CHAPTER 6 ENVIRONMENTAL REVIEW: EAST 91ST STREET CONVERTED MTS

6.1 Introduction

The results of the environmental analyses of the East 91st Street Converted MTS are presented in the following sections:

6.2 Land Use, Zoning, and Public Policy
6.3 Socioeconomic Conditions
6.4 Community Facilities and Services
6.5 Open Space
6.6 Cultural Resources
6.7 Urban Design, Visual Resources, and Shadows
6.8 Neighborhood Character
6.9 Natural Resources
6.10 Hazardous Materials
6.11 Water Quality
6.12 Waterfront Revitalization Program
6.13 Infrastructure, Solid Waste and Sanitation Services, and Energy
6.14 Traffic, Parking, Transit, and Pedestrians
6.15 Air Quality
6.16 Odor
6.17 Noise
6.18 Commercial Waste to the East 91st Street Converted MTS

Section 2.2.3 provides a summary description of the site and important characteristics of the facility design. A detailed discussion of the methodologies that were applied in conducting each analysis is provided in Chapter 3. Supplemental information on the site or the study area is provided in the following sections when appropriate to the analysis.

6.2 Land Use, Zoning, and Public Policy

6.2.1 Existing Conditions

6.2.1.1 Definition of the Study Areas

The primary study area for the land use, zoning, and public policy analyses is defined as the area within ¼-mile of the site (see Figure 6.2-1). The secondary study area is defined as the area between ¼-mile and ½-mile of the site (see Figure 6.2-2). Section 3.4 describes the methodology employed in these analyses and Section 2.2.3 provides information on existing land uses and operations on the site.

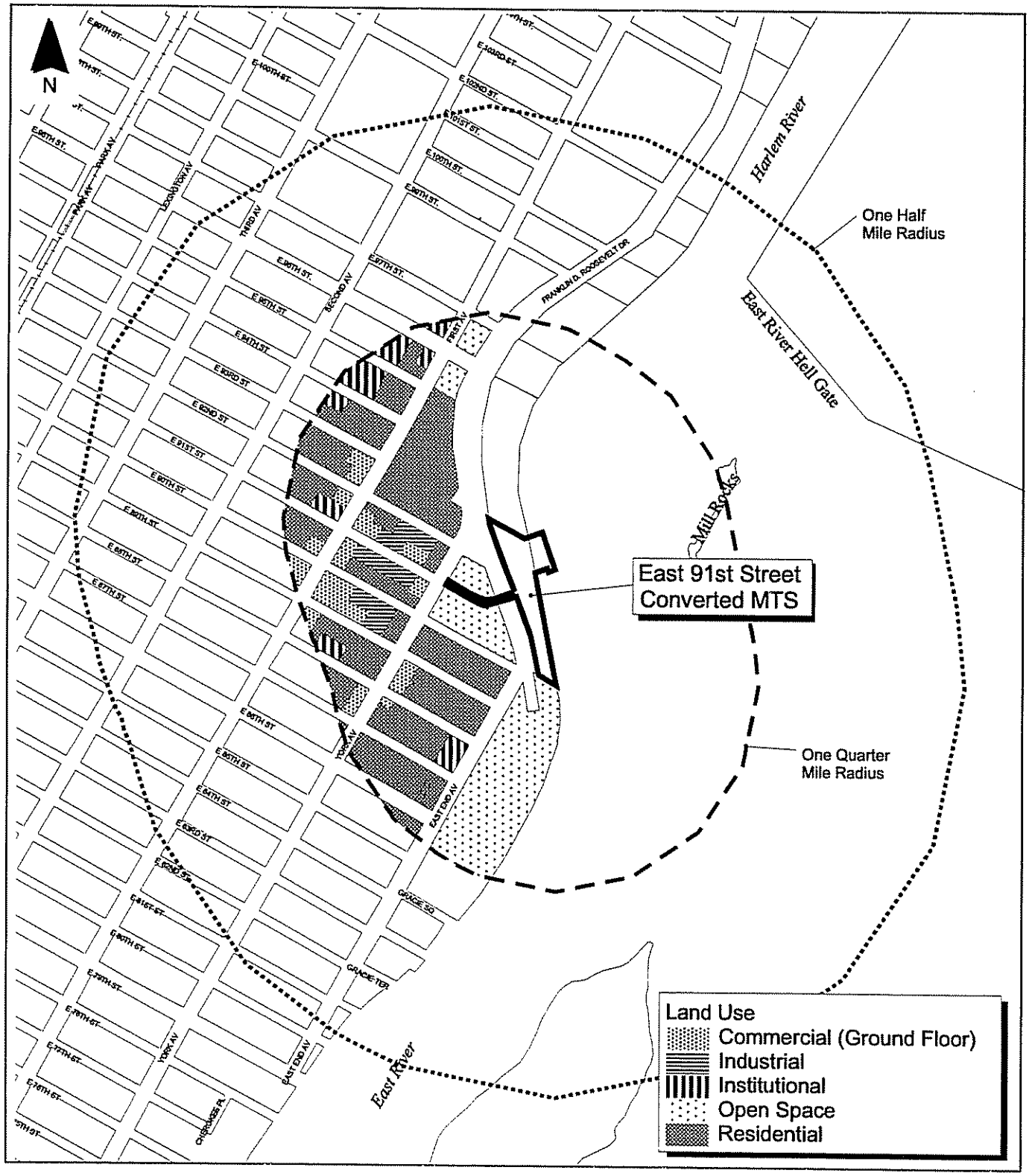
6.2.1.2 Land Use Patterns

6.2.1.2.1 General Context

Set in the larger context of Manhattan's Upper East Side and East River waterfront, the site is surrounded primarily by parks and recreational areas, transportation infrastructure and dense residential developments.

6.2.1.2.2 Land Uses in the Primary Study Area

The site is located on the waterfront, separated from the mainland street network, by the at-grade FDR Drive. Carl Schurz Park, the setting of Gracie Mansion, the mayor's formal residence, lies immediately to the south of the site and runs adjacent to the western side of the FDR Drive to 84th Street. The park provides a buffer to residential uses adjacent to it on East End Avenue. At its northern end nearest the site, the park extends over the FDR Drive to the waterfront. The East River Esplanade, alongside the FDR Drive, provides public access to the waterfront – south of East 84th Street and north of East 90th Street. The esplanade runs along the waterfront, adjacent to the site beneath the existing MTS access ramp. A commuter ferry pier is located just south of the existing MTS at East 90th Street. The park and promenade extend south along the water beyond the primary study area.



Site delineations and study area boundaries are approximate
Base Map Source: New York City Department of City Planning

Figure 6.2-1 Land Use in the Primary Study Area
East 91st Street Converted MTS

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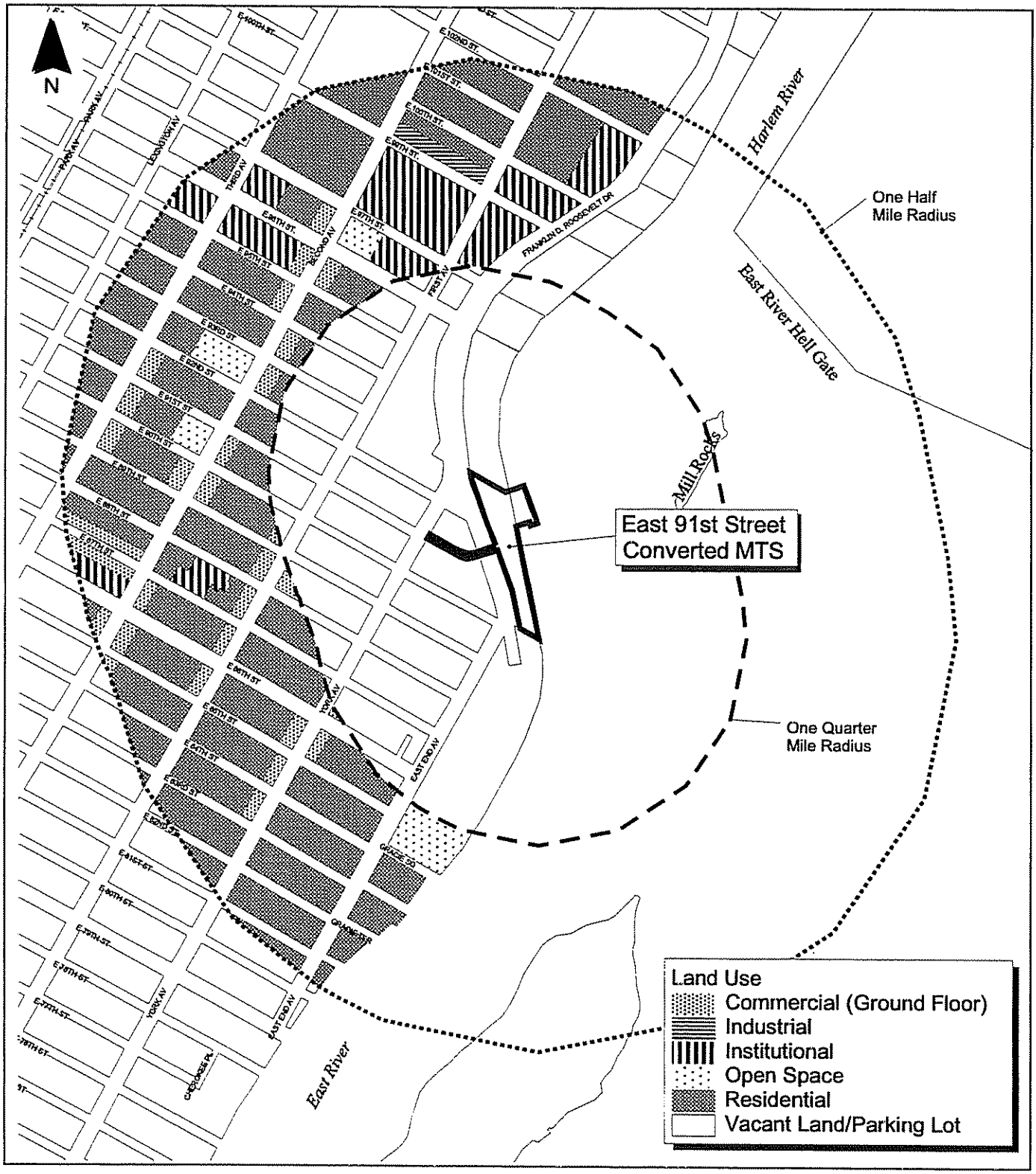

Site delineations and study area boundaries are approximate.
Base Map Source: New York City Department of City Planning

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Figure 6.2-2 Land Use in the Secondary Study Area

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Asphalt Green, another major open space and community facility within the primary study area, stretches between East 90th and 92nd Streets east of York Avenue. It consists of a sports and training complex, featuring indoor and outdoor facilities, soccer field, basketball courts, running track, aquatic center and fitness center. The former Municipal Asphalt Plant (now a landmark) houses a gymnasium as part of the complex. (See Section 6.6 for additional discussion of cultural resources in the study area.) Access to the existing MTS site is provided by an unmapped drive that ramps up through the Asphalt Green complex from the intersection of East 91st Street and York Avenue to clear the FDR Drive.

The remainder of the primary study area primarily consists of residential land uses with multi-story towers on the west side of East End Avenue facing the river and row houses lining the cross streets. A few blocks feature ground-floor commercial space along York Avenue and First Avenue. The study area's strongly residential nature is only somewhat interrupted by the presence of a few warehouses and auto-related uses between East 89th Street, East 92nd Street and York and First Avenues. A gourmet grocery (Eli's) with a restaurant above (The Vinegar Factory) and an arts-and-crafts shop are located on the north side of East 91st Street (a local route for DSNY and other agency collection vehicles leaving the site) just west of York Avenue, and a pizzeria is located on the south side of the street. On the local inbound truck route (East 90th Street between York and First Avenues) there is a combination of residential buildings and automobile-related uses (e.g., car rental, automobile repair and parking garages). Beth Israel Hospital (North) is also located in the primary study area on East End Avenue and East 87th Street, and the High School of Teaching and P.S. 66 are located on East 88th Street, between York and First Avenues. Stanley M. Isaacs Park is located on both sides of East 91st Street, east of First Avenue.

6.2.1.2.3 Land Uses in the Secondary Study Area

Land use within the secondary study area is also generally characterized by residential uses, with ground-floor commercial uses lining the avenues, except for the portion of the study area north of East 95th Street, where institutional uses abound. Metropolitan Hospital and associated parking is located at East 97th Street, J.H.S. 99 and other institutional uses are east of First Avenue (north of the Metropolitan Hospital complex), and the School of Cooperative Technical Education is at East 97th Street, to the south.

6.2.1.3 Zoning On and Near the Site

6.2.1.3.1 Zoning Within the Primary Study Area

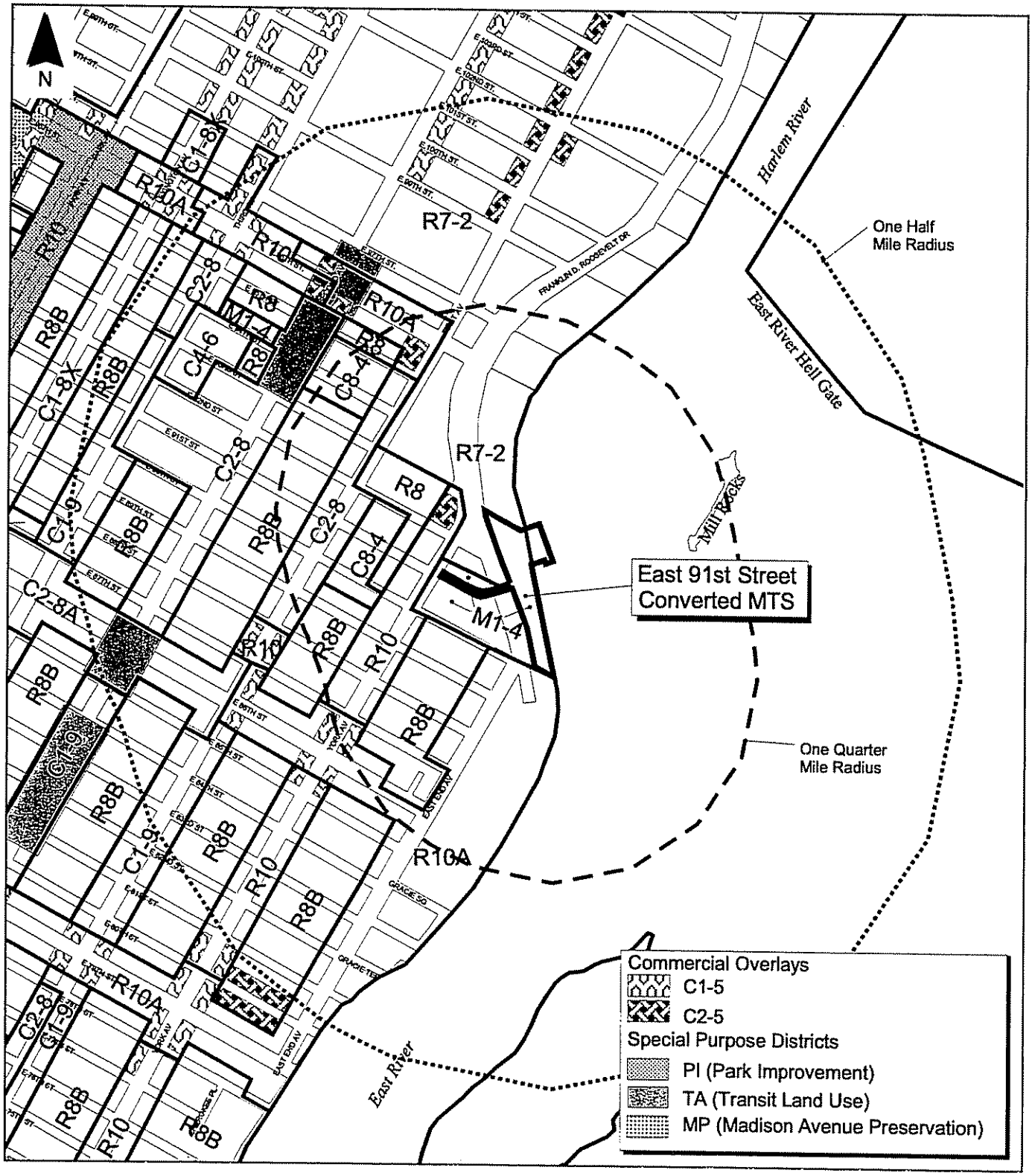
The MTS site is located within a small irregularly shaped M1-4 (light industrial) zoning district, which extends from East 90th to East 93rd Streets along the shoreline, between the FDR Drive and the East River waterfront. It continues west of the site to York Avenue between East 90th and East 92nd Streets to encompass most of the Asphalt Green complex. Beyond the site on all sides are high-density residential zoning districts that allow for dense apartment buildings. The northern portion of Asphalt Green is situated within a large R7-2 zoning district that extends about one mile to the north. Immediately south of the site is an R10A high-density residential district and is surrounded by other high-density residential districts: R8, R8B, R10 and R10A. An area covering the interiors of three blocks south of East 92nd Street between York and First Avenues, where warehouses and auto-related uses are located west of the site, is zoned C8-4. The remainder of the study area is zoned for high-density residential development with the exception of a strip of C2-8 zoning lining First Avenue. (See Figure 6.2-3 and Table 3.4-1: Zoning District Characteristics.)

6.2.1.3.2 Zoning Within the Secondary Study Area

The secondary study area is zoned primarily for high-density residential development (R7-2, R8, R8-B, R10 and R10A). Commercial zoning applies to the avenues and East 86th Street, and a Transit Land Use Special Purpose District covers several blocks of Second Avenue around East 86th Street and East 95th Street in the secondary study area to allow for the proposed Second Avenue subway, in design stages at the time of this writing.

6.2.1.4 Plans and Policies

Neither the FY 2004 CDNS for Manhattan CD 8, in which the site is located, or that for CD 11, in which a portion of the secondary study area is located, make reference to recommended or anticipated physical development affecting the site or primary or secondary study areas.



Site delineations and study area boundaries are approximate
Base Map Source: New York City Department of City Planning

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Figure 6.2-3 Zoning

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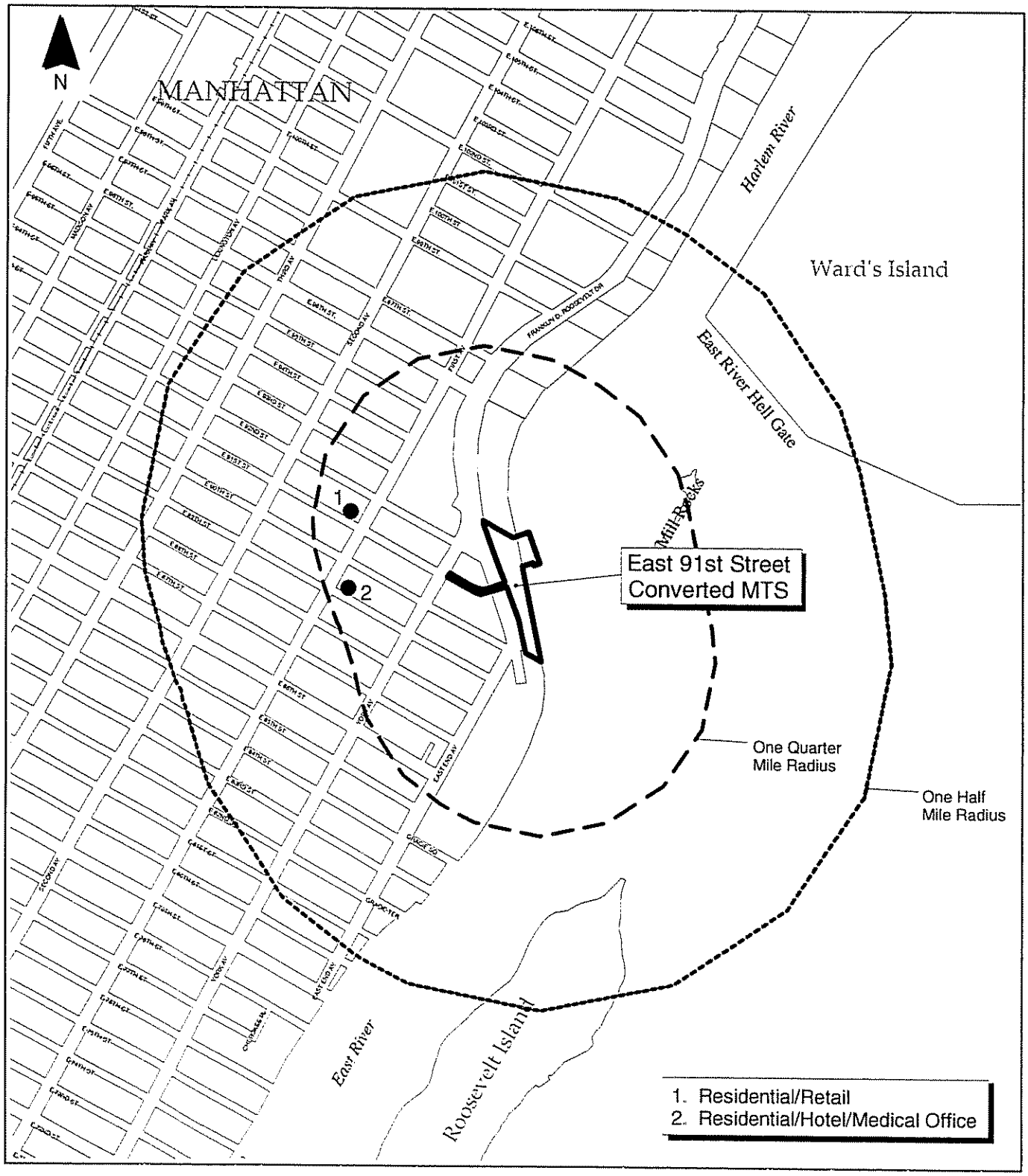
The Plan for Reach 1 makes several recommendations pertinent to the site. As part of planning for the public waterfront, it recommends that the esplanade throughout the reach be developed to accommodate both bicycles and pedestrians safely and that waterfront access from inland areas be enhanced. The plan also recommends that where public funds are invested in waterfront municipal facilities, allocations should be included for esplanade construction, and, for waterfront uses that may block access to or along the waterfront, public access should be incorporated into site plans. Specifically, RFPs for the development or use of City-owned waterfront property should require esplanades or waterfront parks and maintenance agreements to ensure their upkeep.

The plan also recommends that the fireboat pier at East 90th Street be renovated for use as an environmental education center and that a new pedestrian bridge be constructed from Asphalt Green to the pier. As part of its working waterfront recommendations, the plan for Reach 1 speaks to the commuter ferry service which, subsequent to the preparation of the plan, has begun service at East 90th Street. It also specifically notes that the adjacent MTS at East 91st Street should be considered when siting or locating a ferry landing at this location.

6.2.2 Future No-Build Conditions

Two multi-use residential towers will be completed within the primary study area by 2006, one at 389 East 89th Street and one, which will include a hotel, at East 91st Street and First Avenue (see Figure 6.2-4). Other new residential construction is underway on 90th Street at the western edge of the secondary study area. In addition, a feasibility study is currently underway for a potential new school to be located at 340-342 East 92nd Street. Otherwise, NYCDCP has no information of new development planned to occur within the study area, and notes that most new development in the broad vicinity occurs in the East 60s, south of the site and outside the secondary study area.

A large section of East Harlem (East 99th to East 122nd Streets) between First Avenue and Lexington Avenue has been rezoned for higher-density contextual residential development. The site would remain DSNY property and the existing inactive MTS would remain.



Site delineations and study area boundaries are approximate
Base Map Source: New York City Department of City Planning

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Figure 6.2-4 Planned Development Sites
East 91st Street Converted MTS

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6.2.3 Potential Impacts with the East 91st Street Converted MTS

6.2.3.1 Land Use and Zoning

The East 91st Street Converted MTS entails replacement of the existing MTS with a new facility that includes containerization functions; it would represent a slight physical upgrading of the site. The East 91st Street Converted MTS operation would be designed to containerize waste and prepare containers for transfer to barge for disposal outside the City. The existing MTS, which extends over the water, would be demolished, and the new one would be built in approximately the same place, still hugging the shore and extending to the pierhead line. ~~The ramped entrance to the site would remain unchanged.~~ The new ramp constructed as part of the East 91st Street Converted MTS would follow the same footprint as the existing ramp.

The reactivation of waste transfer activities on the site would have no effect on land uses nearby. (See Section 6.8 for a discussion of potential impacts to neighborhood character.) Neither the reactivation of waste transfer activities on the site nor the volume of truck traffic would encourage similar types of land uses or discourage other types of land use such as those already present in the study areas. Therefore, no significant adverse impacts to land use or zoning in the built-out study area would result.

6.2.3.2 Consistency with Public Plans and Policies

There are no recommendations or objectives stated in relevant plans and policies that specifically relate to the site or the study area. The East 91st Street Converted MTS would be consistent with the applicable 197-a Plan (the Comprehensive Manhattan Waterfront Plan [CMWP]). Development of a ferry terminal at East 90th Street and the waterfront promenade in the area near the site has already occurred.

6.3 Socioeconomic Conditions

6.3.1 Existing Conditions

6.3.1.1 Definition of the Study Areas

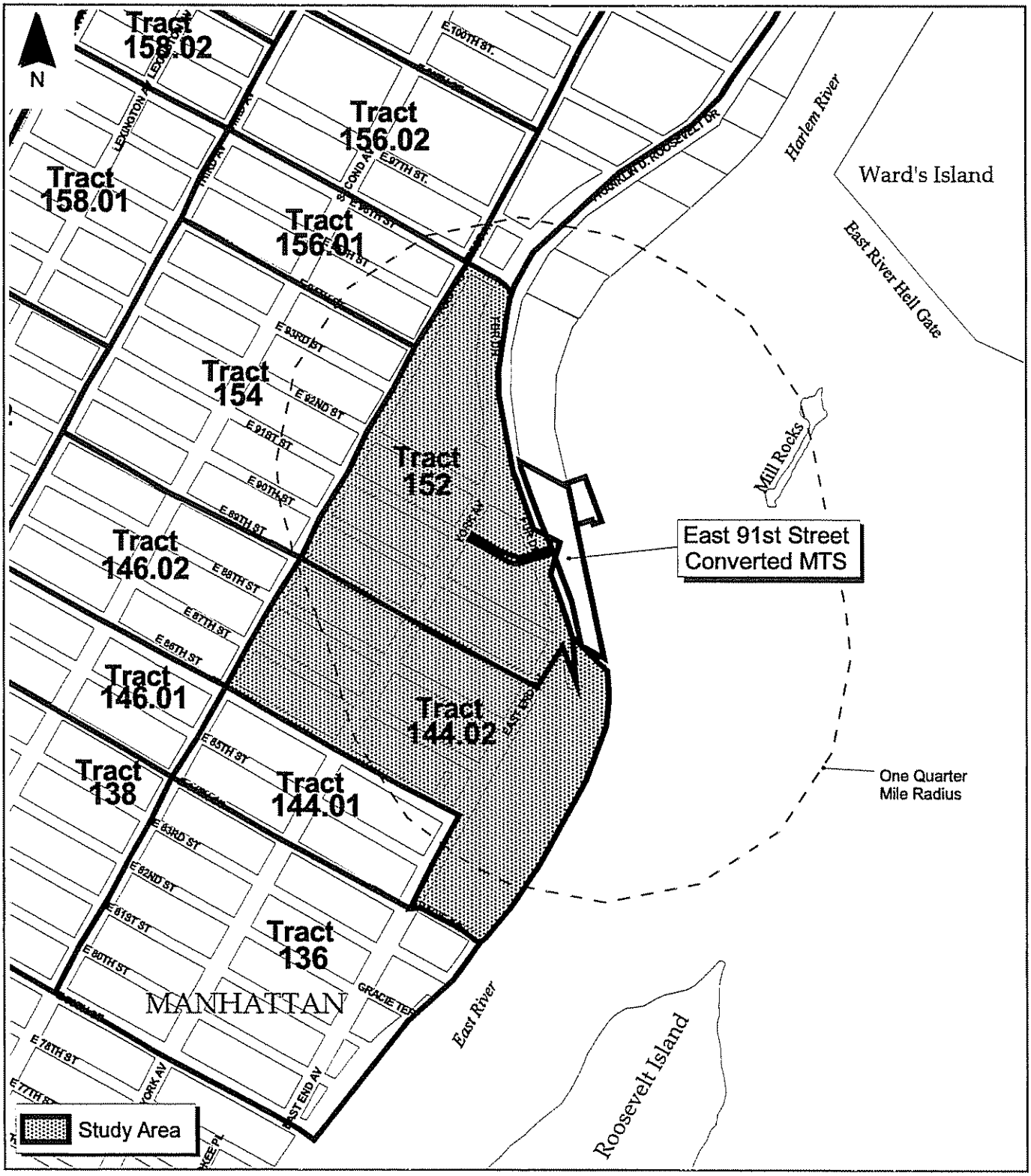
Two study areas were used for the analysis of socioeconomic conditions: (1) a demographic study area based roughly on census tracts within ¼-mile of the site; and (2) a study area related to economic activity that generally covers a larger area that extends ½-mile from the site. (Refer to Section 3.5 for a more detailed description of study area delineation.) The demographic study area is comprised of Census Tracts 152 and 144.02 (see Figure 6.3-1). Census Tract 152 covers East River waterfront areas to the east of First Avenue between East 89th Street and East 96th Street. Census Tract 144.02 covers the six blocks directly south of Census Tract 152 and the area stretching east of East End Avenue between East 90th Street and East 84th Street. For comparison purposes, Census data were gathered at the borough and City levels. The study area for the assessment of potential impacts on economic conditions extends as far north as East 102nd Street, as far south as East 81st Street and as far west as Third Avenue.

Detailed socioeconomic information referred to in the text but not presented in table form may be found in Appendix B.

6.3.1.2 Demographic Characteristics

6.3.1.2.1 Population

The total 2000 study area population was 13,417 persons (see Table 6.3-1). In terms of population growth from 1990 to 2000, the study area experienced a greater rate of increase in residents (7%) than did the borough (3%) during the same period, but its population did not grow as rapidly as the City's (9%) as a whole.



Site delineations and study area boundaries are approximate.
Base Map Source: New York City Department of City Planning

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Figure 6.3-1 Census Tracts

East 91st Street Converted MTS

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Table 6.3-1
1990-2000 Population

	Study Area	Manhattan	City
2000	13,417	1,537,195	8,008,278
1990	12,601	1,487,536	7,322,564
Percent Change	+6.5%	+3.3%	+9.4%

Source: U.S. Census 1990, 2000

The age-sex distribution was slightly different from the population distribution of the borough and the City, with an even greater proportion of females to males. The study area contained a slightly smaller percentage of children and teenagers than the borough, but a considerably smaller percentage of children and teens than the City: 16% of the study area population was under the age of 20, compared to 19% for the borough and 27% for the City.

6.3.1.2.2 Racial and Ethnic Characteristics

The 2000 study area population had a smaller proportion (12%) of people of Hispanic origin (all races) than did Manhattan or the City (both at 27%). Of the 88% not of Hispanic origin in the study area, 84% were White and 7% were Black. In Manhattan and the City, Blacks represented approximately 21% and 33% of the non-Hispanic populations, respectively, while Whites represented 63% and 48%, respectively.

From 1990 to 2000, the number of study area residents of Hispanic origin increased by a greater rate than in the borough and in the City during the same period. People of Hispanic origin increased by 30% in the study area, compared with 10% in the borough and 24% in the City. Because the 2000 Census introduced the option for respondents to identify themselves as two or more races, racial categories are not directly comparable with 1990.

6.3.1.2.3 Families and Households

There were 2,980 families in the study area in 2000. Approximately the same percentage of these families (42%) had children under the age of 18 as families in Manhattan (43%). In the City, the percentage of families with children was somewhat higher (49%). There was a larger

percentage of married-couple families in the study area than in the borough or the City, and 39% of these families had children, the same percentage as in Manhattan but a somewhat lower percentage than found within the City (48%).

Twenty-four percent (24%) of the families in the study area were headed by a female householder, a smaller percentage than in the borough (30%) or the City (also 30%). Fifty-one percent (51%) of the female householder families in the study area had children under the age of 18, similar to percentages in the borough (53%) and the City (55%).

There were 7,487 households in the study area in 2000, with an average household size of 1.8 persons, which was smaller than the number in Manhattan (2.0 persons per household) and the City (2.6 persons per household). From 1990 to 2000, the number of households in the study area increased by 4%, compared with a 3% increase in the borough and a 7% increase in the City.

6.3.1.2.4 Employment

Seventy-two percent (72%) of persons aged 16 and older participated in the labor force in 2000, compared to 64% in Manhattan and 58% in the City. The majority of employed in all three areas were engaged as private wage and salary workers.

Nine percent of employed persons 16 and over were government workers, compared to Manhattan (10%) and the City (16%). Moreover, 9% of the study area's working population was self-employed, the same proportion as in Manhattan and a somewhat higher proportion than in the City (6%).

From 1990 to 2000, the number of persons in the labor force increased at a faster rate in the study area (4%) than in the borough (less than 1%) or the City (1%). Among employed persons, those engaged in government jobs increased by 8% in the study area, compared with a 15% decrease in the borough and a 10% decrease in the City.

Current forecasts indicate that about 149,866 employees worked in Manhattan CD 8 in 2005, which was about 7% of the borough's total employment.[1]

6.3.1.2.5 Housing

In 2000, most housing units in the two-census-tract study area were built before 1969; the majority of housing units in both Manhattan and the City were slightly older, built before 1959. As of 2000, there were 7,961 housing units in the study area with a vacancy rate of about 6%, lower than the borough (8%) but about the same as the City. About three-quarters of housing units were renter-occupied, which was about the same as in the borough and greater than the City (66%). Median monthly rent ($781) was about the same as in the borough, but higher than in the City ($705).

The majority of study area householders moved into their units between 1990 and 2000 (65%), slightly greater than the percentages in the borough and City (61%).

From 1990 to 2000, a total of 176 housing units were added in the study area, representing a 2% increase, the same as in the borough, but a somewhat lower proportional increase than in the City (7%).

6.3.1.2.6 Education

Consistent with the lower percentage of children in the study area than in the borough or the City, there was a lower rate of school enrollment (19%) than in either the borough (24%) or the City (29%). Of those people enrolled in school, 48% were attending elementary or high school and about 37% were attending college or beyond. The study area witnessed a 19% increase in the number of persons enrolled in school from 1990 to 2000, with the largest increase in enrollment occurring at the pre-primary school level.

[1] Based on New York Metropolitan Transportation Council, Population and Employment Forecasts, approved 7-17-03.

The study area had higher educational attainment levels than either the borough or the City. Compared to the larger areas, a larger percentage (81%) of the study area population aged 25 and over had a college degree or some college education. Compared to Manhattan (14%), the study area had a slightly lower percentage of people with only high school diplomas (5%).

From 1990 to 2000, the study area witnessed rising levels of educational attainment. The number of college graduates increased 21%; the same trend was evident in the borough and the City. Meanwhile, the numbers of people with less than a college education declined in the study area.

6.3.1.2.7 Income and Poverty

In 2000, both median household income ($51,150) and median family income ($60,606) were higher than in Manhattan (median household: $47,030; median family: $50,229) and the City (median household: $38,293; median family $41,887). Compared to the larger two areas, a lower percentage of study area households were concentrated at the lowest income levels, with the majority of annual household incomes above $50,000 and about 32% above $100,000. Only 23% of households in the study area had incomes below $25,000, compared with 30% in the borough and 35% in the City.

The study area had a lower percentage of families living below the poverty level (11%) than in Manhattan (18%) or the City (19%). A significant percentage of these families below the poverty level (45%) had children under the age of 18, lower than Manhattan (48%) or the City (55%).

A lower percentage of persons in the study area under the age of 18 were living below the poverty level in 2000 (18%) than in Manhattan (32%) and the City (30%). The 2000 Census also reported that 11% of persons 65 and older were living below the poverty level in the study area, compared to 19% in Manhattan and 18% in the City.

From 1990 to 2000, the percentage of people living below the poverty level in the study area increased by 35%, as compared with a minimal change in the borough and a 21% increase in the City.[2]

6.3.1.3 Economic Conditions

The portion of the Upper East Side within approximately ½-mile of the site contains dense residential development, schools and other institutional uses. Ground-floor commercial establishments serving the neighborhood line First and Second Avenues, and several specialized commercial enterprises (such as wine shops, gourmet groceries and some restaurants) can be found on the side streets. Automobile-related uses, such as gas stations, repair, rental and garages are present along First Avenue and some side streets. The residents of the area are not necessarily employed within the same area and, likewise, the employees staffing the commercial and institutional establishments in the neighborhood do not necessarily reside there.

6.3.2 Future No-Build Conditions

6.3.2.1 Demographic Characteristics

Regional projections indicate that the population of Manhattan CD 8 will remain about the same as current conditions.[3]

6.3.2.2 Economic Conditions

No notable changes to economic conditions are predicted for the area by 2006, although a new hotel will be in operation at East 91st Street and First Avenue.

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[2] Census 2000 may capture greater numbers of persons and families living below the poverty level than earlier census counts due to Service-Based Enumeration (SBE). The SBE operation was designed for Census 2000 to improve the count of individuals who might not be included through standard enumeration methods, and was conducted in service locations, such as shelters and soup kitchens, and at targeted outdoor locations.

[3] Based on New York Metropolitan Transportation Council, Population and Employment Forecasts, approved 7-17-03.

Regional projections indicate that employment in Manhattan CD 8 will remain about 7% of the borough total.[4]

6.3.3 Potential Impacts with the East 91st Street Converted MTS

The East 91st Street Converted MTS represents the reactivation of solid waste transfer operations with added containerization functions at the site~~. Therefore, it~~, which would not result in socioeconomic changes in the study area. The land use patterns have not changed dramatically since this MTS discontinued its operation in 1998. Technical analyses indicate that no traffic, air, odor, noise or other impacts would result from the operation of the East 91st Street Converted MTS. ~~–~~No significant direct or indirect impacts are anticipated related to socioeconomic conditions.

6.3.3.1 Residential Impacts

No direct residential displacement would occur as a result of the East 91st Street Converted MTS, and land use and neighborhood character analyses predict no adverse impacts (see Sections 6.2.3 and 6.8.3, respectively).

6.3.3.2 Direct Business and Institutional Impacts

The East 91st Street Converted MTS would not result in the direct displacement of businesses or institutional uses.

6.3.3.3 Indirect Business and Institutional Impacts

The East 91st Street Converted MTS would not result in indirect impacts to study area businesses or institutions. Of the few businesses located on nearby side streets that will once again serve as DSNY and other agency collection vehicle access routes (East 90th and 91st Streets between York and 1st Avenues), patronage would not likely be affected by the reactivation of solid waste transfer operations at the East 91st Street MTS. Since no adverse impacts to neighborhood

[4] Ibid.

character are predicted (see Section 6.8.3), and these businesses (in particular, Eli's grocery and the Vinegar Factory Restaurant) are entirely enclosed and rely primarily on pedestrian traffic, they would not be particularly sensitive to any associated increases in truck traffic on the street. As indicated in Section 6.14.4.4, no impacts to pedestrians are predicted, per CEQR screening methodology. The remain~~der of smaller~~ing businesses, located as they are on heavily traveled avenues, would similarly not likely be affected. The Asphalt Green recreation complex was constructed around the once active existing MTS entrance drive and ramp. The complex (building and field) is surrounded by protective fencing and landscaping to physically ~~and visually~~ buffer it ~~itself~~ from the existing MTS ramp that bisects the property. With the East 91st Street Converted MTS, visual buffering between the ramp and adjacent property would be provided by a wall designed for this purpose. (See Figure 2.2.3-7). Given this design and the fact that no operable windows open onto the entrance drive or face the MTS on FDR Drive, reactivation of the MTS would have minimal effects on the recreation center's function. Therefore, no indirect business and institutional impacts are predicted.

6.3.3.4 Employment Impacts

The East 91st Street Converted MTS is expected to generate a total of approximately 85 jobs, including supervisors, equipment operators, mechanics, laborers and clerical personnel. In addition to the direct positive employment impacts (likely beyond the study area), the new workers would generate a minor amount of indirect economic benefits in the study area through local spending.

6.4 Community Facilities and Services

6.4.1 Existing Conditions

6.4.1.1 Definition of the Study Areas

The primary study area is defined as the area within ¼-mile of the site. The secondary study area is defined as the area between ¼-mile and ½-mile of the site.

6.4.1.2 Summary of Community Facilities and Services

There are 10 community facilities in the primary study area and 25 in the secondary study area. These facilities and others serving the site but located outside the secondary study area are listed in Table 6.4-1 and shown on Figure 6.4-1.

6.4.2 Future No-Build Conditions

There are no known changes planned for the community facilities and services within the primary and secondary study areas by the Future No-Build year. Therefore, anticipated Future No-Build Conditions are expected to be fundamentally the same as Existing Conditions regarding availability of facilities and services and their capacity or adequacy of delivery.

