CHAPTER 9 ENVIRONMENTAL REVIEW – HARLEM RIVER YARD BARGE TO RAIL INTERMODAL YARD.

9.1 Introduction

The HRY Barge to Rail Intermodal Yard, located within the HRY complex and on property contiguous to the HRY Truck to Rail TS, would receive barge deliveries of containers from one or more Converted MTSs. The HRY Barge to Rail Intermodal Yard site was previously analyzed as a site for an EBUF in the 2000 SWMP FEIS, which found there were no unmitigable adverse environmental impacts associated with the EBUF operations. At that time, however, no $PM_{2.5}$ analysis was required and the HRY Truck to Rail TS was not yet operating . Therefore, this DEIS presents the on-site air quality analysis of $PM_{2.5}$ and an on-site noise analysis that includes operations of the HRY Truck to Rail TS at its currently permitted 4,000 tpd capacity in conjunction with the operation of the HRY Barge to Rail Intermodal Yard. The information presented in Sections 9.2 through 9.12 of this (New SWMP) DEIS will be updated from the 2000 SWMP FEIS in the subsequent New SWMP FEIS. Because the HRY Barge to Rail Intermodal Yard would not receive any collection vehicle deliveries of waste, off-site traffic, air quality and noise analyses are not required.

The results of the environmental analyses of the HRY Barge to Rail Intermodal Yard are presented in the following sections:

9.2 Land Use, Zoning, and Public Policy
9.3 Socioeconomic Conditions
9.4 Community Facilities and Services
9.5 Open Space
9.6 Cultural Resources
9.7 Urban Design, Visual Resources, and Shadows
9.8 Neighborhood Character
9.9 Natural Resources
9.10 Hazardous Materials
9.11 Water Quality

9.12 Waterfront Revitalization Program

9.13 Infrastructure, Solid Waste and Sanitation Services, and Energy

9.14 Traffic, Parking, Transit, and Pedestrians

9.15 Air Quality

9.16 Odor

9.17 Noise

Section 2.2.6 provides a summary description of the site and important characteristics of the design and operation of the facility. The following sections provide additional information on the site or the study area, as appropriate to each analysis.

A detailed discussion of the methodologies that were applied in conducting each analysis is provided in Chapter 3.

9.2 Land Use, Zoning, and Public Policy

The HRY Site was analyzed previously, as discussed in Section 9.1.

9.3 Socioeconomic Conditions

The HRY Site was analyzed previously, as discussed in Section 9.1.

9.4 Community Facilities and Services

The HRY Site was analyzed previously, as discussed in Section 9.1.

9.5 Open Space

The HRY Site was analyzed previously, as discussed in Section 9.1.

9.6 Cultural Resources

The HRY Site was analyzed previously, as discussed in Section 9.1.

9.7 Urban Design, Visual Resources, and Shadows

The HRY Site was analyzed previously, as discussed in Section 9.1.

9.8 Neighborhood Character

The HRY Site was analyzed previously, as discussed in Section 9.1.

9.9 Natural Resources

9.9.1 Existing Conditions

Existing conditions include stressed aquatic and terrestrial communities that are typical of this area of the Bronx. 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 implementation of the HRY Barge to Rail Intermodal Yard.

9.9.1.1 Definition of Study Area

The study area includes the site and the waterfront sections that are bulkheaded and bounded by the Harlem River to the southwest and Bronx Kill to the southeast (see Figure 2.3-1). The entire upland parcel and surrounding neighborhood is fully developed and, therefore, has very limited natural resources. Such resources that do exist are discussed in the following sections.

9.9.1.2 Geology

The study area is underlain by consolidated pre-Cambrian rocks. Formations of Fordham Gneiss and narrow bands of infolded Inwood Marble are typical of the southern portion of Bronx County, where the study area is located. A large deposit of stratified drift composed mostly of sand and gravel underlies the study area. This deposit is roughly ¼-mile wide and extends south-southwestward across the western part of the county.

