in the weekday PM construction peak hour, an increase in delay of more than three seconds. This increase in delay constitutes a significant adverse impact.
- Westbound left-turn/through at this intersection would deteriorate within LOS F (from a v/c ratio of 0.88 and 263.7 spv of delay to a v/c ratio of 0.97 and 314.5 spv of delay) in the weekday AM construction peak hour and within LOS F (from a v/c ratio of 1.07 and 361.4 spv of delay to a v/c ratio of 1.08 and 365.9 spv of delay) in the weekday PM construction peak hour, an increase in delay of more than three seconds during both peak hours. These increases in delay constitute significant adverse impacts.
- Northbound approach at this intersection would deteriorate within LOS D (from a v/c ratio of 0.71 and 48.2 spv of delay to a v/c ratio of 0.79 and 54.6 spv of delay) in the weekday AM construction peak hour, an increase in delay of more than five seconds. This increase in delay constitutes a significant adverse impact.
- The significant adverse impacts at this intersection during the weekday AM construction peak hour could not be fully mitigated for the westbound left-turn/through movement but could be fully mitigated for the eastbound de facto left-turn movement and the northbound approach by applying the same mitigation measures proposed under the operational condition.
- The significant adverse impacts at this intersection during the weekday PM construction peak hour could not be fully mitigated for the eastbound de facto left-turn movement but could be fully mitigated for the eastbound through/right-turn and westbound left-turn/through movements by applying the same mitigation measures proposed under the operational condition.

Waters Place and Westchester Avenue

- Northbound approach at this intersection would deteriorate from LOS E to F (from a v/c ratio of 0.76 and 68.3 spv of delay to a v/c ratio of 0.76 and 100.9 spv of delay) in the weekday AM construction peak hour, an increase in delay of more than four seconds. This increase in delay constitutes a significant adverse impact.
- Eastbound left-turn/through at this intersection would deteriorate within LOS F (from a v/c ratio of 0.89 and 227.6 spv of delay to a v/c ratio of 1.00 and 291.0 spv of delay) in the weekday PM construction peak hour, an increase in delay of more than three seconds. This increase in delay constitutes a significant adverse impact.

- The significant adverse impacts at the northbound approach of this intersection during the weekday AM construction peak hour could be fully mitigated by shifting two seconds of green time from the eastbound phase to the northbound/southbound phase.
- The significant adverse impact at the eastbound approach of this intersection during the weekday PM construction peak hour could not be mitigated.

East Tremont Avenue and Westchester Avenue

- Northbound left-turn/through at this intersection would deteriorate from within LOS E (from a v/c ratio of 0.78 and 59.3 spv of delay to a v/c ratio of 0.81 and 63.7 spv of delay) in the weekday AM construction peak hour, an increase in delay of more than four seconds. This increase in delay constitutes a significant adverse impact.
- The significant adverse impact at the northbound left-turn/through of this intersection during the weekday AM construction peak hour could be fully mitigated by shifting one second of green time from the eastbound/westbound to the northbound/southbound phase.

Phase II Construction

The 2027 Phase II construction No-Action traffic volumes were developed based on the same methodologies described above for the 2022 Phase I construction No-Action traffic volumes. Compared to the 2022 Phase I construction No-Action traffic volumes, an additional five years of background growth (per *CEQR Technical Manual* guidelines) was accounted for in the 2027 Phase II construction No-Action traffic volumes to address general growth in traffic in the study area. The 2027 Phase II construction No-Action traffic volumes are shown in **Figures 20-11A to 20-12B** for the weekday construction peak hours. The 2027 Phase II construction With-Action traffic volumes are shown in **Figures 20-13A to 20-14B** for the weekday construction peak hours, by adding the cumulative Phase II construction and Phase I operational vehicle trips presented in **Figures 20-4A to 20-5B** to the No-Action traffic volumes.

With the Phase I completion of the proposed project, the proposed geometric and signal timing/phasing changes at the Marconi Street and Project Driveway intersection (see Chapter 14, "Transportation") have been incorporated into the 2027 Phase II construction With-Action condition traffic analysis presented below.

The results of the traffic analysis summarized in **Table 20-14** show that eight intersections would be significantly impacted during the weekday 6 AM to 7 AM construction peak hour and 14 intersections would be significantly impacted during the weekday 3 PM to 4 PM construction peak hour under the 2027 Phase II construction With-Action condition. Since there is no funding or plan to construct the HRP improvements by 2028, without some other means of addressing traffic expected to be generated by Phase II of the proposed project, this second phase of the proposed project cannot proceed. **Tables 20-15A** and **20-15B** summarize the mitigation measures recommended to address the identified impacts under the 2027 Phase II construction With-Action condition. These measures are expected to be effective in mitigating all of the significant adverse traffic impacts identified during the weekday AM construction peak hour except for two intersections and all of the significant adverse traffic impacts identified during the weekday PM construction peak hour except for six intersections. Impacts at the Waters Place and Fink Avenue/HRP Southbound Off-Ramp intersection and the Westchester Avenue and Ericson Place/Middletown Road intersection could not be fully mitigated during the weekday AM construction peak hour. Impacts at the Morris Park Avenue and Eastchester Road; East Tremont

8/5/2019

Project Site

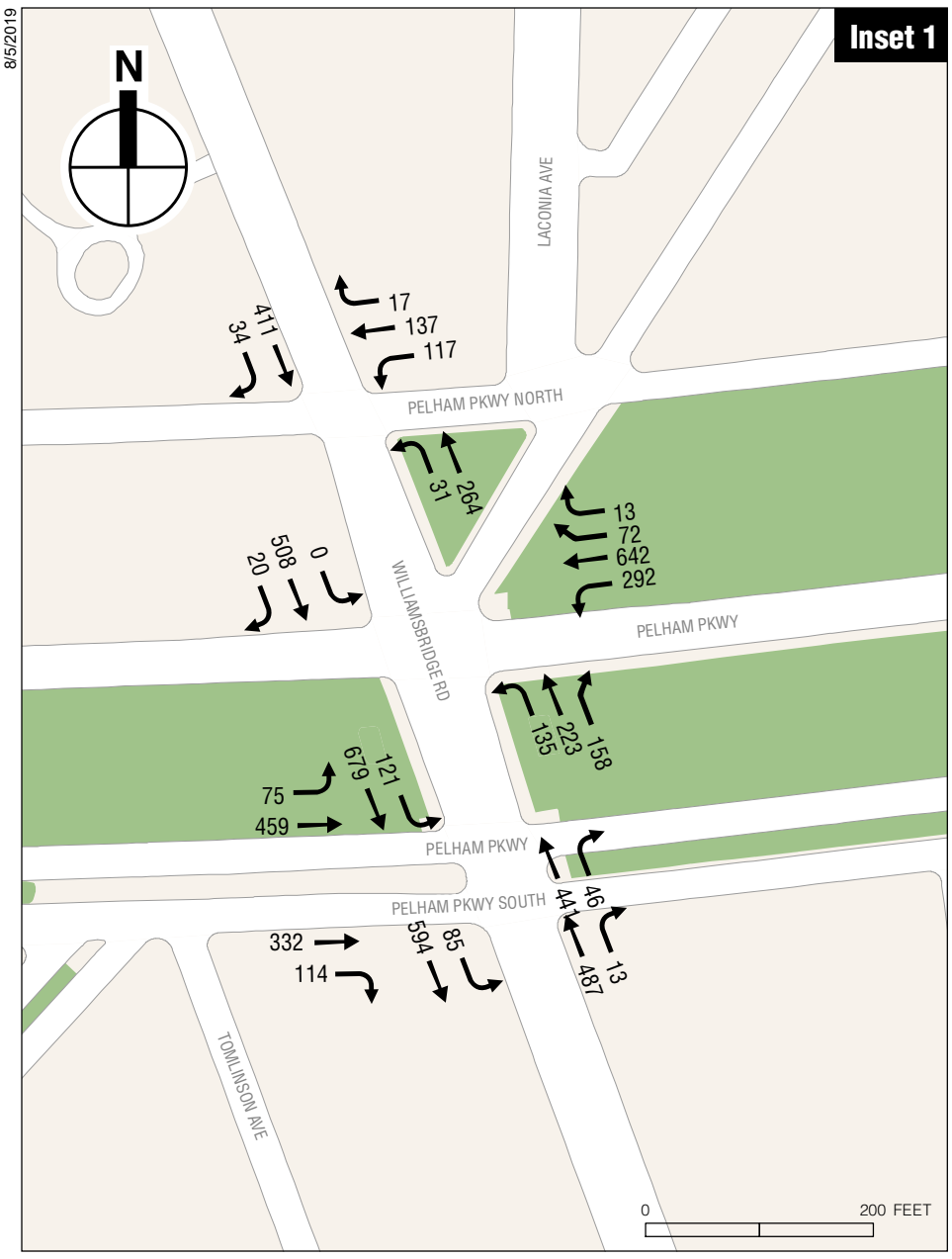
0 800 FEET

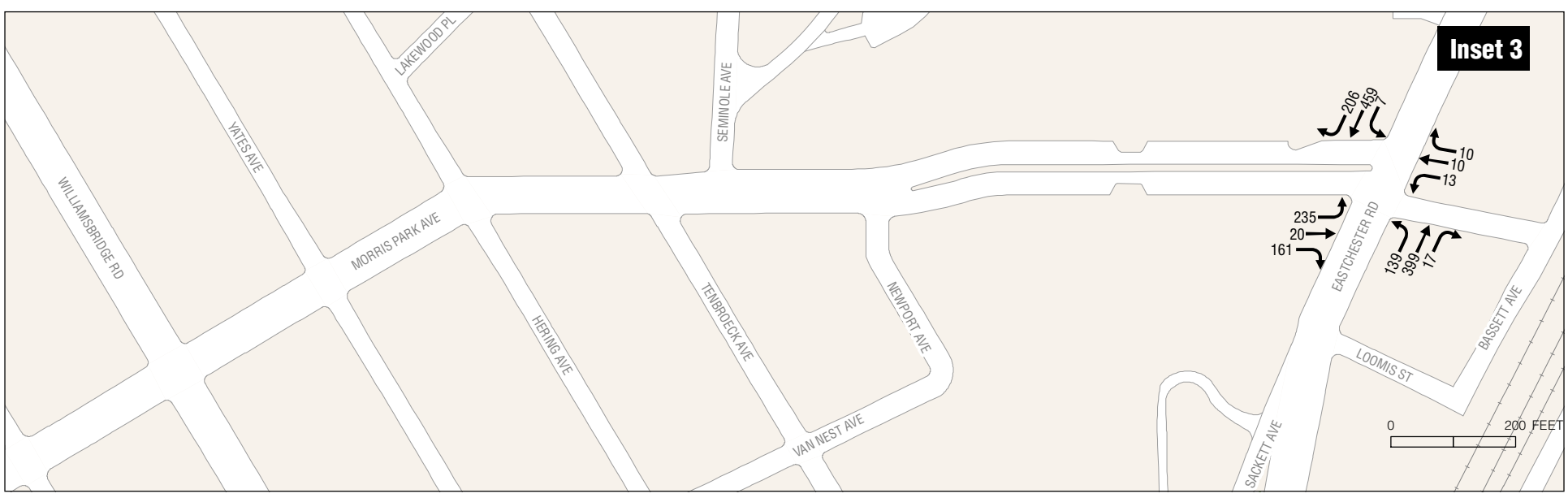
2027 Phase II Construction No-Action Traffic Volumes
Weekday AM Construction Peak Hour

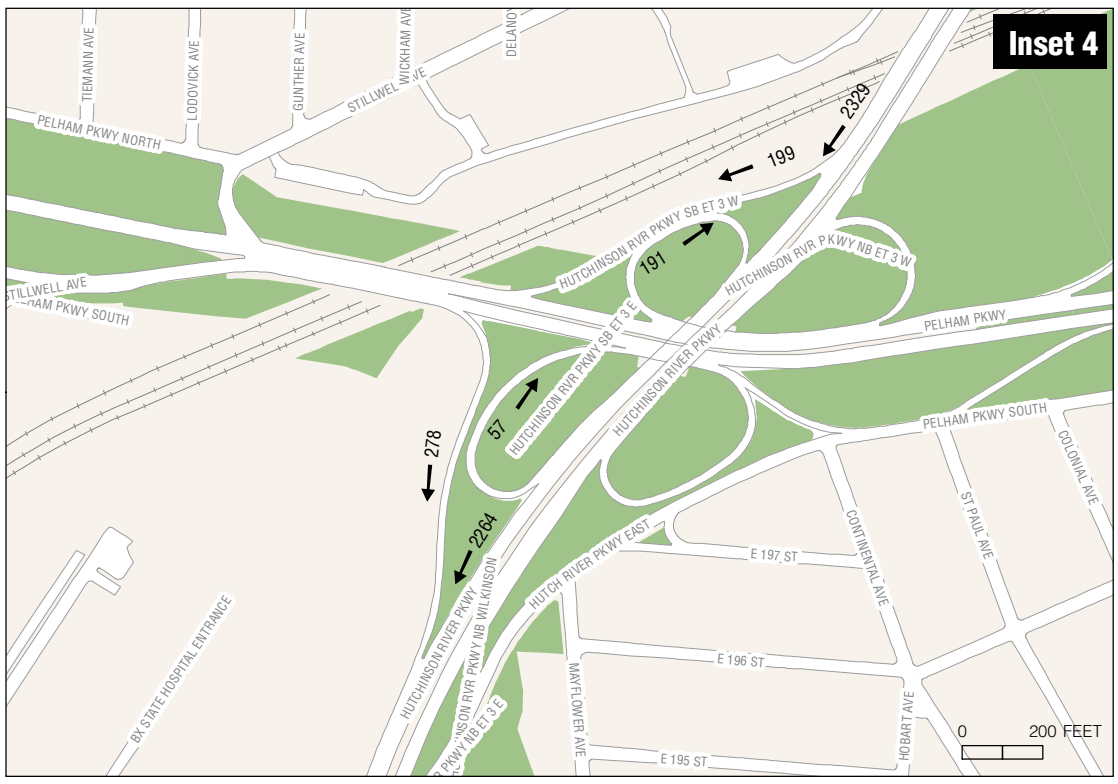
BRONX PSYCHIATRIC CENTER LAND USE IMPROVEMENT PROJECT

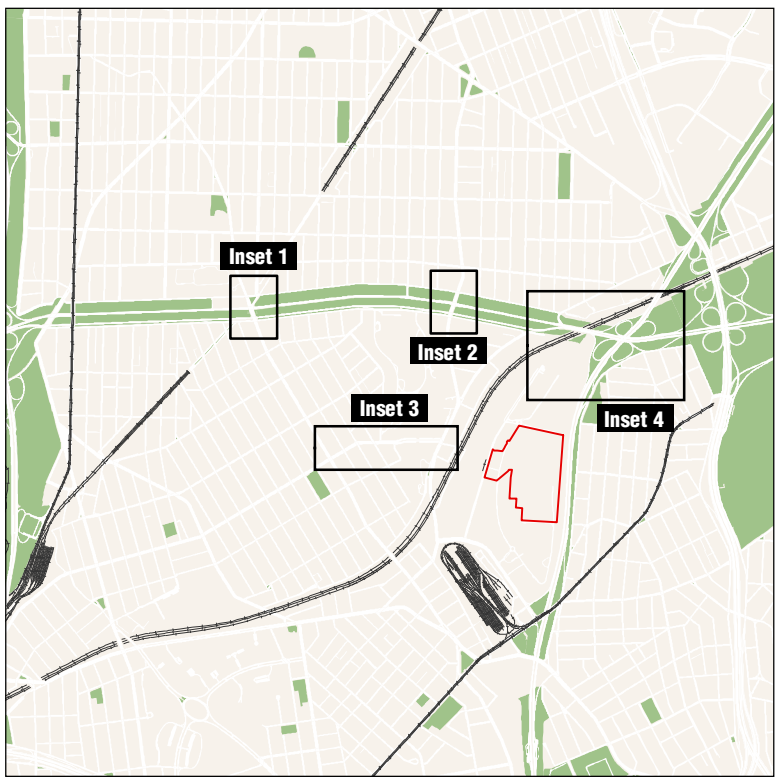
Figure 20-11A

8/5/2019









Project Site

2027 Phase II Construction No-Action Traffic Volumes
Weekday AM Construction Peak Hour

BRONX PSYCHIATRIC CENTER LAND USE IMPROVEMENT PROJECT

Figure 20-11B

8/5/2019

Project Site

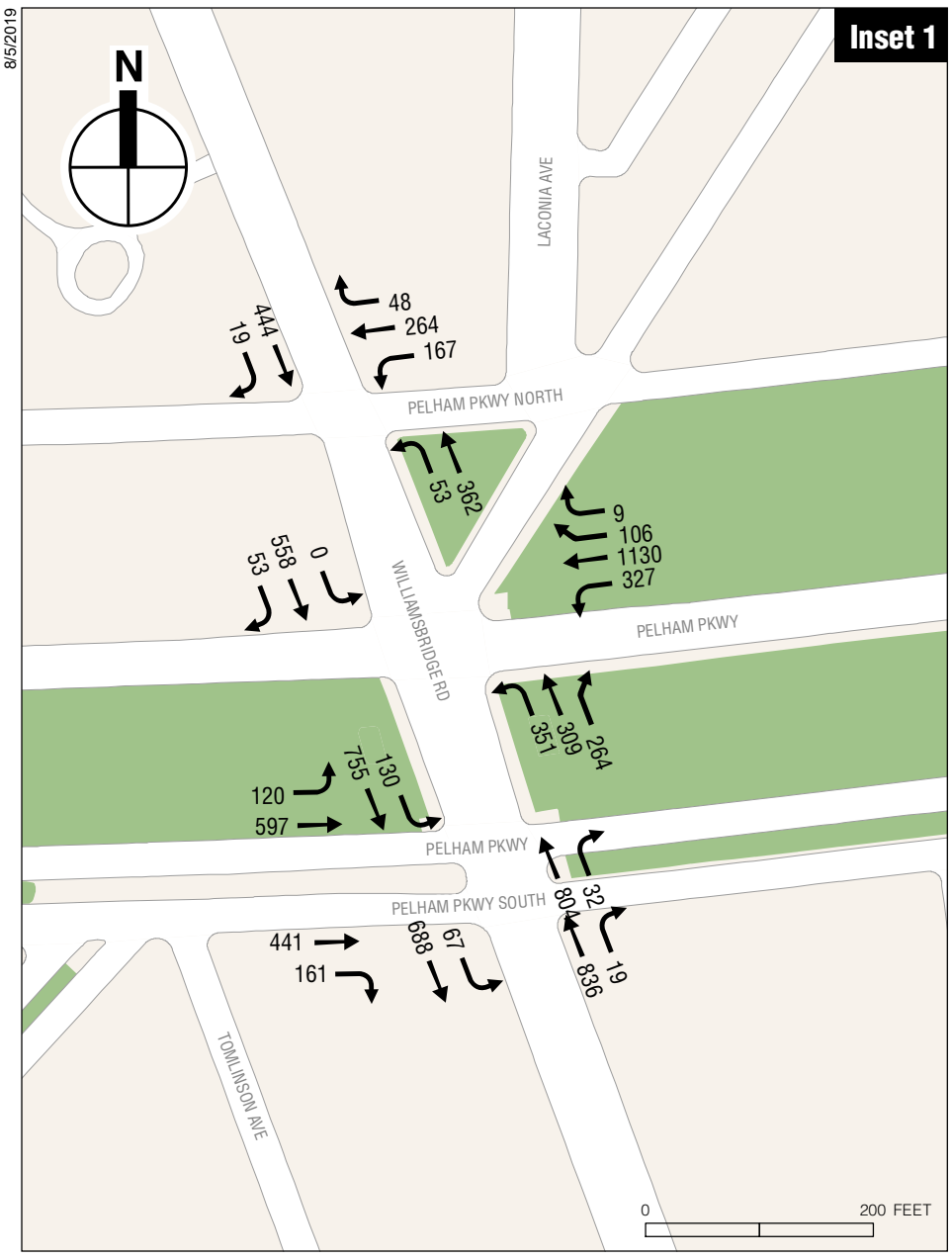
0 800 FEET

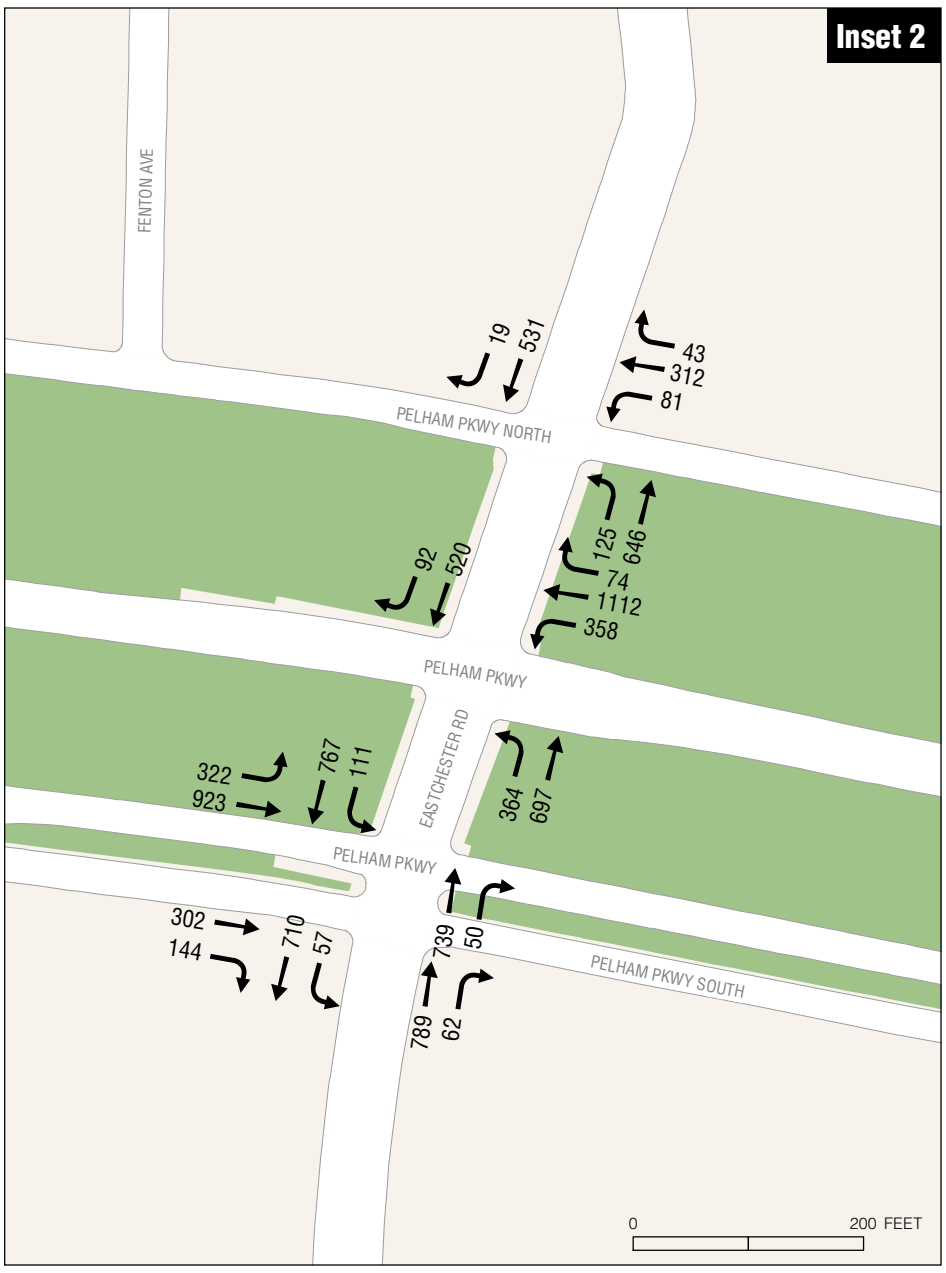
2027 Phase II Construction No-Action Traffic Volumes
Weekday PM Construction Peak Hour