6.4.3 Potential Impacts with the East 91st Street Converted MTS

The East 91st Street Converted MTS would not create any significant new demand on services and community facilities and would not displace facilities or disrupt services. The FDNY states that it would have no problem supporting the reactivation of the site (see Appendix A). No significant adverse impacts to service delivery are expected.

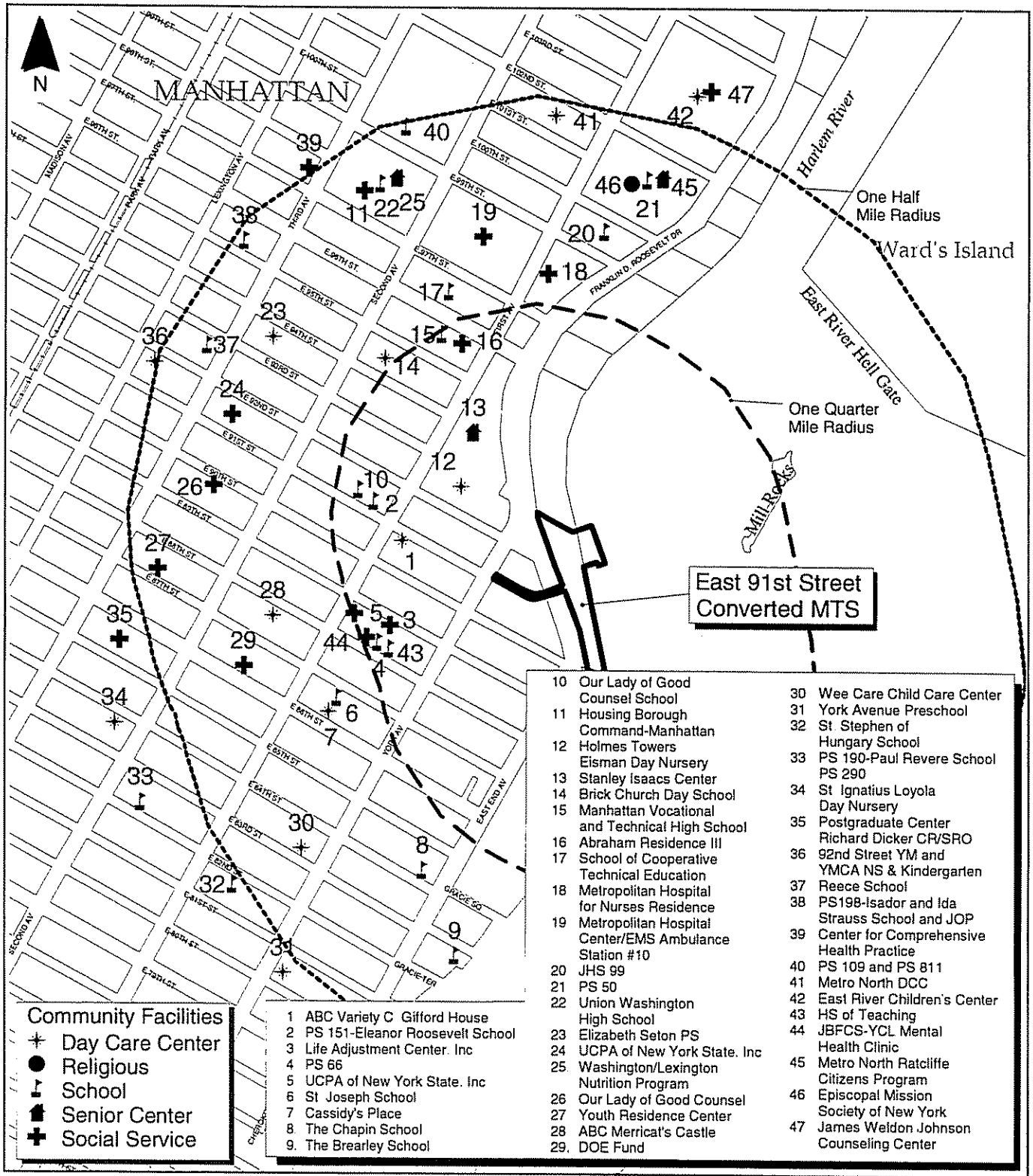
Table 6.4-1
Community Facilities and Services

Name	Address
Within the Primary Study Area	
Day Care Centers	
ABC Variety C. Gifford House	404 East 91st Street
Holmes Towers Eisman Day Nursery	1794 1st Avenue
Schools	
P.S. 151 - Eleanor Roosevelt School	1763 1st Avenue
P.S. 66	421 East 88th Street
Our Lady of Good Counsel School	323 East 91st Street
High School of Teaching	421 East 88th Street
Senior Center	
Stanley Isaacs Center	415 East 93rd Street
Social Services	
Life Adjustment Center, Inc.	426 East 89th Street
UCPA of New York State, Inc.	400 East 89th Street
JBFCS-YCL Mental Health Clinic	421 East 88th Street
Within the Secondary Study Area	
Day Care Centers	
Cassidy's Place	419 East 86th Street
Brick Church Day School	62 East 92nd Street
Elizabeth Seton Pre-School	1675 3rd Avenue
ABC Merricat's Castle	316 East 88th Street
Wee Care Child Care Center	451 East 83rd Street
Religious	
Episcopal Mission Society of New York	1956 1st Avenue
Schools	
St. Joseph School	420 East 87th Street
The Chapin School	100 East End Avenue
The Brearley School	610 East 83rd Street
Manhattan Vocational and Technical High School	320 East 96th Street
School of Cooperative Technical Education	327 East 96th Street
J.H.S. 99	410 East 100th Street
P.S. 50	433 East 100th Street
Union Washington High School	1893 2nd Avenue
Reece School	180 East 93rd Street
Senior Centers	
Metro North Ratcliffe Citizens Program	1960 1st Avenue
Washington/Lexington Nutrition Program	1775 3rd Avenue

Table 6.4-1 (continued)
Community Facilities and Services

Name	Address
Social Services	
Abraham Residence III	336-338 East 96th Street
Metropolitan Hospital for Nurses Residence	1892 1st Avenue
Metropolitan Hospital Center/EMS Ambulance Station #10	1901 1st Avenue
UCPA of New York State, Inc.	1619-1623 3rd Avenue
Our Lady of Good Counsel	230 East 90th Street
Youth Residence Center	217 East 87th Street
DOE Fund	331 East 86th Street
Housing Borough Command-Manhattan	216 East 99th Street
Outside the Secondary Study Area	
Day Care Centers	
York Avenue Preschool	1520 York Avenue
St. Ignatius Loyola Day Nursery	240 East 84th Street
92nd Street YM and YMCA Nursery School & Kindergarten	1395 Lexington Avenue
Metro North Day Care Center	304 East 102nd Street
East River Children's Center	416 East 105th Street
Schools	
St. Stephen of Hungary School	408 East 82nd Street
P.S. 190 - Paul Revere School; P.S. 290	311 East 82nd Street
P.S. 198 - Isador and Ida Strauss School	1700 3rd Avenue
P.S. 109 and P.S. 811	215 East 99th Street
Social Services	
Postgraduate Center Richard Dicker CR/SRO(1)	220 East 86th Street
Center for Comprehensive Health Practice	163 East 97th Street
James Weldon Johnson Counseling Center	2201 1st Avenue

Note:
(1) CR/SRO = Community Residence/Single Room Occupancy



Site delineations and study area boundaries are approximate
Base Map Source: New York City Department of City Planning
Note: Fire stations, police stations and hospitals outside the secondary study area may not be shown on the figure

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Figure 6.4-1 Community Facilities and Services
East 91st Street Converted MTS

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6.5 Open Space

6.5.1 Existing Conditions

6.5.1.1 Definition of the Study Area

The study area for open space is defined as being the area within a ½-mile radius of the site.

6.5.1.2 Summary of Open Space in the Study Area

There are 11 public parks and open spaces within the study area~~,~~ and three just outside to the north. They are shown on Figure 6.5-1 and listed in Table 6.5-1.

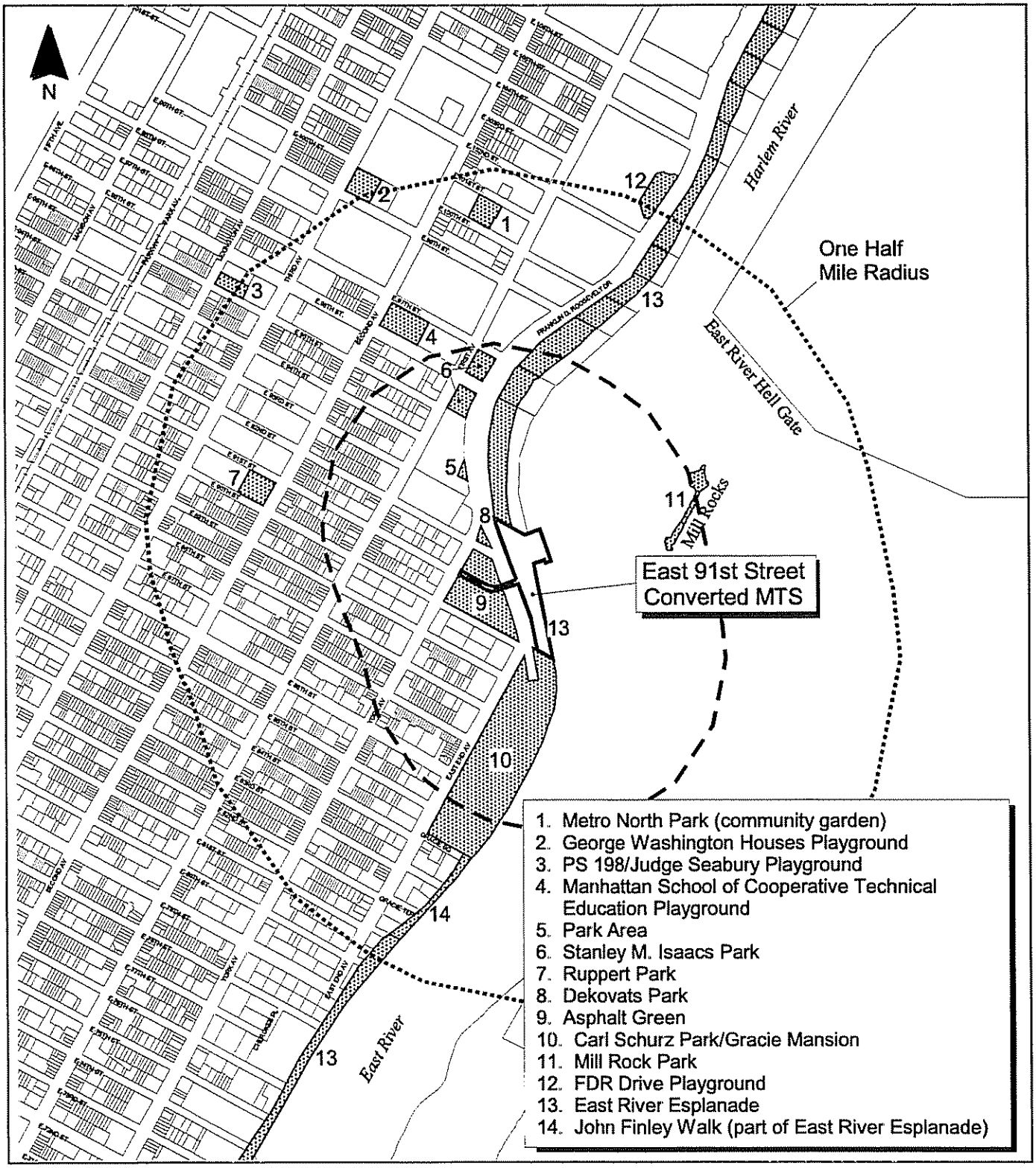
Of particular interest are the closest facilities: Asphalt Green, Carl Schurz Park ~~and~~, the East River Esplanade that runs along the water~~-~~, adjacent to the MTS and DeKovats Park. Asphalt Green is a 4.35 acre park and community facility that contains a variety of indoor and outdoor recreational opportunities, including an aquatics ~~center~~ center, private rooftop center, and playground north of the existing MTS ramp (between East 91st and 92nd Streets)~~.~~; and a gym, track and theater in the old municipal asphalt plant, and an outdoor field and track on the parcel between East 90th and 91st Streets, south of the ramp approximately 100 feet west of the MTS site.

Carl Schurz Park, is a 15-acre City park situated between East 84th Street (Gracie Square) and East 90th Street east of East End Avenue, is home to Gracie Mansion. It extends over the FDR Drive, approximately 200 feet south of the site. It features benches, play areas, a small-dog park, lawn and an esplanade that overlooks the waterfront and beyond.

The East River Esplanade follows the river and extends over three miles from just north of the Queensboro Bridge (East 63rd Street) north to the Triborough Bridge (East 126th Street). The Esplanade includes over 14 acres of pedestrian/biking space and passive recreation benches~~, outboard of the FDR Drive, to the north and south of Carl Schurz Park.~~ The northern portion of the Esplanade near the MTS site is accessible via a ramp from Carl Schurz Park at East 88th

Street, and the southern portion is accessible via stairs at Gracie Square. The paved esplanade is planted with trees and offers wonderful riverside views, but the park experience is greatly affected by its location beside the heavily-traveled FDR Drive.

DeKovats Park is located at East 92nd Street and the FDR Drive. This 0.05-acre greenspace is a landscaped traffic island, which does not offer direct space for public activity.



Site delineations and study area boundaries are approximate.
Base Map Source: New York City Department of City Planning

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Figure 6.5-1 Open Space/Parkland

East 91st Street Converted MTS

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Table 6.5-1
Public Parks and Open Spaces

Name	Location	Acreage
Metro-North Park (community garden)	East 100th Street and East 101st Street, between First Avenue and Second Avenue	0.9
George Washington Houses Playground	Northeast corner of East 99th Street and Third Avenue	0.95
P.S. 198/Judge Seabury Playground	Northeast corner of East 95th Street and Lexington Avenue	0.79
Manhattan School of Cooperative Technical Education Playground	East 96th Street, East 97th Street and Second Avenue	1.47
Portion of Harlem River Park	FDR Drive and East 94th Street	0.25
Stanley M. Isaacs Park	Between FDR Drive and First Drive, East 95th Street and East 97th Street	1.23
Ruppert Park	East 90th Street, East 91st Street, and Second Avenue	1.0
DeKovats Park	FDR Drive and East 92nd Street	0.05
Asphalt Green	FDR Drive, York Avenue, East 90th and East 92nd Streets	4.35
Carl Schurz Park	East End Avenue, Gracie Square and FDR Drive	14.94
Mill Rock Park	Island in East River at approximately East 95th Street	8.64
FDR Drive Playground	FDR Drive and East 103rd Street	1.05
East River Esplanade	Along FDR Drive (and Carl Schurz Park), East 63rd Street to East 126th Street	--
John Finley Walk	Part of East River Esplanade, between East 81st Street and Gracie Square	--

6.5.2 Future No-Build Conditions

NYCDPR has no new long-term development plans or notable development projects associated with the open spaces in the study area, except for possible enhancements of Asphalt Green and the new irrigation and fencing to be installed at Ruppert Park several blocks west of the site that will be completed within the next few years. The site will remain DSNY property and the existing MTS will remain, though inactive.

6.5.3 Potential Impacts with the East 91st Street Converted MTS

The East 91st Street Converted MTS would not introduce a new population to the study area and, therefore, the utilization of the nearby open spaces would not be increased. Although a new ramp would be constructed, it would follow the same footprint as the existing ramp; therefore, no parkland would be taken, and access between areas north and south of the drive would not be changed.

The site is, however, within close proximity to several open space resources, and its associated trucks would likely queue on the ramp that currently bisects the Asphalt Green complex and passes over the East River Esplanade. The results of the odor analysis (see Section 6.16), which analyzed potential effects of the queuing trucks and operations of the East 91st Street Converted MTS, indicate that there would be no odor impacts at the site boundary, along the esplanade, within Carl Schurz Park, or within the Asphalt Green property. Therefore, no permanent impacts to open space would result. (See Chapter 32 for discussion of potential impacts to open space associated with construction activities.) ~~to nearby sensitive receptors resulting from the queuing trucks or operations of the proposed East 91st Street Converted MTS.~~

6.6 Cultural Resources

6.6.1 Existing Conditions

6.6.1.1 Definition of the Study Area

The cultural resources study area is defined as that area within ½-mile of the site.

6.6.1.2 Development History of the Area

The study area is located in Yorkville, a historic neighborhood on the Upper East Side of Manhattan. It was once a rural village centered at East 86th Street and Third Avenue between the farmlands of Harlem to the north and the urban settlement of New Amsterdam to the south. By 1850, Yorkville was a predominantly German community about 1½ miles from the northern edge of the City. The hamlet could be reached from the City by a regularly scheduled stagecoach that ran to Third Avenue and East 86th Street. It was also home to Hazzard's roadhouse, the first stop for coaches carrying passengers from the Hell Gate Ferry at the eastern terminus of East 86th Street.

By the turn of the 20th century, Yorkville's population was more diverse, with the largest ethnic groups being Irish, Germans, Hungarians, Jews, Czechs, Slovaks and Italians, each living in distinct enclaves. The center of the neighborhood remained East 86th Street, which featured local commercial establishments.

Following the Civil War, squatters' shacks in the community were replaced by two-story houses for the wealthy, who moved to new luxury mansions and then apartment buildings on Madison, Fifth and Park Avenues in the late 19th and early 20th centuries. Many of these surviving buildings (some of which have become museums and other institutions) are now included in the Upper East Side Historic District, a locally and nationally recognized district. Many brownstones and tenements became or were replaced by multi-family dwellings with ground-floor shops. The Third Avenue elevated line began service in 1878 followed by the Second Avenue line the next year.

Tenement buildings, many of which still stand today, lined many of the easternmost streets and avenues. In fact, several on Second Avenue are historically notable and considered eligible for listing in the SRHP.

Gracie Mansion, originally the country home of Archibald Gracie, a successful Scottish businessman, is located at East 88th Street and East End Avenue overlooking the East River. In 1942, after several owners, additions and renovations, the 18th-century house became the mayor's official residence. The park in which Gracie Mansion is situated is named for Carl Schurz (1829-1906), a reformer, avid conservationist, editor of the New York Evening Post and The Nation, and the neighborhood's most famous 19th-century resident.

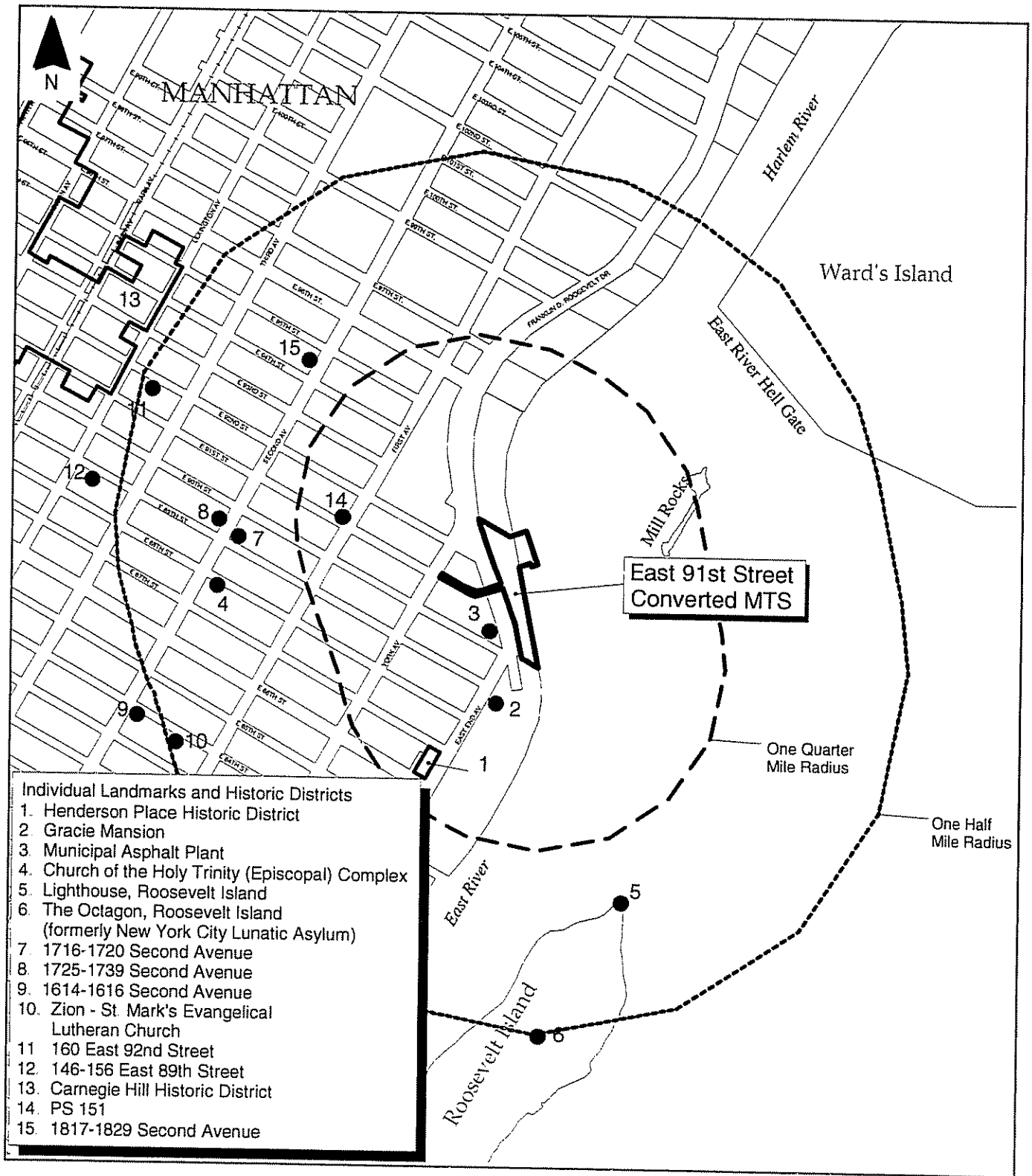
After World War II, the Third Avenue elevated line was dismantled and when many brownstones and tenements were demolished and replaced with high-rise apartment buildings, their eastern European residents moved to the suburbs. Gentrification in the years following continued to change the character of the neighborhood. Today, for example, the Rhinelander Mansion, once the home of the most influential family in Yorkville is now home to Ralph Lauren's Polo enterprise.

6.6.1.3 Cultural Resources on the Site

There are no elements of architectural or archaeological significance within the site.

6.6.1.4 Historic Resources Within the Study Area

One historic district and several other historic properties are located within the study area, representing different stages of the neighborhood's development over the last 200 years (see Figure 6.6-1). These properties are listed in Table 6.6-1.



Site delineations and study area boundaries are approximate
Base Map Source: New York City Department of City Planning

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Figure 6.6-1 Cultural Resources

East 91st Street Converted MTS

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Table 6.6-1
Cultural Resources in the Study Area

Name	Location	Designation
Henderson Place Historic District	East End Avenue between East 86th and East 87th Streets	NYCL, NR
Gracie Mansion	East End Avenue at East 88th Street	NYCL, NR, SRHP
Municipal Asphalt Plant (now Asphalt Green Recreation Center)	FDR Drive at East 90th Street	NYCL, NR, SRHP
Church of the Holy Trinity Complex	316-322 East 88th Street	NR, SRHP
Lighthouse	Roosevelt Island	NYCL, NR, SRHP
The Octagon (Formerly the New York City Lunatic Asylum)	Roosevelt Island	NYCL, NR, SRHP
--	1716-1720 Second Avenue	(Individually eligible to the SRHP)
--	1725-1739 Second Avenue	(Individually eligible to the SRHP)
--	1614-1616 Second Avenue	(Individually eligible to the SRHP)
--	1817-1829 Second Avenue	(Individually eligible to the SRHP)
Zion-St. Mark's Evangelical Lutheran Church	339-341 East 84th Street	NR, SRHP
--	160 East 92nd Street	LPC
--	146-156 East 89th Street	NYCL, SRHP, NR
Carnegie Hill Historic District		NYCL, Eligible to SRHP
P.S. 151	1763 First Avenue	Individually eligible to the SRHP

Notes:
SRHP = New York State Register of Historic Places
NR= National Register of Historic Places
NYCL= New York City Landmark

6.6.2 Future No-Build Conditions

Several individual tenement buildings on Second Avenue and P.S. 151 on First Avenue have been determined to be eligible for listing on the SRHP. Except for these properties, there is no reason to anticipate the designation of other resources in this area in the near future. Even with their potential designation, anticipated Future No-Build Conditions are assumed to be the same as Existing Conditions.

6.6.3 Potential Impacts with the East 91st Street Converted MTS

Based upon its review, SHPO has stated that the East 91st Street Converted MTS would have no impact upon cultural resources in, or be eligible for inclusion in, the SRHP and NR. The LPC has stated that the site contains no architectural or archeological significance (see Appendix A). The East 91st Street Converted MTS would not result in adverse impacts to cultural resources and no mitigation measures would be warranted.

6.7 Urban Design, Visual Resources, and Shadows

6.7.1 Existing Conditions

6.7.1.1 Definition of the Study Area

The urban design and visual quality study area is the same as the neighborhood character study area (see Figure 6.8-1). The site is separated from nearby residential uses by the FDR Drive and Carl Schurz Park, which itself screens some street-level views to the waterfront. Upper floors of apartment towers on East 91st Street and York Avenue likely have views of the site, as do outdoor field users of the Asphalt Green complex that borders both sides of the existing MTS entrance drive, and the users of East River Esplanade that runs along the river, beneath the MTS entrance ramp and adjacent to the facility itself. Due to the site's location on the waterfront, view corridors from points of waterfront access are the areas of primary concern in assessing potential impacts to urban design and visual quality.

6.7.1.2 Description of the Site

An existing inactive MTS is on the site. When it was operating, full DSNY trucks drove into the existing MTS (a 56-foot-tall prefabricated steel building), unloaded within the building and drove out of the building and off the property. The facility is accessible via a drive/ramp that bisects the Asphalt Green complex to the west. The ramp crosses above the FDR Drive and the East River Esplanade, entering an elevated platform over the water. There is no land portion of the site (see Figures 6.7-1 and 6.7-2).

6.7.1.3 Urban Design and Visual Resources of the Study Area

The East River Esplanade provides an attractive waterfront edge to Carl Schurz Park. It features benches and decorative fencing and lighting, and is wide enough to comfortably accommodate runners, walkers and cyclists (see Figure 6.7-3). Open views of the waterfront, Randall's Island, Astoria (Queens) and Wards Island are as attractive as the views of the nearby landscaped Carl Schurz Park. Traffic is unseen, as the FDR Drive runs beneath the esplanade in the

Figure 6.7-1 : View of East 91st Street MTS from adjacent East River Esplanade.

Figure 6.7-2 : View of East 91st Street entrance ramp on York Avenue, bisecting the Asphalt Green Complex.

Figure 6.7-1 and 6.7-2
Urban Design and Visual Quality
East 91st Street Converted MTS

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Figure 6.7-3 : View of East River Esplanade, facing south from approximately East 88th Street (FDR Drive visible beneath the esplanade).

Figure 6.7-4 : Ferry Terminal at East 90th Street.

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area of the park. The esplanade, which is elevated over the FDR Drive near the park, descends to the elevation of the FDR, running alongside the FDR north of the park, where a ferry terminal is located at East 90th Street (see Figure 6.7-4). Alongside the existing MTS, the esplanade is traversed by the access ramp to the MTS. Trees planted in the esplanade near the existing MTS and park streetlights soften the appearance of the structure's industrial facade.

Views toward the west from the esplanade are of the 20- to 30-story apartment towers located in the neighborhood below East 96th Street, including the George Washington Houses complex (see Figures 6.7-5 and 6.7-6). Further inland near these residences are the busy First and Second Avenue corridors, which are lined with active commercial and automotive uses. East End Avenue, an 11-block long street, is relatively quiet and lined almost exclusively with tall residential complexes with attractive views of Carl Schurz Park from the street.

6.7.2 Future No-Build Conditions

There are no plans for the site or surrounding environs that would lead to significant changes in urban design or visual conditions. The new residential developments on East 89th and East 91st Streets (see Section 6.2.2) would not alter the general visual quality or design of the study area. The anticipated Future No-Build Conditions, therefore, are fundamentally the same as Existing Conditions.

6.7.3 Potential Impacts with the East 91st Street Converted MTS

6.7.3.1 Visual Quality and Urban Design

The East 91st Street Converted MTS would resemble the existing MTS it would replace in terms of its building typology, massing and position and elevated access, as well as adjacency to the esplanade. However, it would stand nearly double in height (approximately 100 feet tall). Associated cranes used to transfer containerized waste to waiting barges are expected to be approximately 80 feet at their highest point. Additionally, the ramp will include 12- to 14-foot ~~noise~~ walls running along its edges, designed to hide queuing trucks on the ramp from users of the Asphalt Green complex, these~~which~~ will make the crossing over the FDR and esplanade more visually prominent, though without blocking significant views.

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Figure 6.7-5 : View south toward East 91st Street MTS from East River Esplanade at approximately East 92nd Street. The MTS is visible to the left and a portion of the Asphalt Green Complex is visible to the right, with high-rise residences on York Avenue visible in the distance.

Figure 6.7-6 : View south toward East 91st Street MTS from East River Esplanade at East 96th Street.

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The nearly 50-foot increase in height over the existing MTS is not expected to affect inland views toward the waterfront since these views are largely screened by trees within Carl Schurz Park, which is set approximately 20 to 25 feet above the MTS site elevation. The MTS site is visible from the East 88th Street ramp to the esplanade, ~~or~~ and from a vantage point further south on the Carl Schurz Park promenade. The closest possible views of the MTS – at the northern edge of the park near Gracie Mansion – are no longer open to the public. Views from nearer the waterfront, such as from the promenade, are already obstructed to some extent by the existing facility. The overall scale and appearance of the new facility would not likely contribute to a substantial change of views toward the waterfront from upper-story residential uses along East End Avenue.

It is assumed that the landscaping of the walkway near the existing MTS would be retained or replaced, and the esplanade and water area below the entrance around the facility would be properly maintained when the new facility is constructed and operating. As with the previous MTS operations, ~~The appearance of the new structure would resemble that of the existing one, with~~ the barges would be located on the northern side of the facility, which is less visible from the park and buffered from inland street-level views. Therefore, the new facility and reactivation of the former ramp would result in no significant impact to the visual quality of the area, and the urban design of the area would remain virtually unchanged.

6.7.3.2 Shadows

According to the 2001 CEQR Technical Manual, an impact area should be drawn around the site to encompass the maximum project shadow in order to determine if any sensitive resources nearby might be affected, and consequently, if a full shadow impact assessment were warranted. (This shadow impact area is calculated by multiplying the height of the proposed structure by 4.3 to estimate its longest possible shadow.)

These parks were identified within the shadow impact study area:

- Asphalt Green: ~~Asphalt Green includes 5½ acre sports and training campus across York Avenue between East 90th and 92nd Streets in Manhattan. Outdoor activities include an AstroTurf field for team sports, running track, basketball courts, two outdoor parks, and rooftop terrace overlooking the East River.~~

- East River Esplanade~~: Lying between the FDR Drive and the East River, the East River Esplanade extends over three miles from just north of the Queensboro Bridge (East 63rd Street) north to the Triborough Bridge (East 126th Street). The Esplanade includes over 14 acres of pedestrian/biking space and passive recreation benches.~~
- Carl Schurz Park~~/Gracie Mansion between East 84th and East 90th Streets, is home to Gracie Mansion, pedestrian/bikeways and playgrounds for multiple age groups.~~
- DeKovats Park: ~~Located at East 92nd Street and the FDR Drive, this 0.05 acre greenspace is a landscaped traffic island, which does not offer direct space for public activity.~~

There are no expected physical changes to the project site or vicinity that might create new shadows on these resources in the Future No-Build Condition. Therefore, the shadow assessment considered only the consequences of the East 91st Street Converted MTS development.

An impact analysis of the 100-foot-tall East 91st Street Converted MTS and 80-foot-tall cranes determined that only two open spaces in the vicinity would be potentially affected by shadows. These two resources, Asphalt Green and the East River Promenade, would be affected to different degrees throughout the year. It should be noted that the existing 50-foot-tall MTS and ramp cast shadows on these resources currently, and the movement between Existing and proposed conditions is considered in this evaluation.

Asphalt Green: Analysis of December 21st indicates that the resource would not be affected by shadows. During the three other analysis periods, the northern portion of Asphalt Green would be shaded for 30 to 40 minutes in the early morning:(7:30 a.m. to 8:00 a.m. in March and June, 7:30 a.m. to 8:10 a.m. in May). As shadows would only affect lawn, benches and a playground for 30 to 40 minutes during three periods, ~~the East 91st Street Converted MTS is~~ this would not be considered ~~to cause~~ a significant shadow impact at this resource. (See Figure 6.7-7.)

Figure 6.7-7 Shadow Diagram

East 91st Street Converted MTS

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East River Esplanade: Similar to the existing MTS, ~~The~~ the East 91st Street Converted MTS would cast shadows on up to 200 feet of the 3.15-mile-long ~~Esplanade~~ esplanade adjacent to the MTS, for the following durations primarily in the morning hours:

- 7:30 a.m. – 11:00 a.m. (3 hours, 30 minutes) on March 21st;
- 7:30 a.m. – 11:50 a.m. (4 hours, 20 minutes) on May 6th;
- 7:00 a.m. – 12:10 p.m. (5 hours, 10 minutes) on June 21st; and
- 8:50 a.m. – 10:30 a.m. (1 hours, 40 minutes) on December 21st.

While five hours of shadow is a significant portion of the day, ~~the affected area of this resource is limited, comprising a small segment of the Esplanade.~~ This is not a new shadow. In addition, the majority of the uses of this section (biking and pedestrian activities) are transient and not dependent upon direct sunlight. These activities would be anticipated to continue in shadow for the minimal affected area. Due to the affected area's small size and the negligible impact on activities, the East 91st Street Converted MTS is not considered to cause a significant shadow impact at this resource.

6.8 Neighborhood Character

6.8.1 Existing Conditions

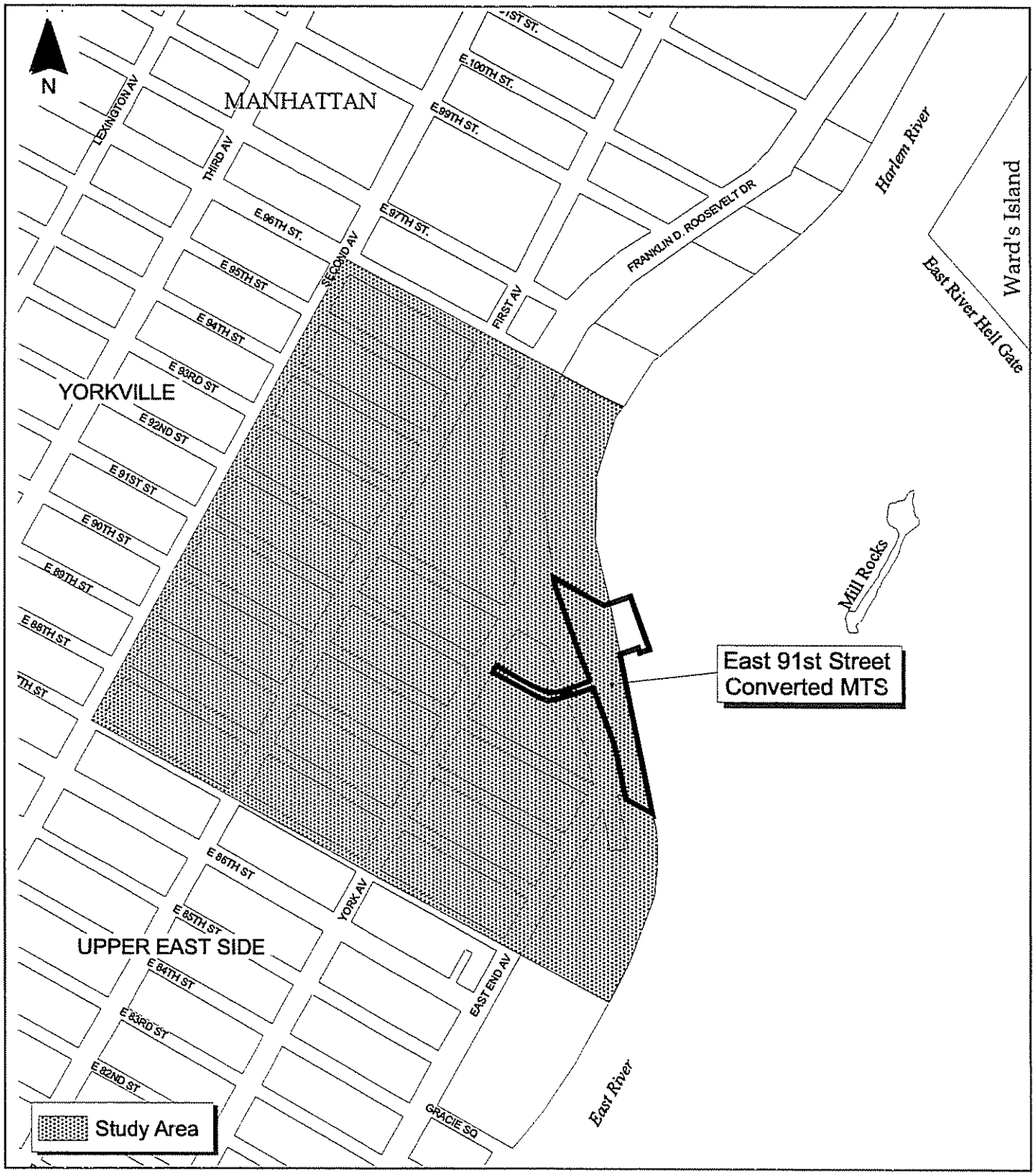
6.8.1.1 Definition of the Study Area

Unlike the other sites studied, this site is within fairly close proximity to both residential and open space resources, which are the two major factors contributing to the neighborhood character of the area. It is, however, somewhat separated from inland residential neighborhoods by the FDR Drive. Though the site is approximately 100 feet from the Asphalt Green complex and 200 feet from Carl Schurz Park, where Gracie Mansion is located, these park areas separate the residential areas from the site. The points of public access nearest the site are the East River Esplanade that runs outboard of the FDR Drive, and Asphalt Green. These two open space areas and Carl Schurz Park are included in the neighborhood character study area, which is defined by East 96th Street to the north, East 87th Street to the south, Second Avenue to the west and the East River shore to the east (see Figure ~~10-8.1~~6.8-1).

6.8.1.2 Description of Neighborhood Character

The visual quality of the area is pleasant, with well-maintained apartment blocks lining the streets, sidewalk trees and well appointed parks and recreational facilities. As with much of the Upper East Side, this area is conducive to pedestrians, though the nearest "convenience" stores (groceries, delis, etc.) tend to be located further west, along York Avenue and the busier First and Second Avenues, rather than East End Avenue. Lacking such commercial activity and given the 11-block length of East End Avenue, which is almost exclusively residential in the study area and not a major through street, the streets in that portion of the study area nearest the site are relatively quiet.

A few small warehouses and auto-related uses are intermingled with the residential uses in the interiors of three blocks south of East 92nd Street between York and First Avenues. Their presence, however, does not detract from the otherwise solidly residential nature of the area, either in appearance or in relatively limited activity, given that streets running through residential areas in Manhattan generally have more through traffic than many residential areas in other boroughs.



Site delineations and study areas are approximate.
Base Map Source: New York City Department of City Planning

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Figure 6.8-1 Neighborhood Location
East 91st Street Converted MTS

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Carl Schurz Park buffers the residential areas from the activity and visual presence of the FDR Drive, and in the study area the park extends over the highway, where a promenade provides access to the waterfront along the perimeter of the park and runs adjacent to the existing MTS.

The Asphalt Green complex is another major non-residential component, adding to the character and image of the neighborhood. Featuring several acres of outdoor sporting areas, as well as indoor pool and training facilities, the complex is an Upper East Side destination.

6.8.2 Future No-Build Conditions

There are no known plans for development on the site, the neighborhood parks or the overall study area, except for the construction of two multi-use/residential towers at 389 East 89th Street and at East 91st Street and First Avenue, both of which are fairly typical of the neighborhood. Therefore, it is reasonable to assume that Future No-Build Conditions will resemble Existing Conditions. The site will remain DSNY property and the existing MTS will remain standing.

6.8.3 Potential Impacts with the East 91st Street Converted MTS

The East 91st Street Converted MTS is not expected to result in significant impacts on neighborhood character because it would be a reactivation of waste transfer facilities on a site formerly used for that purpose, although compared to Future No-Build Conditions, the re-introduction of trucks into the neighborhood would be noticeable. DSNY and other collection agency vehicles would utilize York Avenue south of East 91st Street, also a busy thoroughfare that accesses the FDR, in addition to East 90th Street and East 91st Street, and First and Second Avenues north of East 91st Street; however, no unmitigatible traffic impacts are predicted. (See Section 6.14 for a discussion of potential traffic impacts.) Likewise, technical analyses predict no significant adverse air quality, odor or noise impacts. (See Sections 6.15, 6.16 and 6.17, respectively, for discussions of potential air quality, odor and noise impacts.) As indicated in Section 3.16, no impacts to pedestrians are predicted, per CEQR screening methodology.