Historically, the banks of the Harlem River were comprised of extensive intertidal marshes and the waterbody was much wider than it is presently. Over the past 100 years, extensive filling and hardening of the banks has taken place and the geology has little, if any, resemblance to its former state.

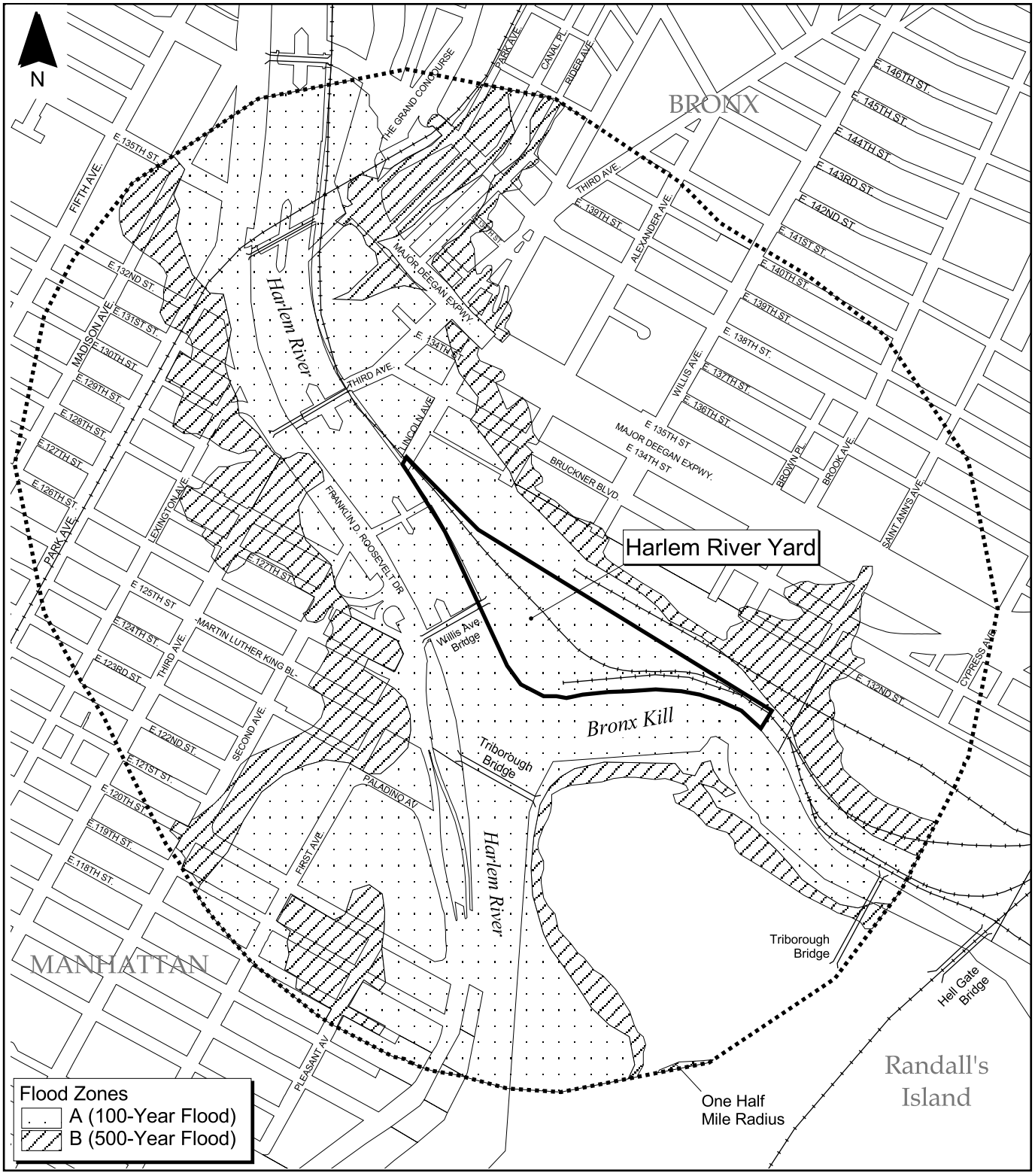
9.9.1.3 Floodplains

The study area is located within the 100-year coastal floodplain (see Figure 5.14-1). The Harlem River and Bronx Kills, which are NYSDEC designated littoral zones, border the study area (see Figure 5.14-2). No NYSDEC designated wetlands exist on the study area.