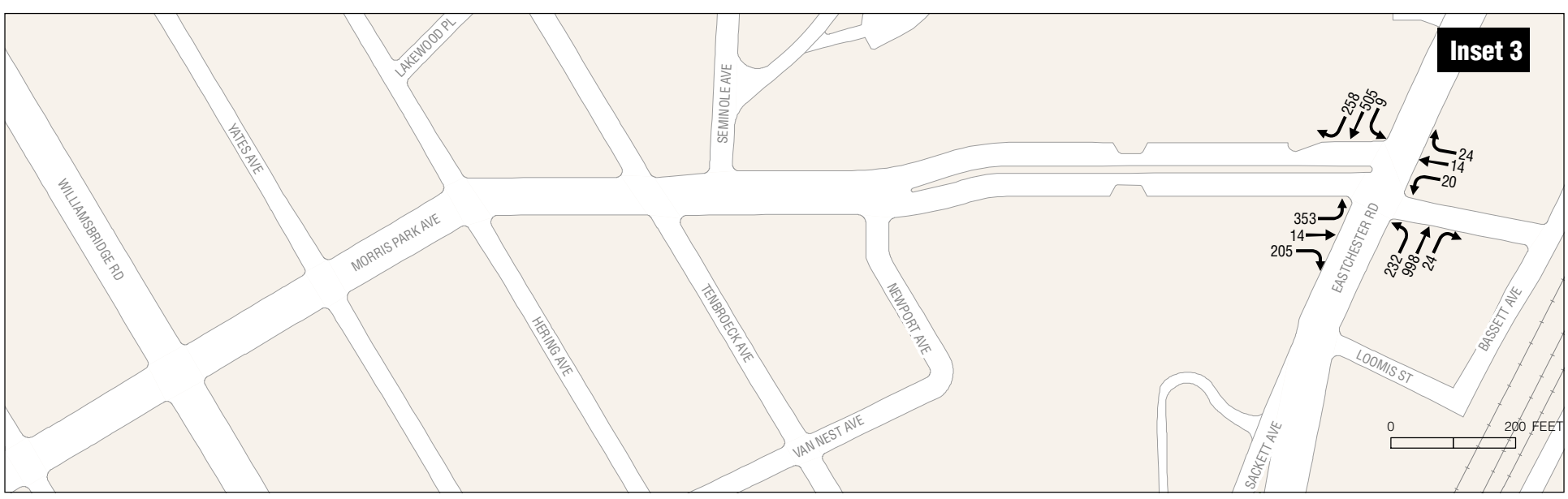
BRONX PSYCHIATRIC CENTER LAND USE IMPROVEMENT PROJECT

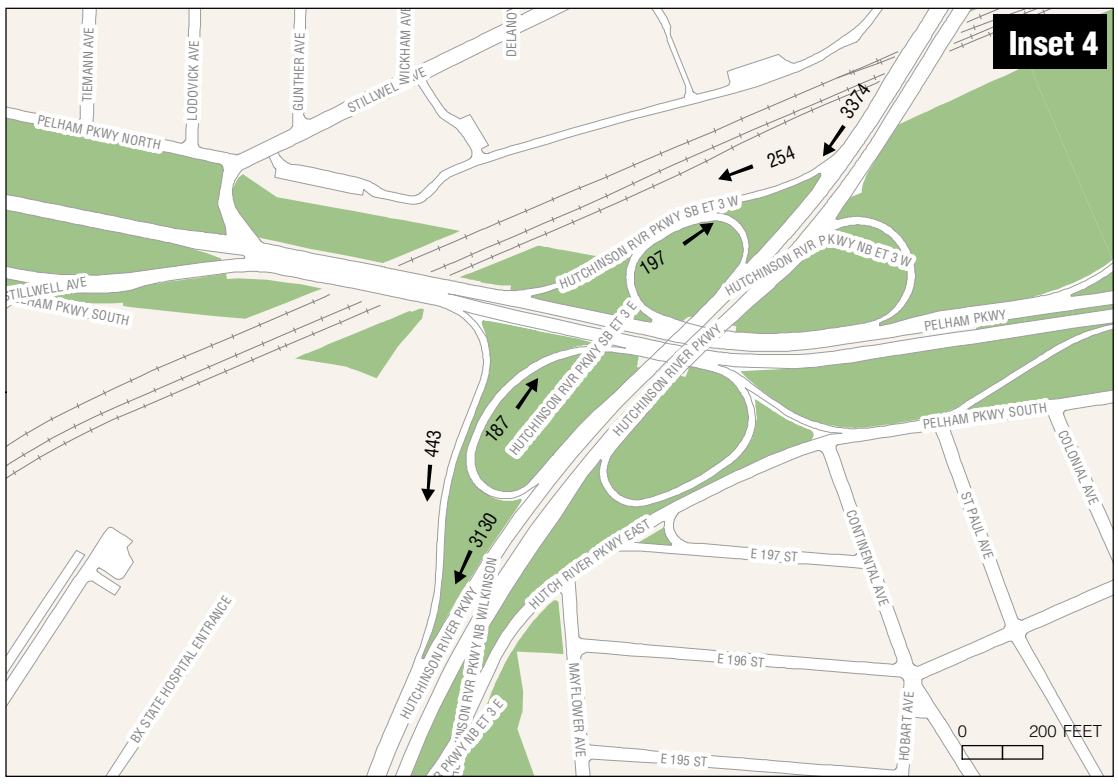
Figure 20-12A

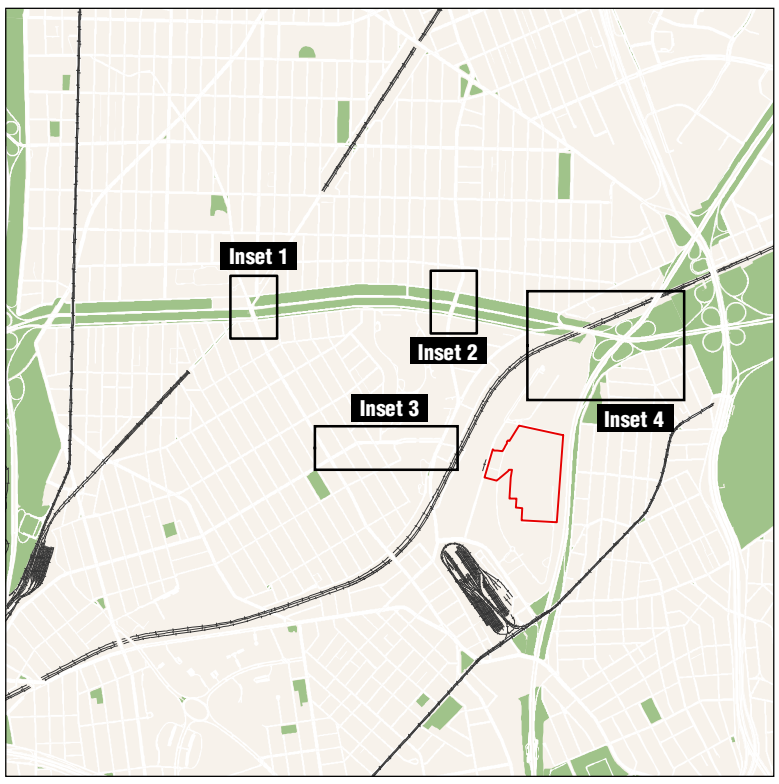
8/5/2019











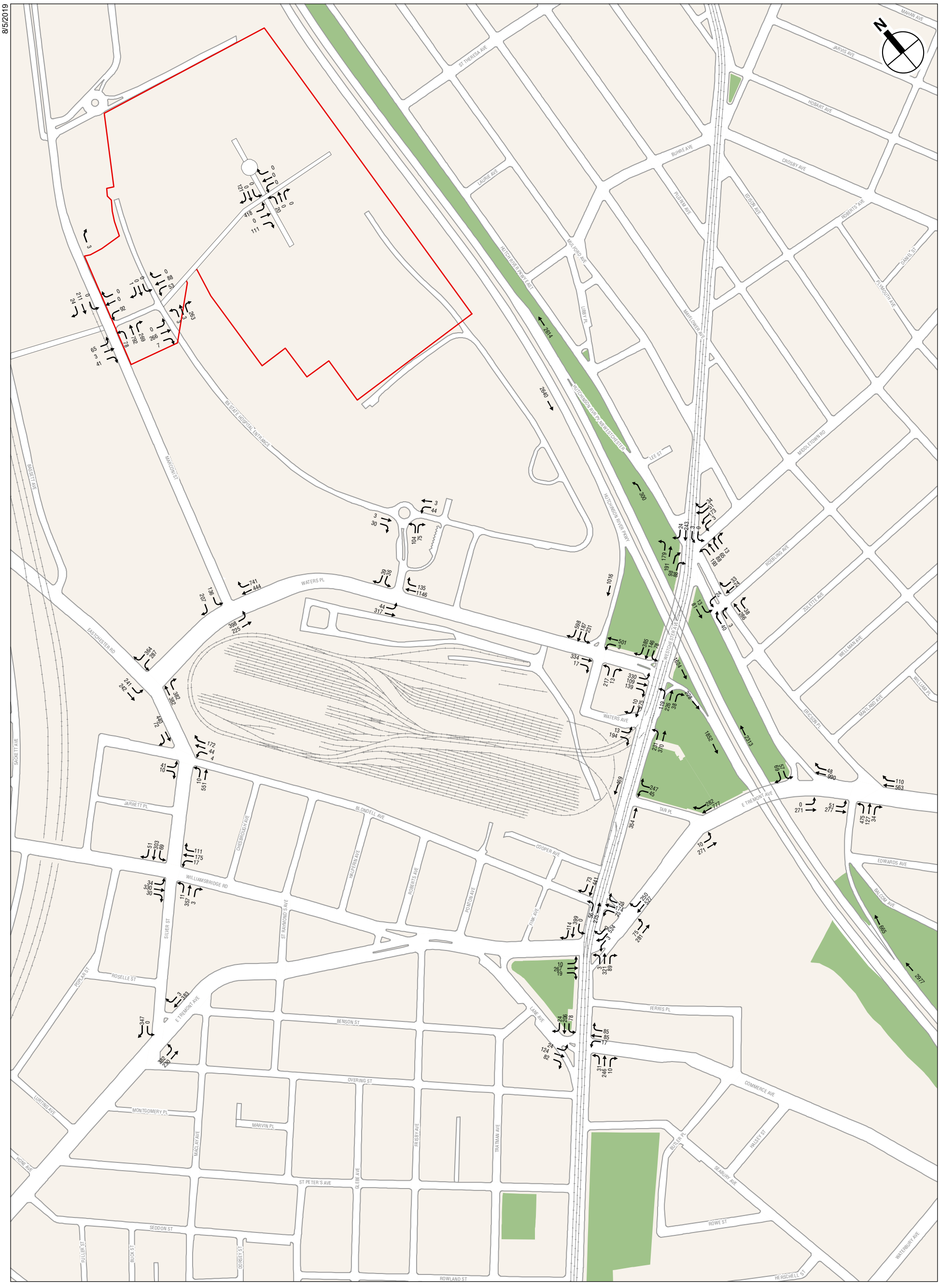
Project Site

2027 Phase II Construction No-Action Traffic Volumes
Weekday PM Construction Peak Hour

BRONX PSYCHIATRIC CENTER LAND USE IMPROVEMENT PROJECT

Figure 20-12B

8/5/2019

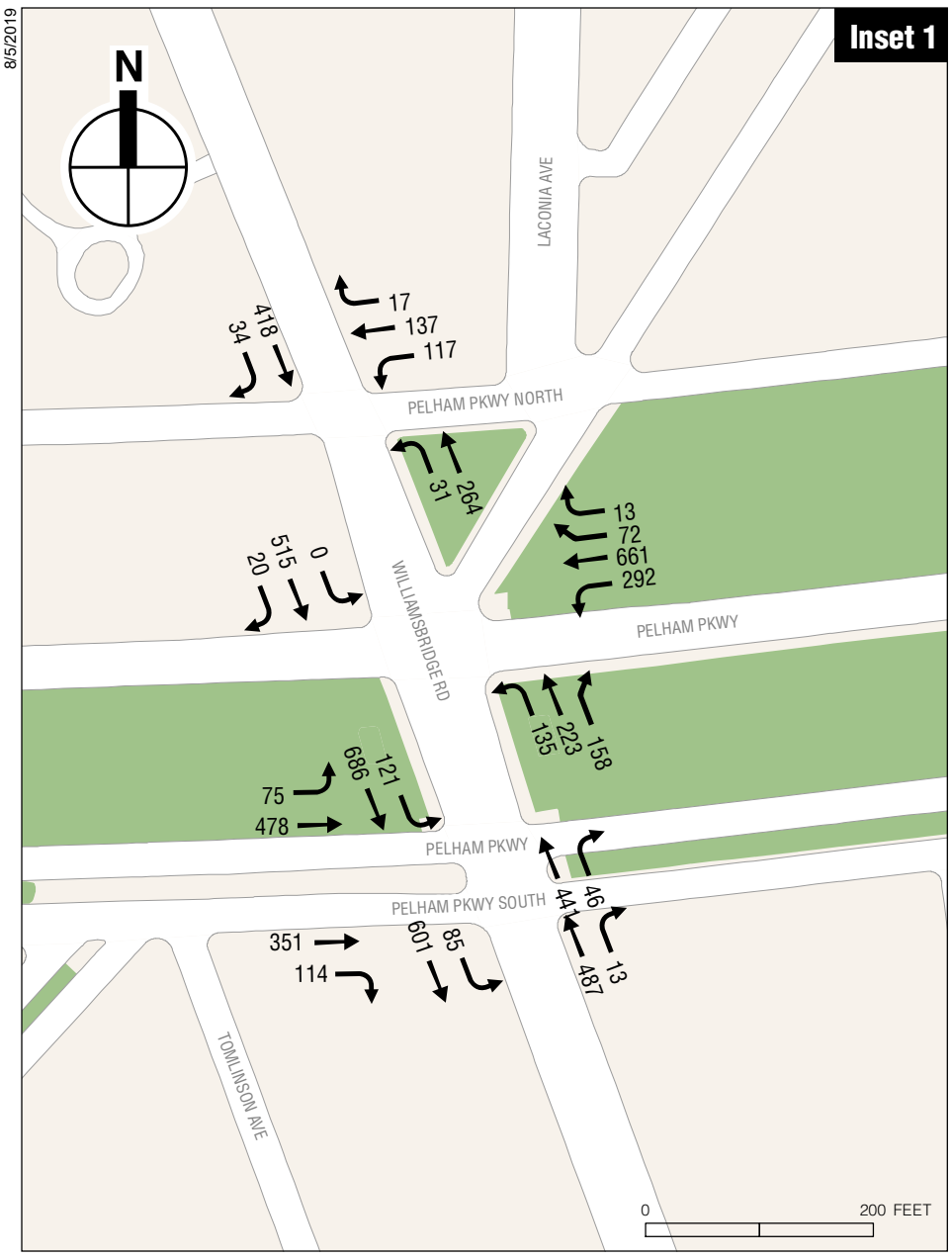


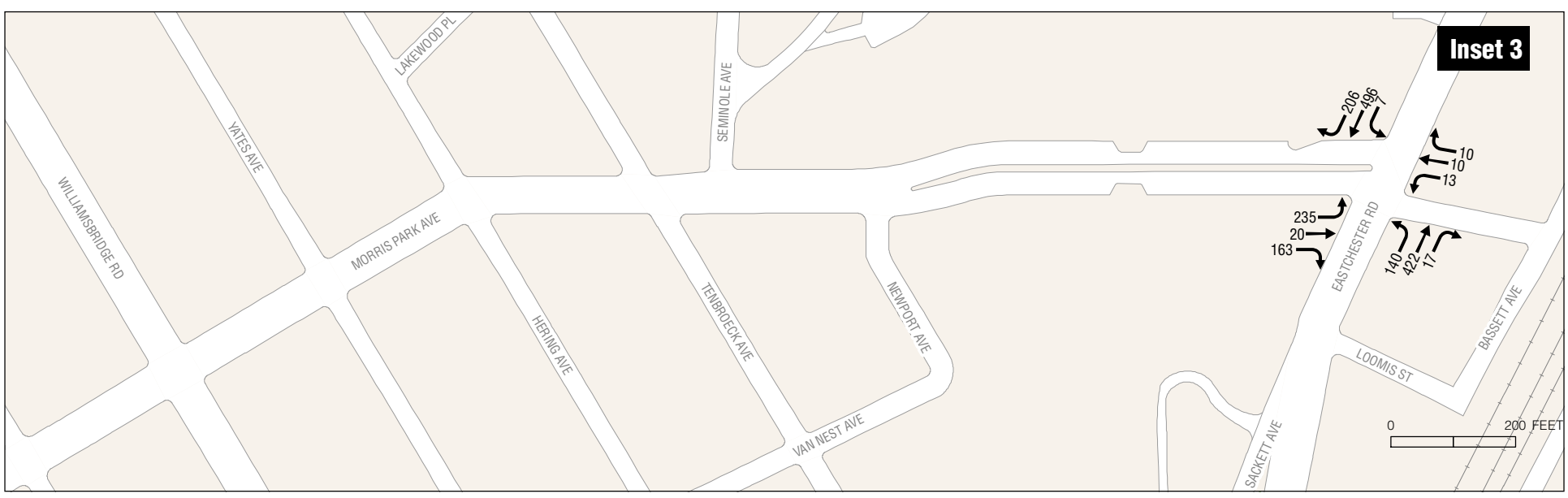
2027 Phase II Construction With-Action Traffic Volumes
Weekday AM Construction Peak Hour