The proposed East 91st Street Converted MTS ~~potentially could result in impacts to neighborhood character, however, due to potential odor conditions. The~~ site is unique among sites analyzed in that in addition to its proximity to dense residential uses, its operation places trucks on a drive that bisects an open space and passes over a completed waterfront esplanade. ~~In these two particularly sensitive locations, the presence of DSNY trucks may be detectable if they are not kept clean at all times, and if liquid residue spills onto the drive and ramp nearby.~~ Detailed odor analyses that analyzed potential effects on these sensitive receptors predict no impacts, however. Likewise, no impacts to air quality (Section 6.15), and no impacts resulting from noise (Section 6.17) are predicted. Therefore, the East 91st Street Converted MTS result in no impacts to neighborhood character.

6.9 Natural Resources

6.9.1 Existing Conditions

Existing Conditions include stressed aquatic and terrestrial communities that are typical of this area of Manhattan. Conditions associated with the presence of natural resources, including water resources and endangered species and habitats, were investigated within the defined study area to identify potential impacts that might arise from the implementation of the East 91st Street Converted MTS.

6.9.1.1 Definition of Study Area

The study area includes the project site and the waterfront section that is bulkheaded and bounded by the Harlem River to the north and the East River to the south and east (see Figure 2.2.3-1). The upland sections of the study area and the surrounding neighborhood are completely developed and, therefore, have very limited terrestrial natural resources. Because the Future Build Conditions would include construction of a new MTS and dredging of bottom sediments, a description of aquatic communities is included.

6.9.1.2 Geology

Boring data from the City Department of Public Works drawing entitled "Record of Borings, Asphalt Green Sports and Recreation Center"[5] (September 16, 1980), indicated that no borings were collected within the footprint of the existing MTS. The closest borings were collected approximately 400 feet to the west and 1,500 feet to the southwest. Borings indicated that bedrock is expected at an elevation of 50 feet below grade (Borough of Manhattan datum) or shallower. The uppermost layer consisted of organic soils comprised of soft, dark gray to black organic soils, shells and thin clay and sand lenses. Based upon a review of data for sites in proximity to the East 91st Street site, it would be expected that a sand stratum would underlie these organic soils. Bedrock is described as hard, slightly weathered, gray fine-grained Gneissic schist. Previous boring data terminated in this stratum.

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[5]"Record of Borings, Asphalt Green Sports and Recreation Center," September 16, 1980, by the New York City Department of Public Works, as cited in the "MTS Conversion Conceptual Design Report," April 2003, by Greeley and Hansen, LLC.

Surface sediment collected from the site in 2003 indicates the sediment to be 94.5% silt and clay, 5.2% sand and 0.5% gravel, and to have 58,363 mg/kg TOC.[6] Sediment was found to be somewhat degraded due to contaminants in the sample material. The metals in the sediment with the highest concentrations were lead, barium and chromium (123.90 mg/kg, 72.18 mg/kg and 71.73 mg/kg, respectively).

6.9.1.3 Floodplains

The study area is within the 100-year coastal floodplain (see Figure 6.9-1). There are no wetlands other than the East River, which is a NYSDEC-designated littoral zone, located in the study area (see Figure 6.9-2).

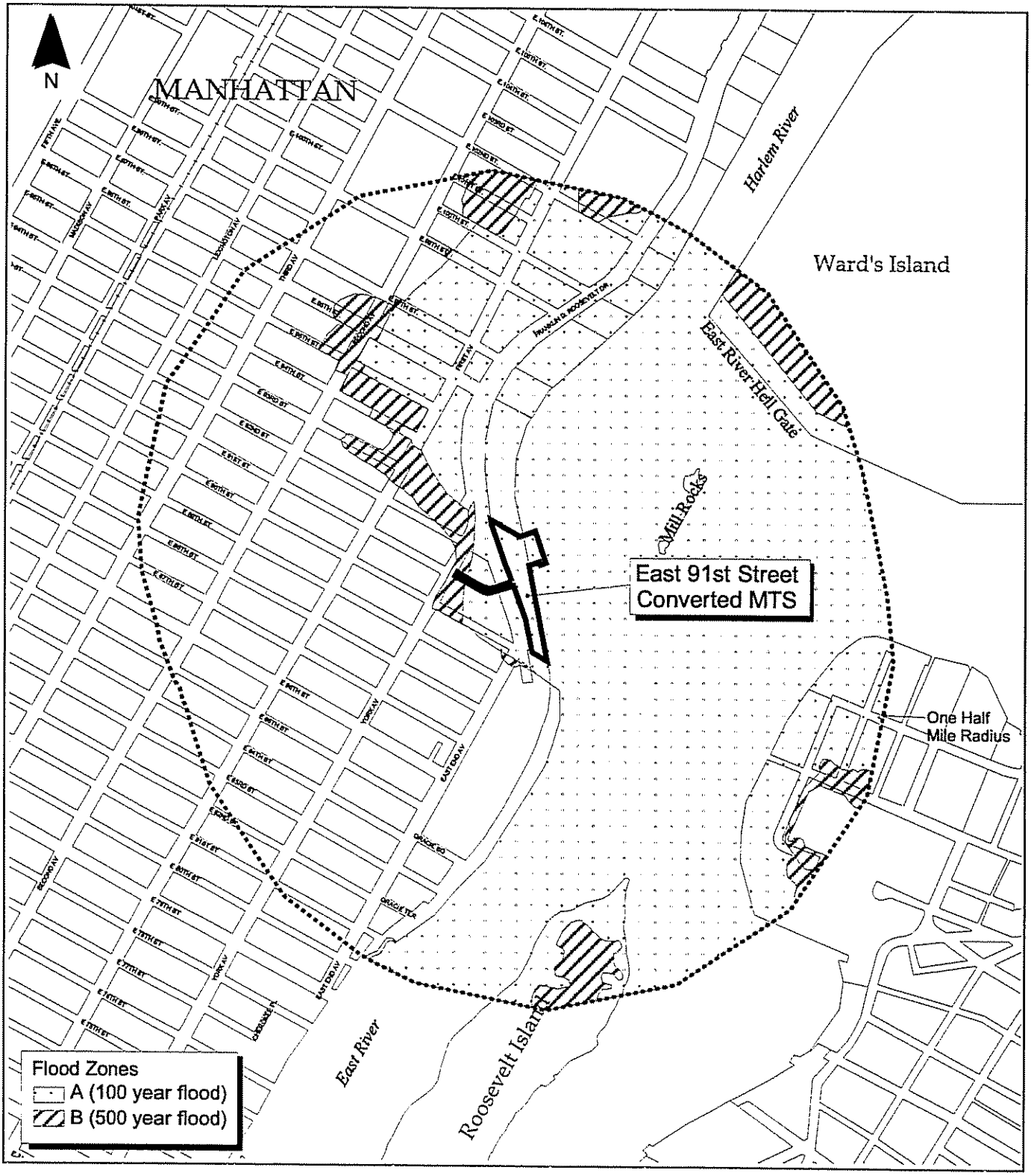
6.9.1.4 Ecosystems

The existing MTS is located on a platform above the East River and connected to Manhattan on the west side of the structure. The waters surrounding the study area are dominated by the East River, and aquatic resources are typical of the eastern sections of the East River. The terrestrial ecology of the upland portion of the study area is limited because the site is mostly developed and covered by structures and hard surfaces. The portions not developed have been altered by clearing and leveling and have no substantial ground cover other than opportunistic weeds.

A field program that took place in 2003 was designed to fully characterize the marine biological resources of the study area. The program included monthly sampling for finfish eggs and larvae and water quality, and quarterly sampling for benthic organisms and sessile colonizing organisms. Results of the program are presented in the following paragraphs.

The most abundant finfish eggs collected at the East 91st Street Converted MTS were cunner (*Tautogolabrus adspersus*), bay anchovy (*Anchoa mitchilli*) and Atlantic menhaden (*Brevoortia tyrannus*). The most abundant larvae were winter flounder (*Pleuronectes americanus*), anchovy

[6] New York City Department of Sanitation, March 2004. Marine Biological Studies of the Marine Transfer Stations Operated by the New York City Department of Sanitation. Prepared by EEA, Inc.



Site delineations and study area boundaries are approximate
Base Map Source: New York City Department of City Planning

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HDR HydroQual URBITRAN PB EEA Cambridge Environmental Inc

Figure 6.9-1 Floodplains

East 91st Street Converted MTS

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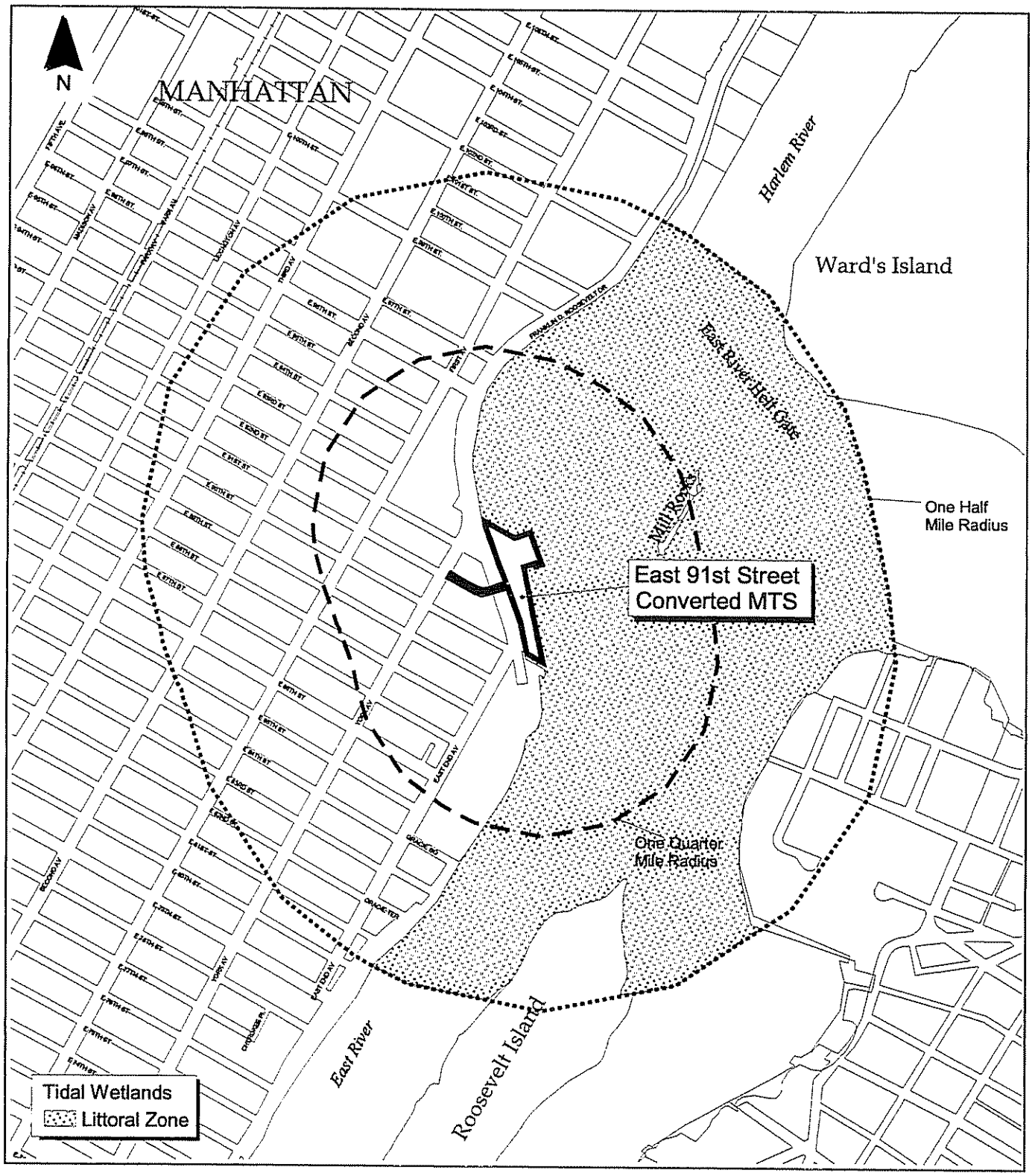

Site delineations and study area boundaries are approximate.
Base Map Source: New York City Department of City Planning

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Figure 6.9-2 Wetlands

East 91st Street Converted MTS

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spp. (*Anchoa* spp.) and goby spp (*Gobiosoma* spp.).[7] Three species with an EFH listing were collected at the East 91st Street Converted MTS. Eggs and larvae of winter flounder and windowpane (*Scophthalmus aquosus*) and larvae of one summer flounder (*Paralichthys dentatus*) were identified during the sampling season.

The second highest number of benthic organisms was collected at the East 91st Street Converted MTS. The polychaete worm, *Streblospio benedicti*, was the most abundant and was present at approximately 61,000 individuals per square meter at this facility. A Jaccard's Index[8] suggested that the benthic community was less distinct than some of the other MTSs sampled. The most abundant epibenthic colonizers collected at the East 91st Street Converted MTS were *Corophium insidiosum* (amphipod), *Jassa falcata* (amphipod), *Polydora* sp. (polychaete worm), *Microdeutopus* sp. (amphipod), *Elasmopus levis* (amphipod), *Molgula manhattensis* (sea grape), and hydrozoa, mud and algal film.

The NYSDEC Natural Heritage Report on Rare Species and Ecological Communities reports the peregrine falcon (*Falco peregrinus*), a federally listed endangered species, to be found near the site on Wards Island and the Hell Gate Railroad Bridge.[9]

6.9.2 Future No-Build Conditions

If the East 91st Street Converted MTS were not to be built, the study area would remain as is. The absence of terrestrial natural resources would remain, and the upland portion of the study area would continue to be an ecologically unproductive and stressed urban area. Reasonably diverse and abundant aquatic natural resources would prevail in the waters in and around the study area.

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[7] Ibid.

[8] A Jaccard's Index is a statistical test that shows the similarity of organisms present at compared MTSs. It shows the proportion of the number of species observed in either of two MTSs that occurred in both MTSs. The index ranges from zero to one. An index of zero means that the MTSs are completely dissimilar and have no species in common. An index of one means the MTSs have all the same species.

[9] Natural Heritage Report on Rare Species and Ecological Communities. Prepared by New York Natural Heritage Program, NYSDEC, Albany, New York, 2002.

6.9.3 Potential Impacts with the East 91st Street Converted MTS

6.9.3.1 Geology

The geology of the study area would not be changed other than by the removal of dredge material to accommodate the barges and tugboats. The dredging activity would remove layers of sediments deposited over time and further alter the submarine ecological features of the study area, but would not result in any significant impact.

6.9.3.2 Floodplains

The East 91st Street Converted MTS would have no effect on the elevation of the site. It would be constructed within the 100-year floodplain, and would not include any provisions for raising any portions of the site over this level.

6.9.3.3 Ecosystems

The East 91st Street Converted MTS would be a pile-supported structure and would result in a net gain of ~~43,657~~42,612 square feet of pier over the water. During the demolition of the existing MTS, the upper organic silts lying ~~beneath the structure that was above water~~under that structure would be disturbed to some degree, resulting in re-suspension of the sediment. However, the amount of re-suspended sediment is expected to be low, and the impacts, if any, highly localized. Turbidity and short-term, lowered, dissolved oxygen are possible, but not measurable, against the normal background fluctuations. Construction would involve installing piles for the foundation supports and dredging to accommodate barges. The benthic and finfish community would be temporarily disrupted during this phase of the project. It can be anticipated that the benthic invertebrates would recolonize the area within 6 to 12 months and that finfish

would return to the area immediately following completion of the construction.[10] The removal of the existing platform will also remove the existing epibenthic community; however, the new expanded platform will result in more surface area for epibenthic communities to colonize the site. This would positively affect the epibenthic communities at the East 91st Street Converted MTS.

The pile-driving and dredging activity during the construction will cause adult finfish to avoid the site. Fish in the herring family are most sensitive to the suspended sediment and noise from construction; flatfish (flounders) are least sensitive. Finfish eggs and larvae are more sensitive to suspended sediment, and those that settle to the harbor floor may be smothered by sediment. Swift currents may sweep eggs and larvae past the construction site, but the short exposure time should not significantly harm the ichthyoplankton. In addition, larvae will be able to swim away from the impacted environments. Winter flounder eggs were found at the East 91st Street ~~Converted~~ MTS site, but construction impacts are expected to be negligible.

Operational impacts will last the entire lifespan of the facility. The major impact is the footprint of the pier over water. The proposed plan for the East 91st Street Converted MTS is for an increase in ~~43,657~~ 42,612 square feet of pier. This will result in increased shading that will block sunlight and hinder primary production. The enlarged platform, however, will not adversely impact the ichthyoplankton, benthic, epibenthic or adult finfish communities. A field study conducted on the Hudson River reported no statistical difference in benthic populations in interpier and underpier areas in New York Harbor waters.[11] Epibenthic communities will have a larger surface area to colonize, and finfish should return to the area with the return of food sources.

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[10] U.S. Army Corps of Engineers, 1999. The New York District's Biological Monitoring Program for the Atlantic Coast of New Jersey, Asbury Park to Manasquan Section Beach Erosion Control Project, Draft. Phase II-III. During Construction and 1st Year Post-Construction Studies.

[11] Hudson River Center Site Aquatic Environmental Study Final Report, 1988. Prepared for New York City Public Development Corp. by EEA, Inc.

Experts have differing opinions regarding the effects of shading on finfish. Studies conducted by EEA in the late 1980s showed similar finfish communities in the interpier and underpier environments in a large-scale program on the East River. There were, however, slight differences in the dominant finfish in the populations. Studies by Able *et al.* showed caged juvenile winter flounder (*Pseudopleuronectes americanus*) to have depressed feeding on the benthos beneath piers as compared to feeding activity alongside and between piers.[12] Able's studies are controversial, however, because the fish were caged, and this may impact the results of the study. Some fish are even known to associate with submerged structures, as they provide shelter and surfaces for food to grow. While the field tests appear to be contradictory, there is no doubt that finfish inhabit at least the interface of platforms. This increase in shading over water will possibly lead to a slight shift in the finfish community with the addition of over-water pier coverage; however, because finfish are transient, this shift may be hard to measure.

The East 91st Street Converted MTS would not have any significant impact on the few areas of vegetation present on the site. Vegetation observed on the site were invasive weed species that were not rare, endangered or particularly important from an ecological perspective.

The peregrine falcon (*Falco peregrinus*), a federally listed endangered species, is known to occupy areas close to the site (Wards Island and the Hell Gate Railroad Bridge); however, there are no sources showing the peregrine falcon to nest on the existing MTS. Use of this site is probably limited to flyovers during hunting and migration; therefore, no significant impacts would be expected.

[12] Duffy-Anderson, J.T. & Able, K.W., 2001. "An Assessment of the Feeding Success of Young-of-the-Year Winter Flounder (*Pseudopleuronectes americanus*) Near a Municipal Pier in the Hudson River Estuary, U.S.A." Estuaries, Vol. 24, No. 3, p. 430-440.

6.10 Hazardous Materials

6.10.1 Existing Conditions

Existing Conditions associated with the presence of hazardous materials in soil, groundwater and building components/equipment were investigated within the defined study area. The Hazardous Materials Assessment was performed in accordance with the guidelines for a preliminary assessment presented in the 2001 CEQR Technical Manual and is consistent with the requirements for a Phase I ESA established by the ASTM (ASTM E-1527). The assessment was performed in ~~February~~ April, 2003 and included a historical land use review, regulatory agency database review, reconnaissance of the study area and surrounding area, and surface and subsurface drainage evaluation.

The historical land use review included an assessment of Sanborn fire insurance maps, as available, for the study area~~, if available,~~ and a Freedom of Information Law request to the FDNY for ~~UST~~ underground storage tank records. Standard ~~federal~~ Federal and ~~state~~ State environmental databases were assessed for records of sites within the study area that had evidence of hazardous waste activity or spills. A written request to NYCDEP was made to solicit records pertaining to hazardous or toxic materials activities within the study area. A pedestrian reconnaissance of accessible interior and exterior areas within the study area was ~~attempted;~~ made on February 13, 2003. During the site boundaries reconnaissance, visual evidence was sought of hazardous materials handling or storage, including the presence of tanks, drums, transformers and unusual stains or odors. ~~however, access~~ Access to interior areas, including the fourteen-bay concrete tipping deck, toll booth, and bread room and the lower-level "vault room" was obtained on April 25, 2003.~~to the transfer station tipping deck and interior areas were not possible because of a padlocked gate at the end of the ramp on York Avenue. Therefore, site conditions are assumed based on historical and regulatory agency list reviews (2001 CEQR Technical Manual, Section 323). During the site boundaries reconnaissance, visual evidence was sought of hazardous materials handling or storage, including the presence of tanks, drums, transformers and unusual stains and odors.~~ Topographic maps, visual observations and readily available geologic information sources were reviewed if off-site potential sources of contamination were identified.

6.10.1.1 Definition of Study Area

The study area includes the site and neighboring properties within a 1,000-foot radius (see Figure 6.10-1).

6.10.1.2 Delineation of Area of Concern

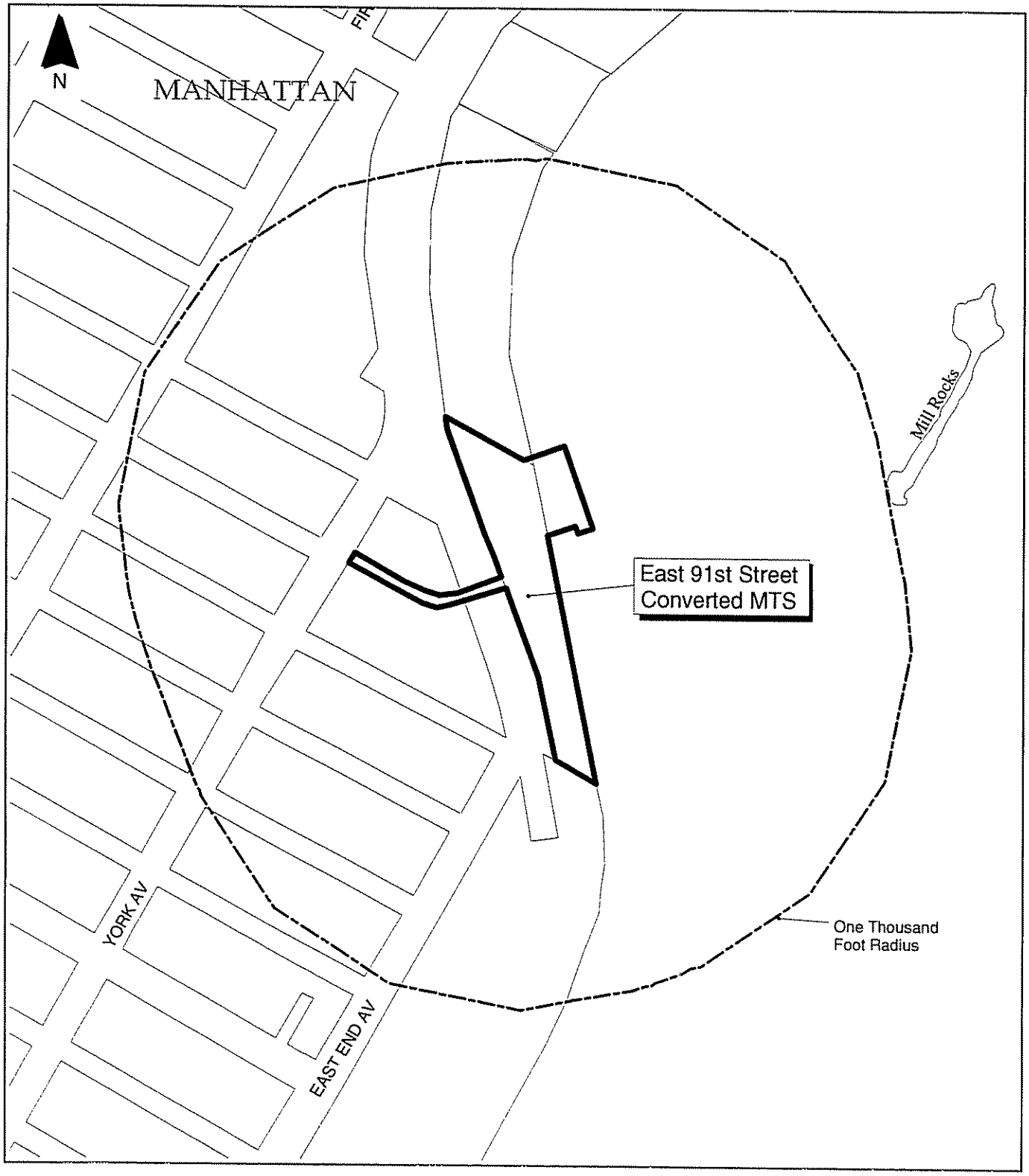
Areas of concern are defined as parts of the ground, groundwater, surface water or structures within the study area where the presence or likely presence of hazardous materials exists ~~and implementation~~for which modifications of the East 91st Street Converted MTS could lead to an increased exposure of people or the environment to those materials. No specific areas of concern at this site were identified ~~at this site~~ during the assessment.

6.10.2 Future No-Build Conditions

~~The existing MTS would remain standing and the site would remain as is~~Under Future No-Build Conditions, the existing East 91st Street MTS would continue as is. There would be no areas of significant concern with regard to hazardous materials.

6.10.3 Potential Impacts with the East 91st Street Converted MTS

Based on the information ~~that could be~~ obtained during this assessment, construction and/or ~~implementation~~ modification of the East 91st Street Converted MTS would not result in adverse impacts. No additional testing, other than an asbestos inspection prior to building demolition or modification would be required, ~~other than an asbestos inspection prior to building demolition or modification.~~. If any areas of concern were identified during the demolition or construction phase, an analysis would be made to determine what, if any, mitigation measures should be applied.



Site delineations and study area boundaries are approximate
Base Map Source: New York City Department of City Planning

200 0 200 Feet

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Figure 6.10-1 Hazardous Materials Sites
East 91st Street Converted MTS

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6.11 Water Quality

6.11.1 Existing Conditions

6.11.1.1 Definition of Study Area

The water quality study area encompasses the Harlem River and the East River, and includes discharges from CSOs located within ½-mile of the site.

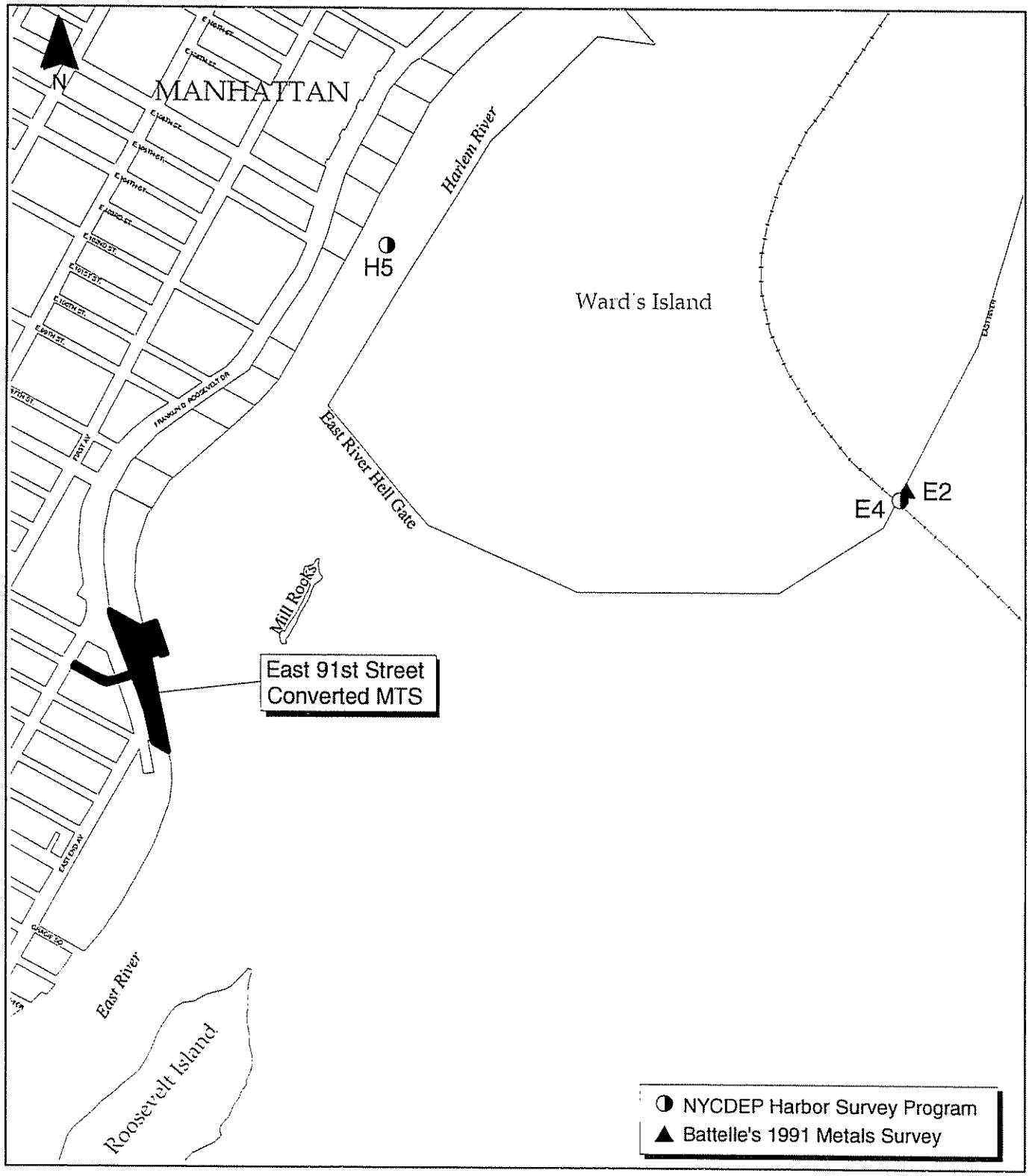
6.11.1.2 Water Quality

The water quality data for the following monitoring stations, shown in Figure 6.11-1, are generally representative of water quality conditions in the study area:

- NYCDEP Harbor Survey Program – Stations E-4 at Hell Gate in the East River and H-5 at 106th Street in the Harlem River; and
- Battelle's 1991 Metals Survey – Station E-2 at Hell Gate.

These data, along with NYSDEC's water quality standards and guidance values, are presented in Table 6.11-1. The standards and guidance values for the waters in the vicinity of the site correspond to "Class I," which indicates waters suitable for secondary contact recreation (i.e., fishing and boating).

As shown in Table 6.11-1, on average, NYSDEC standards and guidance values are met. For Harbor Survey Station E-4, however, the minimum surface and bottom dissolved oxygen between June 1, 2003 and September 30, 2003 did not meet the water quality standard for dissolved oxygen. For Harbor Survey Station H-5, the minimum surface and bottom dissolved oxygen between June 1, 1999 and September 30, 1999 did not meet the water quality standard for dissolved oxygen. In addition, the mercury concentration for Battelle Station E-2 did not confirm to the water quality standard for mercury.



Site delineations and study area boundaries are approximate
Base Map Source: New York City Department of City Planning

500 0 500 Feet

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Figure 6.11-1 Ambient Water Quality Stations
East 91st Street Converted MTS

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Table 6.11-1
Existing Water Quality Conditions and Standards
East 91st Street Converted MTS Study Area

Average Concentration					
Parameter	**Units**	**E-4[1]**	**H-5[2]**	**E-2[3]**	**NYS Class I Standards**
Dissolved Oxygen (surface/minimum)	mg/L	6.3[4]/3.2[5]	6.4[6]/3.9[7]	-------	4
Dissolved Oxygen (bottom/minimum)	mg/L	6.3[4]/3.0[5]	6.1[6]/3.7[7]	-------	4
BOD (surface)	mg/L	3.0[8]	2.8[8]	-------	-------
BOD (bottom)	mg/L	3.0[8]	3.1[8]	-------	-------
Total Coliform (surface)	MPN/100 ml	877[9]	497[9]	-------	10,000
Total Coliform (bottom)	MPN/100 ml	694[9]	690[9]	-------	10,000
Fecal Coliform (top)	MF	60	57	-------	2,000
Fecal Coliform (bottom)	MF	36[10]	57	-------	2,00
Total Suspended Solids (surface)	mg/L	14	10	-------	-------
Total Suspended Solids (bottom)	mg/L	14	13	-------	-------
NH_3-N	mg/L	0.556	0.398	-------	-------
(NO_3 + NO_2)	mg/L	0.382	0.424	-------	-------
Total Phosphorous	mg/L	0.190	0.446[11]	-------	-------
Dissolved PO_4	µg/L	-------	-------	-------	-------
Chlorophyll-a	µg/L	1.95	3.4	-------	-------
Arsenic	µg/L	-------	-------	-------	36 [12, 13]
Cadmium	µg/L	-------	-------	0.139[12]	7.7 [12, 13]
Chromium	µg/L	-------	-------	-------	50 [12, 13]
Copper	µg/L	-------	-------	4.495[14]	5.6 [13, 14]
Lead	µg/L	-------	-------	1.51[12]	8 [12, 13]
Mercury	µg/L	-------	-------	0.008404[12]	0.0026 [12, 13]
Nickel	µg/L	-------	-------	2.1[12]	8.2 [10, 11]
Silver	µg/L	-------	-------	0.0542[12]	------
Zinc	µg/L	-------	-------	9.28[12]	66 [12, 13]
Cyanide	µg/L	-------	-------	-------	1.0 [13]

Notes:

[1] Average concentrations for 2003 NYCDEP Harbor Survey site E-4, located at Hell Gate in the East River.

[2] Average concentrations for 1999 NYCDEP Harbor Survey site H-5, located at 106th Street in the Harlem River.

[3] Average concentrations for 1991 Battelle Ambient Survey site E-2, located at Hell Gate in the East River.

[4] Represents average between January and December 2003.

[5] Minimum between June 1, 2003 and September 30, 2003.

[6] Represents average between March and December 1999.

[7] Minimum between June 1, 1999 and September 30, 1999.

[8] Latest available data 1997.

[9] Latest available data 1996.

[10] Latest available data 1999.

[11] Latest available data 1998.

[12] Guidance values and data are for dissolved metals.

[13] NYSDEC Guidance Value (NYSDEC TOGS 1.1.1, June 1998, errata January 1999 and addendum April 2000).

[14] Site-specific chronic and acute criteria for dissolved copper in New York/New Jersey Harbor.

BOD = biochemical oxygen demand

NH_3-N = ammonia

NO_3 = nitrate; NO_2 = nitrite

PO_4 = phosphate

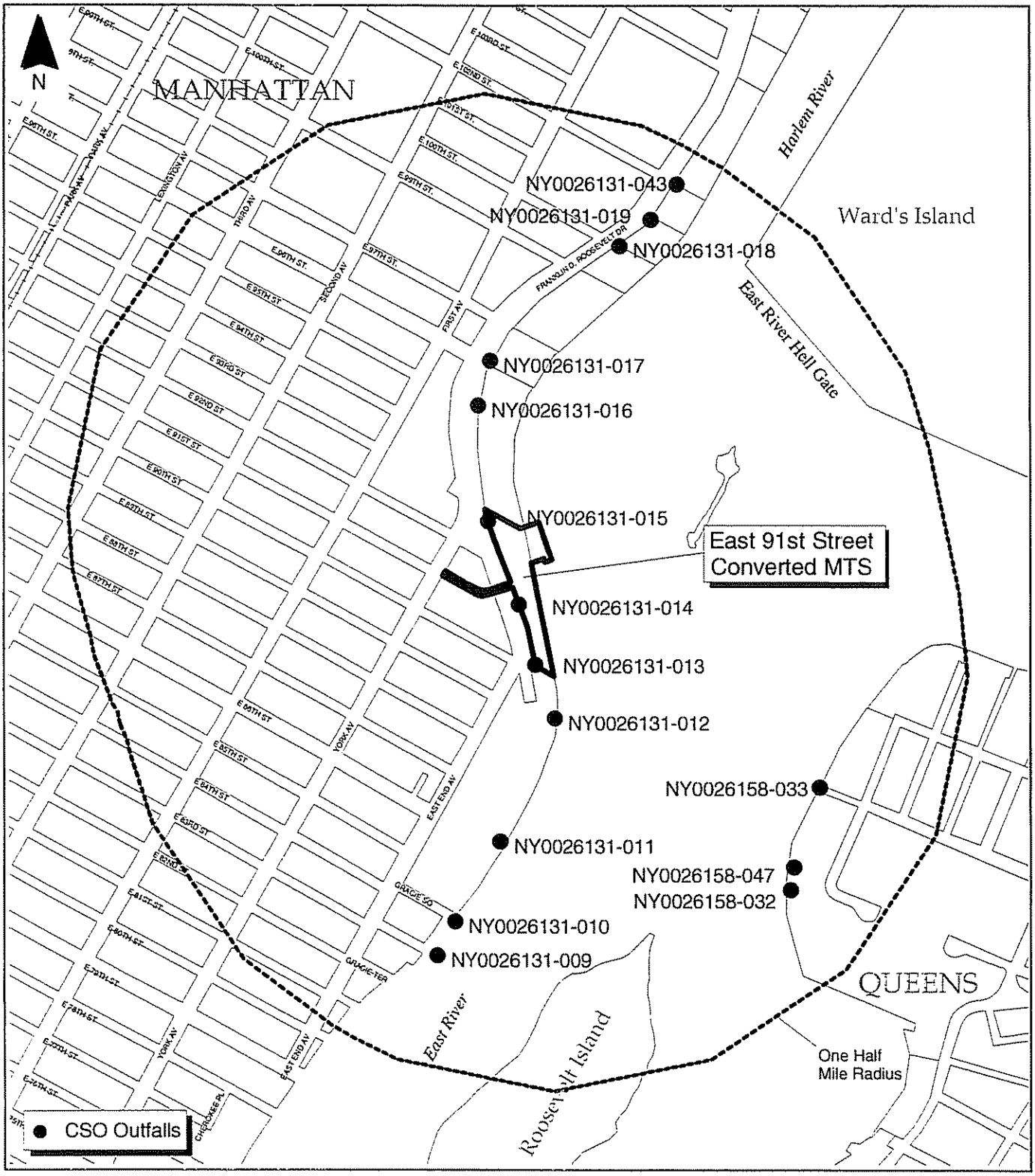
Notes for Table 6.11-1 (Continued)
mg/L = milligrams per liter
MPN/100 ml = most probable number per 100 milliliters
MF = membrane filter
µg/L = micrograms per liter

6.11.1.3 Permitted Discharges

A review of the most recently available NYSDEC and USEPA databases indicated that there are 15 permitted discharges in the vicinity of the site. The existing discharges within a ½-mile radius are listed in Table 6.11-2 and shown in Figure 6.11-2. These discharges are all permitted by the NYSDEC.

Table 6.11-2
Existing Permitted Discharges
East 91st Street Converted MTS Study Area

Combined Sewer Overflow (CSOs)			
Outfall Location/WPCP	**Permit Number**	**County**	**Receiving Water Body**
East 83rd Street/Ward's Island	NY0026131-009	New York	East River
Gracie Square/Ward's Island	NY0026131-010	New York	East River
Carl Schurz Park/Ward's Island	NY0026131-011	New York	East River
Carl Schurz Park/Ward's Island	NY0026131-012	New York	East River
East 90th Street/Ward's Island	NY0026131-013	New York	East River
East 91st Street/Ward's Island	NY0026131-014	New York	East River
Franklin D. Roosevelt Drive/Ward's Island	NY0026131-015	New York	Harlem River
Franklin D. Roosevelt Drive/Ward's Island	NY0026131-016	New York	Harlem River
East 96th Street/Ward's Island	NY0026131-017	New York	Harlem River
East 100th Street/Ward's Island	NY0026131-018	New York	East River
Franklin D. Roosevelt Drive/Ward's Island	NY0026131-019	New York	East River
East 102nd Street/Ward's Island	NY0026131-043	New York	Harlem River
Terminus of Astoria Boulevard/Bowery Bay	NY0026158-047	Queens	East River
Terminus of 27th Avenue/Bowery Bay	NY0026158-033	Queens	East River
100 feet south of Astoria Boulevard/Bowery Bay	NY0026158-032	Queens	East River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Harlem River
Ward's Island
NY0026131-043
NY0026131-019
NY0026131-018
FRANKLIN D. ROOSEVELT DR
East River Hell Gate
NY0026131-017
NY0026131-016
NY0026131-015
East 91st Street
Converted MTS
NY0026131-014
NY0026131-013
NY0026131-012
NY0026158-033
NY0026131-011
NY0026158-047
NY0026158-032
NY0026131-010
NY0026131-009
QUEENS
East River
Roosevelt Island
One Half
Mile Radius
CSO Outfalls
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6.11.1.4 Existing Pollutant Loads and Stormwater Runoff

Using available databases on stormwater pollutant concentrations and local precipitation data, an estimate of existing stormwater pollutant loadings was calculated. The existing paved areas were assumed to be completely impervious, and the existing unpaved areas were assumed to have 100% infiltration and/or storage. A runoff flow of 0.073 cfs was calculated using the impervious site area (1.22 acres), an average rainfall intensity of 0.06 inches/hour and a runoff coefficient of 1. The resulting stormwater loads, shown in Table 6.11-3, represent the existing loads at the site.