9.9.1.4 Ecosystems

The terrestrial ecology of the study area has been altered by intense residential and commercial development. Indigenous wildlife, insofar as it occurs, is comprised of animals associated with urbanized areas, such as feral cats and dogs and ubiquitous species such as rats, mice, and squirrels. The only naturally occurring wildlife is the resident or transient avifauna (birds), and rabbits.

The study area is nearly completely covered by hard surfaces, predominantly railroad tracks and paved parking areas, with the exception of a small patch under the Willis Avenue Bridge. A few buildings and office trailers are also present on the study area. Vegetation on the study area is



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

500 0 500 Feet

HDR URBITRAN EEA HydroQual PB Cambridge Environmental Inc

Figure 9.9-1 Floodplains

Harlem River Yard Barge to Rail Intermodal Yard

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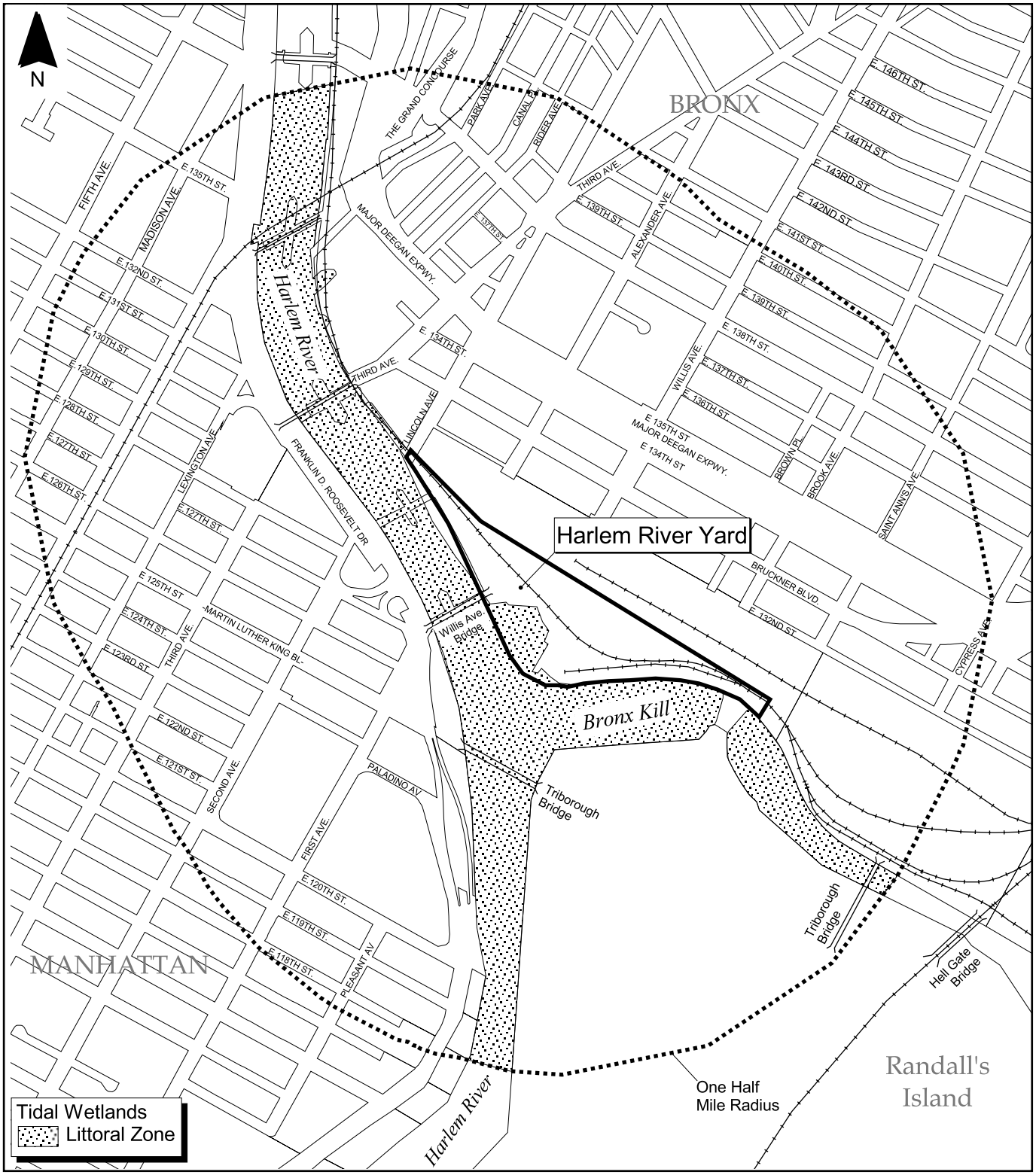