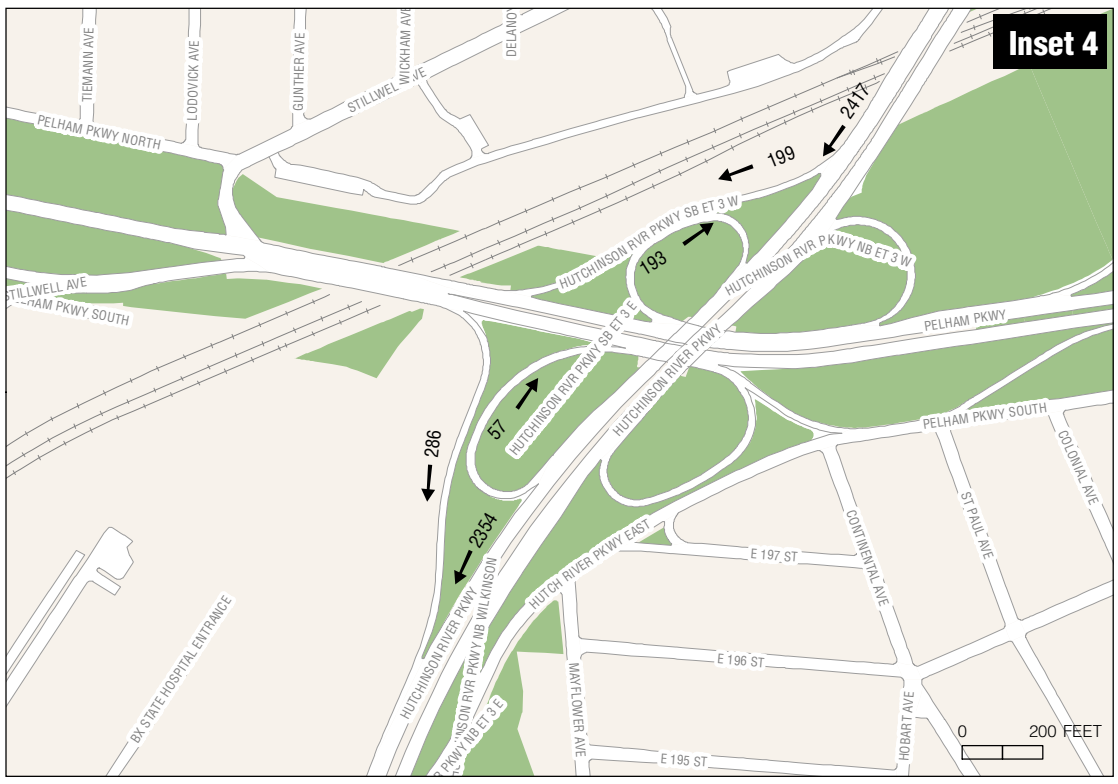
BRONX PSYCHIATRIC CENTER LAND USE IMPROVEMENT PROJECT

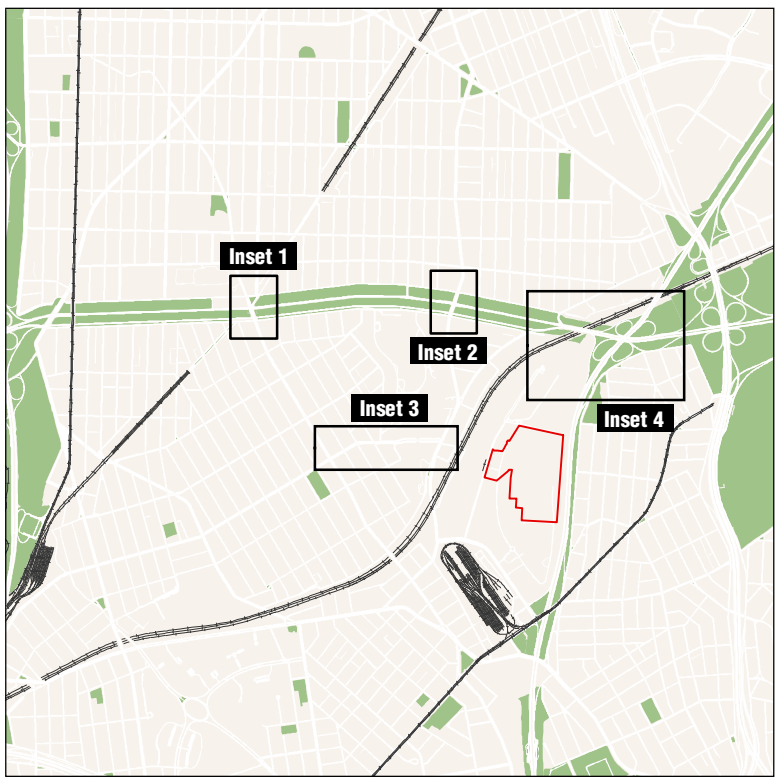
Figure 20-13A

8/5/2019









Project Site

2027 Phase II Construction With-Action Traffic Volumes
Weekday AM Construction Peak Hour

BRONX PSYCHIATRIC CENTER LAND USE IMPROVEMENT PROJECT

Figure 20-13B

8/5/2019

Project Site

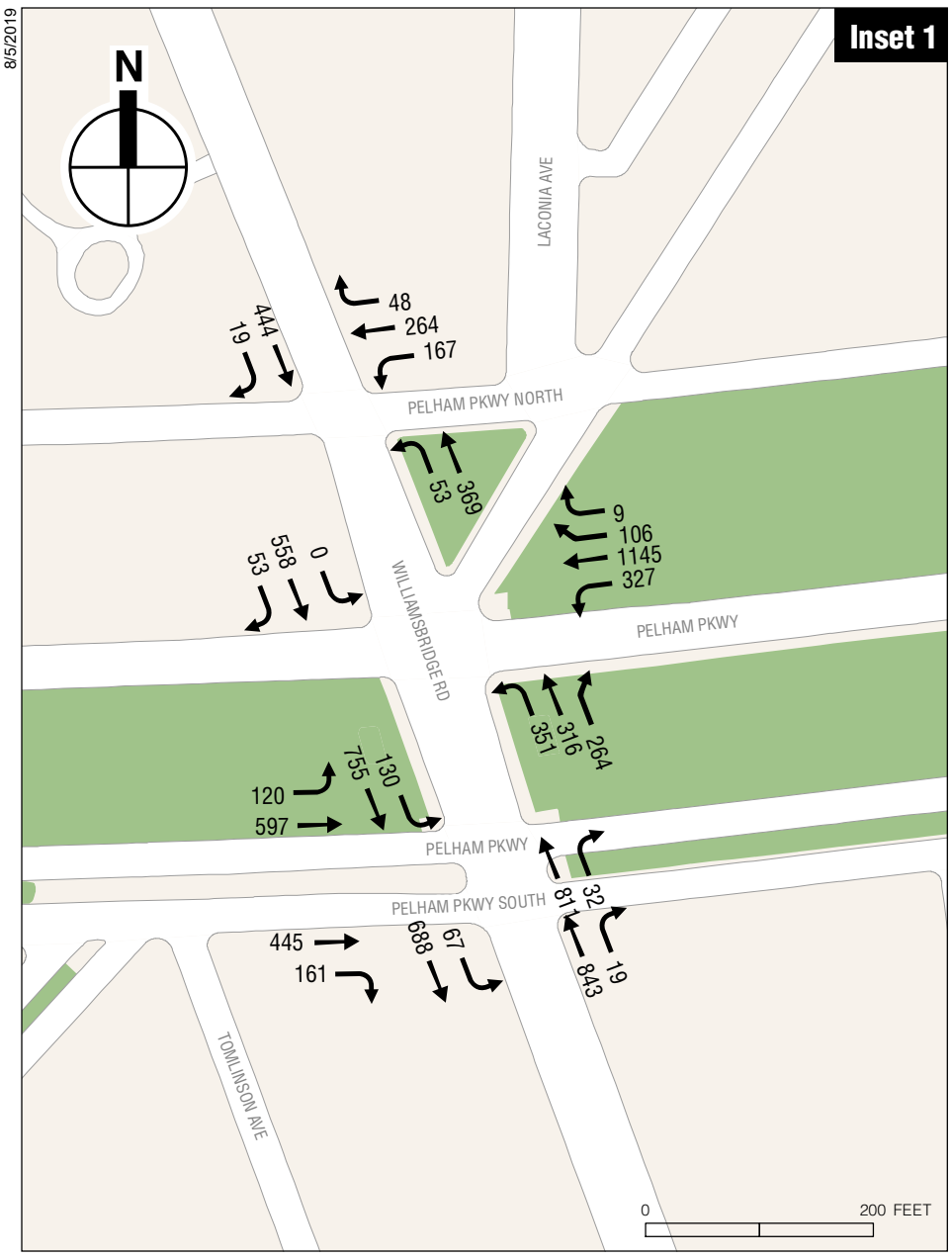
0 800 FEET

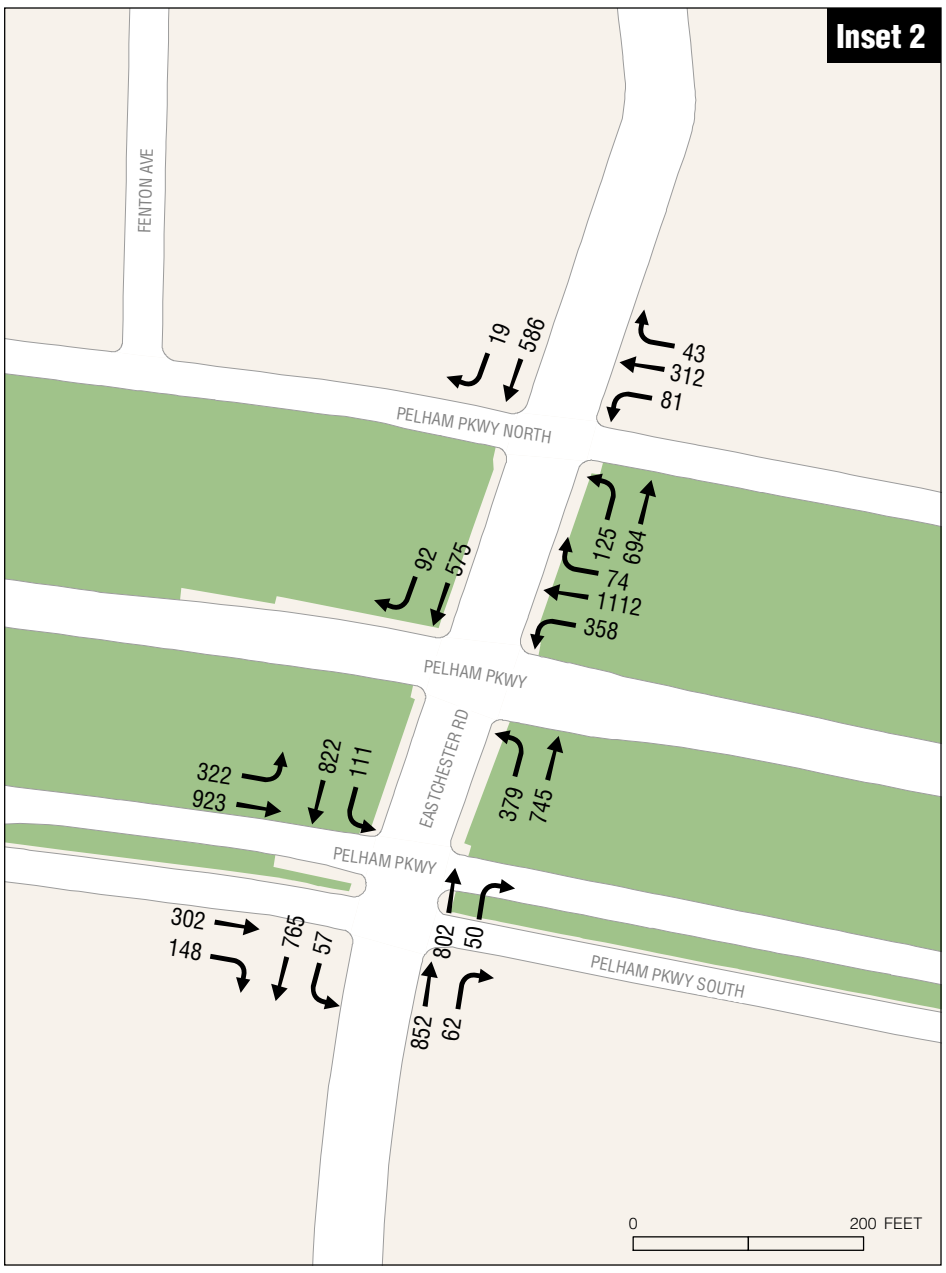
2027 Phase II Construction With-Action Traffic Volumes
Weekday PM Construction Peak Hour

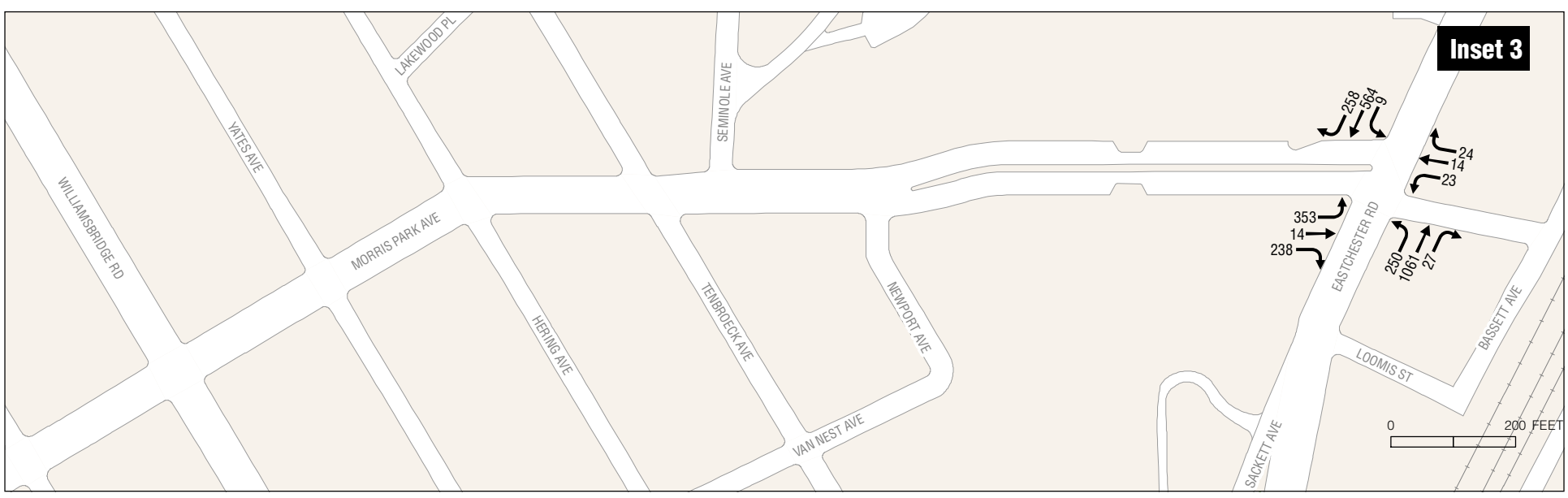
BRONX PSYCHIATRIC CENTER LAND USE IMPROVEMENT PROJECT

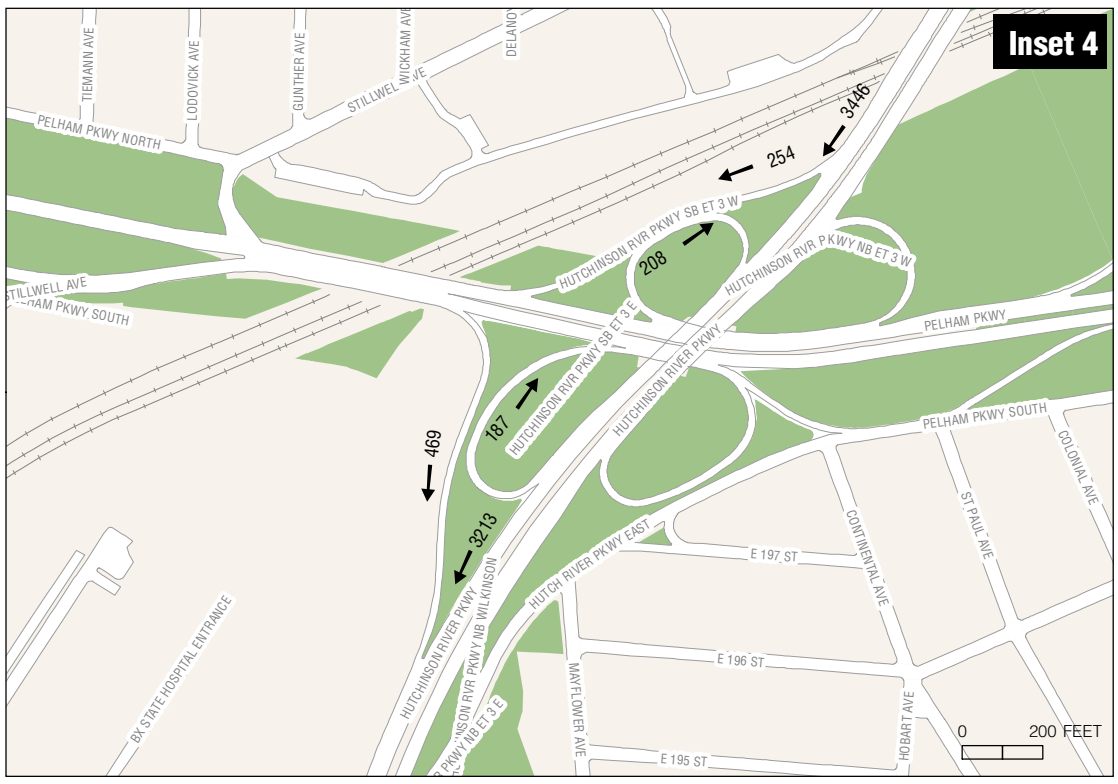
Figure 20-14A

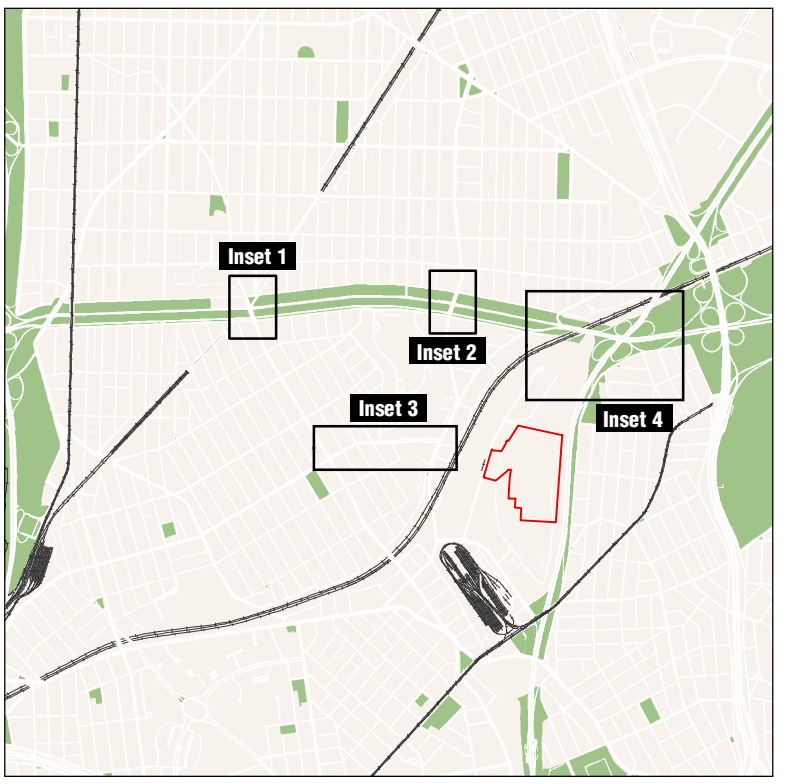
8/5/2019











Project Site

2027 Phase II Construction With-Action Traffic Volumes
Weekday PM Construction Peak Hour

BRONX PSYCHIATRIC CENTER LAND USE IMPROVEMENT PROJECT

Figure 20-14B

Table 20-14
2027 Phase II Construction With-Action Condition—
Summary of Significant Adverse Traffic Impacts

Intersection		Weekday AM Construction Peak Hour	Weekday PM Construction Peak Hour
EB/WB Street	**NB/SB Street**		
Pelham Parkway (WB)	Williamsbridge Road	No Significant Impact	SB-TR
Pelham Parkway (EB)	Eastchester Road	No Significant Impact	EB-TR (Service Rd)
Morris Park Avenue	Eastchester Road	SB-LTR	EB-R NB-L SB-LTR
Waters Place	Eastchester Road	WB-L	WB-L SB-DefL
Williamsbridge Road	Eastchester Road	No Significant Impact	SB-TR
East Tremont Avenue	Silver Street	SB-R	SB-R
Waters Place	Marconi Street	EB-L	EB DefL SB-L SB-R
Waters Place	BPC Driveway	No Significant Impact	EB-LT
Waters Place	Fink Avenue/HRP Southbound Off-Ramp	SB-R	EB-TR SB-R
Westchester Avenue	Ericson Place/Middletown Road	EB-DefL WB-LT	EB-DefL EB-TR WB-LT NB-LTR
Waters Place	Westchester Avenue	NB-TR	EB-LT NB-LTR
East Tremont Avenue	Westchester Avenue	NB-LT	NB-LT
Commerce Avenue	Westchester Avenue	No Significant Impact	SB-LTR
East Tremont Avenue	Ericson Place	No Significant Impact	NB-LTR
Total Impacted Intersections/Lane Groups		**8/9**	**14/24**

Notes: EB = Eastbound; WB = Westbound; NB = Northbound; SB = Southbound; L = Left Turn; T = Through; R = Right Turn.