Table 6.11-3
Estimated Existing Pollutant Loads and Runoff Flows
East 91st Street Converted MTS Study Area

Pollutant	Concentration	Pollutant Loading (lbs/day)
Fecal Coliform MPN/100 ml	34,000	13,399[1]
BOD mg/L	11	4
Heavy Metals		
Copper µg/L	35	0.014
Lead µg/L	28	0.011
Zinc µg/L	154	0.061
Total Impervious Area (acre) = 1.22		Runoff Coefficient (C) = 1.00
Average Rainfall Intensity per Storm (inch/hour) = 0.06[2]		Runoff Volume (cfs) = 0.073

Notes:
(1) Coliform loads are not shown in lbs/day. Loading comparable to MPN/100 ml.
(2) Based on Central Park Rain Data (1969-2002); The National Climatic Data Center.

6.11.2 Future No-Build Conditions

Water quality would be expected to remain the same or improve. Water quality improvements would be due to the NYCDEP CSO Abatement Program, which will reduce untreated discharges to receiving waterways; nitrogen removal activities, which will reduce nitrogen loads from City WPCPs; and other programs. Stormwater loads from the existing site would not be expected to change, so no significant water quality impacts would be expected.

6.11.3 Potential Impacts with the East 91st Street Converted MTS

All solid waste processing at the East 91st Street Converted MTS would occur within structures on the site. All process wastewater from waste handling operations in the facility, such as washdown water, would be routed to an on-site pretreatment system (e.g., oil/water separation). After treatment, the process wastewater would be discharged to the municipal sewer system and, ultimately, to the Ward's Island WPCP, where it would be treated prior to discharge to the East River and, therefore, would not adversely affect water quality.

Stormwater loads and impervious area, shown in Table 6.11-4 would be expected to increase above Existing Conditions. According to the 208 Model, however, the increased loads would have no significant impact on water quality in the adjacent surface waters.

Table 6.11-4
Impervious Area and Estimated Pollutant Loads
East 91st Street Converted MTS

			Estimated Pollutant Loadings/Incremental Change[1]				
Conditions	**Total Impervious Area (acres)**	**Change in Impervious Area (acres)**	**Fecal Coliform[2]**	**BOD (lbs/day)**	**Copper (lbs/day)**	**Lead (lbs/day)**	**Zinc (lbs/day)**
Existing Conditions	1.22	0	13,399/NA	4/NA	0.014/NA	0.011/NA	0.061/NA
Future Build Conditions	1.78	0.56	19,595/6,196	6/2	0.020/0.006	0.016/0.005	0.089/0.028

Notes:
(1) Incremental change refers to the difference in pollutant loading between the Existing Conditions and Future Build Conditions.
(2) Coliform loads are not shown in lbs/day. Loading comparable to MPN/100 ml.
NA = Not Applicable

Unimpeded operation of the East 91st Street Converted MTS may also require dredging to refurbish the waterfront structures and improve existing water depths in the immediate vicinity of the site. All dredging activities would be conducted in compliance with applicable federal, state and local regulations, and required permits would be acquired before such activities commenced. Applicable and appropriate measures (e.g., closed clamshell buckets, silt curtains, etc.) would be implemented during any and all dredging activities to minimize and/or eliminate

any short-term impacts to local water quality. Short-term impacts could include an increase in turbidity during active dredging operations; however, dredging would not result in any significant long-term impacts.

6.12 Waterfront Revitalization Program

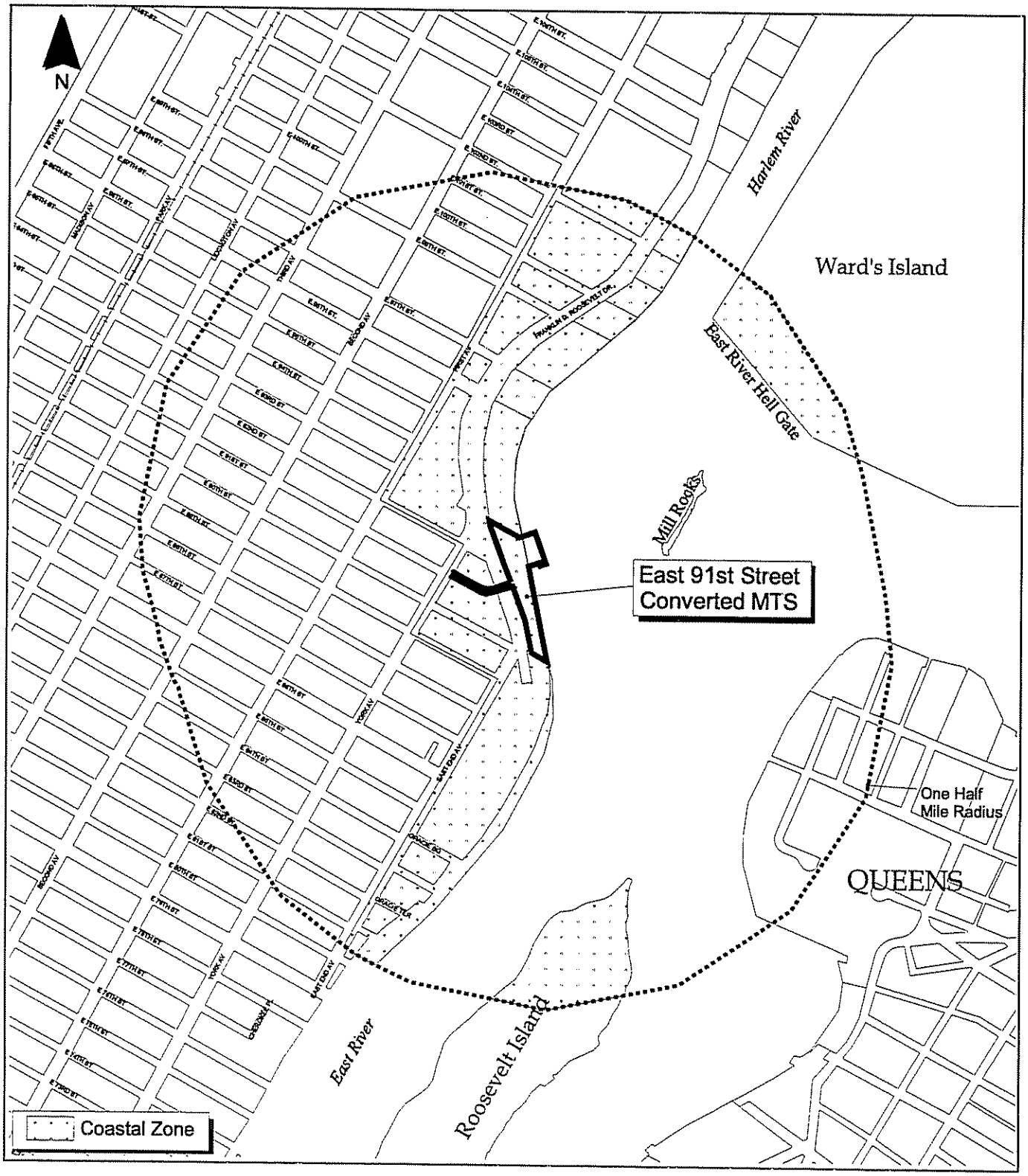
6.12.1 Introduction

The Federal Coastal Zone Management Act of 1972 established coastal zone management programs to preserve, protect, develop and restore the coastal zone of the U.S. Due to its proximity to the waterfront of the East River, the East 91st Street Converted MTS would be within the City's coastal zone boundary (see Figure 6.12-1). According to "The New Waterfront Revitalization Program," the East 91st Street Converted MTS would be classified as a water-dependent, industrial use. It would be located within Reach 1/The East Side as indicated within the "New York City Comprehensive Waterfront Plan-Reclaiming the City's Edge" and the "Plan for the Manhattan Waterfront." It is, therefore, subject to review under the 10 primary policies and the 32 subpolicies identified within "The New Waterfront Revitalization Program" that address the waterfront's important natural, recreational, industrial, commercial, ecological, cultural, aesthetic and energy resources.

The East 91st Street Converted MTS was reviewed to determine its general consistency with each of these policies and subpolicies. This review identified several subpolicies that were not applicable. These include subpolicies 1.1, 1.2, 2.1, 3.1, 4.4, 6.2, 6.3and 10.2. All policies and subpolicies, including those identified as not applicable, are listed in Table 3.14.1. Further discussion is provided below for those policies or subpolicies needing more clarification or found to be inconsistent with a component of the East 91st Street Converted MTS. A description of waste handling operations that would occur at the East 91st Street Converted MTS is provided in Section 2.2.3.

6.12.2 Consistency Assessment

Policy 1: Support and facilitate commercial and residential redevelopment in areas well-suited to such development.



Site delineations and study area boundaries are approximate
Base Map Source: New York City Department of City Planning

HDR URBITRAN EEA Cambridge Environmental Inc

Figure 6.12-1 Coastal Zone Boundary
East 91st Street Converted MTS

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1.3 Encourage redevelopment in the coastal area where public facilities and infrastructure are adequate or will be developed.

A review of available information indicates that there are sufficient public services and facilities to support the East 91st Street Converted MTS. As part of the East 91st Street Converted MTS, connections from the new facility to existing utilities in the vicinity (e.g., sewer and electrical connections, etc.) would be established.

Policy 2: Support water-dependent and industrial uses in New York City's coastal areas that are well-suited to their continued operation.

2.2 Encourage working waterfront uses at appropriate sites outside the Significant Maritime and Industrial Areas.

The East 91st Street Converted MTS would not be located within an SMIA. Its development would involve the removal of the ~~existing~~ Existing MTS and construction of a new MTS built primarily over water on pile-supported platforms. The East 91st Street Converted MTS would involve the conversion of the existing MTS from a truck-to-barge waste transfer station into a TCB MTS that would transport DSNY-managed Waste by marine transport to remote out-of-City disposal facilities. The demolition and redevelopment of the East 91st Street Converted MTS site, as described in Section 2.2.3, would largely represent the continuation of an existing industrial and water-dependent use. The East 91st Street Converted MTS would serve to maintain this use, while restoring and revitalizing existing industrial waterfront property. The redevelopment and expansion in size of the existing structure would be consistent with the previous industrial land use at the site. Although the East 91st Street Converted MTS would not encourage or facilitate the siting of any additional water-dependent uses, it would represent an expansion of an existing water-dependent use and would be compatible with existing uses. The East 91st Street Converted MTS would be consistent with this subpolicy.

2.3 *Provide infrastructure improvements necessary to support working waterfront uses.*

The East 91st Street Converted MTS would involve the demolition of the existing MTS. The existing vehicle access ramp, which crosses over the FDR Drive, would be removed and extended to accommodate the design of the East 91st Street Converted MTS. Waterfront construction would involve ~~three~~ four primary components: (1) the enclosed processing building, which includes the tipping floor, loading floor and pier level; (2) the outdoor gantry crane system; (3) elevated access ramp; and (4) a ~~rehabilitated bulkhead~~new and fendering system.

The East 91st Street Converted MTS would require minor dredging to improve existing water depths at and in the immediate vicinity of the site and allow for the unimpeded operation of barges and tugboats once it became operational. All dredging would be conducted in compliance with applicable federal, state and local regulations. Required permits would be acquired prior to any dredging activities.

Policy 3: Promote use of New York City's waterways for commercial and recreational boating and water-dependent transportation centers.

3.2 *Minimize conflicts between recreational, commercial, and ocean-going freight vessels.*

The East 91st Street Converted MTS would be located within the East River and would be expanded from its existing footprint. Once operational, it would allow for the containerization of solid waste by a TCB system and marine transport to out-of-City disposal sites. Due to the high currents at the site location, barge maneuvering would require the use of tugboats rather than DSNY personnel. Mill Rock Park, a two and a half acre island that sits in the East River, off 96th

Street, poses a navigational hazard to vessels using the waterway in the vicinity of the proposed site. An existing ferry landing (water taxi) is located at east 90th Street immediately south of the proposed site. An increase in vessel traffic would result from the operation of the proposed East 91st Street Converted MTS. However, ~~t~~These operations would be comparable to those previously conducted at the site, which did not result in conflicts with recreational, commercial or ocean-going freight. The use of tugboats and the day-to-day operation of the East 91st Street Converted MTS would not, therefore, interfere with any maritime industrial, commercial or recreational vessel activities in the area.

3.3 *Minimize impact of commercial and recreational boating activities on the aquatic environment and surrounding land and water uses.*

The ~~existing~~ Existing MTS managed solid waste through a truck-to-barge system where loose waste was placed in open barges. The East 91st Street Converted MTS would be a TCB MTS where waste would be transferred into containers that would be sealed and placed into flat deck barges that would transport DSNY-managed Waste to remote out-of-City disposal facilities. All containers would be loaded and sealed inside an enclosed processing building before being placed on the barges, thereby minimizing any impacts to the aquatic environment. Litter control methods, such as routine sweeping and washing of the tipping floor, would also be implemented at the facility to minimize or eliminate the potential for litter entering surface waters. Building ventilation would be maintained under negative pressure, which would maintain dust inside the building. Additional dust, odor and vector control systems would also be used to minimize impacts to the surrounding environments. All process wastewaters would be treated on site prior to being discharged to the municipal sewer system. In addition, on-site storage of petroleum and handling of unauthorized wastes would be managed in accordance with all applicable federal, state and local regulations.

The "Plan for the Manhattan Waterfront" for this area recommends renovating the fireboat pier for commuter service, which has been subsequently developed. As part of the New York City Economic Development Corporation (NYCEDC) East River Ferry Landings Project, an expanded ferry landing (water taxi) is proposed for East 90th Street. The project would involve redevelopment of the existing pier construction of sheltered passenger areas and a floating dock for use in accessing the ferry. The waterfront plan also specifically mentioned the existing East 91st Street MTS and that it should be taken into consideration when siting a ferry at this location. The existing ferry service in the vicinity of the East 91st Street Converted MTS is not anticipated to be affected by the DSNY facility. Therefore, the East 91st Street Converted MTS would be consistent with this subpolicy.

Policy 4: Protect and restore the quality and function of ecological systems within the New York coastal area.

4.1 Protect and restore the ecological quality and component habitats and resources within the Special Natural Waterfront Areas, Recognized Ecological Complexes, and Significant Coastal Fish and Wildlife Habitats.

Based upon a review of SNWAs, Recognized Ecological Complexes and SCFWH information, the site would not be located within any designated areas. Although the East 91st Street Converted MTS would involve the removal and replacement of existing pilings and pier structures, it would represent an expansion of a previous use and would not be anticipated to result in any long-term effects to natural resources in the vicinity of the site. As discussed in Section 6.9.3, disturbances to surficial sediments due to construction of the East 91st Street Converted MTS and/or potential dredging would have short-term and minimal effects on the benthic community found in the immediate vicinity of the site.

4.2 Protect and restore tidal and freshwater wetlands.

A review of NYSDEC tidal and freshwater wetland and NWI maps was conducted. As discussed in Section 6.9.1, the site contains no freshwater wetlands. A majority of the East 91st Street Converted MTS would be within the East River, however, which is identified as a littoral zone, a state-designated wetland. The demolition of the existing inactive MTS and subsequent development of the East 91st Street Converted MTS would result in limited, short-term ~~impacts~~ effects upon ~~to~~ these tidal wetlands.

~~Impacts~~ Effects to littoral zones would be minimal due to previous waterfront uses at and in the immediate vicinity of the site, and permitted dredging activities that have historically occurred at the site. Minor dredging would be required to provide adequate draft for staged barges and navigational depths for tugboat maneuvering. Potential ~~impacts~~ effects upon wetlands due to dredging would be minimal and of limited duration. All dredging would be done in compliance with applicable federal, state and local regulations. ~~Mitigation for potential~~Potential ~~impacts, if required~~effects upon wetlands~~,~~ would be ~~proposed~~ addressed during the environmental review and permitting of the East 91st Street Converted MTS. DSNY, in coordination with the NYSDEC and other involved agencies, would determine the appropriate measure to address potential effects that may occur due to the East 91st Street Converted MTS and would effectively restore these wetlands and their associated value.

4.3 Protect vulnerable plant, fish and wildlife species, and rare ecological communities. Design and develop land and water uses to maximize their integration or compatibility with the identified ecological community.

There are no known vulnerable fish or plant species found within the vicinity of the site. However, during a field sampling program in 2003, three non-vulnerable fish species managed under the Magnuson-Stevens Act were

collected at the proposed site. Eggs and larvae of winter flounder (*Pseudopleuronectes americanus)* and windowpane (*Scopthalmus aquosus*) and summer flounder (*Paralichthys dentatus*) larvae were identified. The habitat in the immediate vicinity of the proposed site does not represent the ideal habitat as identified in the EFH descriptions for these species. Therefore, the proposed action ~~wouldnot~~would not result in significant adverse impacts to these species.

A review of the NYSDEC Natural Heritage Report on Rare Species and Ecological Communities reports the Peregrine Falcon (*Falco peregrinus*) as a known species found in the area and as being classified as a federally endangered species. ~~As noted in Section 6.9.3,~~ Ithe East 91st Street Converted MTS would not impact these species or their habitats.

The East 91st Street Converted MTS would involve the demolition of an existing MTS. The MTS would remain as an over-water facility. Waterfront development would include an enclosed processing building, which includes the tipping floor, loading floor and pier level; an outside gantry crane system; and a new fendering ~~and bulkhead~~ system. Development would involve minor dredging; however, potential impacts to plant, fish and wildlife species would be minimized and all dredging would be conducted in compliance with applicable federal, state and local regulations. Required permits would be acquired prior to any dredging activities.

In addition, all handling and containerization of solid waste would be performed inside the processing building, thereby limiting the risk of an introduction of hazardous wastes or other pollutants into the environment that could impact surrounding fish and wildlife resources. Sanitary and process wastewaters would be routed to on-site treatment systems and would then be discharged to the municipal sewer systems. Stormwater runoff from the East 91st Street Converted MTS and the storage of any petroleum products would be conducted in accordance with applicable federal, state and local regulations. The East 91st Street Converted MTS would, therefore, be consistent with this subpolicy.

Policy 5: Protect and improve water quality in the New York City coastal area.

5.1 Manage direct or indirect discharges to waterbodies.

The East 91st Street Converted MTS would be developed in accordance with applicable federal, state and local regulations. Consistent with this subpolicy, the processing floor would be cleaned on a regular basis. All sanitary and process wastewaters (e.g., floor washdown waters, etc.) would be conveyed to an on-site disposal treatment system, which would include an oil-water separator, and then discharged to the municipal sewer system. In addition, the slope of the tipping floor would prevent the build-up of free liquids by directing all liquids to drains. Stormwater runoff from the East 91st Street Converted MTS would be managed in accordance with applicable regulations.

5.2 Protect the quality of New York City's waters by managing activities that generate nonpoint source pollution.

During the development and operation of the East 91st Street Converted MTS, BMPs would be used to the extent possible to minimize any nonpoint discharges. The East 91st Street Converted MTS would comply with applicable federal, state and local requirements concerning the management of stormwater runoff and erosion. All handling and containerization of solid waste would be performed inside the processing building, limiting the risk of an introduction of hazardous wastes or other pollutants into the environment. In addition, litter control methods would be implemented at the facility to minimize or eliminate the potential for litter to enter surface waters.

5.3 Protect water quality when excavating or placing fill in navigable waters and in or near marshes, estuaries, tidal marshes, and wetlands.

The majority of the demolition and removal of the ~~existing~~ Existing MTS structure and foundations and construction of the East 91st Street Converted MTS would occur within the East River. During removal of the existing pile-supported

MTS, disturbances to the upper organic silts may occur, resulting in re-suspension of the sediments. The ~~alignment of the~~ existing vehicle access ramp would be ~~salvaged~~ demolish and ~~would remain; however, it would be extended over the East River~~ replaced to accommodate the new design. Minor dredging would be necessary to provide sufficient depths for barges and tugboats. Potential impacts due to dredging would be localized, however, and of short duration. All dredging would be in accordance with applicable federal, state and local regulations and removed materials would be disposed of at a permitted upland facility.

5.4 *Protect the quality and quantity of groundwater, streams, and the sources of water for wetlands.*

The East 91st Street Converted MTS would result in no adverse impact to the quality or quantity of surface or ground water at or in the immediate vicinity of its site. Applicable and appropriate measures would be implemented at the East 91st Street Converted MTS in accordance with federal, state and local regulations. The East 91st Street Converted MTS would be consistent with this subpolicy.

Policy 6: Minimize loss of life, structures and natural resources caused by flooding and erosion.

6.1 *Minimize losses from flooding and erosion by employing non-structural and structural management measures appropriate to the condition and use of the property to be protected and the surrounding area.*

According to review of the FEMA National Flood Insurance Program maps, the ~~entire~~ majority of the East 91st Street Converted MTS site is located within the 100-year flood plain boundary (Zone A) and the ramp extends into the 500-year flood plain (Zone B). The East 91st Street Converted MTS would be located at the site of the existing MTS, but have an expanded footprint. The ~~existing~~ Existing MTS would be demolished to an elevation below the waterline to accommodate the expanded function, size and configuration of the East 91st Street

Converted MTS. The redevelopment of the site would not affect the potential for flooding or erosion. All demolition and redevelopment activities would comply with applicable building code requirements and, to the extent practicable, non-structural or structural measures would be implemented to minimize damage from flooding or erosion.

Policy 7: Minimize environmental degradation from solid waste and hazardous substances.

7.1 Manage solid waste material, hazardous wastes, toxic pollutants, and substances hazardous to the environment to protect public health, control pollution and prevent degradation of coastal ecosystems.

The East 91st Street Converted MTS would involve the management and processing of solid waste through a TCB system and marine transport to out-of-City disposal sites. Waste would be transported in airtight, waterproof, sealed containers. All waste handling operations would occur inside an enclosed processing building, which would minimize the escape of litter into the surrounding water body. Sufficient container and barge capacity would be available to meet the requirements of the collection area. Unless emergencies close the facility, solid waste would generally be containerized within 24 hours. All solid waste handling operations would be conducted in accordance with NYSDEC Part 360 regulations (6 NYCRR Parts 360-1 and 360-11) for solid waste transfer stations, which would be incorporated by reference into the permit to construct and operate the East 91st Street Converted MTS. Litter control methods would be implemented at the facility to minimize or eliminate the potential for litter entering surface waters. Radiation detection equipment would be located at the facility, and contingency plans would be in place in the event of unauthorized waste and/or other situations that could disrupt the operation of the facility. The East 91st Street Converted MTS would not result in adverse impacts and would be operated in a manner to ensure that there would be no impact to ground and surface water supplies, significant fish and wildlife habitats, recreational areas and scenic resources.

On-site storage of petroleum or hazardous materials related to the operation of the East 91st Street Converted MTS would be minimal and all storage would be in accordance with applicable federal, state and local regulations. Spill prevention and control plans would be used to prevent any hazardous materials from entering the environment.

7.2 *Prevent and remediate discharge of petroleum products.*

See response to Subpolicy 7.1.

7.3 *Transport solid waste and hazardous substances and site solid and hazardous waste facilities in a manner that minimizes potential degradation of coastal resources.*

See response to Subpolicy 7.1.

Policy 8: Provide public access to and along New York City's coastal waters.

8.1 *Preserve, protect and maintain existing physical, visual and recreational access to the waterfront.*

The East 91st Street Converted MTS would be a stand-alone, water-dependent facility on the East River. It would generally be located at the site of the existing MTS. The proposed vehicle access ramp would cross over the FDR Drive and would go over the East River Esplanade, which runs along the waterfront, adjacent to the proposed site. Access to the esplanade or the waterfront would not be impacted from the access ramp, as the ramp would be located above the esplanade and would not block access to the waterfront. Public access would generally not be compatible with the East 91st Street Converted MTS; however, its conversion would not impact existing, nor preclude any future, development of public access. Several parks are located within the study area that would allow for continued physical, visual and recreational access to the waterfront.

8.2 *Incorporate public access into new public and private development where compatible with proposed land use and coastal location.*

Public access would not be compatible with the principal use of the site due to the industrial activities. As discussed in Section 6.5.1, there are several parks providing public access and recreation facilities that are located in the immediate vicinity of the East 91st Street Converted MTS. The East 91st Street Converted MTS would not preclude future development of public access at other locations along the East River.

8.3 *Provide visual access to coastal lands, waters and open space where physically practical.*

The East 91st Street Converted MTS would be an expansion of an existing water-dependent facility. It would remain compatible and consistent with adjacent properties along the waterfront and would not obstruct or impair visual access to coastal lands, waters or open space. As discussed in Section 6.7.3, the East 91st Street Converted MTS would be consistent with this subpolicy. See also response to Subpolicy 9.1.

8.4 *Preserve and develop waterfront open space and recreation on publicly owned land at suitable locations.*

Located south of the East 91st Street Converted MTS is Carl Schurz Park, which is physically separated from the site by the FDR Drive. In addition, the esplanade that runs adjacent to the existing MTS would not be affected by the new facility. Expansion and redevelopment of the existing MTS would cause no new impacts to these areas and, therefore, the East 91st Street Converted MTS would be consistent with this subpolicy.

8.5 Preserve the public interest in and the use of lands and waters held in public trust by the state and city.

The East 91st Street Converted MTS would involve the conversion of the existing MTS from a truck-to-barge waste transfer station into a TCB MTS that would transport DSNY-managed Waste by marine transport to remote out-of-city facilities. In order to allow for the efficient operation of the proposed facility, development of the facility would require development within an area approximately 42 by 272 feet, which is currently state-owned lands under water. As a result the East 91st Street Converted MTS would occupy approximately 0.25 acres of currently state-owned land.

The use of this land is required because the facility is limited in its ability to extend westward due to the presence of the FDR Drive, the esplanade and Asphalt Green. Likewise, the operational requirements of the facility limited the reorientation of barge operations along the northern or southern edges of the facility. The relocation of barge operations along the north or south portion of the facility would have resulted in additional impacts to visual quality and or scenic resources. The DSNY would apply for a River Bed ~~Easement~~ Grant from the New York State Office of General Services for that portion of the proposed facility, which would be located on state lands under water. The request for a ~~n easement~~ grant would represent the minimum amount of state-owned lands in accordance with the goals, standards and criteria presented for this subpolicy in the WRP. The granting of ~~an easement~~ grant for this small area at the East 91st Street Converted MTS would, in no way, diminish or affect other public lands under water. It would also not significantly affect public trust uses, such as recreation or public access, which are already partially limited due to previous uses and the physical characteristics of the waterbody at this site (i.e. high river velocities).

Policy 9: Protect scenic resources that contribute to the visual quality of the New York City coastal area.

9.1 Protect and improve visual quality associated with New York City's urban context and the historic and working waterfront.

The East 91st Street Converted MTS would be expanded from its existing footprint; however, it would not result in a significant impact to visual quality, as noted in Section 6.7.3. Views from the existing promenade, which runs adjacent to the East 91st Street site, are already obstructed to some extent by the existing facility. The East 91st Street Converted MTS would resemble the existing MTS in terms of its building typology, massing and position and elevated access, as well as adjacency to the esplanade. In addition to its close proximity to the esplanade, the proposed MTS would be in the vicinity of the Asphalt Green complex and Carl Schurz Park, where Gracie Mansion is located. The closest possible views of the MTS from Carl Schurz Park are from the northern edge of the park, near Gracie Mansion, which are no longer open to the public. The overall scale and appearance of the new facility would not likely contribute to a substantial change of views toward the waterfront from inland areas. It would involve the redevelopment of an existing water-dependent facility. Based upon the information discussed in Section 6.7.3, the East 91st Street Converted MTS would be consistent with this subpolicy.

9.2 Protect scenic values associated with natural resources.

The East 91st Street Converted MTS would be an expansion of an existing MTS facility and would pose no new impacts to scenic values associated with natural resources. The East 91st Street Converted MTS would, therefore, be consistent with this subpolicy.

Policy 10: Protect, preserve and enhance resources significant to the historical, archaeological and cultural legacy of the New York City coastal area.

10.1 Retain and preserve designated historic resources and enhance resources significant to the coastal culture of New York City.

According to the "Plan for the Manhattan Waterfront," the Municipal Asphalt Plant (Asphalt Green Recreational Center), listed as a City landmark on the NR, is located adjacent to the existing MTS ramp; however, as noted in Section 6.6.3, the East 91st Street Converted MTS would have no impacts on this resource. Therefore, the East 91st Street Converted MTS would be consistent with this subpolicy.

10.2 Protect and preserve archaeological resources and artifacts.

No archaeologically significant resources have been identified on the site. Therefore, the East 91st Street Converted MTS would have no impact on such resources.

6.13 Infrastructure, Solid Waste and Sanitation Services, and Energy

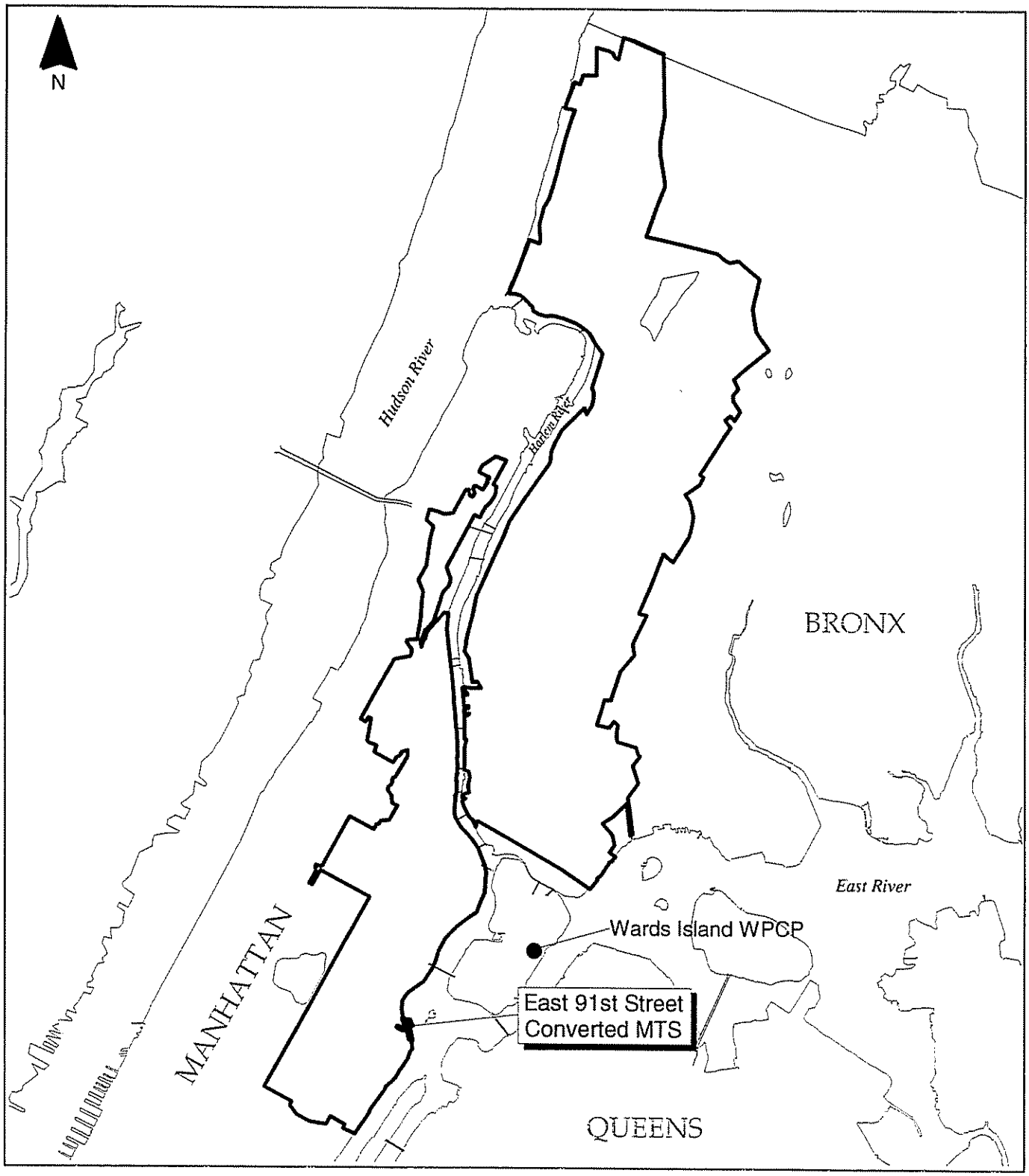
6.13.1 Existing Conditions

6.13.1.1 Water Supply

Water is supplied to the ~~existing~~ Existing East 91st Street MTS from the Delaware and Catskill reservoir systems through the City's municipal water distribution system. An off-site 6-inch-diameter line at East 91st Street provides potable water for both consumption and sanitary requirements. Water pressure throughout the City system is generally maitnained at about 20 psi, which is the minimum pressure acceptable for uninterrupted service (2001 CEQR Technical Manual). To ensure that adequate pressure is provided on site, the potable and fire water systems are currently supplemented with a pump.

6.13.1.2 Sanitary Sewage and Stormwater

A review of NYCDEP I&I maps shows that the site is served by the Wards Island WPCP, which serves the eastern section of Manhattan generally bordered by 70th Street, 190th Street and Amsterdam Avenue/Central Park. Wards Island WPCP also serves portions of the western Bronx. The WPCP drainage area is illustrated in Figure 6.13-1. From July 2002 through June 2003, the Wards Island WPCP treated an average of 181 mgd of wastewater under dry weather flow conditions and an average flow of 193 mgd, which includes the sanitary and stormwater flows received by the WPCP during wet weather (see Table 6.13-1). The maximum dry weather flow during this period was 206 mgd during June 2003 and the maximum average flow was 216 mgd during June 2003. Effluent from the plant is discharged into the East River and is regulated by the NYSDEC under the SPDES. The current SPDES permit limit for flow to the Wards Island WPCP is 275 mgd. It is estimated that on-site employee water usage is about 75 gpd. This estimate is based on the current security staff of three security employees (one guard per shift, three shifts per day) using 25 gallons per person, per day (2001 CEQR Technical Manual). No other potable water is used as the facility is not currently accepting waste, and no operational personnel are assigned to the site.



Site delineations are approximate
Base Map Source: New York City Department of City Planning

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Figure 6.13-1 Existing WPCP Drainage Area

East 91st Street Conversion MTS

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Table 6.13-1
Average Monthly Dry Weather and Average Flows
Wards Island Water Pollution Control Plant
Fiscal Year 2003

Month	Dry Weather Flow (mgd)	Average Monthly Flow[1](1) (mgd)
July 2002	175	179
August	182	191
September	172	190
October	173	196
November	173	192
December	185	195
January 2003	179	188
February	185	198
March	191	201
April	181	191
May	169	177
June	206	216
Average Effluent	**181**	**193**

Notes:
(1) Average flow includes the sanitary and stormwater flows received by the plant during wet weather.

A 12-inch-diameter sewer on East 91st Street serves the site. This sewer is connected to a 5.25-foot-by-4.25-foot interceptor line (combined sanitary and stormwater system) that runs north along York Avenue where waste is directed to the Wards Island WPCP. Stormwater runoff from the existing MTS parking area and ramp are routed to catch basins that discharge to the combined sewer system.

6.13.1.3 Solid Waste

Based on solid waste generation information from the 2001 CEQR Technical Manual, it was estimated that each employee at the existing MTS produces approximately nine pounds of solid waste per week for a facility total of 27 pounds per week (approximately four pounds per day). The solid waste is collected by DSNY personnel and transported by truck to an appropriately licensed solid waste management facility.

6.13.1.4 Energy

Electricity to the facility is provided by Consolidated Edison of New York. A review of applicable utility plans shows electric lines along York Avenue and East 91st Street, with the ~~existing~~ Existing MTS service connected to the Consolidated Edison system at the intersection of York Avenue and East 91st Street. As the facility is currently not operating, the East 91st Street MTS utilizes a negligible amount of energy due to the low staffing levels that provide only security at the site.

6.13.2 Future No-Build Conditions

The ~~existing~~ Existing East 91st Street MTS would continue to not accept waste. Potable water use, process and sanitary wastewater generation, solid waste generation and energy use would remain at or near Existing Conditions levels for security employees. Wastewater flows to the Wards Island WPCP would continue to increase and would be projected to be 194.4 mgd by 2006.

6.13.3 Potential Impacts with the East 91st Street Converted MTS

6.13.3.1 Water Supply

The East 91st Street Converted MTS would have a total of up to 60 employees working three shifts per day. They would require approximately 1,500 gallons of potable water per day plus an additional 1,800 gpd for truck and tipping floor washdown and dust control. The combined total usage of 3,300 gpd of potable water would represent an increase of 3,225 gpd above current consumption levels.

The East 91st Street Converted MTS would have no impact on the existing system's ability to supply water reliably. Under worst-case conditions, the increased usage would not have significant impacts on water pressure in the system.

6.13.3.2 Sanitary Sewage

Based on the estimated water usage of 3,300 gpd for the East 91st Street Converted MTS, the small quantities of wastewater sent to the Wards Island WPCP would not significantly impact the sewage flow rate or the ability of the Wards Island WPCP to meet its SPDES permit limits. The projected wastewater flows at the WPCP would be anticipated to be approximately 194.4 mgd in 2006, which would be well below the permitted capacity of 250 mgd. In addition, the new wastewater flows due to the proposed action would not result in a significant increase in combined sewer overflows (CSO).

6.13.3.3 Solid Waste

Solid waste transfer station facility use is not cited under the solid waste generation rates provided in the 2001 CEQR Technical Manual, so rates for a commercial office building (1.3 lbs/day per employee) were used as a basis for a conservative estimate of waste generation. For an estimated 60 facility employees, 468 pounds of solid waste would be generated per week (78 lbs/day) and would represent an incremental increase of approximately 444 pounds per week (74 lbs/day) above current waste generation levels. This volume would be managed at the East 91st Street Converted MTS and would not significantly impact the system.

6.13.3.4 Energy

The East 91st Street Converted MTS would require an additional 5.51E+10 BTU/year of electricity to operate the facility. Natural gas heating would be used with an estimated demand of 1.34E+08 BTU/year.

Consolidated Edison has been notified of the power requirements of the East 91st Street Converted MTS and has stated that all demands generated by the facility could be met without an impact on the power requirements of the surrounding community and without the need for additional power generation capacity.

Consolidated Edison was also notified of the natural gas requirements of the East 91st Street Converted MTS and has stated that the facility could be supplied with natural gas with no adverse impacts.

6.14 Traffic, Parking, Transit, and Pedestrians

6.14.1 Introduction

The East 91st Street Converted MTS would receive waste from DSNY and other agency collection vehicles. Therefore, pursuant to CEQR guidelines, a traffic analysis was performed on the projected net increase in collection vehicles in the study area (which is defined below) and on other site-generated traffic. (See Section 3.16 for a discussion of CEQR analysis thresholds.)

6.14.2 Existing Conditions

6.14.2.1 Definition of Study Area

The traffic analysis study area is relatively limited, existing entirely within the Upper East Side (Yorkville) neighborhood of Manhattan, and is focused primarily along the York Avenue and East 86th Street corridors. This study area is predominantly residential with ground-floor commercial uses. There are no CEQR-defined areas of concern located within the study area. Figure 6.14-1 shows the locations of the intersections selected for analysis (locations A through D). Intersections analyzed were selected using the procedures defined in Section 3.16.

All collection vehicles must access the site from York Avenue and East 91st Street. Section 6.14.2.2 further discusses the specific routes used by DSNY and other agency collection vehicles to access the East 91st Street Converted MTS.

6.14.2.2 Surface Network

One major highway, the FDR Drive, services the study area. First Avenue, Second Avenue and East 86th Street are local truck routes that provide access to and from the site. A map showing all major truck routes and local truck routes in Manhattan is provided in Section 3.16 (see Figure 3.16-4).