Site delineations and study are boundaries are approximate.
Base Map Source: New York City Department of Planning

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HDR HydroQual URBITRAN PB EEA Cambridge Environmental Inc

Figure 9.9-2 Wetlands

Harlem River Yard Barge to Rail Intermodal Yard

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consistent with that of an urban vacant lot as classified by Reschke.[1] The sparse vegetation is dominated by mugwort (*Artemisia vulgaris*), with scattered specimens of evening primrose (*Oenothera biennis*), and goldenrod (*Solidago species.*). A few woody saplings are present on the study area including tree-of-heaven (*Ailanthus altissima*) and common cottonwood (*Populus deltoides*). A wood vine, Asiatic bittersweet (*Celastrus orbiculatus*), was observed growing on the fence.

9.10 Hazardous Materials

The HRY Site was analyzed previously, as discussed in Section 9.1.

9.11 Water Quality

The HRY Site was analyzed previously, as discussed in Section 9.1.

9.12 Waterfront Revitalization Program

The HRY Site was analyzed previously, as discussed in Section 9.1.

9.13 Infrastructure, Solid Waste and Sanitation Services, and Energy

The HRY Site was analyzed previously, as discussed in Section 9.1.

9.14 Traffic, Parking, Transit, and Pedestrians

As stated in Section 9.1, the HRY Barge to Rail Intermodal Yard would not receive any collection vehicle deliveries of waste, so traffic analysis is not required.

[1] Reschke, Carol. Ecological Communities of New York State. March 1990. New York Natural Heritage Program, NYSDEC.

9.15 Air Quality

9.15.1 Definition of Study Areas

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 HRY Barge to Rail Intermodal Yard.

9.15.2 Existing Conditions

Applicable air quality data collected at the monitoring station(s) nearest to the study area are shown in Table 9.15-1. 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 9.15-1
Representative Ambient Air Quality Data
HRY Barge to Rail Intermodal Yard

Pollutant	Monitor	Averaging Time	Value	NAAQS
CO[(1)]	**200th Street and Southern Boulevard**	**8-Hour**	2.9 ppm	9 ppm
		1-Hour	4.3 ppm	35 ppm
NO_2[(2)]	**East 156th Street, between Dawson and Kelly Streets**	**Annual**	0.03 ppm	0.05 ppm
PM_{10}[(2)]	**East 156th Street, between Dawson and Kelly Streets**	**Annual**	22 $\mu g/m^3$	50 $\mu g/m^3$
		24-Hour	60 $\mu g/m^3$	150 $\mu g/m^3$
SO_2[(2)]	**East 156th Street, between Dawson and Kelly Streets**	**3-Hour**	0.089 ppm	0.5 ppm
		24-Hour	0.052 ppm	0.14 ppm
		Annual	0.011 ppm	0.03 ppm

Note:
Source: NYCDEP, April 2003 and USEPA Air data – Monitor Values Report (http://oaspub.epa.gov/airdata)
(1) Values are the highest pollutant levels recorded during the 2002 calendar year.
(2) Values are the highest pollutant levels recorded during the 2003 calendar year.