Table 20-15A
2027 Phase II Construction With-Action Condition—
Recommended Mitigation Measures: Weekday AM Peak Hour

Intersection	No-Action Signal Timing	Recommended Mitigation Measures	Recommended Signal Timing
Morris Park Avenue and Eastchester Road	EB/WB: Green = 33 s NB/SB: Green = 38 s NB: Green = 20 s LPI = 7 s	Shift 1 second of green time from the NB phase to the NB/SB phase.	EB/WB: Green = 33 s NB/SB: Green = 39 s NB: Green = 19 s LPI = 7 s
Waters Place and Eastchester Road	WB: Green = 23 s NB/SB: Green = 40 s SB/WB-R: Green = 12 s	For the north leg of the intersection (from curb to curb), remove parking along both sides of the street and restripe the SB approach lanes (west curb to centerline) from one 8-foot parking lane, one 10-foot through lane and one 11-foot left-turn/through lane to two 11-foot through lanes and one 11-foot left-turn lane; restripe the NB receiving lanes (centerline to east curb) from two 11-foot lanes and one 8-foot parking lane to two 11-foot through lanes. An additional 4-foot buffer is provided. For the south leg of the intersection (from curb to curb), remove parking along both sides of the street and restripe the SB receiving lanes (west curb to centerline) from one 8-foot parking lane, one 10-foot through lane and one 11-foot through lane to two 11-foot through lanes; restripe the NB approach lanes (centerline to east curb) from one 12-foot through lane, one 9-foot though/right-turn lane and one 8-foot parking lane to two 11-foot through lanes and one 11-foot right-turn lane. An additional 3-foot buffer is provided. For the east leg of the intersection, remove parking along the north side of the street and restripe the WB approach (north curb to centerline) from one 8-foot parking lane, one 20-foot right lane and one 12-foot left-turn lane to one 11-foot right-turn lane, one 11-foot left-turn lane and one 12-foot left-turn lane. An additional 6-foot buffer is provided. Modify the three-phase signal to a four-phase signal to add a new pedestrian-actuated phase providing 27 seconds that allows the north and south crosswalks to operate simultaneously with the permitted WB right-turns. Add the NB-R movement to the WB phase. The timing/phasing presented in the "Recommended Signal Timing" column of this table shows the effective timing proportioned to reflect a full pedestrian-actuated phase that is activated an estimated five times an hour.	Pedestrian-actuated/WB-R: Green = 4 s WB/NB-R: Green = 27 s NB/SB: Green = 30 s SB/WB-R: Green = 14 s
East Tremont Avenue and Silver Street	EB/WB: Green = 42 s EB/SB-R: Green = 38 s Pedestrian: Green = 25 s	Shift 2 seconds of green time from the EB/WB phase to the EB/SB-R phase.	EB/WB: Green = 40 s EB/SB-R: Green = 40 s Pedestrian: Green = 25 s
Waters Place and Marconi Street	EB Leading = 7 s EB/WB: Green = 42 s SB: Green = 26 s	For the east leg of the intersection, remove parking along both sides of the street and restripe the WB approach lanes (north curb to centerline) from one 8-foot parking lane, one 17-foot through/right-turn lane and one 12-foot through lane to one 11-foot right-turn lane, one 11-foot through lane, and one 12-foot through lane. An additional 3-foot buffer is provided. For the west leg of intersection, remove parking along both sides of the street and restripe the EB approach lanes (south curb to centerline) from one 8-foot parking lane, one 20-foot through lane and one 10-foot left-turn/through lane to one 11-foot left turn lane and two 11-foot through lanes. An additional 5-foot buffer is provided. For the WB receiving lanes, restripe (north curb to centerline) the existing 28-foot through lane and 12-foot through lane to a 12-foot curb lane, 11-foot through lane, and 12-foot through lane. Retain the current regulations for the curb lane: No Standing Anytime closest to the corner followed by a No Standing Bus Stop further to the west. An additional 6-foot buffer is provided. Add the SB-R movement to the EB leading phase. Add the WB-R movement to the SB phase.	No change from No-Action
Waters Place and Fink Avenue/HRP Southbound Off-Ramp	EB/WB: Green = 40 s NB/SB: Green = 40 s	Unmitigated	No change from No-Action

Table 20-15A
2027 Phase II Construction With-Action Condition—
Recommended Mitigation Measures: Weekday AM Peak Hour

Intersection	No-Action Signal Timing	Recommended Mitigation Measures	Recommended Signal Timing
Westchester Avenue and Ericson Place/Middletown Road	EB Leading: Green = 6 s EB/WB: Green = 23 s NB: Green = 18 s SB: Green = 20 s	For the southbound approach (Middletown Road), remove the parking on the receiving approach and restripe the lanes from one 8-foot parking lane and one 15-foot left-turn/through/right-turn lane to one 8-foot parking lane, one 11-foot right-turn lane, and one 11-foot through/left-turn lane. Also, move the centerline 9 feet towards the west curb line making one 17-foot receiving lane. For the northbound approach (Ericson Place), remove the parking on the left (along the median) and restripe the lanes from one 8-foot parking lane, one 20-foot left-turn/through/right-turn lane, and another 8-foot parking lane to one 8-foot parking lane, one 11-foot left-turn/through lane, and one 11-foot through/right-turn lane. An additional 6-foot buffer is provided. Add the SB-R movement to the EB leading phase. Shift 1 second of green time from the SB phase to the EB/SB-R phase. Impacts at this intersection would be partially mitigated.	EB/SB-R: Green = 6 s EB/WB: Green = 24 s NB: Green = 18 s SB: Green = 19 s
Waters Place and Westchester Avenue	EB: Green = 40 s NB/SB: Green = 40 s	Shift 2 seconds of green time from the EB Phase to the NB/SB phase.	EB: Green = 38 s NB/SB: Green = 42 s
East Tremont Avenue and Westchester Avenue	EB/WB: Green = 51 s LPI = 7 s NB/SB: Green = 52 s	Shift 2 seconds of green time from the EB/WB phase to the NB/SB phase.	EB/WB: Green = 49 s LPI = 7 s NB/SB: Green = 54 s

Table 20-15B
2027 Phase II Construction With-Action Condition—
Recommended Mitigation Measures: Weekday PM Peak Hour

Intersection	No-Action Signal Timing	Recommended Mitigation Measure	Recommended Signal Timing
Pelham Parkway (WB) and Eastchester Road	WB: Green = 29 s NB/SB: Green = 30 s NB: Green = 45 s	Shift 1 second of green time from the NB phase to the NB/SB phase.	WB: Green = 29 s NB/SB: Green = 31 s NB: Green = 44 s
Pelham Parkway (EB) and Eastchester Road	EB: Green = 45 s NB/SB: Green = 50 s SB: Green = 10 s	Shift 1 second of green time from the NB/SB phase to the EB phase.	EB: Green = 46 s NB/SB: Green = 49 s SB: Green = 10 s
Morris Park Avenue and Eastchester Road	EB/WB: Green = 33 s NB/SB: Green = 38 s NB: Green = 20 s LPI = 7 s	Unmitigated	No change from No-Action
Waters Place and Eastchester Road	WB: Green = 23 s NB/SB: Green = 40 s SB/WB-R: Green = 12 s	For the north leg of the intersection (from curb to curb), remove parking along both sides of the street and restripe the SB approach lanes (west curb to centerline) from one 8-foot parking lane, one 10-foot through lane, and one 11-foot left-turn/through lane to two 11-foot through lanes and one 11-foot left-turn lane; restripe the NB receiving lanes (centerline to east curb) from two 11-foot lanes and one 8-foot parking lane to two 11-foot through lanes. An additional 4-foot buffer is provided. For the south leg of the intersection (from curb to curb), remove parking along both sides of the street and restripe the SB receiving lanes (west curb to centerline) from one 8-foot parking lane, one 10-foot through lane, and one 11-foot through lane to two 11-foot through lanes; restripe the NB approach lanes (centerline to east curb) from one 12-foot through lane, one 9-foot though/right-turn lane, and one 8-foot parking lane to two 11-foot through lanes and one 11-foot right-turn lane. An additional 3-foot buffer is provided. For the east leg of the intersection, remove parking along north side of the street and restripe the WB approach (north curb to centerline) from one 8-foot parking lane, one 20-foot right lane, and one 12-foot left-turn lane to one 11-foot right-turn lane, one 11-foot left-turn lane and one 12-foot left-turn lane. An additional 6-foot buffer is provided. Modify the three-phase signal to a four-phase signal to add a new pedestrian-actuated phase providing 27 seconds that allows the north and south crosswalks to operate simultaneously with the permitted WB right-turns. Add the NB-R movement to the WB phase. The timing/phasing presented in the "Recommended Signal Timing" column of this table shows the effective timing proportioned to reflect a full pedestrian-actuated phase that is activated an estimated five times an hour.	Pedestrian-actuated/WB-R: Green = 4 s WB/NB-R: Green = 27 s NB/SB: Green = 30 s SB/WB-R: Green = 14 s
Williamsbridge Road and Eastchester Road	EB/WB: Green = 40 s NB/SB: Green = 40 s	For the north leg of the intersection, remove parking along the SB approach and restripe the SB approach lanes (west curb to centerline) from one 8-foot parking lane, one 11-foot through/right-turn lane, and one 11-foot left-turn/through/right-turn lane to one 11-foot right-turn lane, one 10-foot through lane, and one 11-foot left turn lane. Move the centerline two feet to the east for the length parallel to the 215-feet No Standing Anytime regulation along the NB approach.	No change from No-Action
East Tremont Avenue and Silver Street	EB/WB: Green = 42 s EB/SB-R: Green = 38 s LPI = 25 s	Unmitigated	No change from No-Action

Table 20-15B
2027 Phase II Construction With-Action Condition—
Recommended Mitigation Measures: Weekday PM Peak Hour

Intersection	No-Action Signal Timing	Recommended Mitigation Measure	Recommended Signal Timing
Waters Place and Marconi Street	EB Leading = 7 s EB/WB: Green = 42 s SB: Green = 26 s	For the east leg of the intersection, remove parking along both sides of the street and restripe the WB approach lanes (north curb to centerline) from one 8-foot parking lane, one 17-foot through/right-turn lane, and one 12-foot through lane to one 11-foot right-turn lane, one 11-foot through lane, and one 12-foot through lane. An additional 3-foot buffer is provided. For the west leg of the intersection, remove parking along both sides of the street and restripe the EB approach lanes (south curb to centerline) from one 8-foot parking lane, one 20-foot through lane, and one 10-foot left-turn/through lane to one 11-foot left-turn lane and two 11-foot through lanes. An additional 5-foot buffer is provided. For the WB receiving lanes, restripe (north curb to centerline) the existing 28-foot through lane and 12-foot through lane to a 12-foot curb lane, 11-foot through lane, and 12-foot through lane. Retain the current regulations for the curb lane: No Standing Anytime closest to the corner followed by a No Standing Bus Stop further to the west. An additional 6-foot buffer is provided. Add the SB-R movement to the EB leading phase. Add the WB-R movement to the SB phase. Impacts at this intersection would be partially mitigated.	No change from No-Action
Waters Place and BPC Driveway	EB/WB: Green = 45 s SB: Green = 35 s	For the east leg of the intersection (from curb to curb), remove parking along both sides of the street and restripe the WB approach lanes (north curb to centerline) from one 8-foot parking lane, one 11-foot through/right-turn lane, and one 10-foot through lane to one 11-foot through/right-turn lane and one 11-foot through lane; restripe the EB receiving lanes (centerline to south curb) from two 11-foot through lanes and one 8-foot parking lane to two 11-foot through lanes. An additional 5-foot buffer is provided. For the west leg of the intersection (from curb to curb), remove parking along both sides of the street and restripe the EB approach lanes (south curb to centerline) from one 8-foot parking lane, one 10.5-foot through lane, and one 11-foot left-turn/through lane to two 11-foot through lanes and one 11-foot left-turn lane; restripe the WB receiving lanes (centerline to north curb) from one 11-foot through lane, one 11.5-foot through lane and one 8-foot parking lane to two 11-foot through lanes. An additional 5-foot buffer is provided. Add an EB leading phase. Shift 11 seconds of green time from the SB phase to the EB leading phase (Green/Amber/Red: 6/3/2).	EB Leading: Green = 6 s EB/WB: Green = 45 s SB: Green = 24 s
Waters Place and Fink Avenue/HRP Southbound Off-Ramp	EB/WB: Green = 40 s NB/SB: Green = 40 s	Unmitigated	No change from No-Action

Table 20-15B
2027 Phase II Construction With-Action Condition—
Recommended Mitigation Measures: Weekday PM Peak Hour

Intersection	No-Action Signal Timing	Recommended Mitigation Measure	Recommended Signal Timing
Westchester Avenue and Ericson Place/Middletown Road	EB Leading: Green = 6 s EB/WB: Green = 23 s NB: Green = 18 s SB: Green = 20 s	For the southbound approach (Middletown Road), remove the parking on the receiving approach and restripe the lanes from one 8-foot parking lane and a 15-foot left-turn/through/right-turn lane to one 8-foot parking lane, one 11-foot right-turn lane, and one 11-foot through/left-turn lane. Also, move the centerline 9 feet towards the west curb line making one 17-foot receiving lane. For the northbound approach (Ericson Place), remove the parking on the left (along the median) and restripe the lanes from one 8-foot parking lane, one 20-foot left-turn/through/right-turn lane and another 8-foot parking lane to one 8-foot parking lane, one 11-foot left-turn/through lane and one 11-foot through/right-turn lane. An additional 6-foot is provided. Add the SB-R movement to the EB leading phase. Shift 1 second of green time from the SB phase to the EB/WB phase. Impacts at this intersection would be partially mitigated.	EB/SB-R: Green = 6 s EB/WB: Green = 24 s NB: Green = 18 s SB: Green = 19 s
Waters Place and Westchester Avenue	EB: Green = 40 s NB/SB: Green = 40 s	Unmitigated	No change from No-Action
East Tremont Avenue and Westchester Avenue	EB/WB: Green = 51 s LPI = 7 s NB/SB: Green = 52 s	Shift 1 second of green time from the EB/WB phase to the NB/SB phase.	WB: Green = 50 s LPI = 7 s NB/SB: Green = 53 s
Commerce Avenue and Westchester Avenue	EB/WB: Green = 51 s NB/SB: Green = 59 s	Shift 2 seconds of green time from the EB/WB phase to the NB/SB phase.	EB/WB: Green = 49 s NB/SB: Green = 61 s
East Tremont Avenue and Ericson Place	EB/WB: Green = 25 s EB: Green = 16 s LPI = 7 s NB: Green = 27 s	Shift 2 seconds of green time from the EB phase to the NB phase.	EB/WB: Green = 25 s EB: Green = 15 s LPI = 7 s NB: Green = 28 s
Notes: EB = Eastbound; WB = Westbound; NB = Northbound; SB = Southbound; L = Left-turn; T = Through; R = Right-turn; LPI = Leading Pedestrian Interval; HRP = Hutchinson River Parkway; PP = Pelham Parkway.			

Avenue and Silver Street; Waters Place and Marconi Street; Waters Place and Fink Avenue/HRP Southbound Off-Ramp; Westchester Avenue and Ericson Place/Middletown Road; and Waters Place and Westchester Avenue intersections could not be fully mitigated during the weekday PM construction peak hour. These measures would be subject to review and approval by NYCDOT prior to implementation, if a means of advancing Phase II of the proposed project materializes in the future.

Based on the 2027 Phase II construction With-Action condition traffic analysis results, it is expected that construction-related mitigation measures would likely be needed prior to the peak construction quarter. A review of the average number of daily workers and trucks by quarter presented in **Table 20-4**, the Phase II peak construction vehicle trip projections presented in **Table 20-6**, and the Phase II construction traffic Level 2 screening analysis results presented in **Table 20-10** indicates that the first quarter of Phase II construction (1st quarter of Year 6) would result in construction peak hour vehicle trips below the *CEQR Technical Manual* analysis thresholds requiring further detailed traffic analysis. Therefore, the construction-related vehicle trips from this quarter would not have the potential to result in construction-related traffic impacts and would not require mitigation. For the subsequent quarters following this quarter and prior to the peak construction quarter, the anticipated construction peak hour vehicle trips would exceed the *CEQR*

Technical Manual analysis thresholds and which may result in construction-related traffic impacts requiring mitigation. However, as with the 2027 Phase II construction With-Action condition, there could also be construction-related traffic impacts at the same locations that could not be fully mitigated during these earlier quarters prior to the peak construction quarter.

Detailed traffic analysis results for the 2027 Phase II construction conditions in terms of LOS, v/c ratios, and average delays are presented in **Tables 20-16A to 20-16D**. As discussed below, significant adverse traffic impacts were identified for each of the affected intersections by approach/lane group during the weekday AM and PM construction peak hours. Potential measures that could be implemented to mitigate these significant adverse traffic impacts are also discussed below.

Table 20-16A
2027 Phase II Construction
No-Action, With-Action, and Mitigation Condition Level of Service Analysis
Signalized Intersections—Weekday AM Peak Hour

	Weekday AM Construction Peak Hour											
	2027 No-Action				2027 With-Action				2027 Mitigation			
Intersection	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
1. Pelham Parkway North & Williamsbridge Road												
WB	L	0.18	21.4	C	L	0.18	21.4	C	No significant adverse impacts			
	LTR	0.20	21.2	C	LTR	0.20	21.2	C				
NB	LT	0.23	11.0	B	LT	0.23	11.0	B				
SB	TR	0.37	12.4	B	TR	0.35	12.2	B				
	Int.		14.3	B	Int.		14.3	B				
2. Pelham Parkway (Westbound) & Williamsbridge Road & Esplanade												
WB	LT	0.70	30.2	C	LT	0.71	30.5	C	No significant adverse impacts			
	R	0.25	24.7	C	R	0.25	24.7	C				
NB	L	0.20	15.2	B	L	0.20	15.4	B				
	T	0.22	9.5	A	T	0.22	9.5	A				
SB	LTR	0.66	32.0	C	LTR	0.67	32.2	C				
	Int.		25.8	C	Int.		26.1	C				
3. & 4. Pelham Parkway (Eastbound) & Williamsbridge Road												
EB (ML)	LT	0.81	42.3	D	LT	0.84	44.2	D	No significant adverse impacts			
EB (SR)	TR	0.57	33.7	C	TR	0.60	34.4	C				
	R	0.52	37.1	D	R	0.52	37.1	D				
NB	T	0.56	30.0	C	T	0.56	30.0	C				
	R	0.21	25.8	C	R	0.21	25.8	C				
SB	L	0.28	7.8	A	L	0.28	7.8	A				
	LT	0.36	7.5	A	LT	0.36	7.6	A				
	Int.		25.8	C	Int.		26.5	C				
5. Pelham Parkway North & Eastchester Road												
WB	LTR	0.41	29.6	C	LTR	0.41	29.6	C	No significant adverse impacts			
NB	LT	0.22	7.3	A	LT	0.23	7.3	A				
SB	TR	0.44	27.0	C	TR	0.46	27.3	C				
	Int.		19.8	B	Int.		20.0	C				
6. Pelham Parkway (Westbound) & Eastchester Road												
WB	L	0.41	22.6	C	L	0.41	22.6	C	No significant adverse impacts			
	LT	0.56	23.4	C	LT	0.56	23.4	C				
	R	0.08	18.3	B	R	0.08	18.3	B				
NB	L	0.27	18.3	B	L	0.27	18.3	B				
	T	0.26	13.4	B	T	0.26	13.4	B				
SB	TR	0.47	27.9	C	TR	0.47	27.9	C				
	Int.		22.1	C	Int.		22.1	C				
7. & 8. Pelham Parkway (Eastbound) & Eastchester Road												
EB (ML)	LT	0.67	25.7	C	LT	0.67	25.7	C	No significant adverse impacts			
EB (SR)	TR	0.76	35.3	D	TR	0.76	35.3	D				
NB	TR	0.59	27.8	C	TR	0.59	27.8	C				
SB	L	0.29	18.9	B	L	0.29	18.9	B				
	LT	0.52	16.5	B	LT	0.52	16.5	B				
	Int.		24.4	C	Int.		24.4	C				

Table 20-16A, cont'd
2027 Phase II Construction
No-Action, With-Action, and Mitigation Condition Level of Service Analysis
Signalized Intersections—Weekday AM Peak Hour

	Weekday AM Construction Peak Hour											
	2027 No-Action				2027 With-Action				2027 Mitigation			
Intersection	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
9. Morris Park Avenue & Eastchester Road												
EB	L	0.62	47.0	D	L	0.62	47.0	D	L	0.62	47.0	D
	LT	0.31	36.9	D	LT	0.31	36.9	D	LT	0.31	36.9	D
	R	0.48	40.5	D	R	0.48	40.6	D	R	0.48	40.6	D
WB	LTR	0.15	34.0	C	LTR	0.15	34.0	C	LTR	0.15	34.0	C
NB	L	0.54	53.5	D	L	0.55	53.6	D	L	0.57	55.8	E
	TR	0.31	16.7	B	TR	0.32	16.9	B	TR	0.32	16.9	B
SB	LTR	0.91	55.9	E	LTR	0.96	63.2	E +	LTR	0.93	58.0	E
	Int.		42.3	D	Int.		45.3	D	Int.		43.4	D
10. Waters Place & Eastchester Road												
WB	L	0.71	40.1	D	L	0.84	49.3	D +	L	0.37	26.0	C
	R	0.63	23.7	C	R	0.49	20.2	C	R	0.45	13.8	B
NB	TR	0.66	22.6	C	TR	0.76	25.8	C	T	0.42	24.6	C
									R	0.48	8.3	A
SB	DefL	0.44	18.2	B	DefL	0.57	25.4	C	DefL	0.47	19.1	B
	T	0.33	8.7	A	T	0.33	8.7	A	T	0.16	10.4	B
	Int.		23.1	C	Int.		26.7	C	Int.		17.2	B
11. Blondell Avenue & Eastchester Road												
EB	LR	0.21	21.8	C	LR	0.22	22.0	C	No significant adverse impacts			
WB	LTR	0.49	25.7	C	LTR	0.52	26.5	C				
NB	LT	0.44	17.8	B	LT	0.51	18.8	B				
SB	TR	0.41	17.4	B	TR	0.45	17.9	B				
	Int.		19.3	B	Int.		19.9	B				
12. Williamsbridge Road & Eastchester Road												
EB	LTR	0.37	17.5	B	LTR	0.38	17.7	B	No significant adverse impacts			
WB	LTR	0.30	16.7	B	LTR	0.32	16.9	B				
NB	LTR	0.53	21.0	C	LTR	0.61	23.1	C				
SB	L	0.15	15.8	B	L	0.24	17.1	B				
	TR	0.60	23.1	C	TR	0.64	24.4	C				
	Int.		19.4	B	Int.		20.5	C				
13. East Tremont Avenue & Silver Street												
EB	L	0.46	14.7	B	L	0.53	17.0	B	L	0.53	17.0	B
	T	0.27	7.0	A	T	0.27	7.0	A	T	0.27	7.0	A
WB	TR	0.43	31.1	C	TR	0.43	31.1	C	TR	0.45	32.9	C
SB	R	0.88	60.2	E	R	0.95	71.4	E +	R	0.90	60.9	E
	Int.		30.6	C	Int.		34.3	C	Int.		31.9	C
14. Project Driveway & Marconi Street												
EB	LTR	0.41	33.4	C	LTR	0.41	33.4	C	No significant adverse impacts			
WB	L	0.01	36.6	D	L	0.34	40.4	D				
	TR	0.00	16.8	B	TR	0.00	16.8	B				
NB	LT	0.69	19.9	B	LT	0.70	20.0	B				
	R	0.01	5.4	A	R	0.00	5.3	A				
SB	LTR	0.18	12.7	B	LTR	0.18	12.7	B				
	Int.		19.7	B	Int.		21.2	C				
15. Waters Place & Marconi Street												
EB	L	0.99	81.9	F	L	1.74	366.8	F +	L	0.94	50.1	D
	LT	0.28	9.4	A	LT	0.37	10.6	B	LT	0.13	7.9	A
WB	TR	0.66	21.1	C	TR	0.80	25.4	C	T	0.31	15.5	B
									R	0.69	8.2	A
SB	L	0.29	26.6	C	L	0.36	27.8	C	L	0.36	27.8	C
	R	0.45	30.0	C	R	0.62	34.9	C	R	0.42	20.6	C
	Int.		30.4	C	Int.		90.5	F	Int.		21.1	C
16. Waters Place & BPC Driveway												
EB	LT	0.35	14.6	B	LT	0.42	15.6	B	No significant adverse impacts			
WB	TR	0.79	23.0	C	TR	0.99	43.2	D				
SB	L	0.06	17.4	B	L	0.07	17.5	B				
	LR	0.09	17.8	B	LR	0.11	18.0	B				
	Int.		20.9	C	Int.		36.3	C				