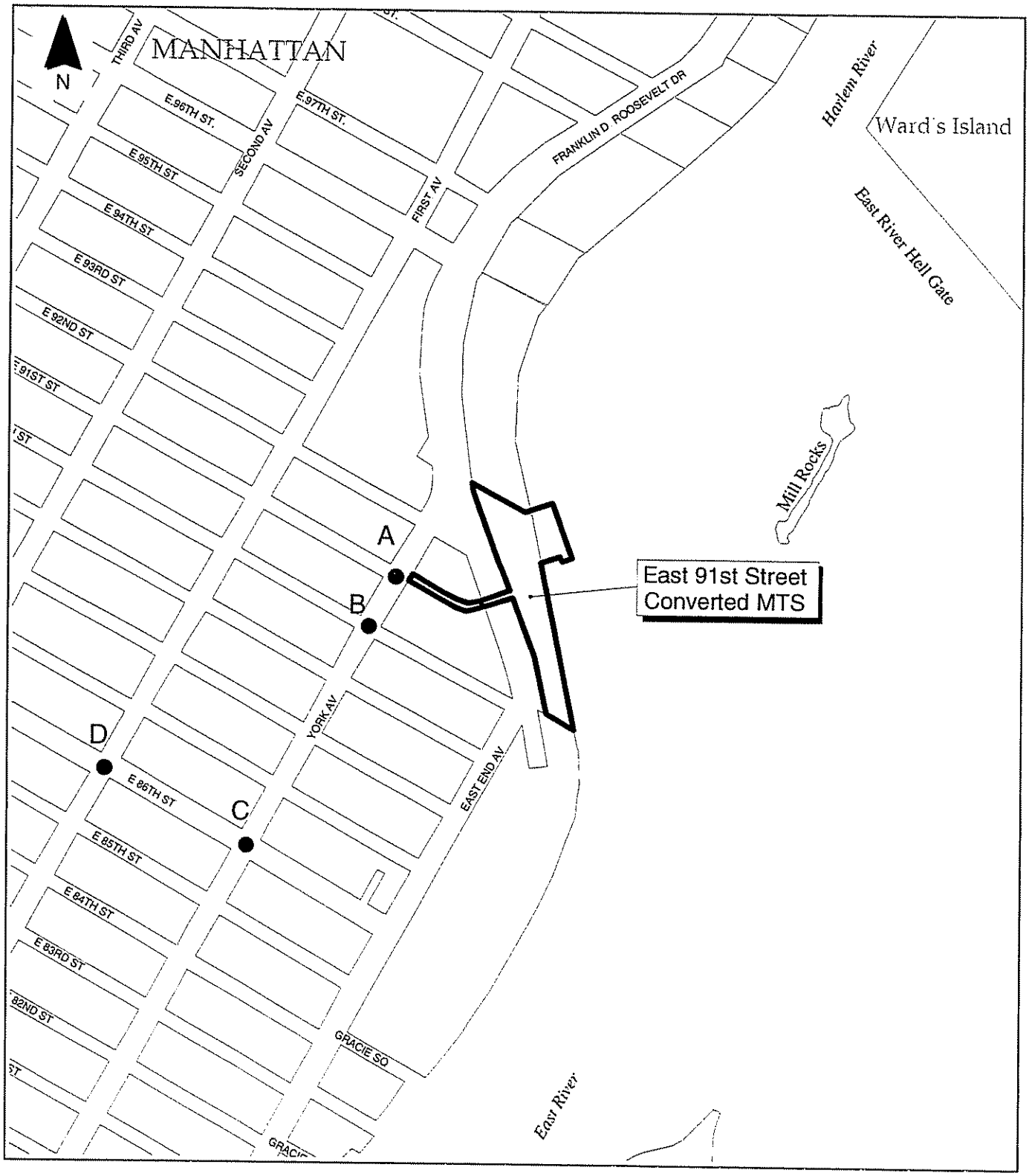

Figure 6.14-1 Traffic Analysis Study Area

East 91st Street Converted MTS

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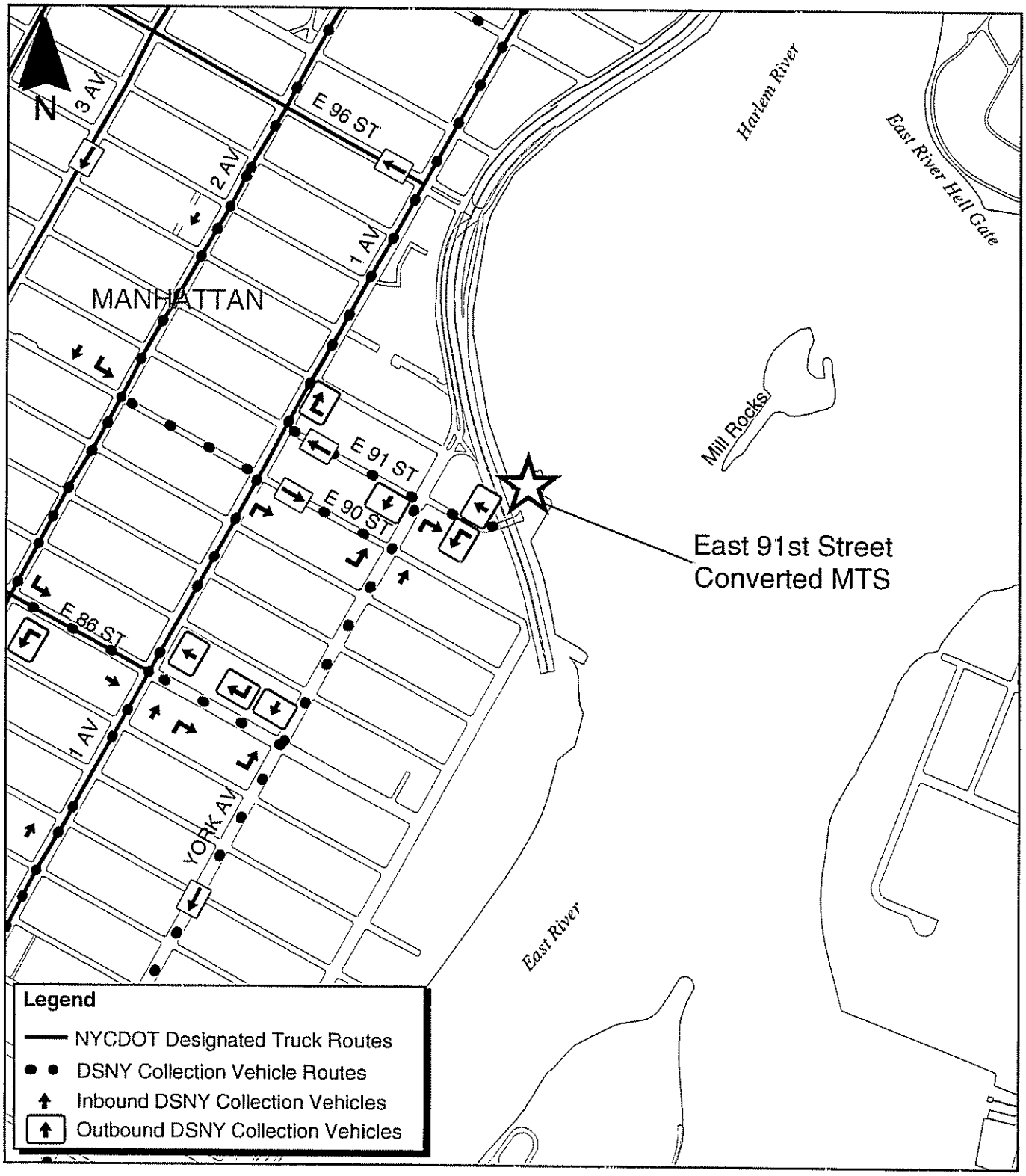
First Avenue and Third Avenue are principal arterials that provide northbound access from lower Manhattan (East Village/Lower East Side) to East Harlem. Second Avenue is a principle arterial that provides southbound access from East Harlem to lower Manhattan. York Avenue and East 86th Street are minor arterials that provide access for local and commercial traffic. East 86th Street is designated as a truck route from First Avenue to Fifth Avenue. Both East 90th Street and East 91st Street are local streets.

DSNY and other agency collection vehicles traveling north to the East 91st Street Converted MTS would travel along First and Third Avenues, turn east on East 86th Street, and then north on York Avenue. All vehicles entering and exiting the Converted MTS pass through the intersection of York Avenue and East 91st Street. Vehicles traveling south to the East 91st Street MTS would follow Second Avenue to either East 90th Street or East 86th Street and turn east to York Avenue. Which street the vehicles use to access York Avenue is determined by the DSNY route for the CD from which the vehicle originates. DSNY and other agency collection vehicles returning to the north of the facility would follow East 91st Street west to First Avenue and then proceed north. Vehicles returning to the south would travel south on York Avenue, then west on 86th Street to Second Avenue, where they would continue south. Figure 6.14-2 depicts NYCDOT-designated truck routes near the facility and the future DSNY and other agency collection vehicle routes to the facility.

6.14.2.3 Existing Traffic Operations

The four intersections listed below were identified for analysis because they are the most likely to be impacted from an increase in DSNY and other agency collection vehicle traffic to the East 91st Street Converted MTS. All of them are on major arterials and/or collection vehicle routes. Diagrams of these intersections are included in technical backup submitted to NYCDOT.

- York Avenue and East 91st Street – Signalized Intersection (see Figure 6.14-1 – location A)
- York Avenue and East 90th Street – Signalized Intersection (see Figure 6.14-1 – location B)
- York Avenue and East 86th Street – Signalized Intersection (see Figure 6.14-1 – location C)
- First Avenue and East 86th Street – Signalized Intersection (see Figure 6.14-1 – location D)



Site delineations are approximate
Base Map Source: New York City Department of Information Technology & Telecommunications

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Figure 6.14-2 DSNY Collection Vehicle Routes
East 91st Street Converted MTS

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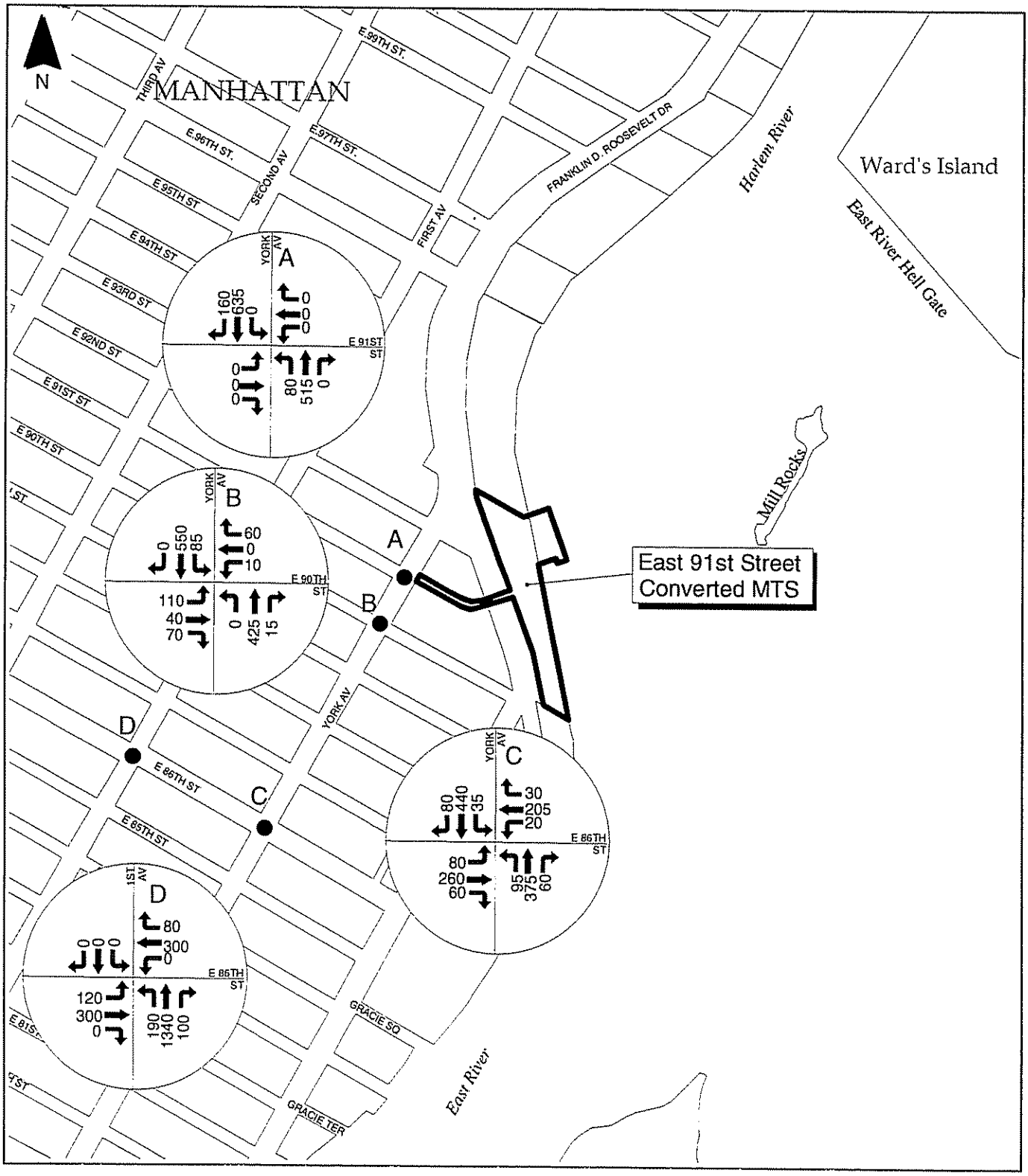
First Avenue is a principal arterial that provides northbound access from lower Manhattan (East Village/Lower East Side) to East Harlem. York Avenue and East 86th Street are minor arterials that provide access for local and commercial traffic. Both East 90th Street and East 91st Streets are local streets.

A traffic data collection program that consisted of manual turning movement counts with vehicle classifications and ATR counts was undertaken to define existing weekday traffic operations (see Section 3.16 for a discussion on traffic data collection). Manual turning movement counts were conducted between February 11 and February 13, 2003, while ATR counts were conducted between February 10 and February 14, 2003. Figures 6.14-3, 6.14-4 and 6.14-5 depict the existing traffic volumes for AM, Facility, and PM peaks at the intersections analyzed. The AM peak generally occurred between 7:30 a.m. and 8:30 a.m., the Facility peak between 9:00 a.m. and 10:00 a.m., and the PM peak between 4:00 p.m. and 5:00 p.m. Table 6.14-1 presents the v/c ratio, delay and LOS for the four intersections during the AM, Facility, and PM peaks.

Existing truck traffic through most of the intersections was moderate. The percentages of trucks increased steadily during the morning hours, remaining between 10% and 11% during mid-day hours, then decreasing to 8% or lower during the PM peak hours.

6.14.2.3.1 LOS at Signalized Intersections

Table 6.14-1 shows that the signalized intersections generally operated at an overall LOS of B or C with the following exceptions. Since the DEIS was published, the intersections of East 86th Street and York Avenue and East 90th Street and York Avenue were reanalyzed with corrected signal timing. As a result, ~~T~~the lane group with the least favorable LOS was the eastbound approach at the intersection of York Avenue and ~~,~~East ~~90th~~ 86th Street. During the AM, Facility, and PM peak hours, this approach operated at LOS D and F with delays of ~~42.0~~ 46.9, ~~38.2~~ 35.7, and ~~39.2~~ 81.2 seconds, respectively. During the PM peak hour, the northbound (defacto) left movement at the intersection of York Avenue and East 91st Street operated at LOS D with ~~41~~ 39.6 seconds of delay.



Site delineations and study area boundaries are approximate
Base Map Source: New York City Department of City Planning

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Figure 6.14-3 Existing Traffic Volumes - AM Peak

East 91st Street Converted MTS

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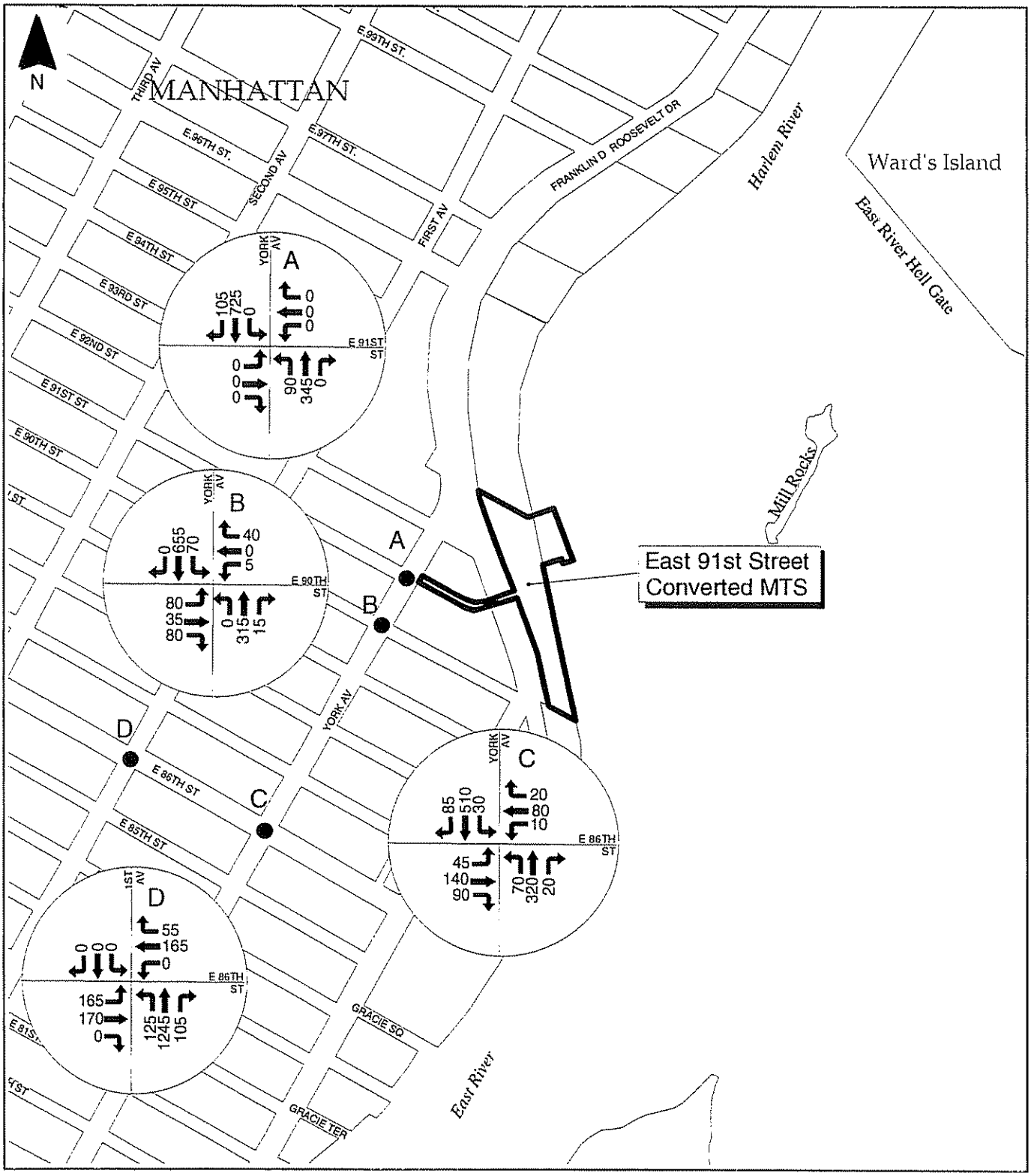

Site delineations and study area boundaries are approximate.
Base Map Source: New York City Department of City Planning

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Figure 6.14-4 Existing Traffic Volumes
Facility Peak
East 91st Street Converted MTS

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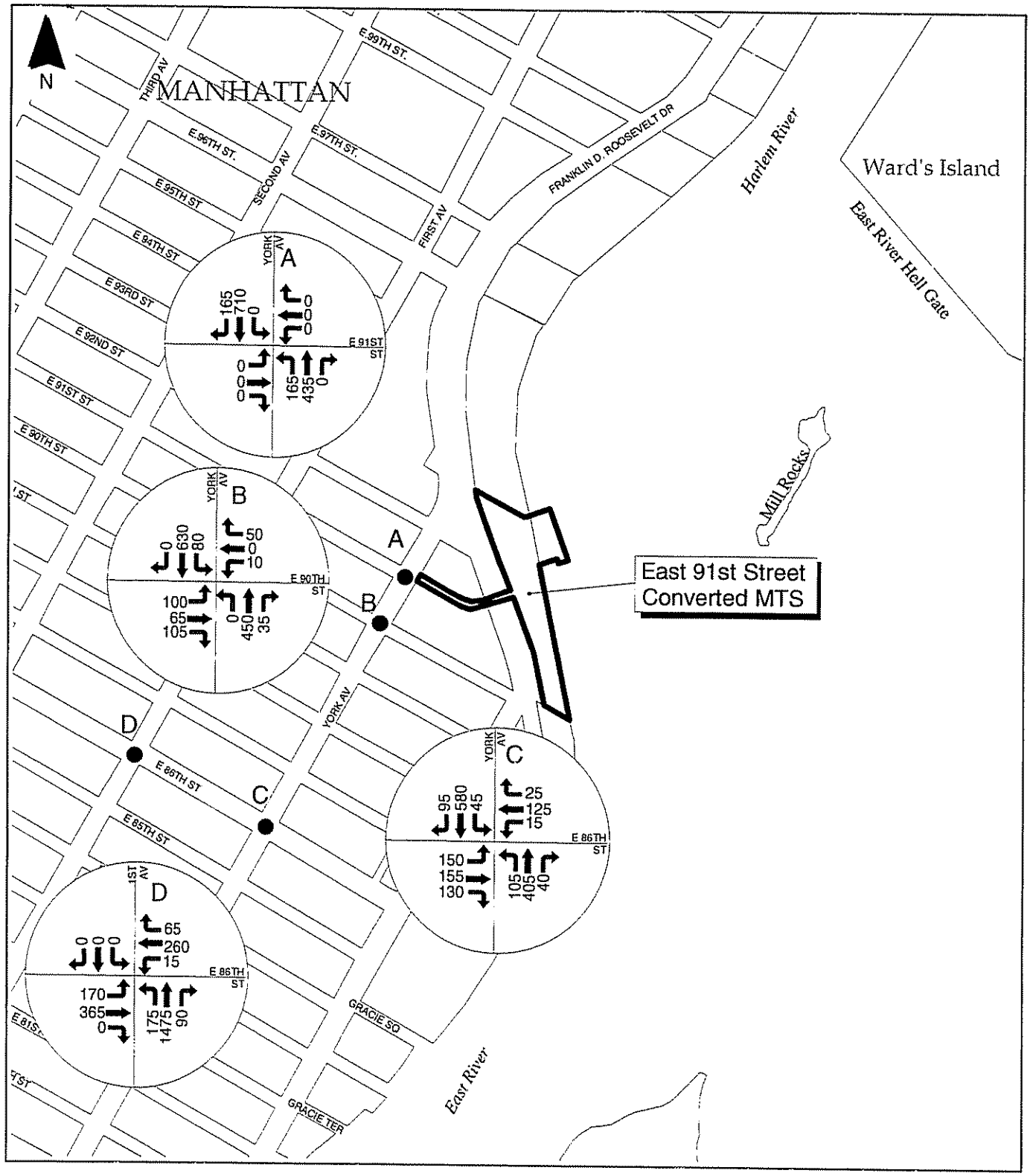

Site delineations and study area boundaries are approximate
Base Map Source: New York City Department of City Planning

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Figure 6.14-5 Existing Traffic Volumes - PM Peak

East 91st Street Converted MTS

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Table 6.14-1
HCM Analysis[(1)] – Existing Conditions
East 91st Street Converted MTS
(Revised Table)

Intersection & Lane Group	AM Peak Hour (7:30 a.m. – 8:30 a.m.)			Facility Peak Hour (9:00 a.m. – 10:00 a.m.)			PM Peak Hour (4:00 p.m. – 5:00 p.m.)		
	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS
East 86th Street & York Avenue (signalized)									
EB LTR	0.79	46.9	D	0.49	35.7	D	1.01	81.2	F
WB LTR	0.43	34.1	C	0.19	30.3	C	0.33	32.4	C
NB LTR	0.56	9.0	A	0.42	7.4	A	0.60	9.6	A
SB LTR	0.38	6.7	A	0.34	6.3	A	0.39	6.7	A
OVERALL		20.1	C		14.2	B		28.3	C
East 90th Street & York Avenue (signalized)									
EB LTR	0.65	42.0	D	0.54	38.2	D	0.75	46.9	D
WB LR	0.29	33.2	C	0.20	31.2	C	0.32	33.8	C
NB TR	0.29	6.1	A	0.23	5.8	A	0.35	6.5	A
SB LT	0.54	8.5	A	0.54	8.4	A	0.62	9.7	A
OVERALL		15.1	B		13.5	B		16.6	B
East 91st Street & York Avenue (signalized)									
NB LT	0.40	6.9	A	-	-	-	-	-	-
NB DFL	-	-	-	0.44	11.9	B	0.86	39.6	D
NB T	-	-	-	0.20	5.6	A	0.28	6.1	A
SB TR	0.40	6.7	A	0.37	6.5	A	0.43	6.9	A
OVERALL		6.8	A		6.6	A		10.3	B
East 86th Street & 1st Avenue (signalized)									
EB LT	0.65	26.5	C	-	-	-	0.76	30.2	C
EB DFL	-	-	-	0.62	30.8	C	-	-	-
EB T	-	-	-	0.45	23.1	C	-	-	-
WB TR	0.28	19.2	B	0.22	18.7	B	0.22	18.7	B
NB LT	0.59	13.1	B	0.80	17.0	B	0.68	14.3	B
NB R	0.25	10.9	B	0.27	11.2	B	0.19	10.2	B
OVERALL		16.4	B		18.3	B		17.8	B

Notes:
(1) HCM output is included in technical backup submitted to the NYCDOT.
DFL = defacto left
LTR = left, through and right movements
NB = northbound
SB = southbound
EB = eastbound
WB = westbound
LT = left through movement
TR = through right movement
R = right movement
T = through movement
LR = left right movement

6.14.2.3.2 LOS at Unsignalized Intersections

No unsignalized intersections were analyzed.

6.14.2.4 Existing DSNY-Related Traffic

The existing DSNY-related traffic in the vicinity of the East 91st Street Converted MTS is generated by DSNY and related facilities in the general area, most notably the DSNY Manhattan CD 11 garage (East 99th Street between First and Second Avenues). Within the study area, DSNY-related traffic is primarily routed along Second Avenue and Third Avenue.

6.14.2.5 Public Transportation

Subway and bus service are provided within the vicinity of the site. The 86th Street subway station (for the Number 4, 5 and 6 lines) and the 96th Street subway station (for the Number 6 line) are located approximately ½-mile southwest and ½-mile northwest of the East 91st Street Converted MTS, respectively.

Three MTA bus lines – M15, M31 and M86 – provide service along First Avenue, Second Avenue, York Avenue and East 86th Street. There are bus stops at every study intersection except York Avenue and East 90th Street, and scheduled stops occur at various times during the day.

6.14.2.6 Pedestrian Activity

Pedestrian activity is generally moderate to high within the study area. Striped crosswalks and pedestrian signals are provided at all study intersections. Despite the higher-level pedestrian activity, it is not expected to affect the capacity analysis significantly.

6.14.3 Future No-Build Conditions

6.14.3.1 Traffic Conditions

Future No-Build traffic volumes were determined by applying a growth rate of 0.5% per year to existing traffic volumes in accordance with the 2001 CEQR Technical Manual. In addition, additional traffic generated by proposed developments in the study area expected to be completed by the Future No-Build year (2006) was also included. The following is a listing of the approved or in-process developments that are expected to generate significant volumes of traffic through the study area and, thus, were specifically accounted for as part of this analysis:

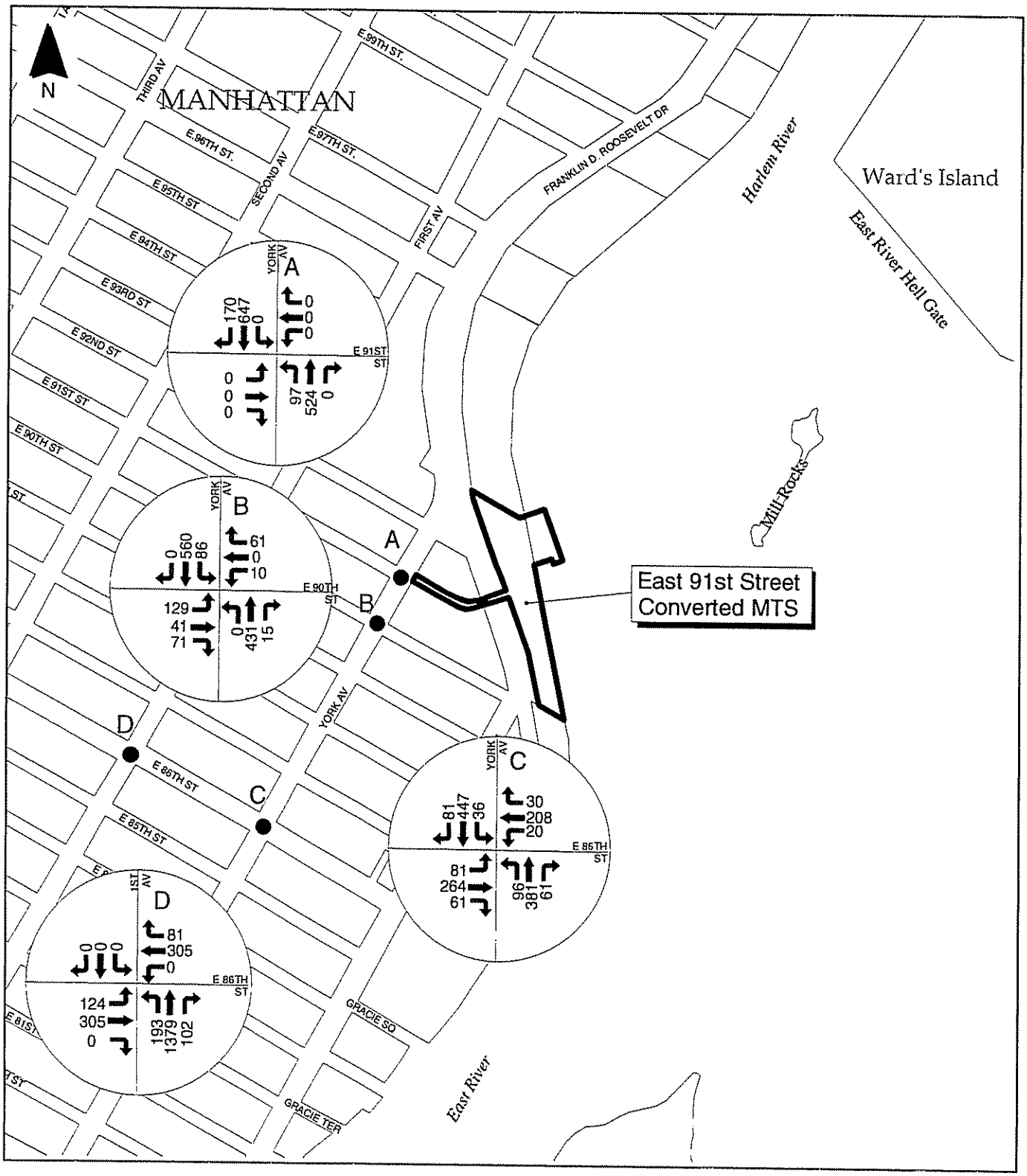
- 389 East 89th Street (residential and retail);
- 181 East 90th Street (residential and retail); and
- First Avenue/East 91st Street (residential, hotel and medical office building).

Figures 6.14-6, 6.14-7 and 6.14-8 depict the Future No-Build traffic volumes for the AM, Facility, and PM peaks at the intersections analyzed. Table 6.14-2 (Future No-Build Conditions) shows the Future No-Build v/c ratio, delay and LOS for the studied intersections. Overall, ~~Figure 6.14-6, Future No-Build Traffic Volumes AM Peak intersections experienced relatively small increases in delay (less than five seconds) and are projected to remain at their Existing Condition LOS, with the following exceptions:~~ as shown in Table 6.14-2, the study intersections under the No-Build Condition experienced relatively small increases in delay (less than five seconds) and are projected to remain at their Existing Conditions LOS, with the following exceptions:

- During the PM peak hour, the delay of the ~~eastbound~~ northbound (defacto) ~~approach~~ left movement at the intersection of York Avenue and East ~~90th~~-91st Street increased from 39.~~2~~6 to ~~45~~80.9 seconds (LOS D to LOS F~~in both cases~~).
- ~~During the PM peak hour, the delay of the northbound (defacto) left movement at the intersection of York Avenue and East 91st Street increased from 41.6 to 86.9 seconds (LOS D to LOS F).~~

6.14.3.2 Public Transportation

Future No-Build Conditions are expected to remain the same as Existing Conditions.



Site delineations and study area boundaries are approximate
Base Map Source: New York City Department of City Planning

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Figure 6.14-6 Future No-Build Traffic Volumes AM Peak East 91st Street Converted MTS

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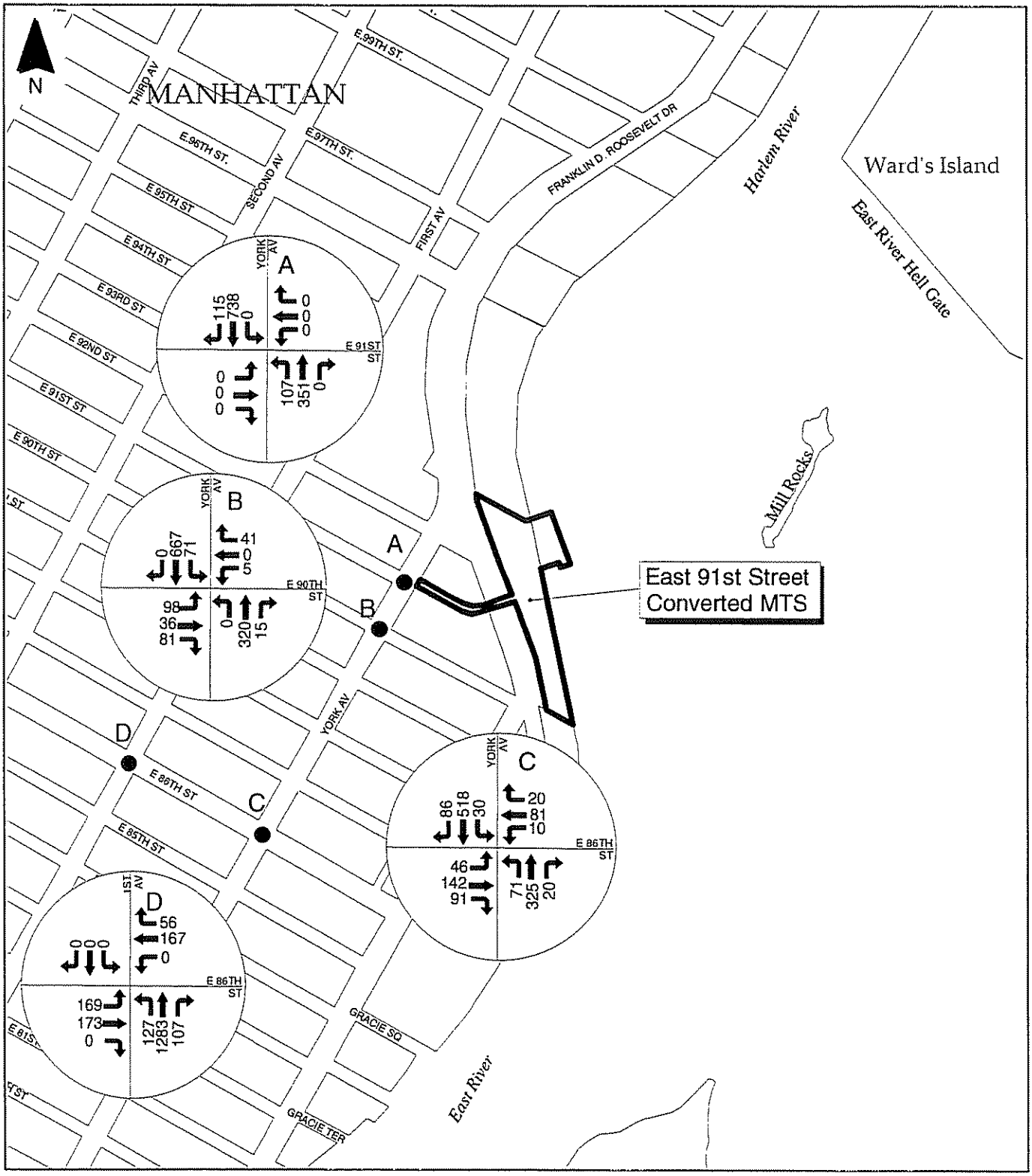

Site delineations and study area boundaries are approximate.
Base Map Source: New York City Department of City Planning

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Figure 6.14-7 Future No-Build Traffic Volumes
Facility Peak
East 91st Street Converted MTS

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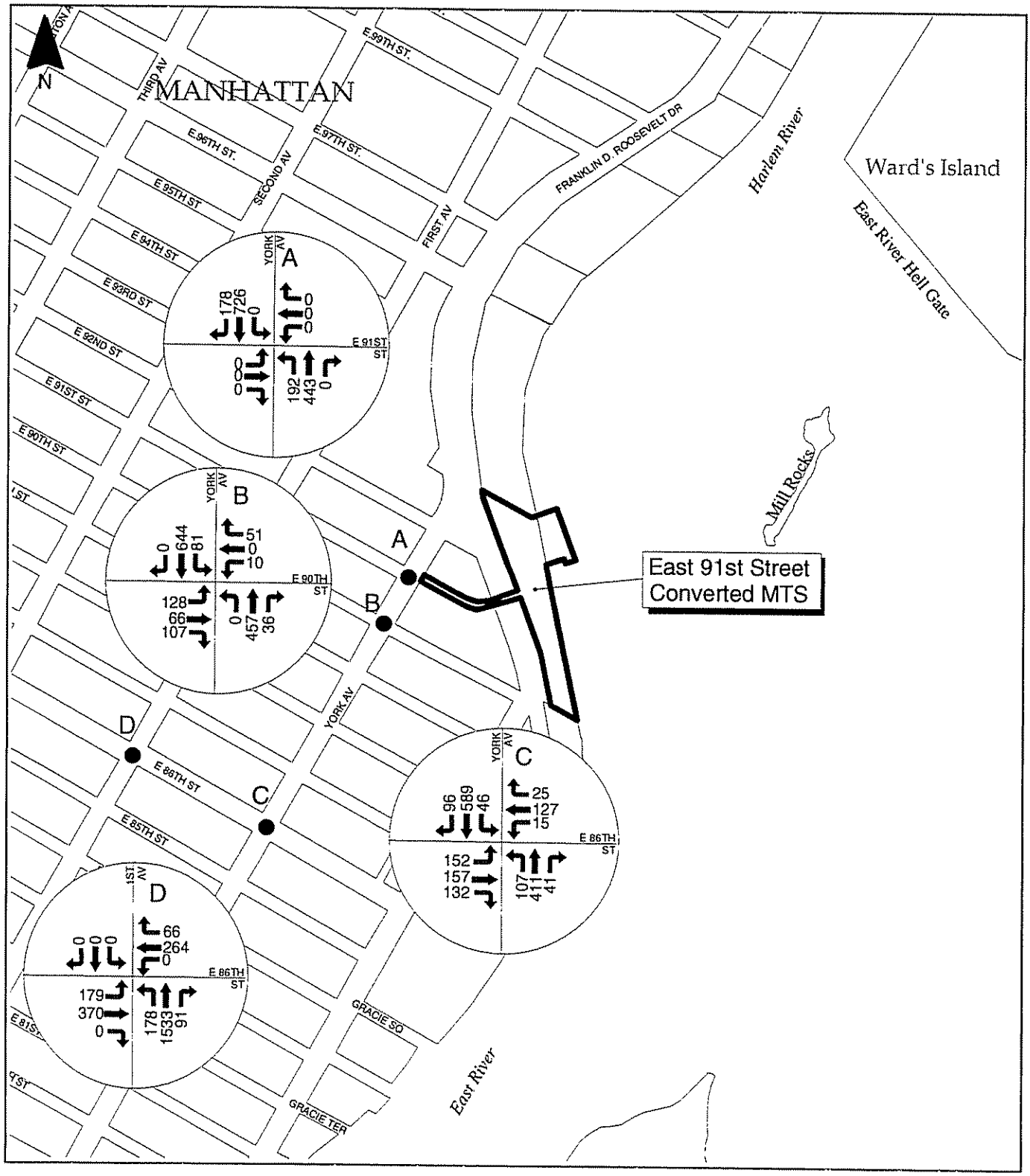

Site delineations and study area boundaries are approximate
Base Map Source: New York City Department of City Planning

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Figure 6.14-8 Future No-Build Traffic Volumes
PM Peak
East 91st Street Converted MTS

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Table 6.14-2
HCM Analysis[1] – No-Build Conditions
East 91st Street Converted MTS
(Revised Table)

Intersection & Lane Group	AM Peak Hour (7:30 a.m. – 8:30 a.m.)			Facility Peak Hour (9:00 a.m. – 10:00 a.m.)			PM Peak Hour (4:00 p.m. – 5:00 p.m.)		
	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS
East 86th Street & York Avenue (signalized)									
EB LTR	0.81	48.0	D	0.50	35.9	D	1.03	84.7	F
WB LTR	0.43	34.2	C	0.19	30.3	C	0.33	32.4	C
NB LTR	0.57	7.9	A	0.43	7.5	A	0.61	9.9	A
SB LTR	0.39	6.7	A	0.34	6.3	A	0.39	6.7	A
OVERALL		20.1	C		14.3	B		29.3	C
East 90th Street & York Avenue (signalized)									
EB LTR	0.70	44.6	D	0.59	39.8	D	0.83	53.2	D
WB LR	0.30	33.2	C	0.20	31.3	C	0.32	33.9	C
NB TR	0.30	6.2	A	0.24	5.8	A	0.36	6.6	A
SB LT	0.55	8.6	A	0.56	8.6	A	0.64	9.9	A
OVERALL		16.0	B		14.2	B		18.4	B
East 91st Street & York Avenue (signalized)									
NB DFL	0.54	21.8	C	0.54	15.1	B	1.04	80.9	F
NB T	0.35	6.5	A	0.20	5.6	A	0.29	6.1	A
SB TR	0.42	6.8	A	0.38	6.5	A	0.45	7.0	A
OVERALL		7.7	A		7.0	A		16.0	B
East 86th Street & 1st Avenue (signalized)									
EB LT	0.67	27.0	C	-	-	-	0.79	31.5	C
EB DFL	-	-	-	0.64	31.7	C	-	-	-
EB T	-	-	-	0.46	23.3	C	-	-	-
WB TR	0.28	19.3	B	0.22	18.8	B	0.22	18.7	B
NB LT	0.61	13.3	B	0.83	17.8	B	0.71	14.7	B
NB R	0.25	10.9	B	0.27	11.2	B	0.19	10.3	B
OVERALL		16.6	B		18.9	B		18.3	B

Notes:

[1] HCM output is included in technical backup submitted to the NYCDOT.