9.15.4.2 Off-Site Emissions

As stated in Section 9.1, the HRY Barge to Rail Intermodal Yard would not receive any collection vehicle deliveries of waste, so off-site air quality analysis is not required.

9.15.3 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 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.

9.15.4 Potential Impacts with the Harlem River Yard Barge to Rail Intermodal Yard

9.15.4.1 On-Site Emissions

Based on the 2000 SWMP FEIS, the potential impacts from the operation of the Harlem River Yard EBUF were estimated for criteria pollutants and found to be within applicable standards and guidelines. Since the Harlem River Yard Barge to Rail Intermodal Yard would have less on-site emission generating equipment than those of the EBUF, impacts under the HRY Barge to Rail Intermodal Yard would also be within standards and guidelines, so an analysis of this facility would likewise not result in a finding of significant impacts.

9.15.4.1.1 Sources Considered in the Analysis

The sources of emissions and the number of each type of source that are anticipated to be operating during the peak hour and in an average hour are provided in Table 9.15-2.

9.15.4.1.2 Results of the Criteria Pollutant Analysis

The highest estimated criteria pollutant concentrations at any one of the receptor sites considered are provided in 2000 SWMP FEIS. These values are compared with the applicable standards for the appropriate averaging time periods. $PM_{2.5}$ results are presented in Table 9.15-3. Based on the results presented in Table 9.15-3 and 2000 SWMP FEIS, the HRY Barge to Rail Intermodal Yard would not adversely impact air quality in the area. The total predicted concentrations (including appropriate background concentrations) are below the national and state ambient air quality standards.

Table 9.15-2
Emission Sources Considered for On-Site Air Quality Analysis(1)
HRY Barge to Rail Intermodal Yard

Type of Emission Source	Maximum Number of Sources Operated During a Single Peak Hour	Number of Sources Operated During Annual Average Hour
Outside Processing Building		
Yard Tractor	4	4
Reachstacker Taylor GPPH885	2	2
Line-Haul Locomotive 1989 GE	1	1
Switch Locomotive 2003/04 Shuttlewagon	1	1
Tugboat	2	2

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

Table 9.15-3
Highest Estimated Concentrations of the Criteria Pollutants from On-Site Emissions
HRY Barge to Rail Intermodal Yard

Pollutant	Averaging Time Period	Maximum Impacts from On-Site Emission Sources	STV[(2)]
$PM_{2.5}$, $\mu g/m^3$[(3)]	24-hour [(1)]	2.70	5
	Annual Neighborhood Average	0.04	0.1

Notes:
(1) The highest estimated pollutant concentrations found at any of the off-site receptor locations.
(2) Screening threshold value (STV) established by the NYCDEP and NYSDEC.
(3) Average $PM_{2.5}$ concentration over 1 km x 1 km "neighborhood-scale" receptor grid.

9.16 Odor

There would be no waste processing operations at the HRY Barge to Rail Intermodal Yard. Since the HRY Intermodal Yard is a barge to rail operation, based on calculations the emission rates from the containers are estimated to be negligible. Therefore, no odor impacts were analyzed for the HRY Barge to Rail Intermodal Yard.