Table 20-16A, cont'd
2027 Phase II Construction
No-Action, With-Action, and Mitigation Condition Level of Service Analysis
Signalized Intersections—Weekday AM Peak Hour

Intersection	Weekday AM Construction Peak Hour											
	2027 No-Action				2027 With-Action				2027 Mitigation			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
17. Waters Place & Fink Avenue/HRP Southbound Off-Ramp												
EB	TR	0.30	16.6	B	TR	0.32	16.9	B	No significant adverse impacts			
WB	LT	0.36	17.3	B	LT	0.43	18.3	B				
NB	LR	0.71	32.0	C	LR	0.82	40.3	D				
SB	L	0.37	18.1	B	L	0.37	18.1	B				
	T	0.38	18.7	B	T	0.38	18.7	B				
	Int.		19.8	B	Int.		21.6	C				
18. Westchester Avenue & Ericson Place/Middletown Road												
EB	DefL	0.74	174.8	F	DefL	0.81	231.3	F +	DefL	0.77	195.7	F +
	TR	0.56	41.8	D	TR	0.60	44.1	D	TR	0.58	41.2	D
WB	LT	0.89	265.8	F	LT	0.98	321.6	F +	LT	0.93	281.1	F +
NB	LTR	0.71	48.5	D	LTR	0.77	53.4	D	LTR	0.74	49.2	D
SB	LTR	1.00	140.3	F	LTR	1.00	140.1	F	LT	0.60	43.3	D
									R	0.29	23.5	C
	Int.		117.3	F	Int.		135.7	F	Int.		102.4	F
19. Waters Place & Westchester Avenue												
EB	LT	0.36	17.3	B	LT	0.39	17.7	B	LT	0.41	19.1	B
NB	LTR	0.76	69.1	E	DefL	0.78	48.3	D	DefL	0.72	38.6	D
					TR	0.76	101.7	F +	TR	0.73	84.0	F
SB	LTR	0.64	32.4	C	LTR	0.66	32.6	C	LTR	0.63	29.0	C
	Int.		38.5	D	Int.		43.4	D	Int.		38.0	D
21. Tan Place & Westchester Avenue												
WB	L	0.10	17.9	B	L	0.10	17.9	B	No significant adverse impacts			
	R	0.46	23.3	C	R	0.51	24.6	C				
NB	T	0.45	46.0	D	T	0.50	49.5	D				
SB	T	0.37	17.6	B	T	0.38	17.6	B				
	Int.		28.0	C	Int.		29.9	C				
22. Blondell Avenue & Westchester Avenue												
WB	L	0.12	21.2	C	L	0.12	21.2	C	No significant adverse impacts			
	T	0.23	22.7	C	T	0.25	23.0	C				
NB	LT	0.38	30.4	C	LT	0.40	30.9	C				
SB	TR	0.52	29.1	C	TR	0.53	29.1	C				
	Int.		28.0	C	Int.		28.2	C				
23. East Tremont Avenue & Westchester Avenue												
EB	LTR	0.27	23.0	C	LTR	0.29	23.3	C	LTR	0.30	24.7	C
WB	LTR	0.39	24.6	C	LTR	0.41	24.8	C	LTR	0.42	26.3	C
NB	LT	0.79	60.0	E	LT	0.84	70.2	E +	LT	0.81	60.6	E
SB	TR	0.38	27.3	C	TR	0.38	27.4	C	TR	0.37	25.7	C
	Int.		32.4	C	Int.		34.8	C	Int.		33.0	C
24. Commerce Avenue & Westchester Avenue												
EB	LT	0.30	24.0	C	LT	0.30	24.0	C	No significant adverse impacts			
WB	LT	0.21	22.7	C	LT	0.21	22.7	C				
	R	0.24	23.4	C	R	0.24	23.4	C				
NB	LTR	0.38	29.8	C	LTR	0.40	30.4	C				
SB	LTR	0.36	26.7	C	LTR	0.36	27.1	C				
	Int.		26.3	C	Int.		26.6	C				
26. East Tremont Avenue & HRP East												
EB	T	0.15	6.8	A	T	0.16	6.9	A	No significant adverse impacts			
WB	T	0.49	9.6	A	T	0.56	10.1	B				
SB	LR	0.43	33.0	C	LR	0.43	33.1	C				
	Int.		11.7	B	Int.		11.9	B				
27. East Tremont Avenue & Ericson Place												
EB	LT	0.23	12.6	B	LT	0.25	12.8	B	No significant adverse impacts			
WB	T	0.68	33.5	C	T	0.72	34.6	C				
NB	LTR	0.72	33.6	C	LTR	0.81	37.7	D				
	Int.		29.0	C	Int.		31.2	C				

Notes: L = Left-turn; T = Through; R = Right-turn; LOS = Level of Service; EB = Eastbound; WB = Westbound; NB = Northbound; SB = Southbound; Def = De facto; ML = Mainline; SR = Service Road
+ denotes a significant adverse impact

Table 20-16B
2027 Phase II Construction
No-Action, With-Action, and Mitigation Condition Level of Service Analysis
Unsignalized Intersections—Weekday AM Construction Peak Hour

	Weekday AM Construction Peak Hour											
	2027 No-Action				2027 With-Action				2027 Mitigation			
Intersection	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
17. Waters Place & HRP Southbound Off-Ramp *												
SB	R	0.58	13.4	B	R	1.08	82.8	F +	Unmitigated			
19. Waters Place & Westchester Avenue *												
EB	R	0.12	8.0	A	R	0.12	7.8	A	No significant adverse impacts			
20. Westchester Avenue & Waters Avenue												
EB	LR	0.33	12.1	B	LR	0.27	10.4	B	No significant adverse impacts			
NB	LT	0.24	9.8	A	LT	0.23	9.0	A				
22. Blondell Avenue & Westchester Avenue *												
WB	R	0.07	8.1	A	R	0.08	8.2	A	No significant adverse impacts			
24. Commerce Avenue & Westchester Avenue *												
EB	R	0.16	11.6	B	R	0.07	8.1	A	No significant adverse impacts			
25. East Tremont Avenue & Tan Place **												
28. Roebling Avenue and Ericson Place/HRP East												
WB	LR	0.08	8.3	A	LR	0.08	8.4	A	No significant adverse impacts			
NB	TR	0.37	9.9	A	TR	0.41	10.4	B				
SB	LT	0.14	8.3	A	LT	0.14	8.4	A				
30. Bronx Site Roundabout												
EB	TR	0.10	4.0	A	TR	0.10	4.0	A	No significant adverse impacts			
WB	LT	0.20	4.2	A	LT	0.20	4.2	A				
NB	LR	0.40	4.3	A	LR	0.40	4.3	A				

Notes: L = Left-turn; T = Through; R = Right-turn; LOS = Level of Service; EB = Eastbound; WB = Westbound; NB = Northbound; SB = Southbound
+ denotes a significant adverse impact
*Channelized Right Turn analyzed as Stop Controlled; ** No traffic control

Table 20-16C
2027 Phase II Construction
No-Action, With-Action, and Mitigation Condition Level of Service Analysis
Signalized Intersections--Weekday PM Peak Hour

	Weekday PM Construction Peak Hour											
	2027 No-Action				2027 With-Action				2027 Mitigation			
Intersection	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
1. Pelham Parkway North & Williamsbridge Road												
WB	L	0.30	23.1	C	L	0.30	23.1	C	No significant adverse impacts			
	LTR	0.33	22.6	C	LTR	0.33	22.6	C				
NB	LT	0.29	11.6	B	LT	0.30	11.6	B				
SB	TR	0.35	12.2	B	TR	0.35	12.2	B				
	Int.		15.6	B	Int.		15.6	B				
2. Pelham Parkway (Westbound) & Williamsbridge Road & Esplanade												
WB	LT	1.03	62.9	E	LT	1.04	66.1	E	No significant adverse impacts			
	R	0.30	25.5	C	R	0.30	25.5	C				
NB	L	0.42	22.2	C	L	0.42	22.2	C				
	T	0.45	11.8	B	T	0.45	11.8	B				
SB	LTR	0.77	35.7	D	LTR	0.77	35.7	D				
	Int.		41.4	D	Int.		42.9	D				

Table 20-16C, cont'd
2027 Phase II Construction
No-Action, With-Action, and Mitigation Condition Level of Service Analysis
Signalized Intersections--Weekday PM Peak Hour

	Weekday PM Construction Peak Hour											
	2027 No-Action				2027 With-Action				2027 Mitigation			
Intersection	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
3. & 4. Pelham Parkway (Eastbound) & Williamsbridge Road												
EB (ML)	LT	1.04	78.0	E	LT	1.04	78.0	E	No significant adverse impacts			
EB (SR)	TR	0.69	37.0	D	TR	0.69	37.0	D				
	R	0.87	70.0	E	R	0.87	70.0	E				
NB	T	0.99	60.2	E	T	1.00	62.5	E				
	R	0.17	25.1	C	R	0.17	25.1	C				
SB	L	0.30	10.5	B	L	0.30	10.6	B				
	LT	0.47	8.6	A	LT	0.47	8.7	A				
	Int.		46.2	D	Int.		46.8	D				
5. Pelham Parkway North & Eastchester Road												
WB	LTR	0.61	41.2	D	LTR	0.61	41.2	D	No significant adverse impacts			
NB	LT	0.44	11.4	B	LT	0.47	11.9	B				
SB	TR	0.63	39.0	D	TR	0.70	40.9	D				
	Int.		27.5	C	Int.		28.2	C				
6. Pelham Parkway (Westbound) & Eastchester Road												
WB	L	0.94	76.6	E	L	0.94	76.6	E	L	0.94	76.6	E
	LT	1.16	127.7	F	LT	1.16	127.7	F	LT	1.16	127.7	F
	R	0.26	38.9	D	R	0.26	38.9	D	R	0.26	38.9	D
NB	L	0.51	24.8	C	L	0.53	26.1	C	L	0.54	26.9	C
	T	0.34	9.1	A	T	0.37	9.3	A	T	0.37	9.3	A
SB	TR	0.83	52.3	D	TR	0.91	58.8	E +	TR	0.88	54.8	D
	Int.		69.7	E	Int.		70.0	E	Int.		69.2	E
7. & 8. Pelham Parkway (Eastbound) & Eastchester Road												
EB (ML)	LT	1.09	89.6	F	LT	1.09	89.6	F	LT	1.06	80.3	F
EB (SR)	TR	1.10	106.1	F	TR	1.11	110.4	F +	TR	1.08	100.6	F
NB	TR	0.53	27.4	C	TR	0.57	28.1	C	TR	0.58	29.0	C
SB	L	0.51	36.0	D	L	0.54	39.4	D	L	0.54	40.7	D
	LT	0.53	19.0	B	LT	0.57	19.8	B	LT	0.58	20.5	C
	Int.		59.0	E	Int.		58.9	E	Int.		54.8	D
9. Morris Park Avenue & Eastchester Road												
EB	L	0.96	85.3	F	L	0.96	86.1	F	Unmitigated			
	LT	0.51	42.7	D	LT	0.51	42.8	D				
	R	0.66	47.1	D	R	0.76	53.4	D +				
WB	LTR	0.23	35.3	D	LTR	0.24	35.6	D				
NB	L	0.90	82.3	F	L	0.97	96.7	F +				
	TR	0.73	25.2	C	TR	0.78	27.0	C				
SB	LTR	1.05	88.3	F	LTR	1.16	128.7	F +				
	Int.		56.2	E	Int.		69.7	E				
10. Waters Place & Eastchester Road												
WB	L	1.26	165.9	F	L	1.61	319.5	F +	L	0.72	32.4	C
	R	0.77	29.6	C	R	0.91	42.2	D	R	0.80	24.6	C
NB	TR	0.79	27.0	C	TR	0.89	33.8	C	T	0.52	26.1	C
									R	0.54	9.4	A
SB	DefL	0.76	36.4	D	DefL	1.05	87.0	F +	DefL	0.84	39.8	D
	T	0.55	11.8	B	T	0.55	11.8	B	T	0.27	11.3	B
	Int.		54.7	D	Int.		104.3	F	Int.		24.6	C
11. Blondell Avenue & Eastchester Road												
EB	LR	0.47	28.8	C	LR	0.47	28.8	C	No significant adverse impacts			
WB	LTR	0.67	31.1	C	LTR	0.67	31.1	C				
NB	LT	0.49	18.6	B	LT	0.58	20.0	C				
SB	TR	0.63	21.0	C	TR	0.74	23.8	C				
	Int.		22.5	C	Int.		24.0	C				

Table 20-16C, cont'd
2027 Phase II Construction
No-Action, With-Action, and Mitigation Condition Level of Service Analysis
Signalized Intersections--Weekday PM Peak Hour

Intersection	Weekday PM Construction Peak Hour											
	2027 No-Action				2027 With-Action				2027 Mitigation			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
12. Williamsbridge Road & Eastchester Road												
EB	LTR	0.53	20.1	C	LTR	0.53	20.1	C	LTR	0.53	20.1	C
WB	LTR	0.57	20.7	C	LTR	0.58	20.8	C	LTR	0.58	20.8	C
NB	LTR	0.62	23.2	C	LTR	0.82	33.5	C	LTR	0.76	28.7	C
SB	L	0.31	18.6	B	L	0.38	20.6	C	L	0.38	20.6	C
	TR	1.04	70.6	E	TR	1.27	157.4	F +	T	0.91	40.3	D
									R	0.20	16.0	B
	Int.		34.6	C	Int.		64.6	E	Int.		26.9	C
13. East Tremont Avenue & Silver Street												
EB	L	0.60	25.8	C	L	0.75	31.9	C				
	T	0.48	9.4	A	T	0.48	9.4	A				
WB	TR	0.68	37.0	D	TR	0.68	37.0	D	Unmitigated			
SB	R	1.41	236.0	F	R	1.74	382.7	F +				
	Int.		86.2	F	Int.		141.3	F				
14. Project Driveway & Marconi Street												
EB	LTR	0.63	41.1	D	LTR	0.63	41.1	D				
WB	L	0.00	32.1	C	L	0.00	32.1	C				
	TR	0.00	13.9	B	TR	0.00	13.9	B				
NB	DefL	1.31	228.3	F	DefL	1.31	228.3	F	No significant adverse impacts			
	T	0.54	21.0	C	T	0.55	21.2	C				
	R	0.00	5.3	A	R	0.20	6.7	A				
SB	LTR	0.91	33.3	C	LTR	0.91	33.3	C				
	Int.		41.8	D	Int.		38.9	D				
15. Waters Place & Marconi Street												
EB	DefL	0.79	29.7	C	DefL	1.37	205.2	F +	L	0.90	51.0	D +
	T	0.45	11.2	B	T	0.55	12.8	B	T	0.30	9.2	A
WB	TR	0.57	19.1	B	TR	0.72	22.4	C	T	0.45	17.2	B
									R	0.34	3.1	A
SB	L	1.28	471.2	F	L	1.79	696.1	F +	L	1.79	696.1	F +
	R	1.20	495.5	F	R	1.56	645.2	F +	R	1.07	321.7	F
	Int.		209.3	F	Int.		317.5	F	Int.		240.2	F
16. Waters Place & BPC Driveway												
EB	LT	0.89	29.6	C	LT	1.80	387.5	F +	L	0.82	38.5	D
									T	0.66	12.5	B
WB	TR	0.58	17.5	B	TR	0.77	22.3	C	TR	0.71	20.2	C
SB	L	0.12	18.1	B	L	0.28	20.0	C	L	0.41	30.1	C
	LR	0.21	19.1	B	LR	0.41	22.3	C	LR	0.60	35.9	D
	Int.		23.8	C	Int.		207.0	F	Int.		19.6	B
17. Waters Place & Fink Avenue/HRP Southbound Off-Ramp												
EB	TR	0.87	161.7	F	TR	1.14	285.6	F +				
WB	LT	0.25	16.1	B	LT	0.31	16.8	B				
NB	LR	0.51	24.6	C	LR	0.71	34.7	C	Unmitigated			
SB	L	0.42	18.7	B	L	0.42	18.7	B				
	T	0.63	24.4	C	T	0.63	24.4	C				
	Int.		91.2	F	Int.		167.5	F				
18. Westchester Avenue & Ericson Place/Middletown Road												
EB	DefL	1.44	522.0	F	DefL	2.02	776.3	F +	DefL	1.92	716.4	F +
	TR	1.14	212.3	F	TR	1.18	227.8	F +	TR	1.15	210.2	F
WB	LT	1.07	361.4	F	LT	1.08	365.9	F +	LT	1.03	338.5	F
NB	LTR	0.96	103.5	F	LTR	0.98	116.9	F +	LTR	0.94	83.4	E
SB	LTR	1.25	230.9	F	LTR	1.25	230.9	F	LT	0.48	38.0	D
									R	0.56	30.3	C
	Int.		254.2	F	Int.		327.0	F	Int.		270.0	F
19. Waters Place & Westchester Avenue												
EB	LT	0.90	229.2	F	LT	1.12	331.2	F +				
NB	LTR	0.63	54.9	D	LTR	0.70	70.5	E +	Unmitigated			
SB	LTR	0.63	22.6	C	LTR	0.65	23.1	C				
	Int.		133.3	F	Int.		202.1	F				

Table 20-16C, cont'd
2027 Phase II Construction
No-Action, With-Action, and Mitigation Condition Level of Service Analysis
Signalized Intersections--Weekday PM Peak Hour

Intersection	Weekday PM Construction Peak Hour											
	2027 No-Action				2027 With-Action				2027 Mitigation			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
21. Tan Place & Westchester Avenue												
WB	L	0.07	17.5	B	L	0.07	17.5	B				
	R	0.37	21.7	C	R	0.41	22.3	C				
NB	T	0.50	22.7	C	T	0.55	24.1	C	No significant adverse impacts			
SB	T	0.56	17.2	B	T	0.59	17.8	B				
	Int.		19.7	B	Int.		20.6	C				
22. Blondell Avenue & Westchester Avenue												
WB	L	0.26	23.2	C	L	0.26	23.2	C	L	0.26	23.9	C
	T	0.24	22.8	C	T	0.24	22.8	C	T	0.24	23.5	C
NB	LT	0.62	44.5	D	LT	0.65	47.5	D	LT	0.64	44.9	D
SB	TR	0.62	31.7	C	TR	0.65	32.8	C	TR	0.64	31.6	C
	Int.		33.8	C	Int.		35.3	D	Int.		34.1	C
23. East Tremont Avenue & Westchester Avenue												
EB	LTR	0.63	29.6	C	LTR	0.63	29.6	C	LTR	0.64	30.6	C
WB	LTR	0.53	26.9	C	LTR	0.53	27.0	C	LTR	0.54	27.8	C
NB	LT	0.82	55.6	E	LT	0.85	61.8	E +	LT	0.83	57.4	E
SB	TR	0.61	33.3	C	TR	0.63	33.9	C	TR	0.62	32.7	C
	Int.		34.2	C	Int.		35.6	D	Int.		35.0	C
24. Commerce Avenue & Westchester Avenue												
EB	LT	0.44	26.8	C	LT	0.44	26.8	C	LT	0.46	28.5	C
WB	LT	0.31	24.1	C	LT	0.31	24.1	C	LT	0.32	25.6	C
	R	0.30	24.3	C	R	0.30	24.3	C	R	0.31	25.8	C
NB	LTR	0.55	23.9	C	LTR	0.58	36.4	D	LTR	0.56	33.2	C
SB	LTR	0.68	28.1	C	LTR	0.72	49.7	D +	LTR	0.69	44.0	D
	Int.		25.8	C	Int.		36.9	D	Int.		34.5	C
26. East Tremont Avenue & HRP East												
EB	T	0.42	8.9	A	T	0.42	8.9	A	T	0.42	8.4	A
WB	T	0.62	11.5	B	T	0.65	12.0	B	T	0.64	11.2	B
SB	LR	0.49	34.5	C	LR	0.54	35.8	D	LR	0.57	37.6	D
	Int.		12.4	B	Int.		13.0	B	Int.		12.5	B
27. East Tremont Avenue & Ericson Place												
EB	LT	0.68	19.2	B	LT	0.70	19.9	B	LT	0.72	21.1	C
WB	T	0.85	41.4	D	T	0.88	43.4	D	T	0.88	43.4	D
NB	LTR	1.00	63.9	E	LTR	1.05	78.3	E +	LTR	1.01	65.2	E
	Int.		40.3	D	Int.		46.1	D	Int.		42.2	D

Notes: L = Left-turn; T = Through; R = Right-turn; LOS = Level of Service; EB = Eastbound; WB = Westbound; NB = Northbound; SB = Southbound; Def = De facto; ML = Mainline; SR = Service Road
+ denotes a significant adverse impact

Table 20-16D
2027 Phase II Construction
No-Action, With-Action, and Mitigation Condition Level of Service Analysis
Unsignalized Intersections—Weekday PM Construction Peak Hour

Intersection	Weekday PM Construction Peak Hour											
	2027 No-Action				2027 With-Action				2027 Mitigation			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
17. Waters Place & HRP Southbound Off-Ramp *												
SB	R	0.49	13.5	B	R	1.00	67.4	F +	Unmitigated			
19. Waters Place & Westchester Avenue *												
EB	R	0.07	8.1	A	R	0.09	8.1	A	No significant adverse impacts			
20. Westchester Avenue & Waters Avenue												
EB	LR	0.51	13.0	B	LR	0.51	12.7	B	No significant adverse impacts			
NB	LT	0.11	8.8	A	LT	0.15	8.8	A				
22. Blondell Avenue & Westchester Avenue *												
WB	R	0.11	8.6	A	R	0.14	8.7	A	No significant adverse impacts			
24. Commerce Avenue & Westchester Avenue *												
EB	R	0.29	13.3	B	R	0.30	13.5	B	No significant adverse impacts			
25. East Tremont Avenue & Tan Place **												
28. Roebling Avenue and Ericson Place/HRP East												
WB	LR	0.07	9.2	A	LR	0.07	9.3	A	No significant adverse impacts			
NB	TR	0.67	16.5	C	TR	0.69	17.4	C				
SB	LT	0.25	10.0	A	LT	0.28	10.3	B				
30. Bronx Site Roundabout												
EB	TR	0.20	4.7	A	TR	0.20	4.7	A	No significant adverse impacts			
WB	LT	0.50	4.9	A	LT	0.50	4.9	A				
NB	LR	0.30	4.5	A	LR	0.30	4.5	A				

Notes: L = Left-turn; T = Through; R = Right-turn; LOS = Level of Service; EB = Eastbound; WB = Westbound;
NB = Northbound; SB = Southbound
+ denotes a significant adverse impact
*Channelized Right Turn analyzed as Stop Controlled; ** No traffic control

Pelham Parkway (Westbound) and Eastchester Road

- Southbound through/right-turn at this intersection would deteriorate from LOS D to E (from a v/c ratio of 0.83 and 52.3 spv of delay to a v/c ratio of 0.91 and 58.8 spv of delay) in the weekday PM construction peak hour, an increase in delay of more than five seconds. This increase in delay constitutes a significant adverse impact.
- The significant adverse impact at the southbound approach of this intersection during the weekday PM construction peak hour could be fully mitigated by shifting one second of green time from northbound phase to northbound/southbound phase.