DFL = defacto left
LTR = left, through and right movements
NB = northbound
SB = southbound
EB = eastbound
WB = westbound
LT = left through movement
TR = through right movement
R = right movement
T = through movement
LR = left right movement

6.14.3.3 Pedestrian Activity

Future No-Build Conditions are expected to remain the same as Existing Conditions.

6.14.4 Potential Impacts with the East 91st Street Converted MTS

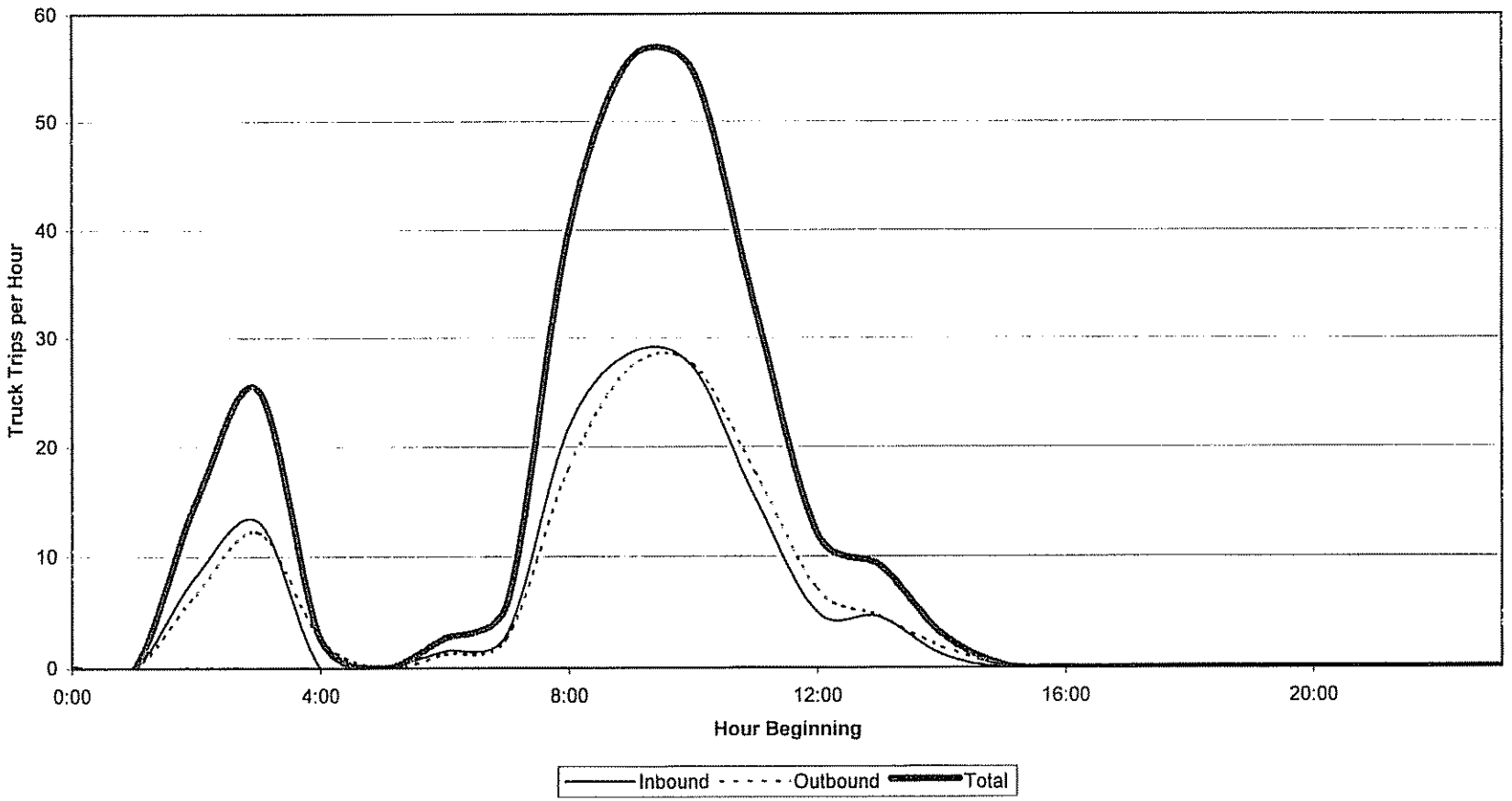
The East 91st Street Converted MTS would receive waste from four CDs in Manhattan — Manhattan CDs MN05, MN06, MN08 and MN11. Potential traffic impacts may result from the increase in DSNY and other agency collection vehicle trips to and from the site during all peak hours.

6.14.4.1 2006 Future Build Traffic Conditions

The 2006 Future Build Traffic Conditions assume that the East 91st Street Converted MTS would generate 130 net inbound collection vehicles per average peak day. As per NYCDOT Title 34, truck trips to and from the site are restricted to travel along local truck routes directly to the site or the intersection closest to the site if the streets adjacent to the site are not designated truck routes. The proposed collection vehicle truck routes for the East 91st Street Converted MTS are shown in Figure 6.14-2.

Figure 6.14-9 presents the average peak day temporal distribution of collection vehicles for the East 91st Street Converted MTS. Section 3.16 provides a detailed explanation of DSNY collection and delivery operational shifts (priority, non-priority and relay). As shown, the number of collection vehicles generated by the East 91st Street Converted MTS is expected to vary from approximately 0 to 15 truck trips per hour in the late evening/early morning, 5 to 56 truck trips per hour in the mid-morning/early afternoon, and 0 truck trips per hour in the late afternoon/early evening. The peak hourly number of collection vehicle truck trips (56) occurs at approximately 9:00 a.m.

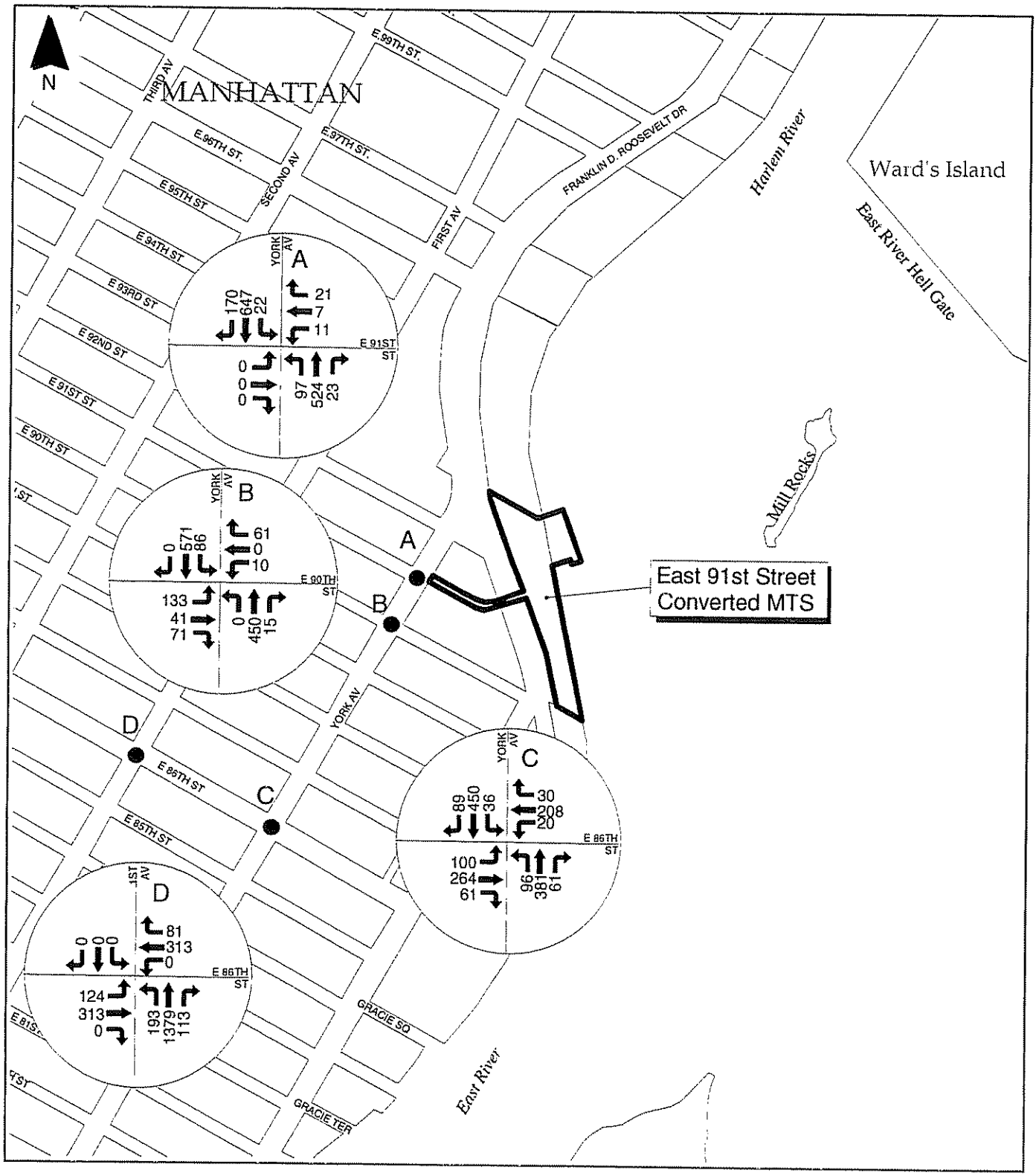
Figure 6.14-9
Truck Trips per Hour
East 91st Street Converted MTS



Figures 6.14-10, 6.14-11 and 6.14-12 show the intersections analyzed with the net increase in site-generated traffic added to the Future No-Build traffic levels. Figures 6.14-13, 6.14-14 and 6.14-15 show the intersections analyzed with only the net increase in site-generated traffic. Traffic volumes indicated by a dash (-) are the result of changing the disposal location from the existing commercial vendor facilities to the East 91st Street Converted MTS. These projected net increases were routed through the intersections for the AM, Facility, and PM peak hours. The highest net increase in trucks in the ingress or egress direction was 28. The highest net increase at any one intersection was 56 trucks. Both of these net increases occurred at the intersection of York Avenue and East 91st Street.

The need for Saturday analysis was considered. However, a traffic analysis was not performed on the projected net increases on Saturday truck trips because the total net increase in collection vehicles delivering waste on Saturdays would be approximately 82% of the inbound loads delivered during a typical average peak day. Additionally, traffic data indicated that the weekend background traffic volumes were approximately 70% of weekday traffic volumes. Table 6.14-3 illustrates the decrease in weekday background traffic and the decrease in DSNY and other agency collection vehicle traffic on the weekend. No analysis was performed for Sunday because the East 91st Street Converted MTS would not operate on Sundays. It was, therefore, judged that peak weekday analysis would represent the overall worst-case conditions.

Table 6.14-4 shows the 2006 Future Build v/c ratio, delay time and LOS for the intersections analyzed during the AM, Facility, and PM Peak times associated with the East 91st Street Converted MTS. Over an average peak day, the intersections should not experience an extended increase in delay. ~~The one intersection that may experience potentially significant impacts is discussed in Section 6.14.4.2 and summarized in Table 6.14-5.~~ However, two study intersections (discussed in Section 6.14.4.2 and summarized in Table 6.14-5 are projected to experience potentially significant impacts.



Site delineations and study area boundaries are approximate
Base Map Source: New York City Department of City Planning

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Figure 6.14-10 2006 Future Build Traffic Volumes
AM Peak
East 91st Street Converted MTS

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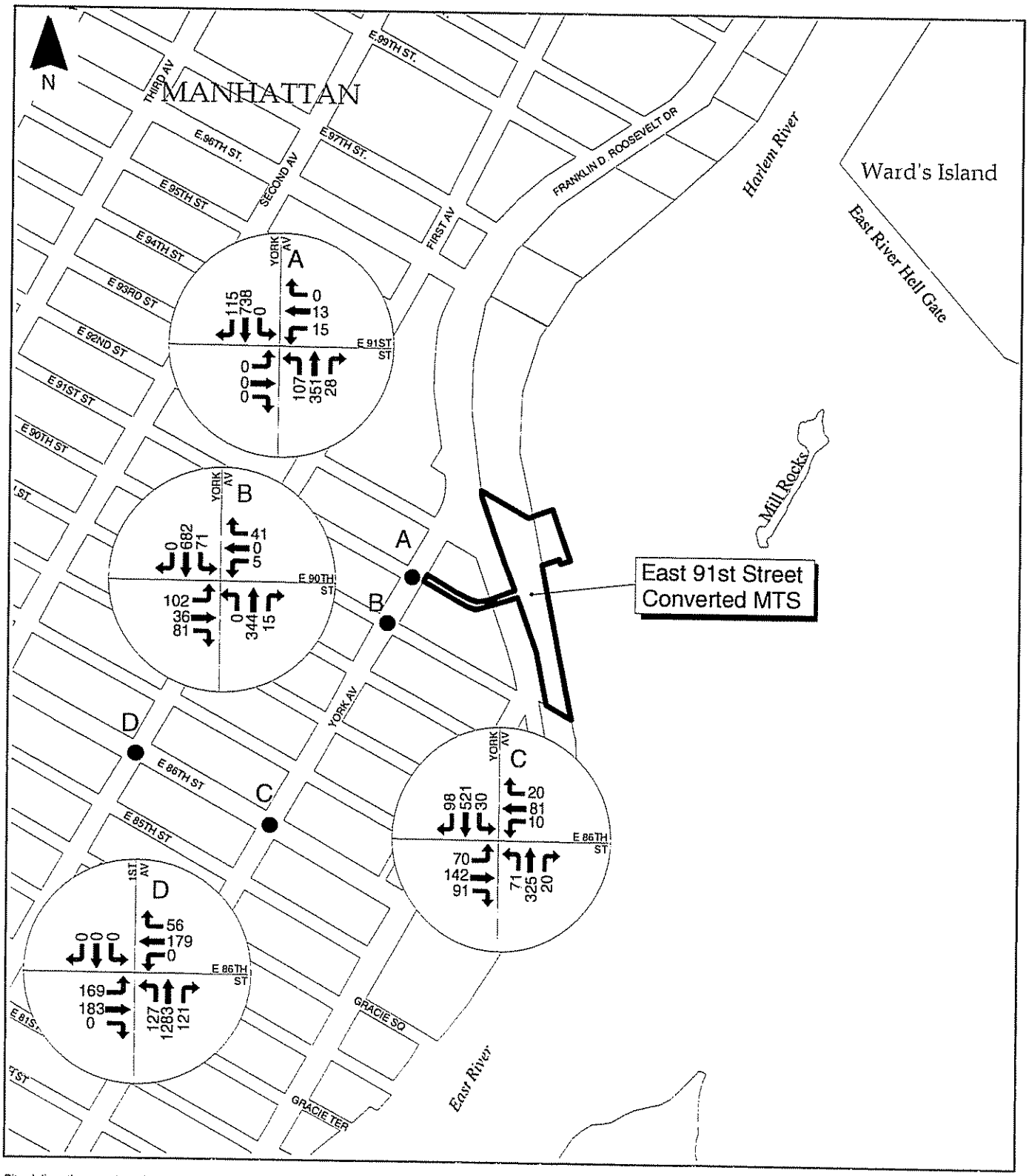

Site delineations and study area boudaries are approximate
Base Map Source: New York City Department of City Planning

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Figure 6.14-11 2006 Future Build Traffic Volumes
Facility Peak
East 91st Street Converted MTS

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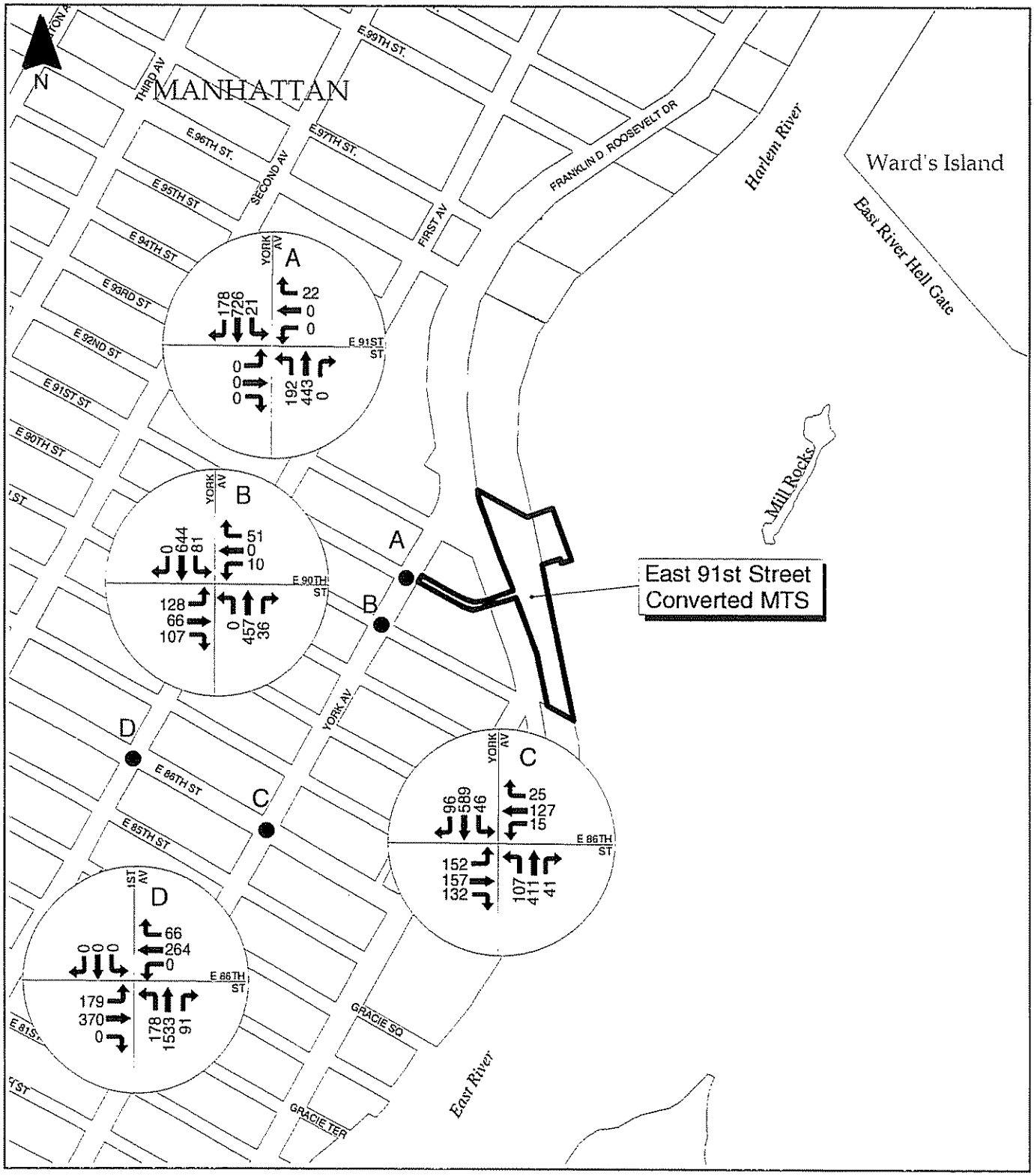

Site delineations and study area boundaries are approximate.
Base Map Source: New York City Department of City Planning

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Figure 6.14-12 2006 Future Build Traffic Volumes
PM Peak
East 91st Street Converted MTS

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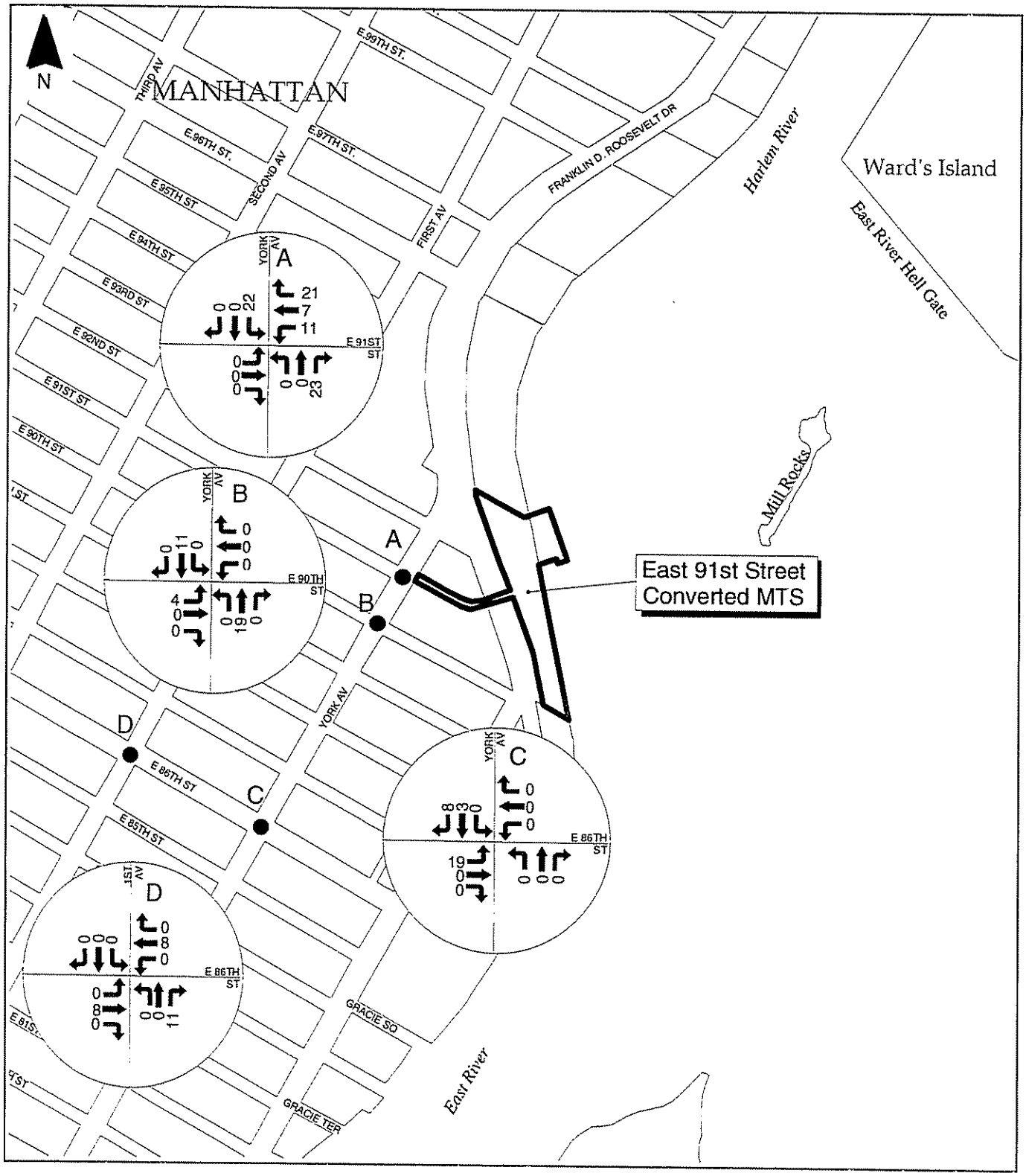

Site delineations and study area boundaries are approximate
Base Map Source: New York City Department of City Planning

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Figure 6.14-13 2006 Net Traffic - AM Peak

East 91st Street Converted MTS

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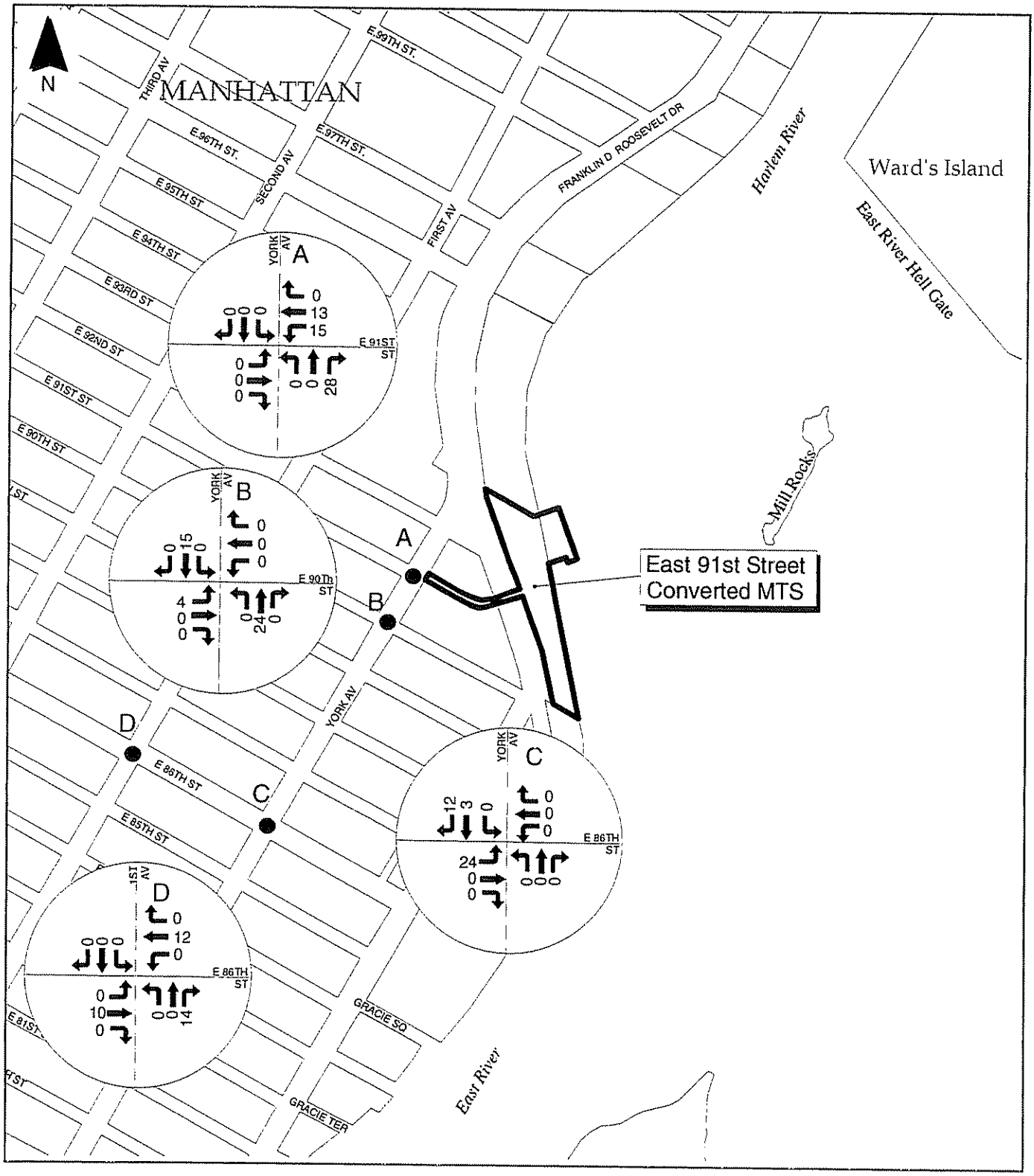

Site delineations and study area boundaries are approximate.
Base Map Source: New York City Department of City Planning

500 0 500 Feet

Figure 6.14-14 2006 Net Traffic - Facility Peak

East 91st Street Converted MTS

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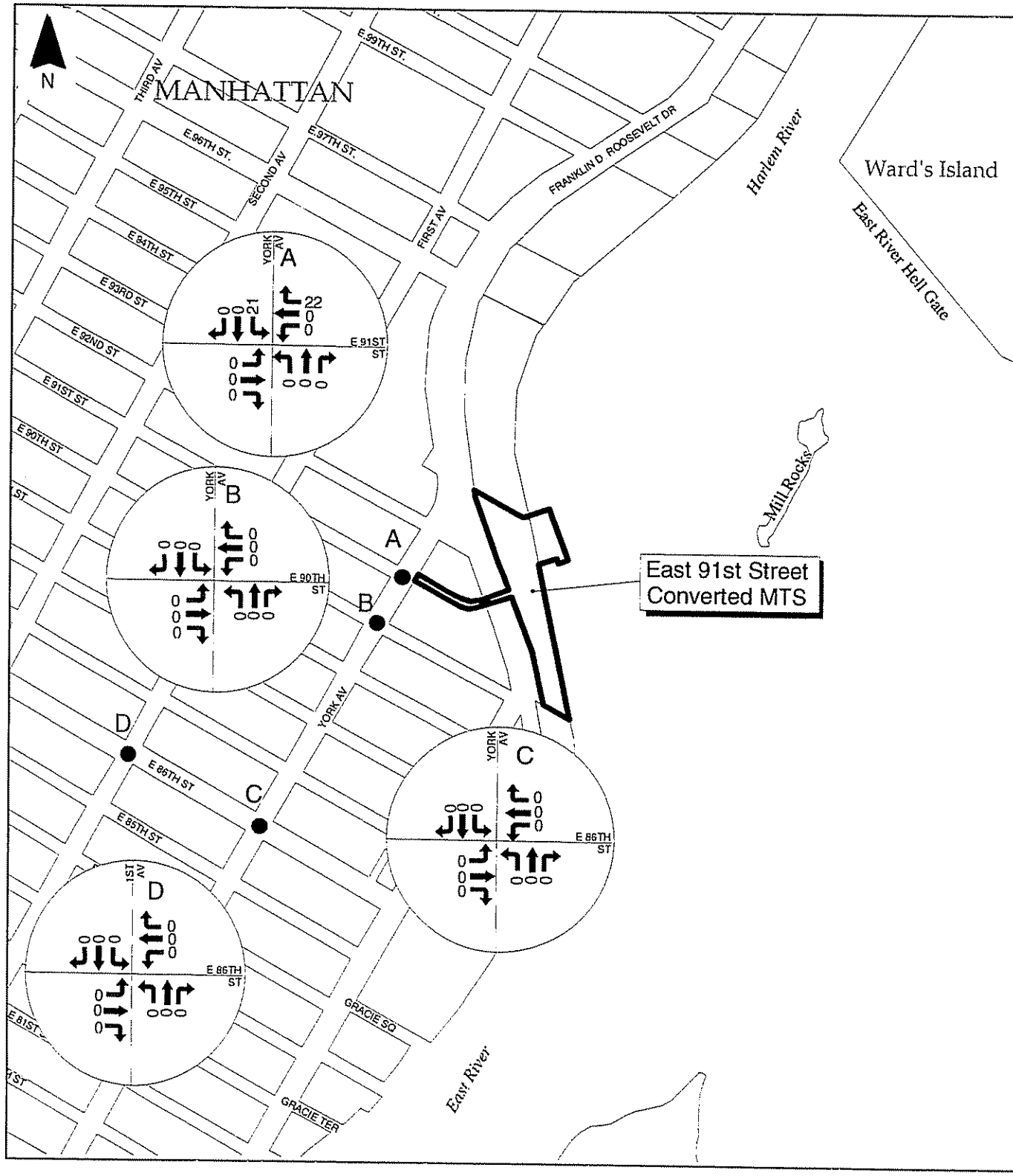

Site delineations and study area boundaries are approximate
Base Map Source: New York City Department of City Planning

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Figure 6.14-15 2006 Net Traffic - PM Peak

East 91st Street Converted MTS

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Table 6.14-3
Weekday and Weekend Traffic
East 91st Street Converted MTS

DSNY and Other Agency Collection Vehicle Traffic		Background Traffic NB and SB on York Avenue [1]	
Average Peak Day Trucks/Day	Saturday Trucks/ Day	Weekday Average Vehicles/Day	Weekend Average Vehicles/Day
130	99	20,674	14,433

Note:
[1] NB and SB traffic data collected from ATR counts taken on York Avenue between East 90th Street and East 91st Street from September 11 to 17, 2003.

Table 6.14-4
HCM Analysis[(1)] – 2006 Future Build Conditions
East 91st Street Converted MTS
(Revised Table)

Intersection & Lane Group	AM Peak Hour (7:30 a.m. – 8:30 a.m.)			Facility Peak Hour (9:00 a.m. – 10:00 a.m.)			PM Peak Hour (4:00 p.m. – 5:00 p.m.)		
	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS
East 86th Street & York Avenue (signalized)									
EB LTR	0.93	62.4	E	0.61	39.0	D	1.03	84.7	F
WB LTR	0.44	34.2	C	0.19	30.3	C	0.33	32.4	C
NB LTR	0.57	9.3	A	0.43	7.5	A	0.61	9.9	A
SB LTR	0.41	6.9	A	0.36	6.4	A	0.39	6.7	A
OVERALL		24.0	C		15.3	B		29.3	C
East 90th Street & York Avenue (signalized)									
EB LTR	0.72	45.4	D	0.61	40.4	D	0.83	53.2	D
WB LR	0.30	33.3	C	0.20	31.3	C	0.32	33.9	C
NB TR	0.31	6.3	A	0.26	6.0	A	0.36	6.6	A
SB LT	0.57	8.9	A	0.58	8.8	A	0.64	9.9	A
OVERALL		16.2	B		14.3	B		18.4	B
East 91st Street & York Avenue (signalized)									
WB LTR	0.16	31.2	C	0.13	30.6	C	0.08	30.0	C
NB DFL	0.56	22.6	C	0.54	15.1	B	1.07	90.4	F
NB TR	0.38	6.7	A	0.23	5.8	A	0.29	6.1	A
SB LTR	0.47	7.3	A	0.38	6.5	A	0.50	7.5	A
OVERALL		8.8	A		7.8	A		17.5	B
East 86th Street & 1st Avenue (signalized)									
EB LT	0.69	27.7	C	-	-	-	0.79	31.5	C
EB DFL	-	-	-	0.66	32.5	C	-	-	-
EB T	-	-	-	0.50	24.2	C	-	-	-
WB TR	0.29	19.4	B	0.24	18.9	B	0.22	18.7	B
NB LT	0.61	13.3	B	0.83	17.8	B	0.71	14.7	B
NB R	0.29	11.4	B	0.33	11.9	B	0.19	10.3	B
OVERALL		16.8	B		19.0	B		18.3	B

Notes for Table 6.14-4:

(1) HCM output is included in technical backup submitted to the NYCDOT.

DFL = defacto left
LTR = left, through and right movements
NB = northbound
SB = southbound
EB = eastbound
WB = westbound
LT = left through movement
TR = through right movement
R = right movement
T = through movement
LR = left right movement

Table 6.14-5
HCM Analysis[1] – 2006 Future Build Conditions with Mitigation
East 91st Street Converted MTS
(Revised Table)

Intersection & Lane Group	2006 Future No-Build			2006 Future Build			2006 Future Build after Mitigation		
	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS
East 86th Street & York Avenue (signalized) – AM Peak									
EB LTR	0.81	48.0	D	0.93	62.4	E	0.85	49.8	D
WB LTR	0.43	34.2	C	0.44	34.2	C	0.40	31.6	C
NB LTR	0.57	7.9	A	0.57	9.3	A	0.60	11.5	B
SB LTR	0.39	6.7	A	0.41	6.9	A	0.43	8.6	A
OVERALL		20.1	C		24.0	C		22.0	C
East 91st Street & York Avenue (signalized) – PM Peak									
WB LTR	-	-	-	0.08	30.0	C	0.09	31.6	C
NB DFL	1.04	80.9	F	1.07	90.4	F	1.03	75.0	E
NB TR	0.29	6.1	A	0.29	6.1	A	0.28	5.1	A
SB LTR	0.45	7.0	A	0.50	7.5	A	0.48	6.3	A
OVERALL		16.0	B			B			B

Notes:
[1] HCM output is included in technical backup submitted to the NYCDOT.
DFL = defacto left
LTR = left, through and right movements
TR = through right movement
NB = northbound
SB = southbound
WB = westbound

York Avenue/East 86th Street – During the AM peak hour, a potential impact was identified on the eastbound approach when the projected delay increased from 48.0 seconds to 62.4 seconds (LOS D to LOS E). A reallocation of three seconds of green time to the eastbound and westbound approaches should eliminate this unacceptable increase in delay. This mitigation measure would subtract three seconds of green time from the northbound and southbound approaches, but would reduce the delay for the eastbound approach from 62.4 seconds to 49.8 seconds. This reallocation of green time would also decrease the delay of the westbound approach by approximately three seconds, while the northbound and southbound approach delays are projected to increase by approximately two seconds.

York Avenue/East 91st Street – During the PM peak hour, a potential impact was identified on the northbound (defacto) left movement when the delay increased from ~~86.9~~ 80.9 seconds to ~~97.3~~ 90.4 seconds (LOS F in both cases). ~~An~~ reallocation of two seconds of ~~increase in~~ green time ~~of one second for~~to the northbound and southbound approaches should eliminate this unacceptable increase in delay. This mitigation measure would subtract ~~one~~ two seconds from the westbound approach green time, but would reduce the delay for the northbound (defacto) left movement from ~~97.3~~ 90.4 seconds to ~~86.1~~ 75.0 seconds. The reallocation of green time would also decrease the delay of both the northbound and southbound approaches ~~would decrease~~ by approximately ~~less than~~ one second. The westbound approach delay ~~would~~ is projected to increase by less than one second.

This mitigation should not generate any adverse impacts on other lane groups during other time periods.

Overall, the mitigation measure suggested would greatly enhance the intersection performance by reducing delays to LOSs similar to those under the Future No-Build Condition.

6.14.4.3 Public Transportation

Future Build Conditions are expected to remain the same as Future No-Build Conditions.

6.14.4.4 Pedestrian Activity

Future Build Conditions are expected to remain the same as Future No-Build Conditions.

6.15 Air Quality

6.15.1 Definition of the Study Areas

The study area for the on-site air quality analysis for criteria pollutants (except $PM_{2.5}$) is defined as the area within 500 meters (0.3 miles) of the property line in all directions. The study area for the on-site analysis for $PM_{2.5}$ is defined as the area within 500 meters from the highest impact location of the East 91st Street Converted MTS. The study area for the off-site air quality analysis is defined as the area or intersections listed in Section 6.15.4.2.

6.15.2 Existing Conditions

Applicable air quality data collected at the monitoring station(s) nearest the study area are shown in Table 6.15-1. These data were compiled by NYSDEC for the latest calendar year for which applicable data are currently available. The monitored levels do not exceed national and state ambient air quality standards.

Table 6.15-1
Representative Ambient Air Quality Data
East 91st Street Converted MTS

Pollutant	Monitor	Averaging Time	Value	NAAQS
CO[(1)]	P.S. 59	8-Hour	2,978 $\mu g/m^3$	10,000 $\mu g/m^3$
		1-Hour	5,268 $\mu g/m^3$	40,000 $\mu g/m^3$
NO_2[(1)]	P.S. 59	Annual	71 $\mu g/m^3$	100 $\mu g/m^3$
PM_{10}	P.S. 59	Annual	34 $\mu g/m^3$	50 $\mu g/m^3$
		24-Hour	88 $\mu g/m^3$	150 $\mu g/m^3$
SO_2[(1)]	P.S. 59	3-Hour	186 $\mu g/m^3$	1,300 $\mu g/m^3$
		24-Hour	123 $\mu g/m^3$	365 $\mu g/m^3$
		Annual	37 $\mu g/m^3$	80 $\mu g/m^3$

Notes:
Source: NYCDEP, April 2003 & USEPA Airdata – Monitor Values Report (http://oaspub.epa.gov/airdata)
(1) Values are the highest pollutant levels recorded during the 2003 calendar year.