9.17 Noise

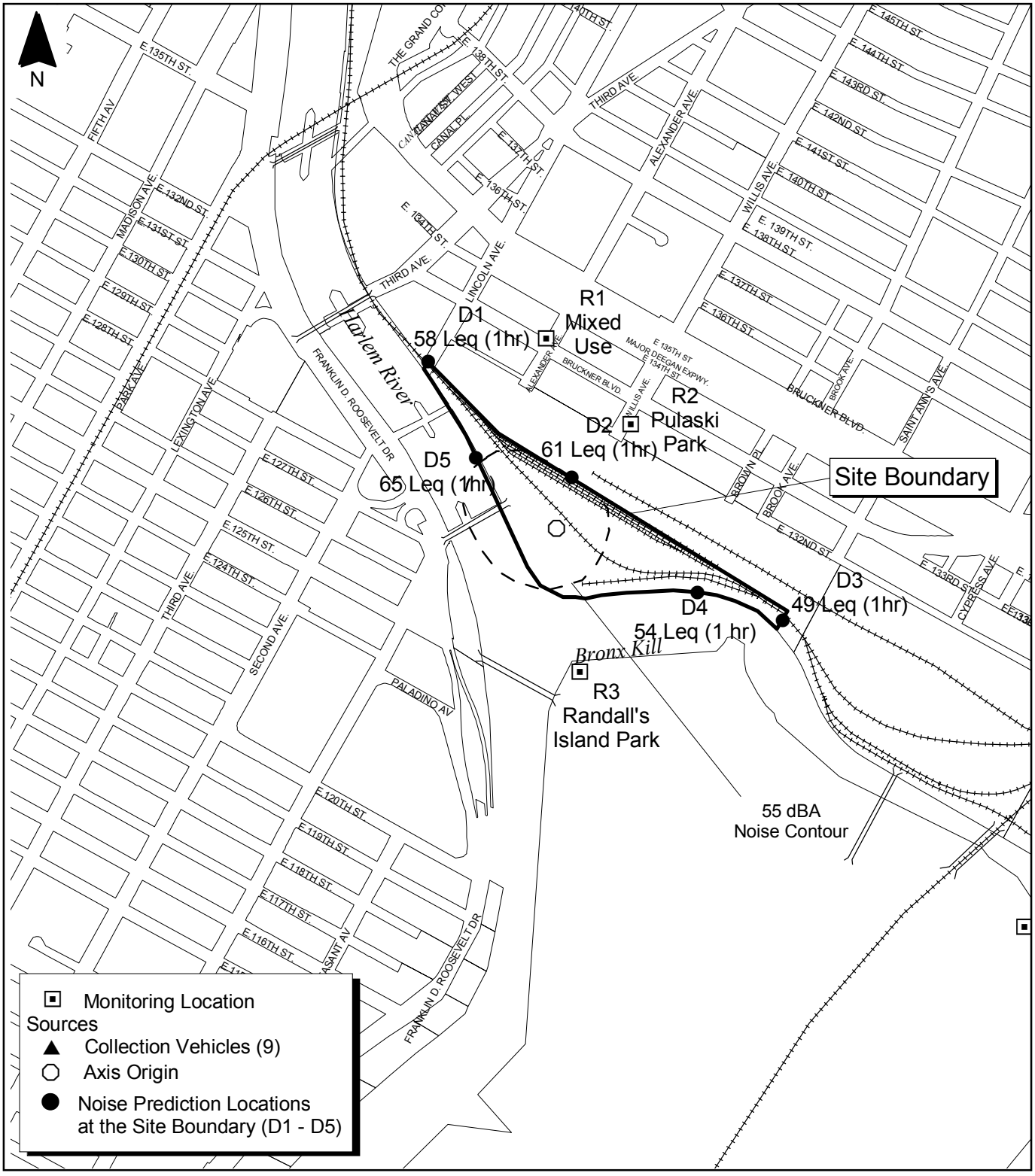
The noise analysis addresses on-site sources of noise emissions from HRY Barge to Rail Intermodal Yard -related activities. It is based on Section R of the 2001 CEQR Technical Manual for on-site sources. Section 3.19 provides a general discussion of the relevant regulatory standards and methodology used in this analysis.

9.17.1 Existing Conditions

The HRY Truck to Rail TS is adjacent to the HRY Barge to Rail Intermodal Yard and is currently permitted to operate at 4,000 tpd. The HRY Barge to Rail Intermodal Yard portion of the HRY site is currently undeveloped, so there are no noise sources associated with a barge to rail intermodal transfer operation at this site under Existing Conditions.