Pelham Parkway (Eastbound) and Eastchester Road

- Eastbound service road through/right-turn at this intersection would deteriorate within LOS F (from a v/c ratio of 1.10 and 1.06.1 spv of delay to a v/c ratio of 1.11 and 110.4 spv of delay) in the weekday PM construction peak hour, an increase in delay of more than three seconds. This increase in delay constitutes a significant adverse impact.
- The significant adverse impact at the eastbound service road through/right-turn of this intersection during the weekday PM construction peak hour could be fully mitigated by shifting one second of green time from the northbound/southbound phase to the eastbound phase.

Morris Park Avenue and Eastchester Road

- Eastbound right-turn at this intersection would deteriorate within LOS D (from a v/c ratio of 0.66 and 47.1 spv of delay to a v/c ratio of 0.76 and 53.4 spv of delay) in the weekday PM construction peak hour, an increase in delay of more than five seconds. This increase in delay constitutes a significant adverse impact.
- Northbound left-turn at this intersection would deteriorate within LOS F (from a v/c ratio of 0.90 and 82.3 spv of delay to a v/c ratio of 0.97 and 96.7 spv of delay) in the weekday PM construction peak hour, an increase in delay of more than three seconds. This increase in delay constitutes a significant adverse impact.
- Southbound approach at this intersection would deteriorate within LOS E (from a v/c ratio of 0.91 and 55.9 spv of delay to a v/c ratio of 0.96 and 63.2 spv of delay) in the weekday AM construction peak hour and within LOS F (from a v/c ratio of 1.05 and 88.3 spv of delay to a v/c ratio of 1.16 and 128.7 spv of delay) in the weekday PM construction peak hour, increases in delay of more than four and three seconds, respectively. These increases in delay constitute significant adverse impacts.
- The significant adverse impact at the southbound approach of this intersection during the weekday AM construction peak hour could be fully mitigated by shifting one second of green time from the northbound to the northbound/southbound phase.
- The significant adverse impacts at this intersection during the weekday PM construction peak hour could not be mitigated.

Waters Place and Eastchester Road

- Westbound left-turn at this intersection would deteriorate within LOS D (from a v/c ratio of 0.71 and 40.1 spv of delay to a v/c ratio of 0.84 and 49.3 spv of delay) in the weekday AM construction peak hour, an increase in delay of more than five seconds. This increase in delay constitutes a significant adverse impact.
- Westbound left-turn at this intersection would deteriorate within LOS F (from a v/c ratio of 1.26 and 165.9 spv of delay to a v/c ratio of 1.61 and 319.5 spv of delay) in the weekday PM construction peak hour, an increase in delay of more than three seconds. This increase in delay constitutes a significant adverse impact.
- Southbound de facto left-turn at this intersection would deteriorate from LOS D to F (from a v/c ratio of 0.76 and 36.4 spv of delay to a v/c ratio of 1.05 and 87.0 spv of delay) in the weekday PM construction peak hour, an increase in delay of more than five seconds. This increase in delay constitutes a significant adverse impact.
- The significant adverse impacts at this intersection during the weekday AM and PM construction peak hours could be fully mitigated by applying the same mitigation measures proposed under the operational conditions.

Williamsbridge Road and Eastchester Road

- Southbound through/right-turn at this intersection would deteriorate from LOS E to LOS F (from a v/c ratio of 1.04 and 70.6 spv of delay to a v/c ratio of 1.27 and 157.4 spv of delay) in the weekday PM construction peak hour, an increase in delay of more than three seconds. This increase in delay constitutes a significant adverse impact.

- The significant adverse impact at the southbound approach of this intersection during the weekday PM construction peak hour could be fully mitigated by applying the same mitigation measures proposed under the operational conditions.

East Tremont Avenue and Silver Street

- Southbound right-turn at this intersection would deteriorate within LOS E (from a v/c ratio of 0.88 and 60.2 spv of delay to a v/c ratio of 0.95 and 71.4 spv of delay) in the weekday AM construction peak hour, an increase in delay of more than four seconds. This increase in delay constitutes a significant adverse impact.
- Southbound right-turn at this intersection would deteriorate within LOS F (from a v/c ratio of 1.41 and 236.0 spv of delay to a v/c ratio of 1.74 and 382.7 spv of delay) in the weekday PM construction peak hour, an increase in delay of more than three seconds. This increase in delay constitutes a significant adverse impact.
- The significant adverse impact at this intersection during the weekday AM construction peak hour could be fully mitigated by shifting two seconds of green time from the eastbound/westbound to the eastbound/southbound right-turn phase.
- The significant adverse impact at this intersection during the weekday PM construction peak hour could not be mitigated.

Waters Place and Marconi Street

- Eastbound left-turn at this intersection would deteriorate within LOS F (from a v/c ratio of 0.99 and 81.9 spv of delay to a v/c ratio of 1.74 and 366.8 spv of delay) in the weekday AM construction peak hour and from LOS C to LOS F (from a v/c ratio of 0.79 and 29.7 spv of delay to a v/c ratio of 1.37 and 205.2 spv of delay) in the weekday PM construction peak hour, increases in delay of more than three and five seconds, respectively. These increases in delay constitute significant adverse impacts.
- Southbound left-turn at this intersection would deteriorate within LOS F (from a v/c ratio of 1.28 and 471.2 spv of delay to a v/c ratio of 1.79 and 696.1 spv of delay) in the weekday PM construction peak hour, an increase in delay of more than three seconds. This increase in delay constitutes a significant adverse impact.
- Southbound right-turn at this intersection would deteriorate within LOS F (from a v/c ratio of 1.20 and 495.5 spv of delay to a v/c ratio of 1.56 and 645.2 spv of delay) in the weekday PM construction peak hour, an increase in delay of more than three seconds. This increase in delay constitutes a significant adverse impact.
- The significant adverse impact at the eastbound left-turn of this intersection during the weekday AM construction peak hour could be fully mitigated by applying the same mitigation measures proposed under the operational conditions.
- The significant adverse impacts at this intersection during the weekday PM construction peak hour could not be fully mitigated for the eastbound left-turn and the southbound left-turn movements but could be fully mitigated for the southbound right-turn movement by applying the same mitigation measures proposed under the operational conditions.

Waters Place and BPC Driveway

- Eastbound left-turn/through at this intersection would deteriorate from LOS C to F (from a v/c ratio of 0.89 and 29.6 spv of delay to a v/c ratio of 1.80 and 387.5 spv of delay) in the

weekday PM construction peak hour, an increase in delay of more than five seconds. This increase in delay constitutes a significant adverse impact.

- The significant adverse impacts for this intersection during the weekday PM construction peak hour could be fully mitigated by applying the same geometric mitigation measures proposed under the operational conditions. In addition, modify the signal phasing to provide an additional eastbound leading signal phase and shift 11 seconds of green time from the southbound phase to the eastbound leading phase (six seconds green, three seconds amber, and two seconds red).

Waters Place and Fink Avenue/HRP Southbound Off-Ramp

- Eastbound approach at this intersection would deteriorate within LOS F (from a v/c ratio of 0.87 and 161.7 spv of delay to a v/c ratio of 1.14 and 285.6 spv of delay) in the weekday PM construction peak hour, an increase in delay of more than three seconds. This increase in delay constitutes a significant adverse impact.
- Southbound channelized right-turn (unsignalized) at this intersection would deteriorate from LOS B to LOS F (from a v/c ratio of 0.58 and 13.4 spv of delay to a v/c ratio of 1.08 and 82.8 spv of delay) in the weekday AM construction peak hour and from LOS B to LOS F (from a v/c ratio of 0.49 and 13.5 spv of delay to a v/c ratio of 1.00 and 67.4 spv of delay) in the weekday PM construction peak hour, increases in delay beyond mid-LOS D for both peak hours. These increases in delay constitute significant adverse impacts.
- The significant adverse impacts this intersection during the weekday AM and PM construction peak hours could not be mitigated.

Westchester Avenue and Ericson Place/Middletown Road

- Eastbound de facto left-turn at this intersection would deteriorate within LOS F (from a v/c ratio of 0.74 and 174.8 spv of delay to a v/c ratio of 0.81 and 231.3 spv of delay) in the weekday AM construction peak hour and within LOS F (from a v/c ratio of 1.44 and 522.0 spv of delay to a v/c ratio of 2.02 and 776.3 spv of delay) in the weekday PM construction peak hour, an increase in delay of more than three seconds for both peak hours. These increases in delay constitute significant adverse impacts.
- Eastbound through/right-turn at this intersection would deteriorate within LOS F (from a v/c ratio of 1.14 and 212.3 spv of delay to a v/c ratio of 1.18 and 227.8 spv of delay) in the weekday PM construction peak hour, an increase in delay of more than three seconds. This increase in delay constitutes a significant adverse impact.
- Westbound left-turn/through at this intersection would deteriorate within LOS F (from a v/c ratio of 0.89 and 265.8 spv of delay to a v/c ratio of 0.98 and 321.6 spv of delay) in the weekday AM construction peak hour and within LOS F (from a v/c ratio of 1.07 and 361.4 spv of delay to a v/c ratio of 1.08 and 365.9 spv of delay) in the weekday PM construction peak hour, an increase in delay of more than three seconds. This increase in delay constitutes a significant adverse impact.
- Northbound approach at this intersection would deteriorate within LOS F (from a v/c ratio of 0.96 and 103.5 spv of delay to a v/c ratio of 0.98 and 116.9 spv of delay) in the weekday PM construction peak hour, an increase in delay of more than three seconds. This increase in delay constitutes a significant adverse impact.
- The significant adverse impacts at this intersection during the weekday AM construction peak hour could not be fully mitigated by applying the same mitigation measures proposed under

the operational condition along with shifting one second of green time from the southbound phase to the eastbound/southbound right-turn phase.

- The significant adverse impacts at this intersection during the weekday PM construction peak hour could not be fully mitigated for the eastbound de facto left-turn movement but could be fully mitigated for the eastbound through/right-turn, westbound left-turn/through, and northbound approach movements by applying the same mitigation measures proposed under the operational condition.

Waters Place and Westchester Avenue

- Eastbound left-turn/through at this intersection would deteriorate within LOS F (from a v/c ratio of 0.90 and 229.2 spv of delay to a v/c ratio of 1.12 and 331.2 spv of delay) in the weekday PM construction peak hour, an increase in delay of more than three seconds. This increase in delay constitutes a significant adverse impact.
- Northbound approach at this intersection would deteriorate from LOS E to F (from a v/c ratio of 0.76 and 69.1 spv of delay to a v/c ratio of 0.76 and 101.7 spv of delay) in the weekday AM, an increase in delay of more than four seconds and from LOS D to E (from a v/c ratio of 0.63 and 54.9 spv of delay to a v/c ratio of 0.70 and 70.5 spv of delay) in the weekday PM construction peak hour, an increase in delay of more than five seconds for both peak hours. These increases in delay constitute significant adverse impacts.
- The significant adverse impact at this intersection during the weekday AM construction peak hour could be fully mitigated by shifting two seconds of green time from the eastbound to the northbound/southbound phase.
- The significant adverse impacts at this intersection during the weekday PM construction peak hour could not be mitigated.

East Tremont Avenue and Westchester Avenue

- Northbound left-turn/through at this intersection would deteriorate within LOS E (from a v/c ratio of 0.79 and 60.0 spv of delay to a v/c ratio of 0.84 and 70.2 spv of delay) in the weekday AM construction peak hour and within LOS E (from a v/c ratio of 0.82 and 55.6 spv of delay to a v/c ratio of 0.85 and 61.8 spv of delay) in the weekday PM construction peak hour, an increase in delay of more than four seconds for both peak hours. These increases in delay constitute significant adverse impacts.
- The significant adverse impact at this intersection during the weekday AM construction peak hour could be fully mitigated by shifting two seconds of green time from the eastbound/westbound to the northbound/southbound phase.
- The significant adverse impact at this intersection during the weekday PM construction peak hour could be fully mitigated by shifting one second of green time from the eastbound/westbound to the northbound/southbound phase.

Commerce Avenue and Westchester Avenue

- Southbound approach at this intersection would deteriorate from LOS C to LOS E (from a v/c ratio of 0.68 and 28.1 spv of delay to a v/c ratio of 0.72 and 49.7 spv of delay) in the weekday PM construction peak hour, an increase in delay beyond mid-LOS D. This increase in delay constitutes a significant adverse impact.

- The significant adverse impact at this intersection during the weekday PM construction peak hour could be fully mitigated by shifting two seconds of green time from the eastbound/westbound to the northbound/southbound phase.

East Tremont Avenue and Ericson Place

- Northbound approach at this intersection would deteriorate within LOS E (from a v/c ratio of 1.00 and 63.9 spv of delay to a v/c ratio of 1.05 and 78.3 spv of delay) in the weekday PM construction peak hour, an increase in delay of more than four seconds. This increase in delay constitutes a significant adverse impact.
- The significant adverse impact at this intersection during the weekday PM construction peak hour could be fully mitigated by applying shifting two seconds of green time from the eastbound phase to the northbound phase.

PARKING

As described above, the peak number of workers would be 580 per day during Phase I construction, and 450 per day during Phase II construction. It is anticipated that 69 percent of construction workers would commute to the project site by private autos at an average occupancy of approximately 1.16 persons per vehicle. The anticipated construction activities are therefore projected to generate a maximum parking demand of 345 parking spaces during Phase I and 268 parking spaces during Phase II. Because of the size of the project site to be developed, there is expected to be substantial flexibility in accommodating worker parking on-site. Therefore, construction of the proposed project would not result in any parking shortfalls or the potential for any significant adverse parking impacts.

TRANSIT

It is anticipated that approximately 24 percent of construction workers would commute to the project site via transit. The project area is served by several mass transit options including two New York City Transit No. 6 subway stations: (1) Middletown Road; and (2) Westchester Square–East Tremont Avenue station and numerous bus routes with stops near the project site, including the Bx4, Bx4A, Bx8, Bx12, Bx21, Bx24, Bx31, Bx40, and Bx42 bus routes. For Phase I, during the peak-construction period when 580 average daily construction workers would be on site, approximately 139 would travel by transit. For Phase II, during the peak-construction period when 450 average daily construction workers would be on site, approximately 108 would travel by transit. With 80 percent of these workers arriving or departing during the construction peak hours, the estimated number of peak-hour transit trips would be 111 for Phase I, and 86 for Phase II, which is well below the *CEQR Technical Manual* 200-transit-trip analysis threshold warranting further assessment. Therefore, construction of the proposed project would not result in any significant adverse transit impacts.

PEDESTRIANS

As summarized above, 580 average daily construction workers for Phase I, and 450 for Phase II are projected in the 7:00 AM to 3:30 PM shift during peak construction for both phases. With 80 percent of these workers arriving or departing during the construction peak hours (6:00 AM to 7:00 AM and 3:00 PM to 4:00 PM. the corresponding numbers of peak-hour pedestrian trips traversing the area's sidewalks, corners, and crosswalks would be 464 and 360 for Phase II. As discussed above, the majority of these construction worker trips is expected to arrive by private auto (69 percent or 320 and 248 pedestrian trips for Phase I and Phase II construction, respectively)

and would park on site and therefore not traverse the study area pedestrian elements (i.e. sidewalks, crosswalks, corners) surrounding the project site. The remaining 144 pedestrian trips during peak Phase I construction and 112 pedestrian trips during peak Phase II construction are expected to be dispersed to pedestrian elements surrounding the project site, such that no single pedestrian element would incur construction-related pedestrian trips that would exceed the *CEQR Technical Manual* analysis threshold of 200 pedestrian trips. Furthermore, because these peak construction pedestrian increments would take place during hours when background pedestrian levels are substantially lower than the 8:00 to 9:00 AM and 5:00 to 6:00 PM commuter peak hours, there would not be a potential for significant adverse pedestrian impacts attributable to the projected construction worker pedestrian trips.

AIR QUALITY

Emissions from on-site construction equipment and on-road construction-related vehicles, as well as dust-generating construction activities, have the potential to affect air quality. In general, much of the heavy equipment used in construction has diesel-powered engines and produces relatively high levels of nitrogen oxides (NO_x) and particulate matter (PM). Dust generated by construction activities is also a source of PM. Gasoline engines produce relatively high levels of carbon monoxide (CO). Since USEPA mandates the use of ULSD[2] fuel for all highway and non-road diesel engines, sulfur oxides (SO_x) emitted from the proposed project's construction activities would be negligible.

The *CEQR Technical Manual* lists several factors for consideration in determining whether a quantified on-site and/or off-site construction impact assessment for air quality is appropriate. These factors include the use of emission control measures, the duration and intensity of construction activities, the location of nearby sensitive receptors, and project-generated, construction-related vehicle trips.

EMISSION CONTROL MEASURES

Measures would be taken to reduce pollutant emissions during construction in accordance with all applicable laws, regulations, and building codes. These include the use of clean fuel, dust suppression measures and idling restrictions:

- *Clean Fuel.* ULSD fuel would be used exclusively for all diesel engines throughout the construction site.
- *Dust Control Measures.* To minimize dust emissions from construction activities, a strict dust control plan including a robust watering program would be required as part of contract specifications. For example, all trucks hauling loose material would be equipped with tight-fitting tailgates and their loads securely covered prior to leaving the project site; water sprays would be used for all demolition, excavation, and transfer of soils to ensure that materials are dampened as necessary to avoid the suspension of dust into the air. Loose materials would be watered or covered. All measures required by the portion of the *New York City Department of*

[2] USEPA required a major reduction in the sulfur content of diesel fuel intended for use in locomotive, marine, and non-road engines and equipment, including construction equipment. As of 2015, the diesel fuel produced by all large refiners, small refiners, and importers must be ULSD; fuel sulfur levels in non-road diesel fuel are limited to a maximum of 15 parts per million.

Environmental Protection Construction Dust Rules regulating construction-related dust emissions would be implemented.

- *Idling Restriction.* In addition to adhering to the local law restricting unnecessary idling on roadways, on-site vehicle idle time would be restricted to three minutes for all vehicles that are not using their engines to operate a loading, unloading, or processing device (e.g., concrete-mixing trucks) or otherwise required for the proper operation of the engine.

In addition, the developer would commit to implementing the following measures to further reduce air pollutant emissions during construction:

- *Diesel Equipment Reduction.* Construction would minimize the use of diesel engines and utilize electric engines to the extent practicable. Equipment that would use grid power in lieu of diesel engines includes, but may not be limited to, welders and hoists.
- *Best Available Tailpipe Reduction Technologies.* Non-road diesel engines with a power rating of 50 horsepower (hp) or greater and controlled truck fleets (i.e., truck fleets under long-term contract with the project) including but not limited to concrete mixing and pumping trucks would utilize the best available technology (BAT) for reducing diesel particulate matter (DPM) emissions. DPFs have been identified as being the tailpipe technology currently proven to have the highest reduction capability. Construction contracts would specify that all diesel non-road engines rated at 50 hp or greater would utilize DPFs, either installed by the original equipment manufacturer (OEM) or retrofitted. Retrofitted DPFs must be verified by USEPA or the California Air Resources Board (CARB). Active DPFs or other technologies proven to achieve an equivalent reduction may also be used.
- *Utilization of Newer Equipment.* USEPA's Tier 1 through 4 standards for non-road engines regulate the emission of criteria pollutants from new engines, including PM, CO, NO_x, and hydrocarbons (HC). All non-road construction equipment with a power rating of 50 hp or greater would meet at least the Tier 3[3] emissions standard. All non-road engines in the project rated less than 50 hp would meet at least the Tier 2 emissions standard.

Overall, this emissions control program is expected to significantly reduce DPM emissions by a similar reduction level that would be achieved by applying the currently defined best available control technologies under New York City Local Law 77, which are required only for publicly funded city projects.

LOCATION OF NEARBY SENSITIVE RECEPTORS

The area surrounding the project site consists of predominantly transportation, commercial, and industrial uses. The OMH Bronx Behavioral Health Center, a facility providing inpatient and outpatient medical services, is located immediately south of the proposed buildings. Two open spaces, the publicly accessible Hutchinson River Greenway and the private Bronx Psychiatric Center sports fields, are located immediately east and southwest of the project site, respectively. The project site is generally located at some distance away from residential uses, with the nearest residence located across Hutchinson River Parkway approximately 350 feet east of the project

[3] The first federal regulations for new nonroad diesel engines were adopted in 1994, and signed by USEPA into regulation in a 1998 Final Rulemaking. The 1998 regulation introduces Tier 1 emissions standards for all equipment 50 hp and greater and phases in the increasingly stringent Tier 2 and Tier 3 standards for equipment manufactured in 2000 through 2008. In 2004, the USEPA introduced Tier 4 emissions standards with a phased-in period of 2008 to 2015. The Tier 1 through 4 standards regulate the USEPA criteria pollutants, including PM, HC, NO_x and CO. Prior to 1998, emissions from nonroad diesel engines were unregulated. These engines are typically referred to as Tier 0.

site. In addition, since the project construction is phased, some of the project components would be complete and operating during the construction of the remaining portion of the proposed project.