6.15.3 Future No-Build Conditions

The primarily commercial/industrial nature of the study area is not expected to change by the Future No-Build 2006 analysis year. As such, no changes to air quality levels are anticipated, and Future No Build air quality conditions are assumed to be the same as Existing Conditions for all pollutants except CO. CO concentrations are expected to be lowered by increasingly stringent, federally mandated vehicular emission controls, although any effects may be offset by increases in regional traffic volumes.

6.15.4 Potential Impacts with the East 91st Street Converted MTS

6.15.4.1 On-Site Analysis

6.15.4.1.1 Sources Considered in the Analysis

The sources of emissions and the number of each type of source that are anticipated to be in operation during the peak hour and under daily average conditions are provided in Table 6.15-2. Figure 6.15-1 shows the locations of these sources within the site.

6.15.4.1.2 Results of the Criteria Pollutant Analysis

The highest estimated criteria pollutant concentrations at any of the receptor locations considered are presented in Table 6.15-3. These values are below the national and state ambient air quality standards for the appropriate averaging time periods. In addition, the highest estimated changes in 24-hour and annual $PM_{2.5}$ concentrations from East 91st Street Converted MTS-generated vehicles at any of the receptor locations considered, which are also presented in Table 6.15-3, are below the STVs. The East 91st Street Converted MTS would not, therefore, significantly impact air quality in the area.

Table 6.15-2
Emission Sources Considered for On-Site Air Quality Analysis[1]
East 91st Street Converted MTS

Type of Emission Source	Maximum Number of Sources Operated During a Single Hour[2]	Number of Sources Operated During 24-hour and Annual Average Hour
Within Processing Building		
Wheel Loaders	2	1
Mini Loaders	1	1
Tamping Cranes	1	1
Mini-Sweepers	1	1
Vacuum Sweepers	1	1
Moving/Queuing Collection Vehicles	46	18
Space Heaters	6	4
Boiler	1	1
Outside Processing Building		
Moving Collection Vehicles	46	18
Queuing Collection Vehicles[3][4]	~~18~~16-in, 1 out	3 in, 1 out
Oceangoing Tugboats	1	1

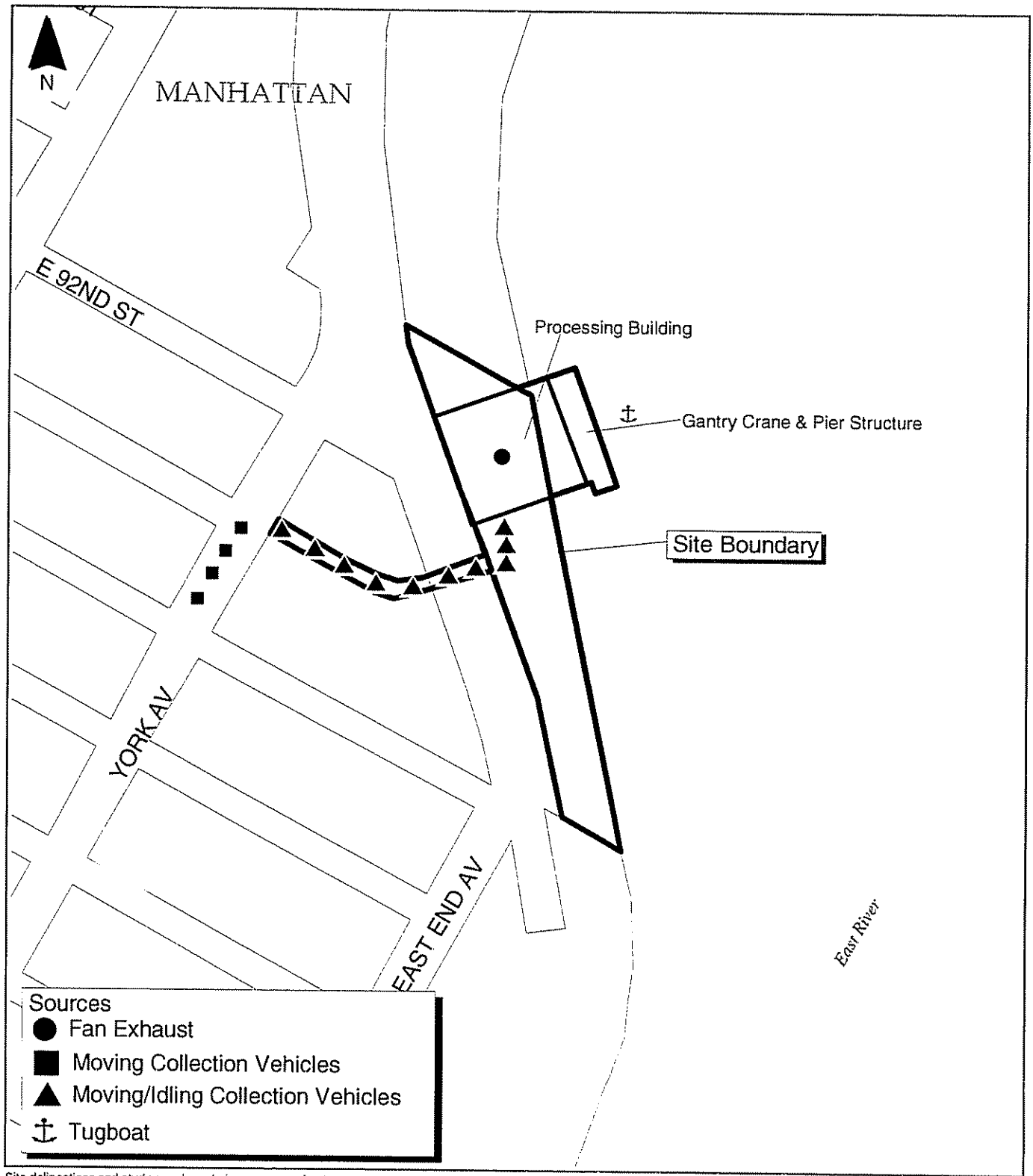
Notes:

(1) Emission factors used and emission rates estimated for each of these sources are included in technical backup ~~provided to the NYCDEP~~to be provided upon request.

(2) This is based on design capacity of the Converted MTS, not analyzed truck arrival rates.

(3) Peak 8-hour and 3-hour average number of queuing collection vehicles outside building is 6. Theoretically, the 3-hour value should be no less than one-third of the peak 1-hour value (one third of 18), but for this analysis, the 3-hour and 8-hour values are more realistic estimates of actual peak queuing activity, while the 1-hour peak is simply a conservative assumption based on the maximum available physical queuing space on the entrance road/ramp.

(4) The queuing collection vehicles presented in the DEIS reflected excess queuing capacity. To eliminate potential conflict at the bottom of the ramp, the number of queuing collection vehicles was revised in the FEIS.



Site delineations and study area boundaries are approximate
Base Map Source: New York City Department of City Planning
Note: These are modeled source locations used in the on-site air quality analysis and do not represent individual collection vehicles

200 0 200 Feet

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Figure 6.15-1 On-Site Air Quality Analysis

East 91st Street Converted MTS

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Table 6.15-3
Highest Estimated Concentrations of the Criteria Pollutants from On-Site Emissions
East 91st Street Converted MTS

Pollutant	Averaging Time Period	Maximum Impacts from On-Site Emission Sources[1]	Background Pollutant Concentrations[2]	Highest Estimated On-Site Pollutant Concentrations	NAAQS[3]	STV[4]
Carbon Monoxide (CO), $\mu g/m^3$	1-hour[6]	1,060	3,781	4,841	40,000	NA
	8-hour[6]	401	2,635	3,036	10,000	NA
Nitrogen Dioxide (NO_2), $\mu g/m^3$	Annual	7	77	84	100	NA
Particulate Matter (PM_{10}), $\mu g/m^3$	24-hour[7]	38	61	99	150	NA
	Annual	6	21	27	50	NA
Particulate Matter ($PM_{2.5}$), $\mu g/m^3$	24-hour	4.9	NA	NA	NA	5
	Annual Neighborhood Average[5]	0.02	NA	NA	NA	0.1
Sulfur Dioxide (SO_2), $\mu g/m^3$	3-hour[6]	46	265	311	1,300	NA
	24-hour[6]	3	139	142	365	NA
	Annual	0.4	37	37	80	NA

Notes:

(1) The highest estimated pollutant concentrations found at any of the off-site receptor locations.

(2) Background concentrations were obtained from the NYCDEP in a memorandum ~~in April 2003 background memorandum data for modeling NO_2, SO_2 and PM_{10}~~ dated February 18, 2005. Maximum background data were used unless otherwise noted.

(3) NAAQS = National Ambient Air Quality Standard.

(4) Screening threshold value (STV) established by the NYCDEP and NYSDEC.

(5) Average $PM_{2.5}$ concentration over 1 km x 1 km "neighborhood-scale" receptor grid.

(6) The standards for these averaging periods allow one exceedance per year, so the use of the overall maximum concentration provides a very conservative comparison with standards.

(7) The 24-hour PM_{10} NAAQS is based on a 99th percentile concentration, which means that the high, 4th high concentration is appropriate for comparison with the standard. Therefore, the use of the overall highest concentration in this comparison is ~~quite~~ very conservative.

NA = Not Applicable

6.15.4.1.3 Results of the Toxic Pollutant Analysis

The results of the toxic pollutant analysis are summarized in Table 6.15-4. The highest estimated non-carcinogenic toxic air pollutant impacts are below the short-term (acute) and long-term (chronic) hazard index thresholds specified in New York State's Air Guide 1. In addition, the highest estimated carcinogenic impacts are less than the one-in-a-million threshold level that is defined by NYSDEC as being significant. As such, the potential impacts of the toxic pollutant emissions from the on-site operations of the East 91st Street Converted MTS are not considered to be significant.

6.15.4.2 Off-Site Analysis

6.15.4.2.1 Pollutants Considered and Analyses Conducted

Locations potentially affected by facility's collection vehicles were identified using 2001 CEQR Technical Manual guidelines that are outlined in Section 3.17. Following these guidelines, the following detailed mobile source analyses were conducted for the applicable (i.e., worst-case) time periods:

- An analysis of the intersection of York Avenue and East 91st Street to determine whether East 91st Street Converted MTS-generated traffic has the potential to cause exceedances of NYCDEP's 8-hour CO de minimus value or a violation of the 8-hour NAAQS;
- An analysis of the intersections of York Avenue and East 86th Street, and York Avenue and East 91st Street to determine whether East 91st Street Converted MTS-generated traffic has the potential to cause exceedances of NYCDEP's 24-hour and annual $PM_{2.5}$ STVs; and
- An analysis of the intersections of York Avenue and East 86th Street, and York Avenue and East 91st Street to determine whether East 91st Street Converted MTS-generated traffic has the potential to cause exceedances of the 24-hour and annual PM_{10} NAAQS.

The roadway intersections selected for the mobile source analysis are shown in Figure 6.15-2.

Table 6.15-4
Highest Estimated Non-Cancer Hazard Index and Cancer Risk of Toxic Air Pollutants from On-Site Emissions
East 91st Street Converted MTS

No.	Toxic Air Pollutants	Acute Non-Cancer Risk: Highest Estimated Short-Term (1-hr) Pollutant Conc.[1] ($\mu g/m^3$)	Acute Non-Cancer Risk: Short-Term (1-hr) Guideline Conc. (SGCs)[2] ($\mu g/m^3$)	Acute Non-Cancer Risk: Acute Non-Cancer Hazard Index[3]	Chronic Non-Cancer Risk: Highest Estimated Long-Term (Annual) Pollutant Conc.[4] ($\mu g/m^3$)	Chronic Non-Cancer Risk: Long-Term (Annual) Guideline Conc. (AGCs)[5] ($\mu g/m^3$)	Chronic Non-Cancer Risk: Chronic Non-Cancer Hazard Index[6]	Cancer Risk: Highest Estimated Long-Term (Annual) Pollutant Conc.[4] ($\mu g/m^3$)	Cancer Risk: Unit Risk Factors[7] ($\mu g/m^3$)	Cancer Risk: Maximum Cancer Risk[8,9]
Carcinogenic Pollutants										
1	Benzene	2.98E-01	1.30E+03	2.30E-04	2.50E-03	1.30E-01	1.93E-02	2.50E-03	8.30E-06	2.08E-08
2	Formaldehyde	3.78E-01	3.00E+01	1.26E-02	3.17E-03	6.00E-02	5.28E-02	3.17E-03	1.30E-05	4.12E-08
3	1,3 Butadiene	1.25E-02	-	-	1.05E-04	3.60E-03	2.92E-02	1.05E-04	2.80E-04	2.94E-08
4	Acetaldehyde	2.45E-01	4.50E+03	5.45E-05	2.06E-03	4.50E-01	4.58E-03	2.06E-03	2.20E-06	4.53E-09
5	Benzo(a)pyrene	6.01E-05	-	-	5.05E-07	2.00E-03	2.52E-04	5.05E-07	1.70E-03	8.58E-10
Non-Carcinogenic Pollutants [10]										
6	Propylene	8.25E-01	-	-	6.93E-03	3.00E+03	2.31E-06	6.93E-03	NA	NA
7	Acrolein	2.96E-02	1.90E-01	1.56E-01	2.48E-04	2.00E-02	1.24E-02	2.48E-04	NA	NA
8	Toluene	1.31E-01	3.70E+04	3.54E-06	1.10E-03	4.00E+02	2.75E-06	1.10E-03	NA	NA
9	Xylenes	9.12E-02	4.30E+03	2.12E-05	7.65E-04	7.00E+02	1.09E-06	7.65E-04	NA	NA
10	Anthracene	5.98E-04	-	-	5.02E-06	2.00E-02	2.51E-04	5.02E-06	NA	NA
11	Benzo(a)anthracene	5.37E-04	-	-	4.51E-06	2.00E-02	2.26E-04	4.51E-06	NA	NA
12	Chrysene	1.13E-04	-	-	9.48E-07	2.00E-02	4.74E-05	9.48E-07	NA	NA
13	Naphthalene	2.71E-02	7.90E+03	3.43E-06	2.28E-04	3.00E+00	7.59E-05	2.28E-04	NA	NA
14	Pyrene	1.53E-03	-	-	1.28E-05	2.00E-02	6.42E-04	1.28E-05	NA	NA
15	Phenanthrene	9.41E-03	-	-	7.89E-05	2.00E-02	3.95E-03	7.89E-05	NA	NA
16	Dibenz(a,h)anthracene	1.87E-04	-	-	1.57E-06	2.00E-02	7.83E-05	1.57E-06	NA	NA
		Total Estimated Acute Non-Cancer Hazard Index		**1.69E-01**	**Total Estimated Chronic Non-Cancer Hazard Index**		**1.24E-01**	**Total Estimated Combined Cancer Risk**		**9.68E-08**
		Acute Non-Cancer Hazard Index Threshold [11]		**1.0E+00**	**Chronic Non-Cancer Hazard Index Threshold [11]**		**1.0E+00**	**Cancer Risk Threshold [11]**		**1.0E-06**

Notes to Table 6.15-4:

(1) Estimated by multiplying the total 1-hour HCs concentration by the ratio of the emission factor for that pollutant to the emission factor of the total HCs.

(2) Short-term (1-hour) guideline concentrations (SGC) established by NYSDEC

(3) Estimated by dividing the maximum 1-hour concentrations of each pollutant by the SGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(4) Estimated by multiplying the total annual HCs concentration by ratio of the emission factor for that pollutant to the emission factor of the total HCs.

(5) Long-term (annual) guideline concentrations (AGC) established by NYSDEC

(6) Estimated by dividing the maximum annual concentration of each of the individual pollutants by the AGC value of that pollutant and summing up the resulting values to obtain hazard index for all of the pollutants combined.

(7) Unit risk factors established by USEPA and other governmental agencies for the inhalation of carcinogenic air pollutants.

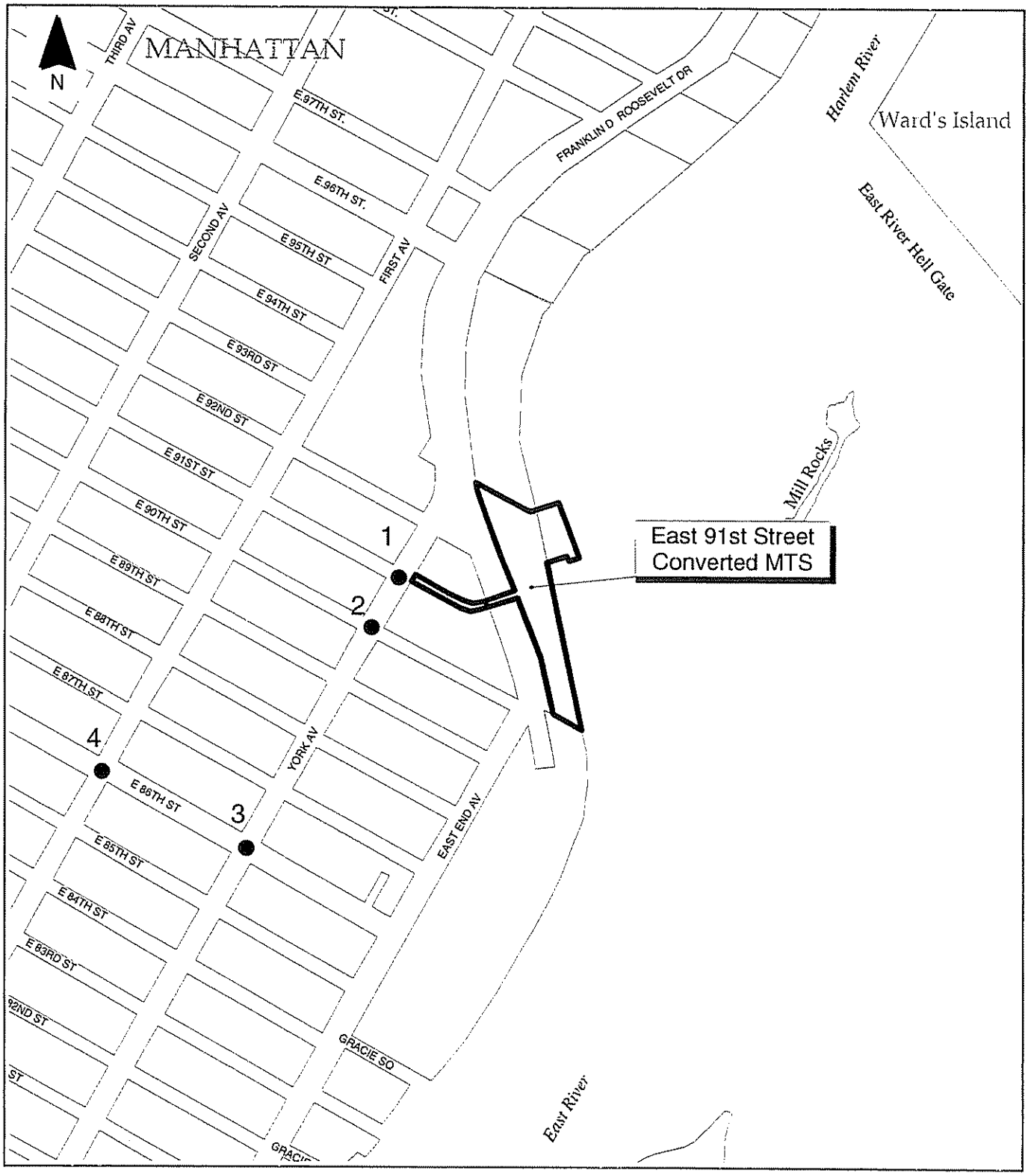
(8) The maximum cancer risk of each of the individual pollutants was estimated by multiplying the estimated annual concentration of each pollutant by its unit risk factor.

(9) The total incremental cancer risk from all of the pollutants combined was estimated by summing the maximum cancer risk of each of the individual pollutants.

(10) Some of the pollutants included in the group of non-carcinogenic pollutants, such as anthracene, benzo(a)anthracene and chrysene, may also have carcinogenic effects. As these pollutants do not have established unit risk factors, they were evaluated using the hazard index approach for non-carcinogens.

(11) Hazard index and cancer risk thresholds based on NYSDEC "Guidelines for the Control of Toxic Ambient Air Contaminants" dated November 12, 1997. Estimated values below these threshold limits are considered to be insignificant impacts.

NA = Not Applicable



Site delineations and study area boundaries are approximate
Base Map Source: New York City Department of City Planning

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Figure 6.15-2 Off-Site Air Quality Intersections Studied East 91st Street Converted MTS

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6.15.4.2.2 Results of the Off-Site Analysis

Applicable pollutant concentrations estimated near each selected intersection, which are shown in Table 6.15-5, are all within (less than) the applicable state and federal ambient air quality standards, STVs (for $PM_{2.5}$) and/or de minimus impact values (for CO). The off-site operations of the East 91st Street Converted MTS are not, therefore, considered to be significant. A conservative ratio of peak period project-induced traffic volumes to daily average project-induced volumes was used to estimate off-site annual impacts for $PM_{2.5}$. A more refined Tier II analysis will be performed to confirm the result of the annual impact for $PM_{2.5}$.

Table 6.15-5
Maximum Estimated Pollutant Concentrations Near Selected Roadway Intersections
East 91st Street Converted MTS

Air Quality Receptor Site	CO	PM_{10}		24-hr $PM_{2.5}$ Impacts			Max Annual Neighborhood $PM_{2.5}$ Impacts		
	8-hr CO Conc.[1] ppm (NAAQS: 9 ppm)	24-hr PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 150 $\mu g/m^3$)	Annual PM_{10} Conc.[1] $\mu g/m^3$ (NAAQS: 50 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[3] $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Total Combined Impacts from On- and Off-Site Emission Sources $\mu g/m^3$ (STV: 5 $\mu g/m^3$)	Impacts from On-Site Emission Sources[2] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Impacts from Off-Site Emission Sources[4] $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)	Total Combined Impacts from On- and Off-Site Emission Sources $\mu g/m^3$ (STV: 0.1 $\mu g/m^3$)
York Avenue and East 86th Street									
Existing Conditions		~~76~~ 87	~~32~~ 31						
Future No-Build Conditions		~~77~~ 86	~~32~~ 30						
Future Build Conditions	NA[5]	~~77~~ 87	~~32~~ 30						
Future Build Incremental				~~2.97~~ 0.43	~~0.92~~ 0.5	~~3.89~~ 0.93	~~0.03~~ 0.02	~~0.04~~[6] 0.059	~~0.07~~ 0.079
York Avenue & East 91st Street									
Existing Conditions	4	~~86~~ 90	~~35~~ 32						
Future No-Build Conditions	4	~~87~~ 90	~~35~~ 32						
Future Build Conditions	4	89 ~~92~~	36 ~~32~~						
Future Build Incremental				~~2.97~~ 1.50	~~0.59~~ 0.8	~~3.56~~ 2.30	~~0.03~~ 0.02	~~0.05~~ 0.022[6]	~~0.08~~ 0.042

Notes:

(1) CO and PM_{10} concentrations are the maximum concentrations estimated using the AM, Facility, and PM peak traffic conditions plus background concentration (8-hr CO = 2.3 ppm; 24-hr PM_{10} = ~~46~~ 61 $\mu g/m^3$; Annual PM_{10} = 21 $\mu g/m^3$).

(2) The maximum incremental concentrations of on-site emissions near the intersection considered.

(3) ~~The $PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project induced [or Future Build] traffic only) estimated by taking.~~ The maximum difference between ~~the maximum~~ $PM_{2.5}$ concentrations ~~for the~~under ~~Future~~ future No-Build and ~~Future~~ future Build ~~scenarios~~ conditions at ~~any~~ sidewalk receptors ~~three meters from the edge of the roadways using AM~~, Facility, or PM peak traffic conditions.

(4) ~~The $PM_{2.5}$ concentrations are the maximum modeled incremental $PM_{2.5}$ impacts (due to project induced [or Future Build] traffic only) estimated by taking the.~~ The maximum difference between ~~the maximum~~ $PM_{2.5}$ concentrations ~~for~~ under the Future No-Build and Future Build scenarios at any receptor 15 meters from the edge of the roadways ~~using~~ under AM, Facility, or PM peak traffic conditions.

(5) NA= Not Applicable. Incremental 1-hour vehicular trips were below CEQR CO air quality screening thresholds.

(6) ~~The result of a TIER I analysis, which assumed that peak period project induced trips occurred every hour of the 24-hour analysis period, was multiplied by a conservative ratio of peak period project induced traffic volumes to daily average project induced volumes to approximate a TIER II result. While actual ratio of 0.3 is estimated by the project's traffic engineers, a conservative value of 0.5 was applied to the annual impact estimated using a TIER I analysis.~~ Result determined using a Tier II analysis.

ppm = parts per million

$\mu g/m^3$ = microgram per cubic meter

~~NA = Not Applicable~~

6.16 Odor

6.16.1 Existing Conditions

The existing MTS is not in operation, and there are no existing sources of odor at the site. The study area is within 500 meters (0.3 miles) from the facility boundary. The locations for sensitive receptors in this analysis are the same as those used in the noise analysis. The nearest sensitive receptors are: ~~is the apartment building located on 90th Street east of York Avenue, approximately 360 feet from the site boundary.~~

- Bobby Wagner Walk, an area that is designated as parkland and is directly abutting the East 91st Street Converted MTS property boundary.
- An apartment building on York Avenue, approximately 40 meters (131 feet) from the East 91st Street Converted MTS property boundary.
- An apartment building on East 90th Street east of York Avenue, approximately 114 meters (375 feet) from the East 91st Street Converted MTS property boundary.
- A playing field located on land abutting the East 91st Street Converted MTS truck ramp. This field is owned by Asphalt Green Aqua Center Recreation Facility (Asphalt Green).
- Asphalt Green, directly abutting the East 91st Street Converted MTS truck ramp and property boundary.
- A playground which is part of Asphalt Green on York Avenue, directly abutting the East 91st Street Converted MTS truck ramp and property boundary.

Additional residential areas exist immediately north, south and west of these noise-sensitive receptors.

6.16.2 Future No-Build Conditions

No additional odor-producing sources are currently anticipated in the vicinity of the East 91st Street Converted MTS. Thus, Existing Conditions are assumed to be representative of Future No-Build Conditions.

6.16.3 Potential Impacts with the East 91st Street Converted MTS

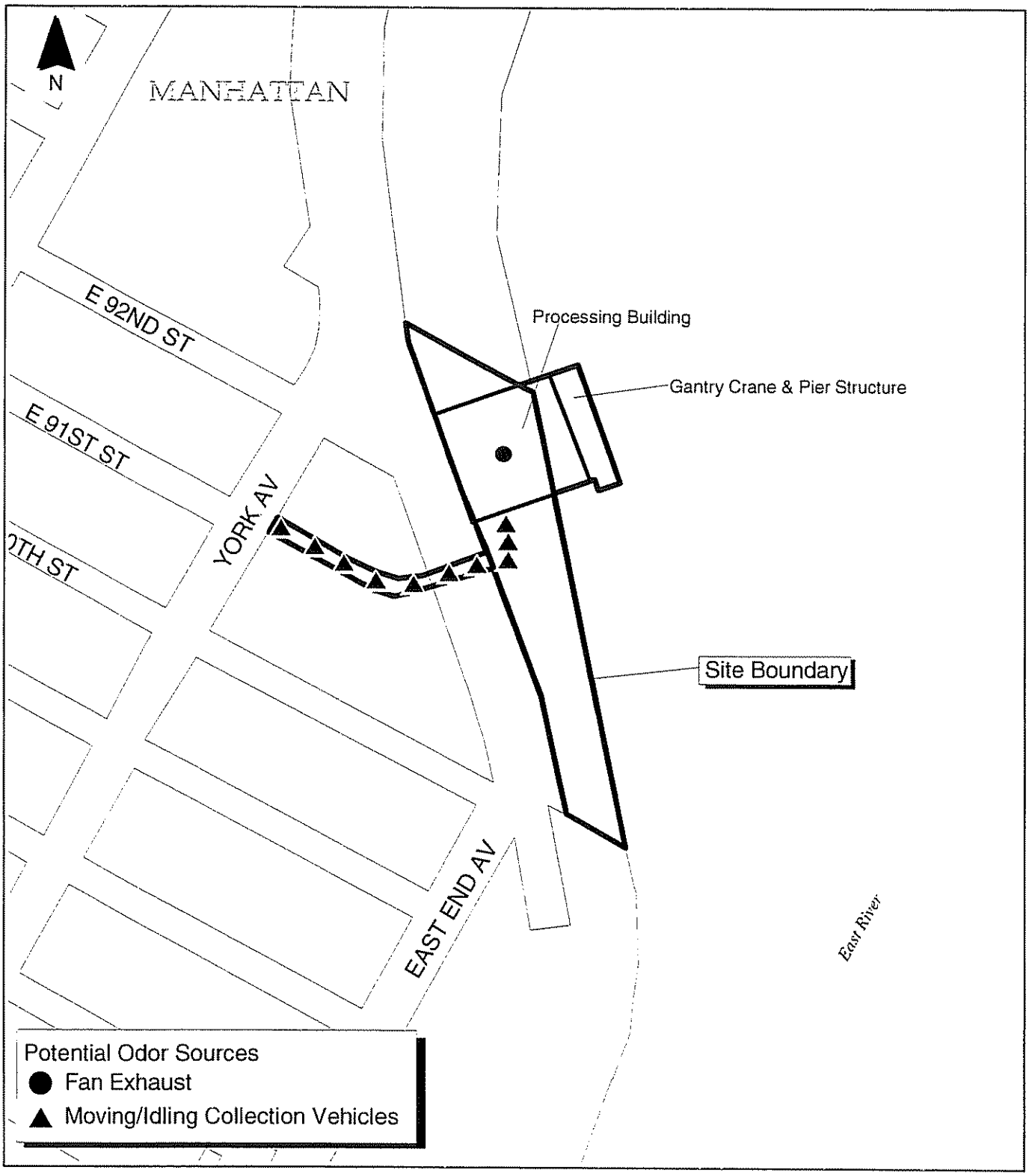
6.16.3.1 Odor Source Types and Locations Considered in the Analysis

The anticipated number and types of odor sources that would be associated with waste processing operations at peak design capacity at the East 91st Street Converted MTS are provided in Table 6.16-1. Figure 6.16-1 shows the locations of these sources within the site.

Table 6.16-1
Odor Sources Included in Odor Analysis
East 91st Street Converted MTS

Type of Emission Source	Number of Sources Operated During Peak Design Capacity
Exhaust Fans from Processing Building	1
Moving & ~~Idling~~ Queuing Collection Vehicles	~~19~~ 17

Notes:
(1) The queuing collection vehicles presented in the DEIS reflected excess queuing capacity. To eliminate potential conflict at the bottom of the ramp, the number of queuing collection vehicles was revised in this FEIS.



Site delineations and study area boundaries are approximate.
Base Map Source: New York City Department of City Planning

200 0 200 Feet

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Figure 6.16-1 Potential Odor Sources

East 91st Street Converted MTS

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An odor control system (e.g., scrubber, neutralizing agent misting system injected into the exhaust duct work system, etc.) would be included in the design to control odorous emissions from the processing building. Odor control systems can remove between 90% and 99% of odorous compounds. For purposes of modeling odor dispersion, a 90% reduction of odorous emissions was conservatively assumed for the East 91st Street Converted MTS.

6.16.3.2 Results of the Odor Analysis

The highest estimated odor concentrations at any of the receptor sites considered and the concentrations at the closest sensitive receptor are presented in Table 6.16-2. The predicted OU values at sensitive receptor locations are compared to an OU of 5, which represents the level of odor impact that would begin to be detected by an average observer. The highest predicted OU associated with the East 91st Street Converted MTS at any nearby sensitive receptor is less than 1, so odors from the East 91st Street Converted MTS would not be detectable by off-site sensitive receptors and the facility would comply with NYSDEC requirements for effective odor control. Therefore, no significant adverse impacts from odors on receptors are expected to occur as a result of this facility.

Table 6.16-2
Highest Predicted Odor Concentration(s) from On-Site Sources
East 91st Street Converted MTS

Parameter	Resulting Odor Unit[1]
Estimated Detectable Concentration	5.0
Highest Result	0.92
Type of Receptor	Fence Line Receptor
Location of Receptor ~~(2)~~	Site Boundary
Closest Sensitive Receptor Results[2]	~~0.13~~
~~Type of Receptor~~	~~Apartment Building~~
~~Distance to Receptor (3)~~	~~360 Feet~~
Bobby Wager Walk	0.61
Apartment Building on York Avenue	0.12
Apartment Building on East 90th Street	0.17
Asphalt Green Aqua Center Recreational Field	0.40
Asphalt Green	0.41
Asphalt Green Playground	0.16

Notes:

(1) Odor Unit is defined as concentration that an average person in a laboratory setting could just barely detect.

(2) Sensitive receptors in this analysis are the same as sensitive receptors in the noise analysis.

~~(2) Measured from the site property line.~~

6.17 Noise

The noise analysis addresses on-site and off-site sources of noise emissions from East 91st Street Converted MTS-related solid waste management activities. It is based on Section R of the 2001 CEQR Technical Manual for both on-site and off-site sources, and, for on-site sources only, the Performance Standards of the New York City Zoning Code for Manufacturing Districts and the Current New York City Noise Code. Section 3.19 provides a general discussion of the relevant regulatory standards and methodologies used in this analysis.

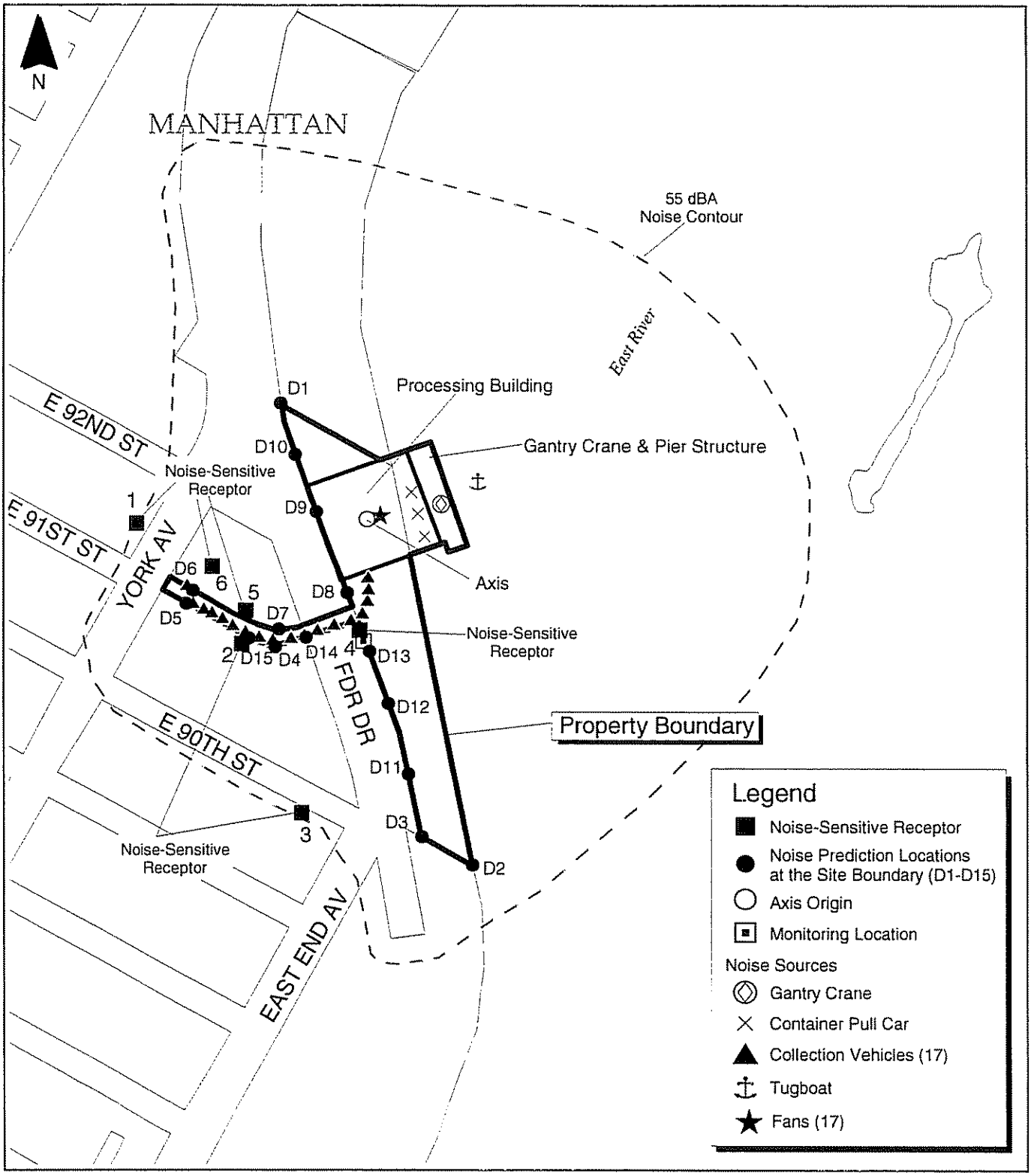
6.17.1 Existing Conditions

6.17.1.1 Introduction

Figure 6.17-1 shows the location of the East 91st Street Converted MTS, the surrounding area and the points that represent the property boundary (D1, etc.) for all noise analyses. The nearest noise-sensitive receptors are:

- Bobby Wagner Walk, an area that is designated as parkland and is directly abutting the East 91st Street Converted MTS property boundary.
- An apartment building on York Avenue, approximately 40 meters (131 feet) from the East 91st Street Converted MTS property boundary.
- An apartment building on East 90th Street east of York Avenue, approximately 114 meters (375 feet) from the East 91st Street Converted MTS property boundary.
- A playing field located on land abutting the East 91st Street Converted MTS truck ramp. This field is owned by Asphalt Green Aqua Center Recreation Facility (Asphalt Green).
- Asphalt Green, directly abutting the East 91st Street Converted MTS truck ramp and property boundary.
- A playground which is part of Asphalt Green on York Avenue, directly abutting the East 91st Street Converted MTS truck ramp and property boundary.

Additional residential areas exist immediately north, south and west of these noise-sensitive receptors.



Site delineations and study area boundaries are approximate.
Base Map Source: New York City Department of City Planning

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Figure 6.17-1 Noise Sources and Receptors

East 91st Street Converted MTS

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6.17.1.2 *On-Site Noise Levels*

Existing on-site noise levels consist of noise created by the activities and events on and immediately surrounding the site. Existing noise levels were monitored hourly for a 24-hour period at the property line closest to the nearest noise-sensitive receptors. Noise monitoring data recorded hourly included $L_{eq(1)}$, L_{min} and L_{max},[13] and the statistical metrics of L_{10}, L_{50} and L_{90}.[14] Table 6.17-1 presents monitored noise levels. As shown, the quietest hour at the monitoring location occurred between 5:00 p.m. and 6:00 p.m. and had an $L_{eq(1)}$ of 65.4 dBA on January 15, 2003. Although the quietest hour is typically a nighttime hour, the traffic conditions on the FDR Drive during the evening rush hour, when cars are not moving, reduces the noise level that would normally be expected next to a highway. Activities and events that contribute to the on-site noise levels are as follows:

- Traffic from the FDR Drive;
- Ferry boats loading and unloading passengers; and
- Other marine activity.

6.17.1.3 *Off-Site Noise Levels*

Existing off-site noise levels consist of the noise from existing traffic and other background noise. A screening analysis was conducted to determine if noise monitoring would be required along the East 91st Street Converted MTS-related truck routes due to an increase in traffic caused by DSNY and other agency collection vehicles. As a result of this screening, which is described in Section 3.19.5.2, an off-site noise analysis was required, and therefore off-site noise monitoring was conducted. Table 6.17-2 presents monitored noise levels near noise-sensitive receptors during the hour expected to receive the largest change in noise levels (when the difference between traffic noise levels and background noise levels is greatest) based on first-level screening.

[13] Terms $L_{eq(1)}$, L_{min} and L_{max} are defined in Section 3.19.2.
[14] Terms L_{10}, L_{50} and L_{90} are defined in Section 3.19.2.