9.17.1.1 Introduction

Figure 9.17-1 shows the location of the HRY Barge to Rail Intermodal Yard, the surrounding area and the points that represent the property boundary (D1, etc.) for all noise analyses. The HRY Barge to Rail Intermodal Yard is set within a larger industrial area as described in Sections 2.2.6 and 2.2.8. The nearest potential noise-sensitive receptors are the Bruckner Avenue Antique Shop (mixed use) at a distance of approximately 220 meters (720 feet) from the property line, Pulaski Park, approximately 157 meters (515 feet) north of the property boundary, and ball fields located on Randall's Island, approximately 129 meters (425 feet) south of the property line.



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

Figure 9.17-1 Noise Sources and Receptors
Harlem River Yard Site
Truck to Rail Option

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9.17.1.2 On-Site Noise Levels

Existing on-site noise levels consist of noise created by 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 former Willis Avenue Railroad Station. Noise monitoring data collected included $L_{eq(1)}$, L_{min} and L_{max},[2] and the statistical metrics of L_{10}, L_{50} and L_{90}.[3] Table 9.17-1 presents monitored noise levels. As shown, the quietest hour at the monitoring location occurred between 3:00 a.m. to 4:00 a.m. and 4:00 a.m. to 5:00 a.m., and had an $L_{eq(1)}$ of 57 dBA on March 18th, 1999. Activities and events that contribute to the on-site noise levels include:

- Other noise sources associated with activities in the surrounding industrial areas.

9.17.2 Future No-Build Conditions

9.17.2.1 On-Site Noise Levels

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

9.17.3 Potential Impacts with the HRY Barge to Rail Intermodal Yard

9.17.3.1 On-Site Noise Levels

Equipment assumed to be operating on site at the HRY Barge to Rail Intermodal Yard and its reference noise levels used in the CEQR analysis are shown in Table 9.17-2. The number and types of equipment assumed for this analysis were based on the HRY Barge to Rail Intermodal Yard's peak design capacity.

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[2] Terms $L_{eq(1)}$, L_{min} and L_{max} are explained in Section 3.19.2.
[3] Terms L_{10}, L_{50} and L_{90} are explained in Section 3.19.2.

Table 9.17-1
Existing Hourly (Monitored) Noise Levels On Site[(1)]
HRY Barge to Rail Intermodal Yard

Time of Measurement	$L_{eq(1)}$ (dBA)	L_{90} (dBA)	L_{50} (dBA)	L_{10} (dBA)	L_{min} (dBA)	L_{max} (dBA)
12:00-1:00 a.m.	66	57	60	64	53	94
1:00-2:00 a.m.	73	56	59	70	52	98
2:00-3:00 a.m.	63	53	57	61	48	87
3:00-4:00 a.m.	57	52	56	60	48	71
4:00-5:00 a.m.	57	51	55	60	47	78
5:00-6:00 a.m.	73	53	57	73	48	101
6:00-7:00 a.m.	60	55	58	62	51	75
7:00-8:00 a.m.	63	59	62	65	55	79
8:00-9:00 a.m.	66	62	64	68	58	83
9:00-10:00 a.m.	67	61	64	69	58	96
10:00-11:00 a.m.	67	61	63	68	56	98
11:00 a.m.-12:00 p.m.	65	61	63	67	56	86
12:00-1:00 p.m.	66	61	64	69	57	87
1:00-2:00 p.m.	66	61	64	70	57	89
2:00-3:00 p.m.	65	61	63	67	57	82
3:00-4:00 p.m.	65	60	63	68	55	81
4:00-5:00 p.m.	73	61	63	67	57	103
5:00-6:00 p.m.	65	60	62	67	56	87
6:00-7:00 p.m.	64	59	62	66	56	81
7:00-8:00 p.m.	64	59	62	66	55	80
8:00-9:00 p.m.	62	57	60	64	53	82
9:00-10:00 p.m.	61	56	58	63	53	78
10:00-11:00 p.m.	61	57	59	63	53	80
11:00 p.m-12:a.m..	63	57	59	62	53	88

Note:

(4) 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 9.17-2
Equipment Modeled in the Noise Analysis and Reference Noise Levels (L_{eq})
HRY Barge to Rail Intermodal Yard

Equipment Name (quantity)[(1), (2)]	Reference Sound Pressure Noise Level at 50 feet (dBA)
Outdoor	
Line-Haul Locomotive (1)	84.2
Shuttle Wagon Locomotive (1)	76.3
Yard Tractor (4)	73.8
Reachstacker (2)	76.2
Tugboat (1)	73
Gantry Crane (1)	77.2

Note:

(1) Instantaneous maximum number of pieces of equipment on site at any given time.
(2) Indoor sources are not proposed for the HRY Barge to Rail Intermodal Yard.

9.17.3.2 CEQR Analysis

A screening analysis was conducted to determine if a detailed noise analysis would be required for the on-site operations at the HRY Barge to Rail Intermodal Yard. Noise levels from outdoor sources were combined to determine the location of the 55 dBA contour line. For the Bruckner Antique Shop, the 55 dBA contour line is approximately 134 meters (440 feet) from the property line in the direction of the Bruckner Antique Shop. For the Pulaski Park, the 55 dBA contour line is approximately 122 meters (400 feet) from the property line in the direction of the Pulaski Park. For Randall's Island, the 55 dBA contour line is approximately 457 meters (1,500 feet) from the property line in the direction of Randall's Island. The distance from the property boundary to these noise-sensitive receptors is provided in section 9.17.1.1. The 55 dBA contour line was selected as a limit or 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 a noise-sensitive receptor, specifically Randall's Island, is located within the 55 dBA contour line (see Figure 9.17-1); therefore, an on-site noise analysis, including noise monitoring at Randall's Island 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 monitoring data provided in Table 9.17-1 above. Table 9.17-3 below identifies the existing background noise level during the quietest hour. The table shows the distance from the HRY Barge to Rail Intermodal Yard to the noise-sensitive receptor, the monitored existing background noise level at the noise-sensitive receptor, HRY Barge to Rail Intermodal Yard-related noise levels at the noise-sensitive receptor, and the predicted noise levels with both facility noise and background noise combined. The table also provides the difference between this combined noise level and the existing noise level at the noise-sensitive receptor. The difference represents the predicted incremental change in noise level from the HRY Barge to Rail Intermodal Yard. Because this incremental change is less than the CEQR threshold of 3 dBA, since the daytime background noise level is greater than 62 dBA at the noise-sensitive receptor, there is no predicted impact that would be caused by the HRY Barge to Rail Intermodal Yard on-site operations.

9.17.3.3 Off-Site Noise Levels

As stated in Section 9.1, the HRY Barge to Rail Intermodal Yard would not receive any collection vehicle deliveries of waste, so off-site noise analysis is not required.

9.17.3.4 Combined On-Site and Off-Site Noise Levels

An on-site noise analysis was performed for the HRY Barge to Rail Intermodal Yard. An off-site noise analysis was not required; therefore, a combined noise analysis was not performed.

Table 9.17-3
CEQR Analysis
Existing and Predicted Noise Levels (L_{eq}) at the Nearest Noise-Sensitive Receptor
HRY Barge to Rail Intermodal Yard

Receptor ID	Distance from Facility (meters/feet)	Existing Noise Levels During Quietest Hour (dBA)[(1)(2)]	Predicted Facility Noise Level at Sensitive Receptor (dBA)[(3)]	Combined Facility and Background Noise Level at the Sensitive Receptor (dBA)	Increase over Existing Noise Levels (dBA)	Impact[(4)] (yes or no)
Randall's Island Park	107 / 350	62.5	61.8	65.2	2.7	No

Notes:

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

(2) Existing noise levels were measured on August 17, 2004 at 11:00 a.m.

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

(4) According to CEQR, an increase of 3 dBA is considered an impact when the daytime noise level is greater than 62 dBA. The impact analysis compares the loudest noise emissions from daily operations at the facility with the quietest background noise levels that occur during facility operation.