As discussed above under "Emission Control Measures," measures would be taken to reduce pollutant emissions during construction. For example, a watering program would be implemented to minimize dust emissions from construction activities. Additionally, the developer would commit to emissions reduction measures including the use of DPFs and the use of newer and cleaner equipment. Furthermore, construction sources would move throughout the project site over the construction period such that no portion of the adjacent sensitive receptors would be subject to the full effects of construction for the entire construction period. Moreover, the construction areas would be fenced off, typically with solid fencing which would serve as a buffer between the emission sources and nearby sensitive receptor locations. Therefore, due to these reasons potential concentration increments from on-site construction sources at nearby sensitive receptor locations would not rise to the level of a significant adverse impact.

DURATION AND INTENSITY OF CONSTRUCTION ACTIVITIES

Construction of the proposed project, as is the case with any construction project, would result in temporary disruption to the surrounding area. As discussed above, the proposed project is anticipated to be constructed in two phases. While the overall construction for the proposed project is anticipated to take approximately nine years, the construction duration for each of the project components is anticipated to be completed over a period of approximately two years or less and therefore the entire project site is not expected to experience construction activities for the full duration of construction. Furthermore, the most intense construction activities in terms of air pollutant emissions (demolition, excavation, and foundation activities where the largest number of large non-road diesel engines such as excavators, drill rigs, and loaders would be employed) would generally occur over a period of approximately 3 to 7 months for proposed structures. Moreover, construction sources would move around the project site over the construction period such that the air pollutant concentration increments due to construction of the proposed project would not persist in any single location. The other stages of construction, including superstructure, exteriors, and interiors work would result in substantially lower air emissions since they would require fewer pieces of heavy-duty diesel equipment and would not involve soil disturbance activities that generate dust emissions. In addition, interior construction work would occur within an enclosed building, thereby shielding nearby sensitive receptors, including the nearby OMH Bronx Behavioral Health Center facility to the south of the project site.

The approach and procedures for constructing the proposed buildings would be typical of the methods utilized in other building construction projects throughout New York City and therefore would not be considered out of the ordinary in terms of intensity. The air pollutant emission levels associated with construction of the proposed project are typical of ground-up building construction in New York City that would require demolition, excavation, and foundation construction (where large equipment such as excavators and loaders would be employed). Overall, emissions associated with the construction of the proposed project would likely be lower than a typical project due to the emission control measures the developer would commit to implementing during construction (see "Emission Control Measures," above).

ON-ROAD SOURCES

As shown in **Tables 20-3 and 20-4**, the peak level of construction worker and truck trips would be temporary and not persist throughout the entire construction period. As is typical of construction travel patterns, construction worker trips and construction truck deliveries would generally occur during commuter off-peak hours. In addition, the construction trip increments would be distributed over the larger transportation network. Furthermore, as discussed above, the peak hour traffic conditions during peak Phase I and Phase II construction activities would be more favorable than those identified for the 2023 and 2028 With-Action conditions, respectively, since peak construction would result in increases in peak hour vehicle volumes substantially lower than those identified in the operational condition.

As discussed in Chapter 15, "Air Quality," operational activities under Phase I of the proposed project would not result in significant adverse air quality impacts due to mobile source emissions. Construction activities for Phase I of the proposed project would result in substantially lower peak hour vehicle volumes than Phase I operational activities. Therefore, Phase I construction activities would not result in significant adverse air quality impacts due to on-road mobile source emissions.

An analysis was also prepared to assess the potential for significant adverse air quality impacts due to on-road mobile source emissions when Phase I construction is completed and operational (2023) and Phase II of the proposed project is still under construction (until 2028). During this time, peak hour vehicle volumes would be higher than Phase I operational volumes because they would also include trips for the Phase II construction activities. Therefore, a mobile source analysis was performed in accordance with methodologies described in Chapter 15, "Air Quality" to evaluate the potential for significant adverse air quality impacts from the cumulative operational and construction trips during Phase II construction activities with Phase I operational project-generated trips.

Chapter 15, "Air Quality," presents the maximum predicted carbon monoxide (CO) and particulate matter (PM_{10} and $PM_{2.5}$) concentrations related to traffic generated by the proposed project during operational activities, and concludes that the proposed project would result in significant adverse air quality impacts at the intersections of Marconi Street and Waters Place and Waters Place and Fink Avenue/HRP Southbound Off Ramp, which are predicted to exceed the annual *de minimis* criterion for $PM_{2.5}$ of 0.1 $\mu g/m^3$ for the Phase II 2028 With-Action condition. Therefore, this analysis focuses on these two intersections.

Using the methodology described in Chapter 15, "Air Quality," maximum predicted annual average $PM_{2.5}$ concentration increments were calculated so that they could be compared with the *de minimis* criterion. Based on this analysis, the maximum predicted neighborhood-scale annual average incremental $PM_{2.5}$ concentrations are presented in **Table 20-17**. Note that $PM_{2.5}$ concentrations in the No-Action condition are not presented, since impacts are assessed on an incremental basis.

Table 20-17
Maximum Predicted Annual Average $PM_{2.5}$ Incremental Concentrations
Phase II Construction Activities ($\mu g/m^3$)

Analysis Site	Location	Increment	*De Minimis* Criterion
2	Marconi Street and Waters Place	0.099	0.1
3	Waters Pl, Fink Ave and HRP SB Off Ramp	0.079	0.1

Note: $PM_{2.5}$ *de minimis* criteria—annual (neighborhood scale), 0.1 $\mu g/m^3$.

As shown in the table, the results of this modeling analysis indicate that annual incremental concentrations of $PM_{2.5}$ would not exceed the *de minimis* criteria for $PM_{2.5}$. Therefore, there would be no potential for significant adverse air quality impacts during peak Phase II construction activities.

CONCLUSION

The approach and procedures for constructing the proposed buildings would be typical of the methods utilized in other building construction projects throughout New York City and therefore would not be out of the ordinary in terms of intensity. Measures would be taken to minimize pollutant emissions during construction in accordance with all applicable laws, regulations, and building codes. These measures would include dust suppression measures, idling restrictions, and the use of ULSD fuel. In addition, to minimize air pollutant emissions during construction, emissions reduction measures such as the use of best available technologies and the use of newer and cleaner equipment during construction of the proposed project would be implemented. With these measures in place and based on the duration and intensity of construction activities, the location of nearby sensitive receptors, including the nearby OMH Bronx Behavioral Health Center facility to the south of the project site, and an examination of construction on-road sources, the proposed project would not result in any significant adverse construction air quality impacts, and no further analysis is required.

NOISE

Impacts on community noise levels during construction of the proposed project could result from noise generated by construction equipment operating on site and from construction and delivery vehicles traveling to and from the construction site. Noise levels caused by construction activities vary widely and depend on the stage of construction and the location of the construction relative to sensitive receptor locations. The most substantial construction noise sources are expected to be the operation of impact equipment such as jackhammers as well as movements of trucks to and from the project site. Noise from construction activities and some construction equipment is regulated by the *New York City Noise Control Code* and by USEPA. The *New York City Noise Control Code* requires the adoption and implementation of a noise mitigation plan for each construction site, limits construction (absent special approvals) to weekdays between the hours of 7:00 AM and 6:00 PM, and sets noise limits for certain specific pieces of construction equipment.

CONSTRUCTION NOISE IMPACT CRITERIA

The *CEQR Technical Manual* breaks construction duration into "short-term" and "long-term", and states that assessment of construction noise is not likely to result in an impact unless it "affects a

sensitive receptor over a long period of time." Consequently, the construction noise analysis considers both the potential for construction of the proposed project to create high noise levels (the "intensity"), whether construction noise would occur for an extended period of time (the "duration"), and the locations where construction has the potential to produce noise ("receptors") in evaluating potential construction noise impacts.

The noise impact criteria described in Chapter 19, Section 410 of the *CEQR Technical Manual* serve as a screening-level threshold for potential construction noise impacts. If construction of the project would not result in any exceedances of these criteria at a given receptor, then that receptor would not have the potential to experience a construction noise impact. However, if construction of the proposed project would result in exceedances of these noise impact criteria, then further consideration of the intensity and duration of construction noise is warranted at that receptor. The screening level noise impact criteria for mobile and on-site construction activities are as follows:

- If the No-Action condition noise level is less than 60 dBA $L_{eq(1)}$, a 5 dBA $L_{eq(1)}$ or greater increase would warrant further consideration.
- If the No-Action condition noise level is between 60 dBA $L_{eq(1)}$ and 62 dBA $L_{eq(1)}$, a resultant $L_{eq(1)}$ of 65 dBA or greater would warrant further consideration.
- If the No-Action condition noise level is equal to or greater than 62 dBA $L_{eq(1)}$, or if the analysis period is a nighttime period (defined in the *CEQR* criteria as being between 10:00 PM and 7:00 AM), the construction noise screening threshold would be 3 dBA $L_{eq(1)}$.

NOISE ANALYSIS FUNDAMENTALS

Construction activities for the proposed project would be expected to result in increased noise levels as a result of: (1) the operation of construction equipment on-site; and (2) the movement of construction-related vehicles (i.e., worker trips, and material and equipment trips) on the roadways to and from the project site.

Noise from the operation of on-site construction equipment at a specific receptor location is generally calculated by computing the sum of the noise produced by all pieces of equipment operating at the project site. For each piece of equipment, the noise level at a receptor site is a function of the following:

- The noise emission level of the equipment;
- A usage factor, which accounts for the percentage of time the equipment is operating at full power;
- The distance between the piece of equipment and the receptor;
- Topography and ground effects; and
- Shielding.

Similarly, noise levels due to construction-related traffic are a function of the following:

- The noise emission levels of the type of vehicle (e.g., auto, light-duty truck, heavy-duty truck, bus, etc.);
- Volume of vehicular traffic on each roadway segment;
- Vehicular speed;
- The distance between the roadway and the receptor;

- Topography and ground effects; and
- Shielding.

CONSTRUCTION NOISE ANALYSIS METHODOLOGY

The construction noise analysis consists of the following:

- Identification of sensitive noise receptor locations near and on the project site.
- Identification of noise reduction measures that would be employed during construction of the proposed project.
- Consideration of potential noise impacts from mobile sources.
- Analysis of potential noise impacts from operation of construction equipment at each of the construction work areas on the project site over the course of the build out of the proposed project. Consistent with the noise impact criteria discussed above, the analysis looks first at the intensity of noise levels during construction, then assesses the potential duration of those noise levels, and finally makes a determination of the potential for impact.
  - Intensity of construction noise is assessed based on the assumption that with the construction noise control measures described below, maximum $L_{eq(1)}$ noise levels at approximately 50 feet from the construction site boundary would be expected to be approximately in the low to mid 80s dBA during pile driving activities, high 70s dBA during demolition, mid 70s dBA during non-pile driving excavation, foundation, or concrete work, and low 70s dBA during façade installation or interior fit-out.[4] These noise levels are projected to the surrounding receptors based on the specific physical relationship of the proposed project's construction work areas to the receptors.
  - The projected construction noise levels are compared to existing noise levels at the receptors. For each receptor included in the construction noise analysis, the minimum existing noise level as shown in Chapter 17, "Noise" at the nearest noise measurement location from either the AM or mid-day peak hour (i.e., the analysis hours that fall within the hours of a typical construction work day), was used to represent noise in the No-Action condition.
  - Duration of construction noise is assessed based on the conceptual construction schedule.
- Analysis of potential noise effects from ongoing construction of the proposed project once some elements of the proposed project are completed and occupied. The proposed project buildings would be newly introduced sensitive receptors subject to *CEQR Technical Manual* noise exposure guidelines (i.e., interior $L_{10(1)}$ noise levels less than or equal to 45 dBA for residential, hotel guestroom, classroom, and inpatient medical uses or 50 dBA or lower for retail, commercial office, conference center and medical office). Consequently, the projected $L_{10(1)}$ noise levels that may occur at project buildings in the event of phased construction resulting in one or more buildings being completed and occupied while construction occurs at one or more other project buildings were projected.

[4] Specific construction logistics and equipment information have not been determined for the proposed project, but construction noise emission levels at the project site boundaries have been determined based on detailed noise analyses prepared for several large-scale construction projects with comparable noise-control measure commitments, equipment lists, and project site layouts, including *East New York Rezoning* (*CEQR* No. 15DC102K).

LOCATION OF NEARBY SENSITIVE RECEPTORS

As discussed above in "Air Quality," the area immediately surrounding the project site consists predominantly of transportation, commercial, and industrial uses. The OMH Bronx Behavioral Health Center facility is located immediately south of the proposed buildings. The private Bronx Psychiatric Center sports fields are located immediately southwest of the proposed buildings along Marconi Street. The closest residential uses to the project site are located along the Hutchinson River Parkway between Wilkinson Avenue and Lee Street approximately 350 feet to the east. In addition, the five-story Calvary Hospital at 1740 Eastchester Road is approximately 550 feet southwest of the project site. The receptor areas and their distances from the project site are shown in **Appendix E**.

NOISE REDUCTION MEASURES

Construction of the proposed project would follow the requirements of the *New York City Noise Control Code* (*New York City Noise Code*) for construction noise control measures. Specific noise control measures would be described in a noise mitigation plan required under the *New York City Noise Code*. These measures would include a variety of source and path controls.

In terms of source controls (i.e., reducing noise levels at the source or during the most sensitive time periods), the following measures would be implemented in accordance with the New York City Noise Code:

- Equipment that meets the sound level standards specified in Subchapter 5 of the *New York City Noise Control Code* would be used from the start of construction. **Table 20-18** shows the noise levels for typical construction equipment.
- As early in the construction period as logistics would allow, diesel- or gas-powered equipment would be replaced with electrical-powered equipment such as pumps, compressors, and hoists (i.e., early electrification) to the extent feasible and practicable.
- Where feasible and practical, construction sites would be configured to minimize back-up alarm noise. In addition, all trucks would not be allowed to idle more than three minutes at the construction site based upon New York City Local Law.
- Contractors and subcontractors would be required to properly maintain their equipment and mufflers.

In terms of path controls (e.g., placement of equipment, implementation of barriers or enclosures between equipment and sensitive receptors), the following measures for construction would be implemented to the extent feasible and practical:

- Where logistics allow, noisy equipment, such as cranes, concrete pumps, concrete trucks, and delivery trucks, would be located away from and shielded from sensitive receptor locations. Once building foundations are completed, delivery trucks would operate behind a construction fence, where possible; and
- Noise barriers would be utilized to provide shielding (i.e., the construction sites would have an eight-foot site perimeter barrier).

Table 20-18
Typical Construction Equipment Noise Emission Levels (dBA)

Equipment List	DEP Mandated Noise Level at 50 feet[1]
Bar Bending Machine	80
Bobcat	85
Concrete Mixer Truck	85
Concrete Pump Truck	82
Concrete Trowel	67
Concrete Vibrators	85
Cranes	85
Dump Truck	84
Excavator	85
Generator	82
Hoist	75
Jackhammer	85
Secant Drill Rig	85
Welders	73

Notes:
[1] *Citywide Construction Noise Mitigation,* Chapter 28, Department of Environmental Protection of New York City, 2007.
Sources:
Table 22-1, Noise Emission Reference Levels (A-weighted decibels with RMS "slow" time constant), Chapter 22, 2014 *CEQR Technical Manual*. *Transit Noise and Vibration Impact Assessment*, Federal Transportation Administration (FTA), May 2006.

CONSTRUCTION NOISE ANALYSIS

The construction noise analysis considers the noise generated by construction-related traffic, including delivery trucks and worker vehicles, traveling to and from the project site as well as by on-site construction equipment and activity. The analysis looks first at the intensity of noise levels during construction, then assesses the potential duration of those noise levels, and finally makes a determination of the potential for a significant impact. The most noise-sensitive construction activities would be demolition, excavation, and foundation work, which would last between approximately 4 and 7 continuous months for each building and include an overlap between the proposed Parker Building and retail building for 5 continuous months, as well as superstructure and exterior activities, which would last between approximately 4 and 8 continuous months for each building and include overlaps between the proposed Parker Building and retail building for 4 continuous months, Building No. 3 and Building No. 4 for 8 continuous months, and Building No. 6 and Building No. 7 for 7 continuous months.

Mobile Construction Noise Sources

Throughout the construction period, vehicles including construction-related trucks and vehicles driven by workers at the construction would travel near the project site. Most of these vehicles would be expected to use the Hutchinson River Parkway where there already is heavy traffic. As described above in "Transportation Systems," the amount of traffic generated by the construction of the proposed project would be low compared with the traffic volumes generated by the existing condition on the project site. Further from the project site, the construction-related vehicles would be distributed amongst the different routes to and from the site. In addition, as presented above in **Tables 20-3 and 20-4**, the peak level of construction workers and truck trips would not persist throughout the entire construction period. Consequently, the construction of the proposed project would not result in significant adverse construction noise impacts due to mobile sources, and no further analysis is required.

Intensity of Construction Noise from On-Site Sources

At the OMH Bronx Behavioral Health Center facility located immediately south of the proposed buildings, maximum $L_{eq(1)}$ noise levels at this location would be expected to be approximately in the high 60s to low 70s dBA during the loudest periods of demolition, excavation, and foundation work at the Parker Building. The maximum noise levels during these stages of construction would occur during demolition using an excavator. This piece of equipment would not be used continuously throughout the duration of these stages of construction, nor would it be used continuously throughout each day that it would be used. During times when the dominant piece of equipment would not be operating, construction noise levels would be substantially lower at these open spaces. Measured existing noise levels near these locations were in the low to mid 60s dBA, and would be expected to remain relatively unchanged in the future without the proposed project. Construction activities would be expected to result in noise level increases of approximately 8 to 11 dBA during the most noise-intensive stages of construction at the nearest construction work areas to these receptors. Consequently, at the OMH Bronx Behavioral Health Center facility, the maximum noise levels predicted to be generated by on-site construction activities would be expected to result in exceedances of the initial construction noise screening threshold during certain portions of the construction period. As discussed further in the *Duration of Construction Noise from On-Site Sources* section below, the duration of these exceedances would not rise to the level of a significant adverse impact at this receptor.

At the BPC sports fields located immediately southwest of the proposed buildings along Marconi Street, maximum $L_{eq(1)}$ noise levels at this location would be expected to be approximately in the high 60s dBA during the loudest periods of demolition, excavation, and foundation work. The maximum noise levels during these stages of construction would occur during demolition using an excavator. This piece of equipment would not be used continuously throughout the duration of these stages of construction, nor would it be used continuously throughout each day that it would be used. During times when the dominant piece of equipment would not be operating, construction noise levels would be substantially lower at these open spaces. Measured existing noise levels near these locations were in the high 50s to low 60s dBA, and would be expected to remain relatively unchanged in the future without the proposed project. Construction activities would be expected to result in noise level increases of approximately 5 to 7 dBA during the most noise-intensive stages of construction at the nearest construction work areas to these receptors. Consequently, at the BPC sports fields, the maximum noise levels predicted to be generated by on-site construction activities would be expected to result in exceedances of the initial construction noise screening threshold during certain portions of the construction period. As discussed further in the *Duration of Construction Noise from On-Site Sources* section below, the duration of these exceedances would not rise to the level of a significant adverse impact at this receptor.

The nearest existing residential buildings are approximately 350 feet from the site and are unlikely to experience increased noise levels resulting from the operation of stationary construction equipment. With the construction noise control measures described above as well as the substantial distance, maximum $L_{eq(1)}$ noise levels at these buildings would be expected to be approximately in the mid-60s dBA during the loudest periods of demolition, excavation, and foundation work. The maximum noise levels during these stages of construction would occur during demolition using an excavator. This piece of equipment would not be used continuously throughout the duration of these stages of construction, nor would it be used continuously throughout each day that it would be used. During times when the dominant piece of equipment would not be operating, construction noise levels would be substantially lower at the residential buildings. Measured existing noise levels near these locations were in the low to mid-60s dBA, and would be expected

to remain relatively unchanged in the future without the proposed project. Construction activities would be expected to result in noise level increases of approximately up to 3 dBA. Consequently, at the residential buildings, the maximum noise levels predicted to be generated by on-site construction activities would not be expected to result in exceedances of the initial construction noise screening threshold during the construction period. These receptors would not experience significant adverse impacts related to construction noise and are not discussed further.

At Calvary Hospital, located approximately 560 feet west from the project site and partially shielded by the three-story 34 Marconi Street commercial building and the eight-story 1776 Eastchester Road commercial building, maximum $L_{eq(1)}$ noise levels would be expected to be approximately in the mid-60s dBA during the demolition, excavation, and foundation work The maximum noise levels during these stages of construction would occur during demolition using an excavator. This piece of equipment would not be used continuously throughout the duration of these stages of construction, nor would it be used continuously throughout each day that it would be used. During times when the dominant piece of equipment would not be operating, construction noise levels would be substantially lower at the residential buildings. Measured existing noise levels near these locations were in the low 60s dBA, and would be expected to remain relatively unchanged in the future without the proposed project. Construction activities would be expected to result in noise level increases of approximately 1 to 3 dBA. Consequently, at the hospital, the maximum noise levels predicted to be generated by on-site construction activities would not be expected to result in exceedances the initial construction noise screening threshold during the construction period. This receptor would not experience significant adverse impacts related to construction noise and is not discussed further.

Duration of Construction Noise from On-Site Sources

The noisiest construction activities would include the demolition, excavation, and foundation work; this work is expected to last between approximately 4 and 7 continuous months for each of the 12 buildings included in the proposed project, resulting in approximately 39 total non-consecutive months over the course of the full approximately eight-year construction period. The dominant noise sources would include drill rig, excavator, and jackhammer.

At the OMH Bronx Behavioral Health Center facility located immediately south of the proposed buildings, construction activities during the demolition, excavation, and foundation stages of construction would result in maximum noise levels approximately in the high 60s to low 70s dBA representing increases of up to 11 dBA. This building has insulated glass windows and central air conditioning, which provide approximately 30 dBA window/wall attenuation. With such attenuation, the maximum predicted construction noise levels at this receptor would result in exceedances of the recommended noise level for in-patient medical use (45 dBA L_{10}) according to *CEQR Technical Manual* noise exposure guidance by approximately 1 dBA. The maximum noise levels would last approximately six continuous months during demolition, excavation, and foundation of the proposed Parker Building immediately adjacent to this location and would occur when the most noise-intensive equipment such as excavators are used on the construction work areas nearest this receptor. The OMH facilities would also experience similar noise levels during the two continuous months of demolition, excavation, and foundation work at the proposed Thompson Building. Outside of these most noise-intensive activities at the nearest work areas, construction of the proposed project would result in noise levels in approximately the high 50s to low 60s dBA, which would not result in exceedances of the initial construction noise screening threshold.