Table 6.17-1
Existing Hourly (Monitored) Noise Levels On Site[1]
East 91st Street Converted MTS

Time of Measurement	$L_{eq\ (1)}$ (dBA)	L_{90} (dBA)	L_{50} (dBA)	L_{10} (dBA)	L_{min} (dBA)	L_{max} (dBA)
2:00-3:00 p.m.	~~73.4~~ 72.1	~~70.9~~ 67.7	~~73.0~~ 72.1	~~74.6~~ 73.9	~~66.7~~ 62.8	~~90.9~~ 85.7
3:00-4:00 p.m.	72.3	67.3	72.3	74.3	60.2	82.7
4:00-5:00 p.m.	71.9	66.0	71.5	73.7	58.6	86.0
5:00-6:00 p.m.	65.4	62.2	64.7	67.6	58.8	76.8
6:00-7:00 p.m.	67.1	61.9	66.5	69.6	58.2	78.1
7:00-8:00 p.m.	69.7	66.3	68.6	70.5	59.2	88.7
8:00-9:00 p.m.	70.8	62.9	68.1	72.6	56.6	89.6
9:00-10:00 p.m.	73.1	71.0	73.1	74.7	65.8	85.2
10:00-11:00 p.m.	73.3	71.1	73.2	74.9	64.3	83.6
11:00 p.m.-12:00 a.m.	73.1	70.5	73.0	74.8	61.8	83.0
12:00-1:00 a.m.	72.2	68.7	72.0	74.4	58.4	82.0
1:00-2:00 a.m.	70.0	64.4	69.5	72.7	54.1	77.6
2:00-3:00 a.m.	68.8	60.5	67.7	72.0	49.5	81.2
3:00-4:00 a.m.	68.7	59.7	67.4	71.9	50.2	81.1
4:00-5:00 a.m.	70.2	63.7	69.4	73.0	52.2	80.1
5:00-6:00 a.m.	72.8	69.0	72.6	75.0	58.2	80.6
6:00-7:00 a.m.	74.1	72.2	74.0	75.6	66.6	81.1
7:00-8:00 a.m.	72.3	67.4	72.2	74.6	61.9	79.7
8:00-9:00 a.m.	66.1	61.5	64.0	67.3	58.5	85.5
9:00-10:00 a.m.	71.9	68.6	71.7	73.8	60.5	81.2
10:00-11:00 a.m.	72.0	68.9	71.8	73.8	60.6	81.2
11:00 a.m.-12:00 p.m.	72.0	68.5	71.9	73.9	56.8	84.8
12:00-1:00 p.m.	72.6	69.5	72.2	74.1	61.5	88.1
1:00-2:00 p.m.	71.2	64.8	71.1	73.7	59.7	79.4

Note:
(1) The 24-hour background noise levels were measured at the site boundary nearest to the closest noise-sensitive receptor to identify the quietest background hour

Table 6.17-2
Existing Noise Levels (L_{eq}) at the Nearest Noise-Sensitive Receptor for Off-site Analysis
East 91st Street Converted MTS

~~Roadway ID~~ Location	Existing Noise Levels During Quietest Hour (dBA)[1]
East ~~91st~~-90th Street between First Avenue and York Avenue[2]	64.5
York Avenue between East 90th Street and East 91st Street[3]	62.9

Notes:
[1] A 1-hour noise level reading was measured at the closest noise-sensitive receptor during the hour expected to experience the largest change in noise levels (when the difference between traffic noise levels and background noise levels is greatest).
[2] The existing noise levels were measured on July 29, 2003 between 3:00 a.m. and 4:00 a.m.
[3] The existing noise levels were measured on July 30, 2003 between 3:00 a.m. and 4:00 a.m.

6.17.2 Future No-Build Conditions

6.17.2.1 On-Site Noise Levels

No appreciable changes in on-site noise levels are anticipated by 2006; therefore, Future No-Build Conditions are expected to be the same as Existing Conditions.

6.17.2.2 Off-Site Noise Levels

Off-site noise levels for the Future No-Build Conditions in 2006 were calculated using the annual growth rates for traffic volume provided in Section O: Traffic of the 2001 CEQR Technical Manual. Table 6.17-3 presents the existing traffic volume and the Future No-Build traffic volume for the hour expected to receive the largest change in noise levels (when the difference between traffic noise levels and background noise levels is greatest) during the daytime (if any) and nighttime for locations where there is a possible impact based on the first-level screening.

Table 6.17-3
Off-Site Noise Traffic Volume
East 91st Street Converted MTS

Location	Hour Beginning	Existing Traffic Volume (1) (Vehicles / Hour)	Future No Build Traffic Volume (2) (Vehicles / Hour)
York Avenue between East 90th & East 91st Streets	3:00 a.m.	~~78~~ 60	~~79~~ 61
York Avenue between East 90th & East 91st Streets	10:00 a.m.	~~1084~~ 1.042	~~1100~~ 1.058
East 90th Street between First Avenue & York Avenue	~~3~~2:00 a.m.	~~24~~ 15	~~24~~ 15
East 90th Street between First Avenue & York Avenue	9:00 a.m.	~~182~~ 221	~~185~~ 224
East 91st Street between First Avenue & York Avenue	~~2~~3:00 a.m.	~~33~~ 24	~~33~~ 24
East 91st Street between First Avenue & York Avenue	9:00 a.m.	~~228~~ 189	~~231~~ 192

Notes:
(1) Existing Traffic Volumes are based on corrected ATR data for this FEIS.
(2) Future No-Build Traffic Volumes are based on CEQR annual traffic growth rates.

6.17.3 Potential Impacts with the East 91st Street Converted MTS

6.17.3.1 On-Site Noise Levels

Equipment assumed to be operating at the East 91st Street Converted MTS and its reference noise levels used in the CEQR and Current Noise Code analysis are shown in Table 6.17-4. The number and types of equipment assumed for this analysis was based on the East 91st Street Converted MTS's peak design capacity. As described in Section 3.19, an analysis was performed to determine if the number and type of trucks queuing on the ramp that was analyzed in the DEIS is more conservative than the greatest number of DSNY and Commercial Waste trucks expected to be queuing on the ramp based on the number of trucks that might be routed to the facility. The DEIS analysis was based on DSNY trucks queuing along the entire length of the ramp, which is more conservative than using the maximum potential number of queuing

DSNY and Commercial Waste trucks. Therefore, the results presented for the on-site analysis in this FEIS are based on DSNY trucks queuing along the entire length of the ramp.

Spectral noise levels used in the Performance Standards analysis are shown in Table 6.17-5. The number and types of equipment assumed for this analysis were based on the East 91st Street Converted MTS's peak design capacity. Shown earlier, Figure 6.17-1 indicates the East 91st Street Converted MTS layout, the locations of the points along its boundary where overall noise predictions were calculated and the predicted 55 dBA contour line.

Table 6.17-4
Equipment Modeled in the Noise Analysis and Reference Noise Levels (L_{eq})
East 91st Street Converted MTS

Equipment Name (quantity)[1]	Reference Sound Pressure Noise Level at 50 feet (dBA)[2]
Indoor	
Tip Floor Wheel Loaders type CAT 966G (2)	80.6
~~Wheel Loader 908 (1)~~Mini-Loader type CAT 908 (1)	69.3
Tamping Cranes type CAT 325 (1)	81
~~Bridge~~/Spreader Crane/Hoist (1)	70
Skid Steer Loader (Bobcat S300) (1)	76
~~Mini-Sweeper (1)~~	~~76~~
Vacuum Sweeper (1)	64.3
Exhaust Fans (17)	74[3]
Moving/Queuing DSNY Collection Vehicles (7)	~~73~~79
Outdoor	
Container Shuttle Cars (3)	45
Gantry Cranes[4] (1)	67
Harbor Tug Boat[5] (1)	69
Exhaust Fans (17)	76[3]
Moving/Queuing DSNY Collection Vehicles[6] (17)	67
~~Container Car Puller (3)~~	~~45~~
~~Gantry Crane (1)~~	~~77.2~~
~~Oceangoing Tugboat (1)~~	~~73~~

Notes:
(1) Instantaneous maximum number of pieces of equipment on site at any given time.
(2) Noise level representative of each piece of equipment.
(3) Noise level representative of a total of 17 exhaust fans.
(4) Noise level will be specified for the gantry crane in DSNY's plans and specifications for construction of the Converted MTSs.
(5) Noise level will be specified for the harbor tug boat in DSNY's plans and specifications for construction of the Converted MTSs.
(6) Quantity includes one truck queuing on the outbound scale.

Table 6.17-5
Equipment Modeled in the Noise Analysis and Spectral Noise Levels (L_{max})
East 91st Street Converted MTS

Equipment Name (quantity)[1],[2]	Reference Sound Pressure Noise Level at 50 feet (dB)[3]							
	Frequency (Hz)							
	63	125	250	500	1K	2K	4K	8K
Indoor								
Tip Floor Wheel Loaders Type CAT 966G (2)	78	77	75	76	77	74	68	60
~~Wheel~~Mini -Loader type CAT 908 (1)	78	77	75	76	77	74	68	60
Tamping Crane type CAT 325 (1)	95	90	85	85	81	78	73	64
~~Bridge/~~Spreader Crane/Hoist (1)	77	78	77	71	74	71	69	57
Skid Steer Loader (Bobcat S300) (1)	71	74	69	74	71	68	64	56
Vacuum ~~Mini-~~Sweeper (1)	71	74	69	74	71	68	64	56
Exhaust Fans (17)[4]	70	72	74	74	70	67	62	57
Outdoor								
Container Shuttle Car ~~Puller~~ (3)	31	30	47	44	36	35	42	46
Gantry Cranes (1) [~~2~~5]	78	81	78	71	66	60	55	55
Exhaust Fans (17) [4]	70	72	74	74	70	67	62	57

Notes:
(1) Instantaneous maximum number of pieces of equipment on site at any given time.
(2) Trucks and tugboats are not included in the Performance Standard analysis because they are transportation facilities.
(3) Noise levels representative of each piece of equipment.
(4) Noise levels representative of a total of 17 exhaust fans.
[~~2~~](5) ~~This is the noise~~Noise level ~~that~~ will be specified for the gantry crane in DSNY's plans and specification for construction of the converted MTSs.
Hz = Hertz
K = Thousand

6.17.3.2 CEQR Analysis

A screening analysis was conducted to determine if a detailed noise analysis would be required for the on-site operations at the East 91st Street Converted MTS. Noise levels from indoor and outdoor sources were combined to determine the location of the 55 dBA contour line. The 55 dBA contour line is approximately 56 meters (183 feet) from the property boundary in the direction of the York Avenue Apartment Building, which is approximately 40 meters (131 feet)

from the property boundary; approximately 113 meters (371 feet) from the property boundary in the direction of the Asphalt Green Recreational Field, which is directly abutting the property boundary; approximately 121 meters (397 feet) from the property boundary in the direction of the East 90th Street Apartment Building, which is approximately 114 meters (375 feet) from the property boundary; approximately 145 meters (477 feet) from the property boundary in the direction of Bobby Wagner Walk, which is directly abutting the property boundary; approximately 110 meters (363 feet) from the property boundary in the direction of Asphalt Green, which is directly abutting the property boundary; and approximately 152 meters (493 feet) from the property boundary in the direction of the Asphalt Green Playground, which is directly abutting the property boundary. The 55 dBA contour line was selected as a limit for the study area because 55 dBA (i.e., the point off site where noises generated on site attenuate to 55 dBA) is considered an acceptable noise level in an urban environment. Section 3.19.5.1 discusses this concept in greater detail. The results of the screening analysis show that noise-sensitive receptors are located within the 55 dBA contour line (see Figure 6.17-1); therefore, an on-site noise analysis, including noise monitoring at the nearest noise-sensitive receptors, was required to determine if an impact is predicted under Section R of the 2001 CEQR Technical Manual.

Noise monitoring was conducted at the noise-sensitive receptors during the quietest hour based on monitoring data provided in Table 6.17-1 above. A detailed noise analysis was performed to calculate the East 91st Street Converted MTS-related predicted noise levels at the noise-sensitive receptors, and the predicted noise levels with both facility noise and background noise combined. The difference between this combined noise level and the existing noise level at the noise-sensitive receptor represents the predicted incremental change in noise level from the East 91st Street Converted MTS. Because this incremental change is greater than the CEQR threshold of 3 dBA, during nighttime hours or during daytime hours when the daytime background noise level is greater than 62 dBA, for the Asphalt Green Recreational Field, the Bobby Wagner Walk, and Asphalt Green receptors analyzed, there is a predicted impact that would be caused by the East 91st Street Converted MTS on-site operations based on this conservative analysis.

On-site queuing collection vehicles were further analyzed to refine the calculated noise levels from the East 91st Street Converted MTS facility truck ramp on the ~~Asphalt Green Recreational Field, Bobby Wagner Walk, and Asphalt Green~~ noise-sensitive receptors. Individual, position-specific utilization factors were assigned to each inbound collection vehicle position on the inbound side of the ramp, and to one collection vehicle position on the outbound scale based on the processing time at the East 91st Street Converted MTS. The utilization factor for each truck was estimated based on the peak hour of inbound collection vehicles, totaling 28 trucks and conservatively assuming these utilization factors would occur for 24 hours. The assumption was made that each inbound truck would be queuing on-site for approximately two minutes before proceeding one truck length further up the ramp towards the facility.

The refined analysis also includes a louver fence that will be placed on the truck ramp as a visual screen. The louver fence will be approximately nine (9) feet in height and will be constructed on top of a 3-foot high concrete base, for a total height of 12 feet. The louver fence will provide a noise reduction of approximately 7dBA for receptors adjacent to the property boundary.

Table 6.17-6 below shows the results of the CEQR analysis at the noise-sensitive receptors for the quietest background noise level with the ~~conservative~~ refined queuing analysis. ~~at the noise-sensitive receptors York Avenue Apartment Building, East 90th Street Apartment Building and the Asphalt Green Playground, and a refined queuing analysis at the Asphalt Green Recreational Field, Bobby Wagner Walk and Asphalt Green~~. The table includes the existing noise level at the noise-sensitive receptors, the East 91st Street Converted MTS-related noise levels and the combined noise level. The table also provides the difference between this combined noise level and the existing noise level at the sensitive receptors. This difference represents the predicted incremental change in noise level from the East 91st Street Converted MTS. Because this incremental change is less than the CEQR threshold of 3 dBA during nighttime hours, or during daytime hours when the daytime background noise level is greater than 62 dBA for all of the noise-sensitive receptors analyzed, there is no predicted impact that would be caused by the East 91st Street Converted MTS on-site operations.

Table 6.17-6

CEQR Analysis

Existing and Predicted Noise Levels (L_{eq}) at the Nearest Noise-Sensitive Receptors

East 91st Street Converted MTS

Noise-Sensitive Receptor ID	Distance from Facility (meters/feet)	Existing Noise Levels During Quietest Hour (dBA)[1][2]	Predicted Facility Noise Level at Noise-Sensitive Receptor (dBA)[3]	Combined Facility and Background Noise Level at the Noise-Sensitive Receptor (dBA)	Increase over Existing Noise Levels (dBA)	Impact[4] (yes or no)
York Avenue Apartment Building	40 / 131	~~63.6~~ 63.4	~~60.9~~ 58.7	~~65.5~~ 64.7	~~1.9~~1.3	No
Asphalt Green Recreational Field[5][6]	Directly abutting truck ramp	~~69.0~~ 71.1	~~47.7~~ 66.8	~~69.0~~ 72.5	~~0.0~~ 1.4	No
East 90th Street Apartment Building[5]	114 / 375	~~64.5~~ 63.4	~~60.7~~ 61.2	~~66.0~~ 65.5	~~1.5~~ 2.1	No
Bobby Wagner Walk[6]	Directly abutting property boundary	68.0	~~57.2~~ 67.4	~~68.3~~ 70.7	~~0.3~~ 2.7	No
Asphalt Green Building [5][6]	Directly abutting truck ramp	71.1	~~48.7~~ 69.9	~~71.1~~73.6	~~0.0~~ 2.5	No
Asphalt Green Playground[5]	Directly abutting truck tramp	69.0	~~65.5~~ 56.0	~~70.6~~ 69.2	~~1.6~~ 0.2	No

Notes:

(1) Twenty-minute noise level readings measured at the noise-sensitive receptor during the quietest hour determined from the 24-hour noise level readings.

(2) Existing noise levels measured on ~~July 22, 2003~~August 10, 2004 at 3:00 a.m. at the York Avenue apartment building; ~~July 7, 2004~~ September 1, 2004 at 5:00 p.m. at the Asphalt Green Recreational Field and ~~Playground~~Building; ~~January 30, 2003 at 5:00 p.m~~August 10, 2004 at 3:00 a.m. at the East 90th Street apartment building; July 8, 2004 at 5:00 p.m. at the Bobby Wagner Walk; and ~~September 1~~July 7, 2004 at 5:00 p.m. at the Asphalt Green Playground.

(3) Predicted noise level calculations at noise-sensitive receptor include on-site and off-site shielding from structures, including the louvered fence along the ramp.

(4) According to CEQR, an increase over 65 dBA at daytime is considered an impact. However, if the existing noise level at the receptor during the daytime is 62 dBA or greater or if the analysis is for a nighttime hour, an increase over 3 dBA would be considered an impact. The impact analysis compares the loudest noise emissions from daily operations at the East 91st Street Converted MTS with the quietest background noise levels that occur during facility operation.

(5) This noise-sensitive receptor was assumed to only be in use during daytime hours. Therefore, noise monitoring and noise analysis were only performed for the quietest daytime hour.

~~(6) These results are based on refined on-site queuing collection vehicles utilization factors.~~

6.17.3.3 Performance Standards for Zoning Code Analysis

Overall noise predictions were calculated at the locations of the points representative of the East 91st Street Converted MTS boundary (D1, etc.) to determine the total noise level for each octave band from indoor and outdoor sources, not including DSNY and other agency collection vehicles and tugboats, in accordance with the New York City Zoning Code Performance Standards for Manufacturing Districts (assuming tugboats are transportation facilities) (see Table 6.17-7). ~~Based on this analysis, no exceedances to the Performance Standards are predicted.~~

The NYC Zoning Resolution Performance Standards for Noise (Article IV: Manufacturing District Regulations, Section 42-21) requires that a lower standard (Maximum Permitted Sound Pressure Levels identified in 42-213 lowered by 6 dB) be met at any point at the manufacturing district boundary that adjoins a residential district. One location analyzed that is residentially zoned, though use of this property is recreational (not residential), is a point on the promenade between the FDR Drive and the East River to the north of the entrance ramp to the existing MTS. (The closest actual residence to this point is across the FDR Drive, over 400 feet away on York Avenue). Background noise levels at the point on the promenade are between 4.9 dB and 42.8 dB higher than the required standard, adjusted for residential zoning. At these levels, the theoretical exceedance at the boundary cannot be perceived and, therefore, no impact is predicted.

6.17.3.4 NYC Noise Code Analysis – Current

Overall noise predictions were calculated at the locations of the points (D1, etc.) representative of the East 91st Street Converted MTS boundary to determine the total Leq from all indoor and outdoor sources for comparison to the current Noise Code. Based on this conservative analysis, the total Leq does exceed the current Noise Code Standard of 70 dBA at the property boundary.

Table 6.17-7
Zoning Code Analysis
Predicted Spectral Noise Levels (L_{max}) at the Property Boundary
East 91st Street Converted MTS[1]

Manufacturing District Regulation (M1)								
Frequency Range (Hz)	**63**	**125**	**250**	**500**	**1K**	**2K**	**4K**	**8K**
Adjacent to Residential Zone Threshold	**72**	**67**	**58**	**51**	**46**	**40**	**34**	**32**
Total Lp dB: D1	65.5	61.2	54.8	48.6	42.8	36.8	30.3	27.4
Total Lp dB: D2	54.7	51.1	46.3	42.4	37.3	32.4	23.5	15.6
Total Lp dB: D3	55.7	52.0	47.14	43.3	38.3	33.5	24.8	16.8
Total Lp dB: D4	54.2	51.0	46.0	41.2	36.2	31.5	24.7	19.4
Total Lp dB: D5	53.1	49.9	44.9	39.9	34.9	30.0	22.9	17.5
Total Lp dB: D6	53.7	50.4	44.9	38.9	33.4	27.6	20.6	16.8
Total Lp dB: D7	55.6	52.3	47.1	42.4	37.4	32.8	26.4	22.0
Total Lp dB: D8	70.2	64.8	55.6	50.3	44.1	38.5	32.3	28.3
Total Lp dB: D9	**77.8**	**72.3**	**62.2**	**56.9**	**49.5**	**41.5**	33.0	27.2
Total Lp dB: D10	67.7	63.2	56.3	50.2	44.4	38.4	32.0	29.3
Total Lp dB: D11	57.6	53.8	48.7	45.0	40.1	35.6	27.5	19.9
Total Lp dB: D12	61.2	57.1	51.7	48.2	43.4	39.2	32.0	25.3
Total Lp dB: D13	66.9	62.1	54.7	48.8	42.9	37.0	30.5	27.1
Total Lp dB: D14	55.5	54.4	50.9	46.1	41.4	36.9	30.1	24.6
Total Lp dB: D15	53.9	50.7	45.6	46.4	35.8	31.0	24.1	18.8

Notes for Table 6.17-7
Hz = Hertz
Lp = Sound pressure level
dB = Decibel
K = Thousand
(1) D1 through D15 are the points on the East 91st Street Converted MTS boundary that are used in all noise analyses. D1 through D15 are all adjacent to a residential zone.

On-Site queuing collection vehicles were further analyzed to refine the calculated noise levels emitted from the East 91st Street Converted MTS facility truck ramp on the property boundary. This refined analysis is discussed in Section 6.17.3.2. In addition, the refined analysis includes a noise reduction of 7dBA at property boundary points, where applicable, that will be provided by a louver fence that has been included in the design as a visual screen. (See Section 6.17.3.2.) Table 6.17-8 below shows the results of the Current NYC Noise Code analysis with the refined queuing analysis and louver fence. Based on this analysis, the total L_{eq} does not exceed the current Noise Code Standard of 70 dBA at the property boundary.

6.17.3.5 Off-Site Noise Levels

A screening analysis was conducted to determine if a detailed off-site noise analysis including noise monitoring would be required along the truck routes serving the East 91st Street Converted MTS. The assumed DSNY and other agency collection vehicle routes are provided in Section 14 of this chapter. As a result of this screening, which is described in Section 3.19.5.2, an off-site noise analysis was required. Results of the second-level screening for the hour expected to receive the largest change in noise levels (when the difference between traffic noise levels and background noise levels is greatest) during the daytime (if any) and nighttime are provided in Table 6.17-9.

Because the screening results presented above showed that the PCEs would double on a roadway due to DSNY and other agency collection vehicles coming to or going from the East 91st Street Converted MTS, a detailed off-site noise analysis was performed at that roadway using TNM for the hour expected to receive the largest change in noise levels (when the difference between traffic noise levels and background noise levels is greatest) during the daytime (if any) and nighttime. Figure 6.17-2 depicts the locations of the roadways where a detailed off-site analysis was performed.

Table 6.17-8
Current Noise Code Analysis with
Refined On-Site Queuing Collection Vehicle Utilization Factors
East 91st Street Converted MTS

Location at Plant Boundary[1]	Total L_{eq} Contribution at Plant Boundary (dBA)
D1	59.0 ~~57.0~~
D2	58.4 ~~49.6~~
D3	59.5 ~~50.2~~
D4	59.6 ~~49.9~~
D5	56.0 ~~46.8~~
D6	55.6 ~~47.2~~
D7	59.0
D8	60.3
D9	66.6
D10	59.6
D11	61.2
D12	64.7
D13	59.8
D14	60.2
D15	59.8

Notes:
(1) D1 through D15 are the points on the East 91st Street Converted MTS boundary that are used in all noise analyses.

Table 6.17-9
Off-Site Noise Screening Results
East 91st Street Converted MTS

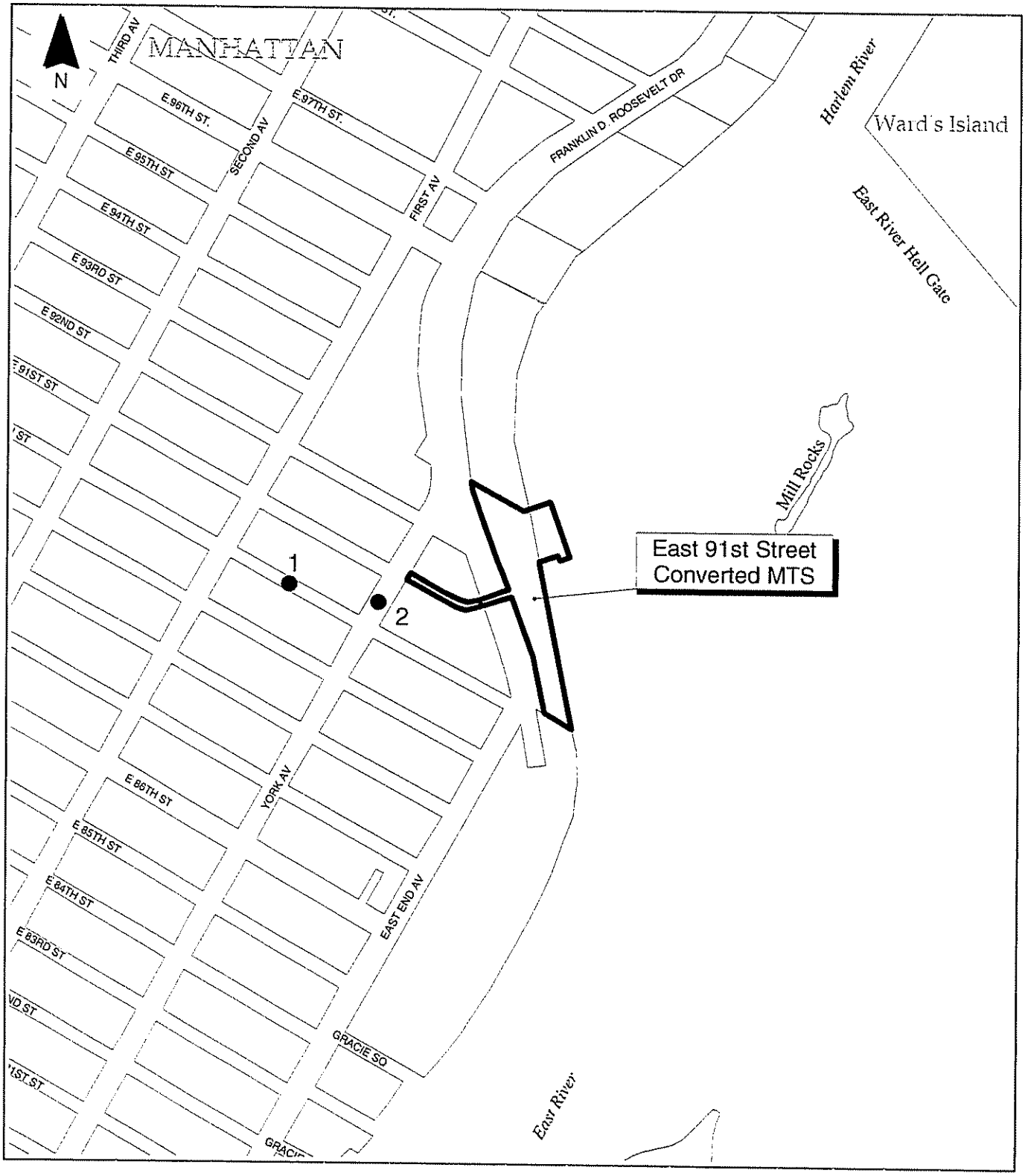
Location	Hour Beginning	Future No-Build PCEs[1]	Collection Vehicles	Employee Vehicles	Total Net DSNY Collection Vehicle PCEs[1]	Future Build PCEs[1][2]	Possible Impact[3]
York Avenue between East 90th & East 91st Streets	3:00 a.m.	170	19	0	893	1,063	Yes
York Avenue between East 90th & East 91st Streets	10:00 a.m.	2,722	42	0	1,974	4,696	No
East 90th Street between First Avenue & York Avenue	3:00 a.m.	116	7	0	329	445	Yes
East 90th Street between First Avenue & York Avenue	9:00 a.m.	448	14	0	658	1,106	Yes
East 91st Street between First Avenue & York Avenue	2:00 a.m.	137	4	0	188	325	Yes
East 91st Street between First Avenue & York Avenue	9:00 a.m.	1,363	14	0	658	2,021	No

Notes:

(1) Total PCEs are rounded to the nearest whole number.

(2) Future Build PCEs include East 91st Street Converted MTS-related collection vehicles and employee vehicles. Per CEQR, collection vehicles are converted to PCEs using a factor of 47, and employee vehicles are converted to PCEs using a factor of 1.

(3) There is a possible impact if the Future Build PCEs are double the Future No-Build PCEs or more.



Site delineations and study area boundaries are approximate
Base Map Source: New York City Department of City Planning

500 0 500 Feet

HDR HydroQual URBITRAN PB EEA Cambridge Environmental Inc

Figure 6.17-2 Mobile Noise Analysis
Intersections Analyzed
East 91st Street Converted MTS

CITY OF NEW YORK
DEPARTMENT OF SANITATION

TNM results for locations/hours that resulted in an impact based on a second-level screening are presented in Appendix E of this FDEIS. Because the incremental noise-level change, which is calculated by obtaining the difference between the TNM-predicted Future Build noise level and the TNM-predicted Future No-Build noise level, is greater than the CEQR threshold of 3 dBA at the nearest noise-sensitive receptor, an impact at these roadways would be caused by the East 91st Street Converted MTS-related collection and employee vehicles.

To determine if these TNM-predicted impacts were accurate, site-specific truck simulations were conducted at the noise-sensitive receptors. The truck simulation analysis provides a more realistic determination of DSNY and other agency collection vehicle noise impacts based on the proposed number of DSNY and other agency collection vehicles expected to travel through the roadways analyzed during the nighttime hours. Truck simulations were conducted with DSNY collection vehicles, as described in Section 3.19.7, for each roadway and hour that the first-level screening analysis resulted in a possible impact. For this procedure, two sets of noise measurements were taken — one with and one without DSNY trucks — by routing a set number of DSNY trucks during the affected nighttime hours past the noise-sensitive receptor. Table 6.17-10 below contains the results of the site-specific DSNY collection vehicle simulations, which show that only the 3:00 a.m. to 4:00 a.m. hour at the York Avenue between East 90th Street and East 91st Street location would have an impact as a result of the East 91st Street Converted MTS.

A comparison of the simulation results for the hour resulting in an impact and the TNM results for this hour for the same traffic conditions and background noise levels estimated from recordings during the simulations is provided in Appendix E of this FDEIS. Based on this comparison, it is determined that TNM over-predicted the incremental change. The over-prediction can be attributed to the default assigned noise level for each type of vehicle, which appears to be greater than the actual noise levels that would be emitted by the East 91st Street Converted MTS-related collection vehicles.

Table 6.17-10
Off-Site Noise Analysis Truck Simulation
East 91st Street Converted MTS

Location	Hour Beginning	Existing Background Noise Level (L_{eq}) (Estimated)[1] dBA	Collection Vehicles	Truck Simulation[2] Noise Level (L_{eq}) for Existing Traffic plus Collection Vehicles dBA	Impact (Noise Level Difference) dBA
York Avenue between East 90th Street and East 91st Street	2:00 a.m.[2]	63.9	12	65.7	No (1.8)
York Avenue between East 90th Street and East 91st Street	3:00 a.m.[2]	62.9	19	66.5	Yes (3.6)
East 90th Street between First Avenue and York Avenue	2:00 a.m.[3]	64.9	5	65.8	No (0.9)
East 90th Street between First Avenue and York Avenue	3:00 a.m.[3]	64.5	7	65.4	No (0.9)

Note:
(1) Existing background noise levels were estimated from noise monitoring performed during the simulations.
(2) Simulations performed on July 30, 2003.
(3) Simulations performed on July 29, 2003.

Because both TNM and the site-specific truck simulations predict an impact at a noise-sensitive receptor during the 3:00 a.m. to 4:00 a.m. hour for the York Avenue between East 90th Street and East 91st Street location, adjustments were made to the distribution of trucks. Only the number of trucks that can be routed through this location without causing an impact would be allowed. The remaining collection vehicles would be routed through this location during the 2:00 a.m. to 3:00 a.m. hour without causing an impact. This location was re-analyzed during these hours with the truck adjustments using the site-specific truck acoustic energy per hour, as described in Section 3.19.7.2, to confirm that off-site noise impacts would not be caused by the reduced number of collection vehicles at this location. Based on these results, with the truck adjustments, there is no predicted impact that would be caused by the East 91st Street Converted MTS collection vehicles en route to and from the facility. Table 6.17-11 shows the results of this analysis.

Table 6.17-11
Off-Site Noise Analysis using Truck Simulation Data and Adjusted Collection Vehicles
York Avenue between East 90th Street and East 91st Street
East 91st Street Converted MTS

Hour	Existing Background Noise Level (L_{eq}) (Estimated)[1] (dBA)	Adjusted Collection Vehicles	Calculated[2] Noise Level (L_{eq}) for Existing Traffic plus Adjusted Collection Vehicles (dBA)	Impact (Noise Level Difference) (dBA)
2:00 a.m.	63.9	~~17~~15	~~66.3~~ 66.1	No ~~(2.4)~~(2.2)
3:00 a.m.	62.9	~~14~~ 8	~~65.8~~ 64.8	No ~~(2.9)~~(1.9)

Note:
(1) Existing background noise levels were estimated from noise monitoring performed during the simulations.
(2) Noise levels for existing traffic plus adjusted collection vehicles were calculated utilizing the per truck acoustic energy determined from the truck simulation data for this location.

6.17.3.6 Combined On-Site and Off-Site Noise Levels

An on-site and off-site noise analysis was performed for the East 91st Street Converted MTS. Since the potential impacts of these analyses can affect the same noise-sensitive receptor, a screening analysis was conducted to determine if a combined noise analysis would be required for the operations at the East 91st Street Converted MTS. The combined analysis study area was defined by the 55 dBA isopleth contours from the on-site source and the bottom driveway

entrance to the site. The other limits for the combined analysis study area were defined by the first row of buildings along the roadway between the 55 dBA contour and the driveway entrance to the site. The results of the screening analysis show that the York Avenue apartment building is the nearest noise-sensitive receptor located within the study area that can be impacted by both on-site and off-site East 91st Street Converted MTS operations; therefore, an combined noise analysis, was required to determine if an impact is predicted under Section R of the 2001 CEQR Technical Manual.

Noise monitoring was conducted at the noise-sensitive receptor during the quietest hour based on the off-site analysis discussed in Section 6.17.3.5 above. Table 6.17-12 shows the distance from the East 91st Street Converted MTS to the noise-sensitive receptor, the monitored existing background noise level at the noise-sensitive receptor, East 91st Street Converted MTS-related predicted noise levels at the noise-sensitive receptor, and the predicted off-site noise level at the noise-sensitive receptor. The table also provides the combined on-site and off-site noise level and the difference between theise combined noise levels. This difference represents the predicted incremental change in noise level from the East 91st Street Converted MTS on-site and off-site operations at the noise-sensitive receptor. Because this incremental change is not greater than the CEQR threshold of 3 dBA during nighttime hours for the York Avenue apartment building receptor analyzed, there is no predicted impact that would be caused by the East 91st Street Converted MTS combined on-site operations and off-site operations.

Table 6.17-12
Combined On-Site and Off-Site Noise Analysis
Existing and Predicted Noise Levels (L_{eq}) at the Nearest Noise-Sensitive Receptor with East 91st Street Converted MTS

Noise-Sensitive Receptor ID	Distance from Facility (meters /feet)	Hour Analyzed (Hour Beginning)	Existing Noise Levels During Quietest Hour (dBA)[1]	Predicted On-Site Noise Level at Noise-Sensitive Receptor (dBA)[2]	Collection Vehicles	Predicted Off-site Noise Level at Noise-Sensitive Receptor (dBA)	Combined On-Site and Off-Site Noise Level at the Noise-Sensitive Receptor (dBA)	Increase over Existing Noise Levels (dBA)	Impact[3] (yes or no)
York Avenue Apartment Building between East 90th Street and East 91st Street	47 / 154	2:00 a.m.	63.9	~~44.4~~ 58.7	~~17~~ 15	~~66.3~~ 62.0	~~66.3~~ 66.8	~~2.4~~ 2.9	No
		3:00 a.m.	62.9	~~44.4~~ 58.7	~~14~~ 8	~~65.8~~ 60.3	65.8	2.9	No

Notes:

(1) Existing background noise levels were estimated from noise monitoring performed during truck simulations.

(2) Predicted noise level calculations at noise-sensitive receptor include on-site and off-site shielding from structures.

(3) According to CEQR, an increase over 3 dBA at nighttime is considered an impact.

6.18 Commercial Waste to the East 91st Street Converted MTS

6.18.1 Existing Conditions

No commercial waste is delivered to the East 91st Street MTS site under Existing Conditions. Commercial waste generated in Manhattan is taken directly out of the City to remote disposal locations.

6.18.2 Future No-Build Conditions

Under Future No-Build Conditions, no commercial waste would be delivered to the East 91st Street Converted MTS; therefore, Future No-Build Conditions are the same as Existing Conditions.

6.18.3 Potential Impacts of Sending Commercial Waste to the East 91st Street Converted MTS

The complete analysis of potential impacts of sending commercial waste to the Converted MTSs is presented in Volume III of the March 2004 Commercial Waste Management Study, which is included as Appendix D to this FDEIS.

6.18.3.1 On-Site Air Quality, Odor and Noise

Under Future Build Conditions, the East 91st Street Converted MTS was evaluated for on-site air quality, odor and noise impacts at its maximum design capacity of approximately 4,290 tpd (see Sections 6.15, 6.16 and 6.17). Results showed no unmitigatible adverse on-site air quality, odor or noise impacts. Although the peak hourly arrival rates of collection vehicles are not sustained over a 24-hour period, the analysis of on-site impacts conservatively modeled these peak hour conditions to predict the potential for on-site noise and odor impacts, and air quality impacts for short-term (1-hour, 3-hour, 8-hour and 24-hour) averaging periods. Because the analysis of short-term averaging periods was based on facility operations at the design capacity, no additional evaluation of on-site noise was required.

An evaluation of potential on-site air quality impacts for pollutants compared to annual average standards was modeled assuming commercial waste was processed at the Converted MTS. Based on these analyses, the potential processing of these quantities of the City's commercial putrescible waste would not cause any significantly adverse air quality impacts attributable to on-site operations. Likewise, odors from on-site operations of the Converted MTS with the addition of commercial waste at levels discussed in the Commercial Waste Management Study were also analyzed and results showed no unmitigatible significant adverse odor impacts.

See Appendix D for the revised tables to the Commercial Waste Management Study that contain the results of the on-site air quality and odor analyses.

6.18.3.2 Off-Site Traffic, Air Quality and Noise

Potential off-site traffic, air quality and noise impacts of deliveries of DSNY-managed Waste to the East 91st Street Converted MTS were evaluated in Sections 6.14, 6.15 and 6.17 based on temporal distributions of DSNY and other agency collection vehicles identified in Section 6.14.

The greatest number of DSNY and other agency collection vehicles analyzed for traffic impacts during all three periods (AM, midday and PM peak hours) was 28 (inbound trip ends) per hour, which occurred during the AM peak. These 28 DSNY and other agency collection vehicles are also more than the 21 peak hour DSNY and other agency collection vehicle and commercial waste hauling vehicle inbound trip ends that can be processed per hour at the East 91st Street Converted MTS during the 8:00 p.m. to 8:00 a.m. shift. In addition, the intersection LOS is lower (i.e., poorer) and the background volumes of traffic are higher during the AM peak than the 8:00 p.m. to 8:00 a.m. hours, so the AM peak analysis represents worst-case conditions. As reported above, there were no unmitigatible significant adverse environmental impacts from the 28 DSNY and other collection agency vehicle inbound trip ends at the East 91st Street Converted MTS. Therefore, the addition of the 21 DSNY and other agency collection vehicles and commercial waste hauling vehicle inbound trip ends at the East 91st Street Converted MTS per hour during the 8:00 p.m. to 8:00 a.m. shift — during a period with a better LOS and lower background traffic volumes — would also have no unmitigatible significant adverse traffic impacts.

Likewise, the 28 inbound DSNY and other agency collection vehicles analyzed for off-site air quality impacts during the AM peak hour was the highest number of collection vehicles analyzed for all three periods (AM, midday and PM peak hours). For off-site air quality modeling, a Tier I analysis assumed conservatively that the 28 inbound DSNY and other agency collection vehicles would travel through the analyzed intersections each hour over a 24 hour period. Results showed there would be no unmitigatible significant adverse environmental impacts at several of the intersections analyzed. Consequently, because the 21 inbound DSNY and other agency collection vehicles and commercial waste hauling vehicles that can travel through these intersections per hour during the 8:00 p.m. to 8:00 a.m. shift would be fewer than the number of such vehicles analyzed for the AM peak over a 24-hour period, there would be no significant adverse off-site air quality impacts.

Evaluating the potential for off-site noise impacts required the use of a second-level noise screening analysis. The results of this analysis indicate that the potential number of commercial waste hauling vehicles that could be routed to the East 91st Street Converted MTS during various hours within the 8:00 p.m. to 8:00 a.m. period must be limited to less than the available excess capacity to avoid causing potential impacts at noise-sensitive receptors on the approach routes these vehicles would take to the Converted MTS. The amount of available capacity that can be used to process commercial waste during the hours of 8:00 p.m. to 8:00 a.m., without causing any significant adverse noise impacts, is 781 tons (or 71 commercial waste hauling vehicles, assuming an average of 11 tons per truck) over this 12-hour period.

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