Exceedances of the initial construction noise screening threshold are predicted to occur for approximately 8 non-consecutive months. Because of the limited duration of the predicted noise level increases, construction noise associated with the proposed project would not rise to the level of a significant adverse impact at this receptor.

At the BPC sports fields located immediately southwest of the proposed buildings along Marconi Street, construction activities during the demolition, excavation, and foundation stages of construction would result in maximum noise levels approximately in the high 60s dBA representing increases of up to 7 dBA and resulting in exceedances of the recommended noise level for passive open spaces (55 dBA L_{10}) according to *CEQR Technical Manual* noise exposure guidance. The maximum noise levels would last approximately four continuous months during demolition, excavation, and foundation of the proposed Thompson Building immediately adjacent to this location and would occur when dominant noise equipment such as excavators are used on the construction work areas nearest this receptor. The BPC sports fields would also experience similar noise levels during the five continuous months of demolition, excavation, and foundation work at the proposed Parker Building and retail building, and an additional five continuous months of demolition, excavation, and foundation work at Buildings No. 3 and 4. Outside of these most noise-intensive activities at the nearest work areas, construction of the proposed project would result in noise levels in approximately the high 50s to low 60s dBA, which would not result in exceedances of the initial construction noise screening threshold.[5]

With the construction noise control measures described above, maximum $L_{eq(1)}$ noise levels during construction would be expected to be approximately in the high 70s to low 80s dBA at areas of the BPC sports fields within approximately 50 to 100 feet of the construction site boundary. The maximum noise levels would occur when dominant noise equipment such as excavators are used on the project site. However, the use of such equipment would not occur continuously throughout the demolition and foundation stages of work, resulting in short durations of high noise levels. While the maximum noise level increases predicted to occur for approximately 3 to 5 continuous months at the BPC sports fields would be noticeable and potentially intrusive at times, noise levels in many parks and open space areas throughout the City located near heavily trafficked roadways and/or near construction sites experience comparable, and sometimes higher, noise levels. Because the open space is intended for active recreational uses (i.e., baseball playing), it is not likely to experience the same effects from construction noise that a more passive open space would experience. Furthermore, the highest predicted levels of construction noise at this open space would occur during typical construction hours between 7:00 AM and 3:30 PM on weekdays, while use of the fields would mostly fall outside of these hours. Because of the limited duration of the predicted noise level increases, and because this receptor is intended for active recreation and is typically used outside of construction hours, construction noise associated with the proposed project would not rise to the level of a significant adverse impact at this receptor.

[5] As discussed in **Table 20-2**, construction of the proposed baseball fields could occur later than anticipated in the preliminary construction schedule. If this occurs, two existing baseball fields would remain in use on the project site for a longer duration. As with the BPC sports fields, noise levels at the existing baseball fields that would remain in use during construction of Phase I of the proposed project would exceed CEQR construction noise screening thresholds. However, the exceedances would occur only during construction at the retail, Towers 3 and 4, and Parking Garage No. 3 over the course of approximately 26 months, and the primary times of use for the ball fields (i.e., afternoon, evening, and weekends) are generally outside of construction work hours (i.e., weekdays 7 AM to 4 PM). Consequently, as was concluded for the BPC sports fields, construction noise at the existing baseball fields that would remain in use during construction of Phase I of the proposed project would not rise to the level of a significant adverse impact.

Effects of Construction on Completed Portions of the Proposed Project

According to the construction schedule for the proposed project, one or more project building(s) may be completed and occupied while construction activity is underway at other proposed project buildings (e.g., Thompson Building and Parker Building complete and occupied while Parking Garages Nos. 3 and 5 are undergoing excavation and foundation work).

The two proposed buildings that would be subject to construction noise from the remainder of project construction are the Thompson Building and the Parker Building, which are scheduled to finish construction approximately within the first 22 months and 21 months of the overall construction period, respectively. Based on nearby construction and shielding projections, the maximum construction-generated $L_{10(1)}$ noise levels at any completed and occupied project building would be expected to be in the low to mid 70s dBA during the loudest period of demolition, excavation, and foundation work on an adjacent building. As described in Chapter 17, "Noise," the proposed project buildings are expected to be constructed using standard construction techniques, which would be expected to provide approximately 25 dBA of window/wall attenuation. With this construction, interior noise levels would exceed the recommended level for accessory, hotel guestroom, classroom, and inpatient medical uses by up to approximately 10 dBA, and exceed the recommended level for retail, commercial office, conference center, and medical office by up to approximately 5 dBA during the most noise-intensive phases of construction at the immediately adjacent work areas. Based on the construction schedule, these exceedances would be expected to last approximately 4 to 6 continuous months. Because of the limited duration of the predicted exceedances of the CEQR noise exposure standards, construction noise exposure associated with the proposed project would not rise to the level of a significant adverse impact at completed and occupied project buildings.

Additionally, the proposed baseball fields would be subject to construction noise from the remainder of project construction, which are scheduled to finish construction approximately within the first 24 months of the overall construction period. Based on nearby construction and shielding projections, the maximum construction-generated $L_{10(1)}$ noise levels at either of the completed baseball fields would be expected to be in the mid to high 70s dBA during the loudest period of demolition, excavation, and foundation work on an adjacent building. The maximum noise levels would occur when dominant noise equipment such as excavators are used on the project site. However, the use of such equipment would not occur continuously throughout the demolition and foundation stages of work, resulting in short durations of high noise levels. While the maximum noise level increases predicted to occur for 16 non-continuous months at the proposed baseball fields would be noticeable and potentially intrusive at times, noise levels in many parks and open space areas throughout the City located near heavily trafficked roadways and/or near construction sites experience comparable, and sometimes higher, noise levels. Because the open spaces are intended for active recreational uses (i.e., baseball playing), it is not likely to experience the same effects from construction noise that a more passive open space would experience. Furthermore, the highest predicted levels of construction noise at this open space would occur during typical construction hours between 7:00 AM and 3:30 PM on weekdays, while use of the various fields would mostly fall outside of these hours. Because of the limited duration of the predicted noise level increases, and because this receptor is intended for active recreation and is typically used outside of construction hours, construction noise associated with the proposed project would not rise to the level of a significant adverse impact at this receptor.

Construction Noise Impact

Noise resulting from construction of the proposed project would result in exceedances of the initial construction noise screening threshold at the OMH Bronx Behavioral Health Center facility immediately adjacent to the project site as well as the publicly accessible open space immediately adjacent to the project site. The exceedances at these receptors, which would occur at times only during the demolition, excavation, and foundation stages of construction on immediately adjacent work areas, are predicted to occur for approximately 8 non-consecutive months at OMH facilities and 3 to 5 continuous months at the BPC sports fields. Furthermore, construction of the proposed project would result in exceedances of *CEQR Technical Manual* noise exposure guidelines at the completed and occupied Thompson Building and Parker Building at times only during the demolition, excavation, and foundation stages of construction on immediately adjacent work areas, which would also last approximately 4 to 6 continuous months.

Since the exceedances of CEQR noise impact criteria would occur for a limited duration, they would consequently not be considered significant adverse construction noise impacts.

VIBRATION

INTRODUCTION

Construction activities have the potential to result in vibration levels that may in turn result in structural or architectural damage, and/or annoyance or interference with vibration-sensitive activities. In general, vibratory levels at a receiver are a function of the source strength (which in turn is dependent upon the construction equipment and methods utilized), the distance between the equipment and the receiver, the characteristics of the transmitting medium, and the receiver building construction. Construction equipment operation causes ground vibrations that spread through the ground and decrease in strength with distance. Vehicular traffic, even in locations close to major roadways, typically does not result in perceptible vibration levels unless there are discontinuities in the roadway surface. With the exception of the case of fragile and possibly historically significant structures or buildings, in general construction activities do not reach the levels that can cause architectural or structural damage, but can achieve levels that may be perceptible and annoying in buildings very close to a construction site. An assessment has been prepared to quantify potential vibration impacts of construction activities on structures and residences near the project site.

CONSTRUCTION VIBRATION CRITERIA

For purposes of assessing potential structural or architectural damage, the determination of a significant impact was based on the vibration impact criterion used by the New York City Landmarks Preservation Committee (LPC) of a peak particle velocity (PPV) of 0.50 inches/second. For non-fragile buildings, vibration levels below 0.60 inches/second would not be expected to result in any structural or architectural damage.

For purposes of evaluating potential annoyance or interference with vibration-sensitive activities, vibration levels greater than 65 vibration decibels (VdB) would have the potential to result in significant adverse impacts if they were to occur for a prolonged period of time.

ANALYSIS METHODOLOGY

For purposes of assessing potential structural or architectural damage, the following formula was used:

$$PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$$

where: PPV_{equip} is the peak particle velocity in in/sec of the equipment at the receiver location;

PPV_{ref} is the reference vibration level in in/sec at 25 feet; and

D is the distance from the equipment to the received location in feet.

For purposes of assessing potential annoyance or interference with vibration sensitive activities, the following formula was used:

$$L_v(D) = L_v(ref) - 30\log(D/25)$$

where: $L_v(D)$ is the vibration level in VdB of the equipment at the receiver location;

$L_v(ref)$ is the reference vibration level in VdB at 25 feet; and

D is the distance from the equipment to the receiver location in feet.

Table 20-19 shows vibration source levels for typical construction equipment.

Table 20-19
Vibration Source Levels for Construction Equipment

Equipment	PPVref (in/sec)	Approximate Lv (ref) (VdB)
Pile Driver (Impact)	0.644-1.518	104-112
Vibratory Roller	0.210	94
Hydraulic Break Ram	0.089	87
Large bulldozer	0.089	87
Caisson drilling	0.089	87
Loaded trucks	0.076	86
Jackhammer	0.035	79
Small bulldozer	0.003	58

Source: *Transit Noise and Vibration Impact Assessment*, FTA-VA-90-1003-06, May 2006.

Construction Vibration Analysis Results

The buildings and structures of most concern with regard to the potential for structural or architectural damage due to vibration are the OMH Bronx Behavioral Health Center facility located approximately 170 feet south of the project site and the commercial buildings located approximately 150 feet west of the project site. Based on the distances from the project site, PPV would not exceed the most stringent 0.5 in/sec threshold at the receptor location mentioned above. Therefore, construction of the proposed project is not expected to result in significant adverse construction impacts with respect to vibration.

In terms of potential vibration levels that would be perceptible and annoying, the equipment that would have the most potential for producing levels that exceed the 65 VdB limit is the vibratory roller. It would produce perceptible vibration levels (i.e., vibration levels exceeding 65 VdB) at receptor locations within a distance of approximately 250 feet, including all sensitive buildings mentioned above. However, the operation would only occur for limited periods of time at a particular location and therefore, while it may result in vibration that is noticeable and perhaps

annoying, it would not result in any significant adverse impacts. No significant adverse impacts from vibrations are expected to occur.

OTHER TECHNICAL AREAS

LAND USE AND NEIGHBORHOOD CHARACTER

Construction activities would affect land use on the project site, but would not alter surrounding land uses. As is typical with construction projects, during periods of peak construction activity there would be some disruption to the nearby area. There would be construction trucks and construction workers coming to the project site. There would also be noise, sometimes intrusive, from construction activities as well as trucks and other vehicles backing up, loading, and unloading. These disruptions would be temporary in nature and would have limited effects on land uses within the study area, particularly as most construction activities would take place within the project site. In addition, throughout the construction period, measures would be implemented to control noise, vibration, and dust on the project site, including the erection of construction fencing which would reduce potentially undesirable views of construction site and buffer noise emitted from construction activities.

Overall, while construction activities at the project site would be evident to the local community, they would not result in any significant or long-term adverse impacts on local land use patterns or the character of the nearby area.

SOCIOECONOMIC CONDITIONS

As discussed above, because of the size of the project site to be developed, there is expected to be substantial flexibility in placing on-site construction equipment and materials staging areas within the project site. Construction activities would not block or restrict access to any facilities in the area, affect the operations of any nearby businesses, or obstruct major thoroughfares used by customers or businesses. Construction would create direct benefits resulting from expenditures on labor, materials, and services, and indirect benefits created by expenditures by material suppliers, construction workers, and other employees involved in the construction activity. Construction also would contribute to increased tax revenues for the city and state, including those from personal income taxes. Construction activities associated with the proposed project would not result in any significant adverse impacts on socioeconomic conditions.

COMMUNITY FACILIITIES

Construction of the proposed project would not displace or otherwise directly affect any public schools, child care centers, libraries, health care facilities, or New York City Police Department (NYPD) and FDNY protection services facilities. NYPD and FDNY emergency services and response times would not be materially affected by construction significantly due to the geographic distribution of the police and fire facilities and their respective coverage areas.

OPEN SPACE

As described in more detail in Chapter 5, “Open Space,” the proposed project would have a direct effect on open space on the project site. While the proposed project would remove the four existing ball fields currently located on the project site, these would be replaced with a baseball field and a little league field. The proposed project would also provide publicly accessible walking/biking paths with benches and new open space amenities. The proposed project would result in a net

increase of passive open space, active open space, and total open space acreage available to the public.

During construction of the proposed project, the developer would keep two of the existing baseball fields on the project site (one little league field and one intermediate/adult field) in operation (subject to temporary interruptions required to ensure public safety and seasonal closures) until the two new state-of-the-art fields are constructed. Therefore, the community would continue to have access to baseball fields throughout the duration of construction.

As described above under "Air Quality," the proposed project would implement an emissions reduction program to minimize the effects of the proposed project's construction activities on the surrounding community, including nearby open space resources. The proposed project would also adhere to *DEP Construction Dust Rules* regarding construction-related dust emissions, and to *New York City Administrative Code* limitations on construction-vehicle idling time. Therefore, construction activities associated with the proposed project would not result in any significant adverse air quality impacts on nearby open spaces.

Construction of the proposed project would be required to follow the requirements of the *NYC Noise Control Code*. As described above under "Noise," noise resulting from construction of the proposed project would result in exceedances of *CEQR Technical Manual* noise impact criteria at the BPC sports fields immediately adjacent to the project site. However, the exceedances at those receptors, which would occur at times only during the demolition, excavation, and foundation stages of construction on immediately adjacent work areas, would last approximately 3 to 5 continuous months. Since the exceedances of CEQR noise impact criteria would occur for a limited duration, they would consequently not be considered significant adverse construction noise impacts.

HISTORIC AND CULTURAL RESOURCES

A detailed assessment of potential impacts on historic and cultural resources is presented in Chapter 7, "Historic and Cultural Resources." The New York State Office of Parks, Recreation, and Historic Preservation (OPRHP) and LPC determined that the project site has no archaeological or architectural significance and that there are no archaeological or architectural resources in the study area that would be affected by the proposed project. Therefore, the construction of the proposed project would not result in any significant adverse impacts to historic and cultural resources.

NATURAL RESOURCES

A detailed assessment of potential impacts on natural resources is presented in Chapter 9, "Natural Resources." The section below summarizes the potential for the construction of the proposed project to result in adverse construction-period impacts on natural resources.

Groundwater

Groundwater within the Bronx is not used as a source of potable water. In addition, the proposed project would not require significant subsurface disturbance. Therefore, construction of the proposed project would not result in significant adverse impacts to groundwater.

Floodplains

Approximately half the study area, specifically around the perimeter, is within either the 100-year or 500-year floodplain. New York City is affected by local flooding (e.g., flooding of inland portions of the City from short-term, high-intensity rain events in areas with poor drainage), fluvial flooding (rivers and streams overflowing their banks), and coastal flooding (e.g., long and short wave surges that affect the City's shorelines along the Atlantic Ocean and tidally influenced rivers such as the Hudson River and East River). Because the floodplain within and adjacent to the study area is controlled by astronomic tide and meteorological forces (e.g., nor'easters and hurricanes) and not by fluvial flooding, floodplains would not be affected by grading or other construction for the proposed project.

Therefore, flooding conditions in the surrounding area would not be altered from their present state, and construction of the proposed project would not result in significant adverse impacts to floodplains.

Wetlands

Since there are no National Wetlands Inventory (NWI)-mapped wetlands or NYSDEC-mapped wetlands located within the study area, construction of the proposed project would not result in significant adverse impacts to wetlands.

Terrestrial Resources

Vegetation and Ecological Communities

Ecological communities within the study area are limited to mowed lawn with trees, urban structure exterior, and paved road/path communities. These ecological communities, in addition to being common throughout the region, are defined by human disturbance. These ecological communities provide limited habitat value to wildlife in the area. Construction of the proposed project would result in approximately 17 acres of disturbance to existing vegetated ecological communities (i.e., mowed lawn with trees). In total, approximately 70 trees would also be removed from the project site as a result of the proposed project. All work within 50 feet of trees under City jurisdiction would be performed in compliance with Local Law 3 of 2010 and NYC Park's Tree Protection Protocol to minimize potential adverse impacts. In addition, if any trees under City jurisdiction are removed, restitution, either in the form of monetary payment to the Parks Tree Fund or in the form of tree planting, would be provided pursuant to Chapter 5 of Title 56 of the Rules of the City of New York (NYCDPR Rules) and Local Law 3 of 2010.

Therefore, the construction of the proposed project would not result in significant adverse impacts to vegetation and ecological communities.

Wildlife

Construction of the proposed project would not have significant adverse impacts to wildlife at either the individual or population level. Terrestrial wildlife habitat within the study area is presently limited to a mowed lawn with trees, urban structure exterior, and paved road/path communities in a highly urbanized setting. Therefore, construction activities would not eliminate any high-quality or valuable habitat for wildlife, and would not adversely affect wildlife within the area. As disturbance from construction activities would be temporary, any wildlife individuals that may be displaced from the site during project construction would be expected to easily move to alternative habitats.

Overall, construction of the proposed project would not have significant adverse impacts to wildlife at the individual or population level.

Threatened, Endangered, and Special Concern Species and Significant Natural Communities

The only federal- or state-listed endangered, threatened, and special concern species, or significant natural communities that is considered to have the potential to occur or is known to occur within the project area or study area is willow oak (*Quercus phellos*; Endangered).

There are 10 willow oaks planted within the study area north of the central parking lot and adjacent to the Bronx Children's Psychiatric Center building. These trees would have the potential to be removed as a result of the project. The willow oak is ranked as "S1" by NYNHP, indicating that it is critically imperiled in the state because of extreme rarity (i.e., five or fewer sites or very few remaining individuals) (NYNHP 2013). All 10 willow oaks located within the project area were planted and do not represent natural populations. Willow oak is a commonly planted tree in New York City (Peper et al. 2007), and these trees do not constitute one of the "five or fewer sites or very few remaining individuals" of this species in New York State as is intended by the NYNHP "S1" rank, because they are not considered part of native or naturalized populations. Therefore, the removal of these trees would not be considered a significant adverse impact to naturally occurring, willow oak populations. Willow oaks would be considered in the landscaping plans to the extent that the construction schedule allows based on the required planting seasons.

Therefore, construction of the proposed project would not have significant adverse impacts to threatened, endangered, and special concern species and significant natural communities.

HAZARDOUS MATERIALS

A detailed assessment of the potential risks related to the construction of the proposed project with respect to any hazardous materials is presented in Chapter 10, "Hazardous Materials." The potential for adverse impacts associated with construction of the proposed project would be avoided by adhering to the measures set out below:

The NYSDEC Record of Decision (ROD) for the Inactive Hazardous Waste Disposal Site (IHWDS), i.e., the selected remedy, would need to be implemented, including removal of the existing transformers, concrete slab and underlying contaminated soil, followed by capping. This work would need to be implemented prior to (or in conjunction with) project development work. Following implementation of the ROD, a Site Management Plan (SMP) would be prepared and an environmental easement recorded on the property. The easement would establish the institutional and engineering controls needed to manage residual PCB contamination, including monitoring and health and safety procedures that would ensure that future site workers and occupants would not be exposed to residual contamination.

Based on the findings of the 2016 site characterization investigation, the future site owner plans to enter the areas of the project site outside of the IHWDS into the NYSDEC's Brownfield Cleanup Program (BCP), a voluntary program. Remediation related to petroleum contamination near the 183,000-gallon aboveground storage tanks (AST) and any other required remediation would be conducted in accordance with the BCP requirements, including preparation of BCP-required RAP, and summary/completion reports. The contemplated remedial actions would likely include engineering controls to be incorporated into project construction, such as soil vapor intrusion controls for new buildings and capping of newly created landscaped areas. The RAP would address soil management (including stockpiling and characterization, transportation, and disposal off site of excess or contaminated soil), health and safety procedures and procedures to address unanticipated contamination discovered during construction.

Prior to or as a part of new construction, removal of all underground storage tanks (USTs) and ASTs would be performed in accordance with NYSDEC requirements including those related to spill reporting and tank registration. It is likely that as a part of the tank removal/closure NYSDEC would require completion of additional subsurface investigation and, if contaminated soil or groundwater were found, remedial measures to address such conditions.

If dewatering is required, e.g., for new construction or utility installation, groundwater testing would be performed to ensure that the discharge would meet the DEP sewer discharge requirements. If necessary, pretreatment would be conducted prior to discharge to the City's sewer system, as required by DEP permit/approval requirements.

All demolition/renovation with the potential to affect ACM or disturb LBP would be performed in compliance with applicable regulations. This would entail a detailed asbestos abatement plan and removal of the ACM prior to the demolition/renovation.

Any medical or chemical wastes or other wastes in containers, drums or other storage would be disposed of off-site at appropriate facilities in accordance with applicable regulatory requirements.

Unless there were to be labeling or test data that indicated that fluorescent lights do not contain mercury, and that the lighting fixtures are not PCB-containing, any disposal would need to be performed in accordance with applicable regulations and guidelines.

With the above measures, no significant adverse impacts related to hazardous materials would occur as a result of the construction of the proposed project. ✷